ID # (assigned by CSG): 12-S-17-NC

Please provide the following information, adding space as necessary:

State: North Carolina

Assign Program Category (applicant): Infrastructure and Economic Development - Transportation

Program Name: Strategic Prioritization Process
Administering Agency: North Carolina Department of Transportation (NCDOT)
Contact (Name and Title): Donald J. Voelker, Director, Strategic Planning Office of Transportation
Address: 1 S. Wilmington Street, 1501 Mail Service Center, Raleigh, NC 27699-1501
Telephone Number: (919) 707-4740
E-mail Address: DJVOELKER@NCDOT.GOV
Web Address: www.ncdot.gov

1. How long has this program operated (month and year)? Note: the program must be between 9 months and 5 years old as of April 5, 2012 to be eligible for this year’s award.

   The strategic prioritization process began in January 2009.

2. Describe the program:
   - Why was it created?
   - Why is it a new and creative approach or method?
   - What are the specific activities and operations of the program in chronological order?
   - Is it effective? Provide tangible results and examples.

Governor Beverly Perdue took office in January 2009, calling for reform of the state transportation program. Her Executive Order No. 2 stated in part that “the present process for developing plans and approving projects needs to be reformed in order to assure that plans are developed and projects are awarded based on professional standards and no other considerations.” It further directed that “The Department of Transportation shall implement throughout the Department a professional approval process for all highway construction programs, highway construction contracts, highway construction projects, and plans for the construction of projects.”

In response to this Order, the North Carolina Department of Transportation (NCDOT) created a “strategic prioritization” process that scores and ranks transportation projects across the state based on quantifiable measures. The methodology uses both transportation data and the input of local
governments. The process, currently in its second cycle (referred to as Prioritization 2.0 or “P2.0”), has ushered in a new level of transparency and accountability for decision-making within NCDOT.

The NCDOT established a Strategic Planning Office of Transportation (SPOT) to launch and manage the prioritization program, and SPOT has built a strategic planning process that is unique to North Carolina and the nation. Research indicates that a number of State DOTs have used data to inform their decision-making process; however, to our knowledge, none fully incorporate the input of local officials. Instead of following other models, NCDOT crafted a framework that harnesses data from various databases and assigns numerical value to the input of local officials, specifically Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs).

NCDOT developed the strategic prioritization process with the assistance of a Work Group consisting of internal DOT staff, representing all modes of transportation and external partners, including the NC League of Municipalities, the NC Metropolitan Mayors Coalition, the NC Association of County Commissioners, the NC Regional Councils of Governments and the MPO’s and RPO’s. Work Group members in turn have acted as liaisons, communicating and soliciting feedback from their member organizations.

NCDOT also utilized technology to create an ongoing, continuous conversation with its partners regarding strategic prioritization. An online forum, Partner Connect, was launched for P2.0 as a communication tool to receive input on priority projects and share the results of prioritization. Users log into the system and submit new projects to score, access project data, start comment threads and navigate to a wealth of prioritization-related resources. In addition, NCDOT's public-facing website (http://www.ncdot.org/performance/reform/prioritization/) showcases progress on strategic prioritization and makes prioritization results accessible for the public at large.

Strategic prioritization, conducted every two years, is a three-step process that involves: scoring, strategy and scheduling. The results of strategic prioritization become input to NCDOT’s 10-year Work Program, which outlines all transportation revenues and expenditures for the next 10 years. The first five years, called the “Delivery” program, are projects that have a goal of 95% on-time and on-budget delivery. Years 6-10, of the 10-year Work Program are called the “Developmental” program and represent projects which are lining up to be funded in subsequent 5-year delivery cycles. NCDOT applies its strategic prioritization process within the “Developmental” program to ensure that the most needed projects will move forward for construction. Prior to strategic prioritization, NCDOT’s delivery rate was near 50%. Today it is close to 65% and will continue to improve as strategic prioritization becomes fully implemented over time.

**Stage One - Scoring:**

The strategic prioritization process is built upon the NCDOT's Mission and Goals. The mission statement is “Connecting people and places in North Carolina – safely, and efficiently, with accountability and environmental sensitivity.” The scoring criteria used in prioritization relate directly to the Department’s Goals of Safety, Mobility, and Infrastructure Health. Examples of the Goals and scoring criteria are:

- **“Make our transportation network safer”** - Projects are scored on a combination of highway crash data (crash rates, crash severity, etc.)

- **“Make our transportation network move people and goods more efficiently”** - Project scores are based on a ratio of traffic volume to roadway capacity.

- **“Make our infrastructure last longer”** - Project scores are based on pavement condition rating (an indicator of pavement strength and ride quality).
In P2.0, approximately 1,200 highway projects, 600 bicycle and pedestrian projects and 100 transit projects were scored and retained in NCDOT’s prioritization database. The scoring has directly impacted highway project selection and has led to or enhanced data-driven approaches for each of the other major modes of transportation in NCDOT, i.e. rail, transit, ferry, bicycle/pedestrian, & aviation.

For scoring and evaluation purposes, prioritization stratifies transportation projects according to the three system goals (safety, mobility, infrastructure health) and three geographical tiers (Statewide, Regional, or Sub-regional).

- Facilities on the Statewide Tier carry the most traffic, traverse the longest distances and are critical to the State’s commerce and traveling public. Examples include Interstates, commercial service airports and Amtrak passenger rail service.

- Regional Tier facilities provide a service that crosses county boundaries and facilitates commuter and regional traffic. Examples include some US and most NC signed routes and regionally located airports.

- Sub-regional Tier facilities provide more localized movement and are critical for communities across the state. Examples include secondary roads, general aviation airports and local transit systems.

This structured approach is necessary because of the size and complexity of the transportation system. NCDOT owns and maintains almost 80,000 miles of roadways (2nd largest in the nation) and maintains the 2nd largest ferry system (2.5 million travelers per year). The Department also plans and finances bicycle/pedestrian facilities and supports federal grant administration for 74 general aviation airports, local transit systems and passenger rail service.

The Goal and Tier stratification also allows for comparison of projects within individual "buckets" of improvements or distinct regions. For example, mobility scores for Interstate projects in one region can be compared to those in another region but cannot equitably be compared to mobility scores for a secondary road project. Quantitative data are applied within the Tier structure to produce data-based scores. Highway projects are further broken into mobility (new capacity) and modernization (bringing a road to current design standards) “buckets” and then scored based on safety, pavement condition, congestion, benefit/cost, economic competitiveness, and deficient lane/shoulder width data. This needs-based approach identifies projects with the greatest deficiencies and those projects receive the highest scores.

The prioritization process also includes a scoring component that allows local planning officials and NCDOT Division Engineers to rank their project priorities, which are then incorporated into the scoring. These local officials also represent the public in their respective geographical areas. Their input, which represents local public preferences, is combined with the data-driven component of the project.

For highway projects, bonus points are awarded to projects that increase the overall efficiency of the transportation system or support national security. For example, bonus points may go to highway projects with high-occupancy vehicle lanes, bus pullouts or bicycle or pedestrian access, or that directly connect to a port or military base.

**Stage Two - Strategy:**

Once projects across all modes are scored and ranked/prioritized in the various “buckets”, the next step is to determine the impact these projects will have on performance of the transportation system. A “level of service” analysis is conducted to evaluate and assigns “A” through “F” letter grades to the performance on NC’s transportation system. The evaluation is based on quantifiable measures and shows the expense that would be required to move a project one or more letter grades higher.
Developing a strategy then involves use of a computer-based “tradeoff analysis tool” that looks at the prioritized projects and performance grades along with the state and federal revenues projected to be available to pay for projects. The department hosts a series of outreach meetings called summits, around the state at which the tradeoff tool is used to solicit public feedback on how transportation dollars should be spent in the future. Participants at each summit use the tradeoff analysis tool to craft their own strategies, and the gap between revenue and needs requires them to make the same difficult funding choices that NCDOT will face. Next, a summary of feedback from these summits is provided to the NCDOT Board of Transportation (BOT) which in turn sets policy for an overall statewide investment strategy. The partner, public, and BOT input is used to help prepare a draft 10-year Work Program, which lists the transportation projects that are to be scheduled for construction.

**Stage Three - Scheduling:**

NCDOT uses the scoring and strategy steps outlined above to draft a 10-year Work Program every 2 years. However, this input is only one of several factors that determine whether transportation projects are scheduled, or “programmed.” Prioritization does not directly equal programming, due to other constraints. For example, a state “equity” formula requires that funds be spent equitably across the state, distributed over 14 NCDOT Divisions. In addition, highways often are built in shorter segments to meet available funding and an adjacent segment may be accelerated to allow earlier public use. Finally, projects must go through lengthy environmental review and design and right-of-way phases before construction. To meet its high delivery goals, the NCDOT has to consider how long it will take to complete these phases before actually scheduling the project for construction. The Board of Transportation receives the draft 10-year Work Program and holds a one year public reviews period before adopting the final Program. The NCDOT has outlined this entire scheduling process (created as part of Transportation Reform) and it can be found at: [http://www.ncdot.gov/performance/reform/](http://www.ncdot.gov/performance/reform/).

The success of NCDOT’s prioritization process is reflected in broad support and positive feedback from the NCDOT’s key planning partners and industry representatives. Contractors can better plan their bids when they are assured that projects will be forthcoming, resulting in lower bid prices and savings for the taxpayer. MPOs/RPOs see a more transparent process for moving projects from their long-range plans into project programming and development. The public and elected officials see progress towards meeting project timetables, which in turn generates increased credibility for the Department. The North Carolina General Assembly recognized the effectiveness of Prioritization when it recently created a new Mobility Fund and directed the NCDOT to use a separate prioritization process for projects in that Fund. The language in the law allows wide latitude in the scoring criteria and further entrusts the NCDOT to use data to make the best decisions. Legislative staff has advised the NCDOT that the General Assembly is considering codifying the prioritization process into law in the 2012 legislative session.

3. Did this program originate in your state? If YES, please indicate the innovator’s name, present address, telephone number, and e-mail address.

   Yes, the project originated in North Carolina. The innovator would be the Secretary of Transportation - Eugene Conti, North Carolina Department of Transportation at 1 S. Wilmington St., Raleigh, NC 27699-1501, (919)707-2800, [www.ncdot.gov](http://www.ncdot.gov). His email address is: gconti@ncdot.gov

4. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?

   A number of other State DOTs have some form of a data-driven methodology for analyzing and/or scoring projects. However, NCDOT’s research has not uncovered another State DOT that goes to the extent of combining data with local input and adding bonus points for project scoring. To the NCDOT’s knowledge, there is not another State DOT that has a data-driven methodology for all of its non-highway transportation modes. Finally the NCDOT is not aware of another State DOT that uses a trade-off analysis
tool to evaluate the relationship between priority projects to available revenue and resulting system performance.

5. What limitations or obstacles might other states expect to encounter when attempting to adopt this program?

States would need to develop scoring criteria that are rooted in their Mission and Goals. The scoring criteria need to be measurable, repeatable and reliable and should allow for updates and comparisons against previous data to determine true progress. Many State DOT's have mission statements and system goals, but far fewer are actually measuring their progress and building priorities around those goals. State DOT's must also be willing to give key planning partners and local officials a voice in determining local project priorities. States need to ensure that their scoring criteria can be used in a trade-off analysis tool that can show how increases or decreases in investment will affect the overall performance of the transportation system. Finally, States need to be willing to be open and transparent in keeping the public informed on how projects are prioritized, how transportation investment decisions are made and how projects are ultimately selected for funding.

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