FY2020-2029

Metropolitan Transportation Improvement Program

CHAPTER 2: PROGRAM DEVELOPMENT

DCHC
Metropolitan Planning Organization
Planning Tomorrow's Tranportation

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1. PROGRAM DEVELOPMENT

1.1 Project Identification

Projects under consideration for inclusion in the MTIP must first be determined as priorities of the Metropolitan Transportation Plan (MTP). The development of the FY2020-2029 MTIP program of projects initially began with the development of the 2045 MTP in 2016. During the 2045 MTP process, the DCHC MPO identified and evaluated priority projects to help determine which projects will best facilitate the DCHC MPO region's long-term vision. The process is based on both federally defined planning factors and locally developed project evaluation factors.

1.2 Federal Planning Factors

Project prioritization and selection is partially based on the eight planning factors identified in the current federal transportation legislation, the Fixing America's Surface Transportation (FAST) Act, which requires MPOs to focus efforts on the development and implementation of regional strategies that:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and for freight;
- Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve transportation system resiliency and reliability;
- Reduce or mitigate stormwater impacts of surface transportation; and
- Enhance travel and tourism.

Additionally, TMAs are expected to consider land use implications, strategies to improve transit service, transportation system management, inter-modal connectivity, and urban congestion management in the planning and programming process. Projects to relieve congestion are given particular

priority. As such, project prioritization for the 2045 MTP is consistent with the MPO's recently adopted Congestion Management Process (CMP).

1.3 Goals & Objectives of the DCHC MPO in the 2045 MTP

There are eight goals, with accompanying objectives, identified in the adopted 2045 MTP.

Goal 1: Protect Environment and Minimize Climate Change

Objectives:

A. Reduce mobile source emissions, GHG, and energy consumption

B. Reduce the negative impacts on the natural and cultural environment

Goal 2: Connect People

Objectives:

A. Connect people to jobs, education, and other important destinations using all modes

B. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities)

Goal 3: Promote Multimodal and Affordable Travel Choices

Objectives:

A. Enhance transit services, amenities and facilities

B. Improve bicycle and pedestrian facilities

C. Increase utilization of affordable non-auto travel modes

Goal 4: Manage Congestion & System Reliability

Objectives:

A. Allow people and goods to move with minimal congestion and time delay, and greater predictability

B. Promote Travel Demand Management (TDM) such as carpool, vanpool, and park-and-ride

C. Enhance Intelligent Transportation Systems (ITS) such as ramp metering, dynamic signal phasing, and vehicle detection systems

Goal 5: Improve Infrastructure Condition

Objectives:

A. Increase proportion of highways and highway assets in 'Good' condition

B. Maintain transit vehicles, facilities and amenities in the best operating condition

C. Improve the condition of bicycle and pedestrian facilities and amenities

D. Improve response time to infrastructure repairs

Goal 6: Ensure Equity and Participation

Objectives:

A. Ensure that transportation investments do not create a disproportionate burden for any community

B. Enhance public participation among all communities

Goal 7: Promote Safety and Health

Objectives:

A. Increase safety of travelers and residents

B. Promote public health through transportation choices

Goal 8: Stimulate Economic Vitality

Objectives:

A. Improve freight movement

B. Link land use and transportation

C. Target funding to the most cost-effective solutions

D. Improve project delivery for all modes

2. Strategic Transportation Investments law

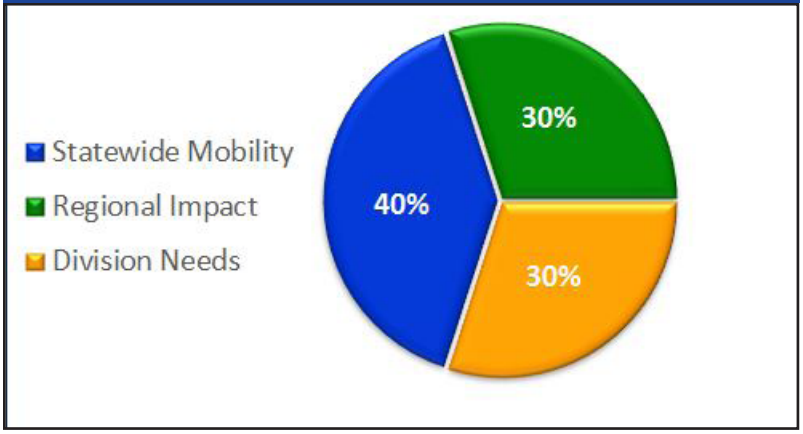
Former Governor Pat McCrory signed House Bill 817, Strategic Transportation Investments (STI), into law on June 26th, 2013 to replace the State of North Carolina's Equity Formula previously used to divide available funding among different areas of the state and different types of projects.

There are three major categories for transportation-related investments within STI: Statewide Mobility, Regional Impact, and Division Needs. These categories are based on their function in the overall transportation system and are shown in Figure 1.

Figure 1: STI Eligibility Definitions

Mode	Statewide Mobility	Regional Impact	Division Needs
Highway	• Interstates (existing & future) • NHS routes (July 1, 2012) • STRAHNET • ADHS Routes • Uncompleted Intrastate projects • Designated Toll Facilities	Other US and NC Routes	• All Secondary Roads (SR) • Federal-Aid Eligible Local Roads
Aviation	Large Commercial Service Airports ($500K cap)	Other Commercial Service Airports not in Statewide ($300K cap)	All Airports without Commercial Service ($18.5M cap)
Bicycle-Pedestrian	N/A	N/A	All projects ($0 state funds)
Public Transportation	N/A	Service spanning two or more counties (10% cap)	All other service, including terminals and stations
Ferry	N/A	Vessel or infrastructure expansion	Replacement vessels
Rail	Freight Capacity Service on Class I Railroad Corridors	Rail service spanning two or more counties not Statewide	All other service, including terminals and stations (no short lines)

Figure 2: STI Funding



Projects are allowed to cascade down to a lower category, so a Statewide Mobility project may be funded out of Regional Impact or Division Needs money. The division of funding in SPOT is divided among the three categories as shown in Figure 2.

3. Strategic Prioritization in North Carolina

The North Carolina Department of Transportation manages a strategic project prioritization process for the development of the SPOT. Strategic prioritization uses transportation data, as well as the input of local government partners and the public, to generate scores and rankings of projects across the state. Multiple public input opportunities were provided regarding the submittal of new projects and the assignment of local points to projects.

3.1 Results of Prioritization 5.0

The fifth iteration of the prioritization process (P5.0) resulted in each transportation mode using different quantitative criteria, measures, and weights to provide technical scores for projects.

Also, per the intent of STI, a normalization process was used in order to create minimum percentages of funding for highway and non-highway projects in the combined Regional Impact and Division Needs categories. The minimum percentage statewide for highways was 90 percent and minimum percentage statewide for non-highways was four percent. The remaining six percent was "flex" that could go to either highway or non-highway.

The results of the P5.0 process do not necessarily mean that projects will be programmed in the order of their score and rank. Over the 10-year STIP program, funding was provided to the highest scoring projects. However, there are other considerations and factors in developing the actual program of projects in the MTIP and STIP. A major factor in deciding when the top scoring projects are funded is project delivery time. Projects need to fulfill a series of environmental and preliminary engineering requirements, right–of-way must be purchased, utility relocation (where applicable) must be addressed, and final plans must be developed for lettings. The time period

to accomplish these preconstruction activities can be lengthy.

Construction funding cannot be allocated to projects before preconstruction activities have taken place. There are also STI law provisions (including a corridor cap and individual modal caps), which directed programming decisions. The entire program of projects must meet budget and fiscal constraint requirements per state and federal law.

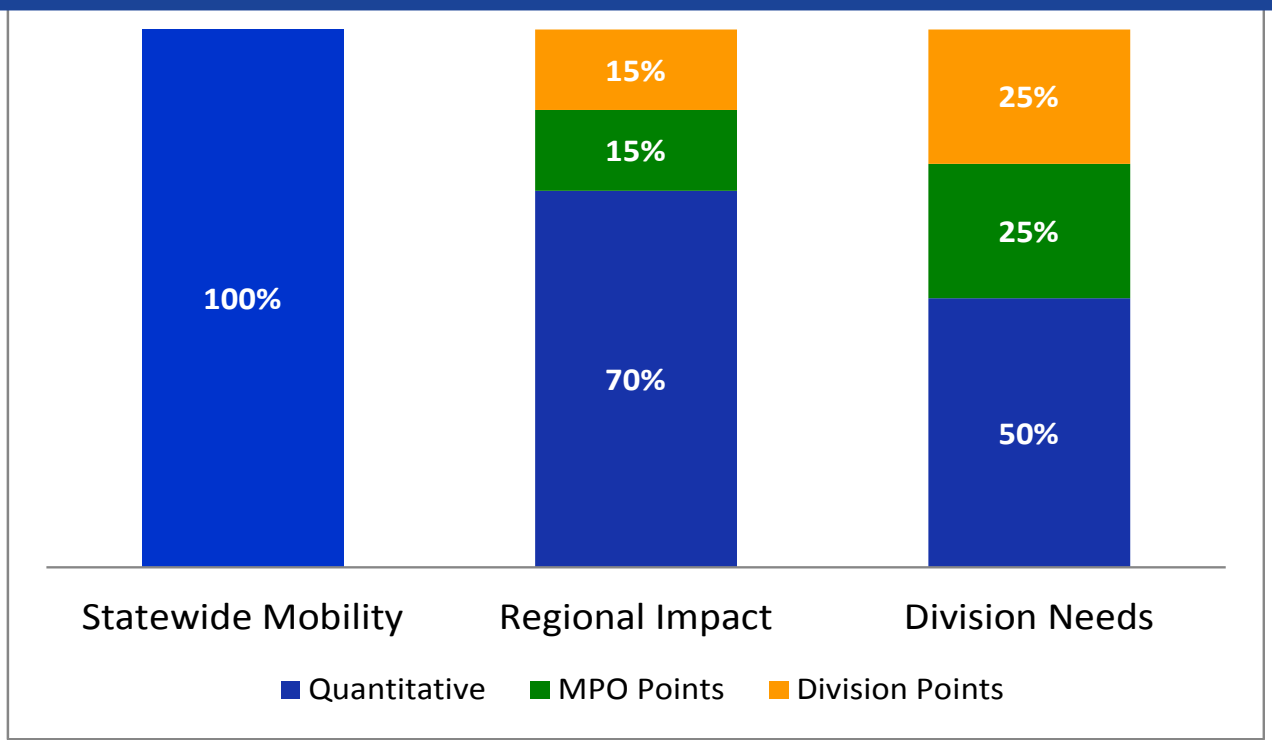
3.2 DCHC MPO Local Ranking Methodology

All of the regional transportation planning organizations and NCDOT Division Engineers were required to develop a Local Ranking Methodology for assigning local input points to projects in advance of the actual project scoring process. The DCHC MPO Board approved the MPO's methodology on March 14, 2018. The DCHC MPO's approved methodology is located in Appendix C.

3.3 DCHC MPO Local Input Points

After the DCHC MPO Board approved the Local Ranking Methodology, the MPO applied the methodology to all submitted projects. According to the adopted methodology, some of the MPO's points were to be assigned by following a formula and some of the points are to be assigned by discretion of the MPO Board. Division engineers also assign local points to determine a project's final score. The point distribution by project type is shown in Figure 3. The actual point distribution total for P5.0 is located in Appendix C.

Figure 3: Local Points Distribution



4. Performance Measures

The FAST Act requires that MPOs in their TIP, in accordance with 23 CFR 450.326 (d), shall include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets identified in the metropolitan transportation plan, linking investment priorities to those performance targets. Therefore, through adoption of this TIP, the DCHC MPO has established performance management targets in accordance with federal requirements. The DCHC MPO hereby adopts the following performance management targets, which match those of the State of North Carolina, for calendar year 2020:

- For the 2020 Highway Safety Improvement Plan (HSIP), the goal is to reduce total fatalities by 6.23 percent each year from 1,396.4 (2014-2018 average) to 1,227.8 (2016-2020 average) by December 31, 2020;
- For the 2020 Highway Safety Improvement Plan (HSIP), the goal is to reduce the fatality rate by 5.39 percent each year from 1.211 (2014-2018 average) to 1.084 (2016-2020 average) by December 31, 2020;
- For the 2020 Highway Safety Improvement Plan (HSIP), the goal is to reduce total serious injuries by 8.54 percent each year from 3,362.6 (2014-2018 average) to 2,812.8 (2016-2020 average) by December 31, 2020;
- For the 2020 Highway Safety Improvement Plan (HSIP), the goal is to reduce the serious injury rate by 7.64 percent each year from 2.886 (2014-2018 average) to 2.462 (2016-2020 average) by December 31, 2020;
- For the 2020 Highway Safety Improvement Plan (HSIP), the goal is to reduce the total nonmotorized fatalities and serious injuries by 7.13 percent each year from 494.6 (2014-2018 average) to 426.6 (2016-2020 average) by December 31, 2020.

The MPO has established performance management targets for highway safety (established in the Strategic Highway Safety Plan (SHSP)), transit tier 2 providers that choose to participate in NCDOT's Group Transit Asset Management (TAM) Plan, and performance management targets for infrastructure condition, congestion, system reliability, emissions, and freight movement. The MPO anticipates meeting their identified targets with the mix of projects included in the TIP aided by the Strategic Transportation Investments Prioritization and Programming process.