



Transportation Planning Capacity Building Program

Cross-Modal Project Prioritization *A TPCB Peer Exchange*

Location: Raleigh, North Carolina

Date: December 16-17, 2014

Host Agency: North Carolina Department of Transportation (NCDOT)

Peer Agencies: Delaware Department of Transportation (DelDOT)
Genesee Transportation Council (GTC)
Metropolitan Transportation Commission (MTC)
Oregon Department of Transportation (ODOT)
Virginia Department of Transportation (VDOT)

Federal Agencies: Federal Highway Administration (FHWA)
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Introduction

This report highlights key recommendations and best practices identified at the peer exchange on cross-modal project prioritization, held on December 16 and 17, 2014, in Raleigh, North Carolina. This event was sponsored by the [Transportation Planning Capacity Building \(TPCB\) Peer Program](#), which is jointly funded by the [Federal Highway Administration](#) (FHWA) and [Federal Transit Administration](#) (FTA). Additional information about the TPCB Program is available on page 21 of this report.

Overview of the Peer Exchange

Background of the Peer Exchange

On December 16-17, 2014 the TPCB Program held a peer exchange at the North Carolina Department of Transportation (NCDOT) that addressed the topic of cross-modal project prioritization. As the host agency, NCDOT requested this peer assistance in response to the [Strategic Transportation Investment \(STI\) Law](#) (House Bill 817) enacted by the North Carolina General Assembly in 2012. The legislation requires that capital expenditures across all modes of transportation compete for State transportation funding. In implementing this legislation, NCDOT's challenge is to develop an unbiased mechanism for comparing projects from different modes using quantitative data and a common set of criteria. In hosting the peer exchange, NCDOT's goal was to gain knowledge of national best practices that could be incorporated into NCDOT's Strategic Prioritization Process.

Goals of the Peer Exchange

The primary goal of the peer exchange was to address the concerns expressed by NCDOT regarding the challenges of implementing the STI legislation. Specifically, the purpose of the peer exchange was to gather innovative examples, useful suggestions, and industry best practices from other transportation agencies that have experience prioritizing projects across different modes of transportation. In addition, the peer exchange also sought to gather information on challenges in comparing or normalizing project scores across modes and explore the bounds of what level of cross-modal comparison is feasible. NCDOT plans to use the results of this peer exchange to refine its Strategic Prioritization Process and develop new methodologies for evaluating transportation projects.

Selecting the Peers

In advance of the exchange, the TPCB program identified three State Departments of Transportation (DOTs) and two metropolitan planning organizations (MPOs) to share their experiences, lessons learned, and recommendations for prioritizing projects across modes. The TPCB program focused on organizations with experience prioritizing or evaluating projects across modes of transportation in Long-Range Transportation Plans (LRTPs), State Transportation Improvement Programs (STIPs), and Transportation Improvement Programs (TIPs). Each of the chosen peers brought a unique perspective to the peer exchange. Together, the peer agencies represented a range of sizes, capabilities, experiences, and perspectives.

The three State DOT peer agency representatives were:

- **Jerri Bohard:** Administrator, Transportation Development Division, Oregon Department of Transportation (ODOT);
- **Rob Cary:** Richmond District Administrator, Virginia Department of Transportation (VDOT); and
- **Drew Boyce:** Planning Director, Delaware Department of Transportation (DelDOT).

The two MPO peer agency representatives were:

- **Rich Perrin:** Executive Director, Genesee Transportation Council (GTC); and
- **Dave Vautin:** Senior Transportation Planner/Analyst, Metropolitan Transportation Commission (MTC).

A full list of attendees is available in [Appendix C](#).

Key Concepts in Cross-Modal Project Prioritization

What is Project Prioritization?

At a broad level, project prioritization is the method by which transportation agencies rank upcoming projects in order of importance. Effective project prioritization is important for several reasons. The act of prioritizing projects defines the transportation needs for a state or region and strengthens agencies' ability to strategically plan for transportation. Effective prioritization helps agencies maximize the impact of limited transportation funding and also provides an opportunity for communication and coordination between state, regional, and local planning agencies. While project prioritization processes vary from agency to agency, prioritization generally involves the following steps:

1. Identifying projects in a long-range plan;
2. Seeking public input;
3. Developing criteria and evaluation measures;
4. Reporting findings;
5. Adjusting rankings; and
6. Creating finalized lists for the TIP or STIP.

What is the Strategic Transportation Investments Legislation?

The North Carolina General Assembly (NCGA) signed the Strategic Transportation Investments (STI) legislation into law in June 2013. The law requires NCDOT to allocate state transportation funding according to a Strategic Prioritization Process that incorporates data-driven scores and local input. Under the STI legislation, capital expenditures across all modes of transportation (i.e., highway, aviation, bicycle/pedestrian, ferry, rail, and transit) compete for the same Highway Trust Fund dollars based on rules set forth in the law. The intent of the legislation is to compare project scores across modes of transportation and fund the highest priority transportation projects, regardless of mode. Furthermore, the legislation lists specific criteria for evaluating highway projects and specifies that a minimum of four criteria be used to evaluate non-highway projects (although no specific criteria are written into the legislation). If NCDOT determines that projects from different modes cannot be compared in a fair, equitable manner, the legislation will permit the agency to score projects within each mode and then "normalize" scores to compare between different modes.

The Strategic Prioritization Office of Transportation (SPOT) is the office within NCDOT responsible for prioritizing and evaluating projects in accordance with the STI legislation. SPOT was created in 2008. In 2009, SPOT implemented the Department's first generation of the Strategic Prioritization Process, known as Prioritization 1.0 or P1.0. Under P1.0, highway projects were evaluated using a combination of three quantitative criteria: safety, pavement quality, and congestion; and the local MPO, Rural Planning Organization (RPO), and Division Engineer ranking. These prioritization results were used to guide the development of the Draft STIP. During the second iteration of Prioritization (known as P2.0), SPOT prioritized bicycle and pedestrian projects and expanded the evaluation criteria for evaluating highway projects to include the scoring of project benefits. Again, the results from P2.0 were used as input to the development of the Draft STIP. In P3.0 – the first round of prioritization after the passage of the STI legislation – SPOT prioritized projects across all six modes of transportation using an interim normalization process with a limited percentage of funding available for any mode. For the next upcoming STIP update – P4.0 – SPOT plans to further explore developing a fully cross-modal approach to prioritizing funding. Since P1.0, the prioritization process has been overseen by a multiagency Working Group. In addition to the SPOT office, the Working Group now has representation from four MPOs, four RPOs, four NCDOT Transportation Division Offices, the North Carolina Metropolitan Mayors Coalition,

the North Carolina Association of County Commissioners, the North Carolina Regional Council of Governments, the North Carolina League of Municipalities, the North Carolina Ports Authority, the Governor's Office, the North Carolina Departments of Commerce and Agriculture, legislative staff, FHWA, and other staff from NCDOT.

Format of the Event

The two-day peer exchange was held on December 16 and 17, 2014 in Raleigh, NC. In addition to the five peer presenters, participants included representatives from NCDOT, FHWA, North Carolina General Assembly, and from North Carolina MPOs, RPOs, and transit agencies. The exchange began with brief introductions and background information on the STI legislation and project prioritization at NCDOT. During the first presentation session, the State DOT and MPO peers introduced the project prioritization processes in place at each of their agencies. After a facilitated question-and-answer period, the next three sessions provided NCDOT and the peers the opportunity to discuss key topics in cross-modal prioritization: project evaluation best practices; quantitative prioritization; and implementing cross-modal prioritization processes. The event concluded with small group discussions and an action planning session that sought to identify next steps for NCDOT following the peer exchange. The full agenda for the event is available in [Appendix D](#).

Focusing the Conversation

To focus the discussion at the peer exchange, the TPCB program developed a draft agenda and solicited feedback on it from peers and other participants. The agenda included four sessions; each session began with a presentation by the peers and was followed by a facilitated discussion and question-and-answer period. The peers also provided relevant reference materials, which are available in a supplemental appendix to this report.

Session 1: Existing Project Prioritization Systems

- What experience, if any, does your agency have evaluating projects across modes of transportation?
- What key concepts in cross-modal project prioritization should this exchange address?
- In your opinion, what are the key challenges for agencies that may attempt to prioritize projects across modes? How can agencies overcome these challenges?
- In your opinion, how can an agency use common criteria (rather than mode-specific criteria) to compare, prioritize, and evaluate projects from different modes?
- What resources or best practices are you familiar with that might be useful for NCDOT?
- Do you know of any other agencies that have tried to evaluate projects across modes?

Session 2: Best Practices Evaluating Projects across Modes

- How feasible is cross-modal prioritization at the State level?
- What lessons learned can you share regarding cross-modal prioritization at the regional level?
- How does cross-modal prioritization fit into the context of national performance measures?
- What strategies exist for breaking funding silos between modes?
- What funding sources are available to support cross-modal prioritization? What funding limitations may hinder cross-modal prioritization?
- What challenges and opportunities exist for the consideration of each mode of transportation (i.e., highway, aviation, bicycle/pedestrian, ferry, rail, and transit)?
- What are the necessary levels of capital expenditures for expansion, mobility, and modernization for each mode?

Session 3: Quantitative Prioritization

- What are the benefits of using quantitative/objective data in project prioritization?
- What are some strategies for keeping data current to support prioritization?
- How can transportation agencies align modal datasets on different collection cycles?
- How can transportation agencies estimate project benefits for each mode?
- How can transportation agencies develop common project criteria across modes?
- What experience does your agency have in normalizing project scores across modes?
- What are the advantages and disadvantages of normalizing project scores in prioritization?
- How can agencies solicit local input in quantitative project scoring?
- How can transportation agencies best work with partners such as MPO/RPOs and legislators?

Session 4: Implementing a Cross-Modal Prioritization Process

- What organizational structures support effective cross-modal prioritization?
- What are the necessary staff time and other resources for cross-modal prioritization?
- How can agencies develop a common set of prioritization criteria for different modes?
- How can NCDOT best satisfy the requirements of STI legislation?
- What are some alternative approaches to cross-modal prioritization?

Peer Agency Prioritization Processes

One primary goal of the peer exchange was to gather relevant information on transportation agencies with experience prioritizing projects across different modes of transportation. Table 1 offers a summary of the funding sources available for cross-modal prioritization at each participating agency. Additional information on each agency, including regional characteristics and prioritization criteria, is available in [Appendix A](#).

Table 1: Funding Available for Cross-Modal Periodization at Participating Agencies

Agency	Budget	Federal Funds Prioritized Across Modes	Non-Federal Funds Prioritized Across Modes
DeIDOT	<ul style="list-style-type: none"> \$430 million annual capital budget 	<ul style="list-style-type: none"> NHPP STP HSIP Railway-Highway Crossings CMAQ 	<ul style="list-style-type: none"> State transportation capital improvement program
GTC	<ul style="list-style-type: none"> \$100 million annual capital budget \$42 million available for programming across modes 	<ul style="list-style-type: none"> STP HSIP CMAQ 	<ul style="list-style-type: none"> GTC does not program any non-Federal funds
MTC	<ul style="list-style-type: none"> \$57 billion discretionary funds available for prioritization \$270 billion total in Plan Bay Area (through 2040) 	<ul style="list-style-type: none"> STP CMAQ PL New Starts Small Starts 	<ul style="list-style-type: none"> State transportation expansion funding (STIP/ITIP) Regional gas tax Toll bridge revenue (existing and future) State Transit Assistance and State JARC funds Transportation Fund for Clean Air High Speed Rail regional rail funds Local transportation sales taxes
NCDOT	<ul style="list-style-type: none"> \$1.5 billion annual capital budget 	<ul style="list-style-type: none"> NHPP STP CMAQ HSIP 	<ul style="list-style-type: none"> North Carolina Highway Trust Fund

Agency	Budget	Federal Funds Prioritized Across Modes	Non-Federal Funds Prioritized Across Modes
ODOT	<ul style="list-style-type: none"> \$450 million annual capital budget \$224 million 3-year budget for “Enhance” projects 	<ul style="list-style-type: none"> NHPP STP Safe Routes to School 	<ul style="list-style-type: none"> Federal funds only
VDOT	<ul style="list-style-type: none"> \$1.1 billion annual capital budget \$350-\$500 million available for programming across modes 	<ul style="list-style-type: none"> NHPP HSIP Railway-Highway Crossings 	<ul style="list-style-type: none"> VA Transportation Trust Fund

Key Recommendations and Lessons Learned

Over the course of the two-day exchange, the peer participants delivered presentations and engaged in discussions about their experience prioritizing transportation projects for inclusion in transportation programs. This summarizes the key recommendations that emerged from the peer exchange and profiles noteworthy practices employed by the peer agencies. These recommendations are applicable not only for NCDOT, but to other transportation agencies that are seeking to compare and prioritize projects of different modes.

A. Selecting and Weighting Cross-Modal Criteria

Prioritization Criteria in the Context of MAP-21

The Moving Ahead for Progress in the 21st Century Act (MAP-21) instituted a number of changes that compel transportation agencies to reconsider their decisionmaking processes, including project prioritization. One notable aspect of MAP-21 is the introduction of a new set of performance management requirements that will amend the transportation planning process for State DOTs and MPOs. When complete, the performance management rulemaking will require transportation agencies to use objective data and performance measures in the selection and funding of transportation projects. The use of performance measures will help to ensure that State DOTs prioritize the transportation projects that best meet overall goals and targets for their transportation programs.

In light of MAP-21 requirements, transportation agencies may benefit from scoring projects based on required national performance areas, such as environmental impacts and safety. For that reason, these national performance measures may help agencies to identify criteria that can be applied across modes. Additional information on rulemaking and performance measurement requirements is available on FHWA's [MAP-21 Implementation webpage](#).

Selecting and Weighting Prioritization Criteria in the Context of STI Legislation

For the scoring and prioritization of highway projects, North Carolina's STI legislation specified that NCDOT must select criteria from a list of 10 possible criteria that include: benefit-cost, economic competitiveness, lane width, shoulder width, congestion, freight, pavement condition, safety, accessibility/connectivity, and multimodality. While the legislation does not specify the criteria to be used for non-highway modes, it does require NCDOT to use a minimum of four quantitative criteria on a 100-point scale.

To help the SPOT Office prepare for P4.0, the selection of prioritization criteria was a major topic of conversation during the exchange. The peers made several general recommendations for selecting project criteria, including:

- Keeping criteria simple and high-level helps keep decisionmaking transparent;
- Prioritization criteria should calculate the benefits of proposed projects, and not simply assess the existing conditions;
- The content of LRTPs and other multi-modal plans should support an agency's choice of prioritization criteria;
- Agencies should choose a manageable number of criteria (i.e., five or six) to focus on meaningful and comprehensible outcomes;
- Criteria should focus on impacts to the traveling public rather than impacts to infrastructure itself (e.g., amount of traffic crossing deficient bridges rather than the number of deficient bridges);
- Criteria should consider the context of each project (e.g., a rural project should not necessarily

- lose points for not including sidewalks);
- Where possible, criteria should rate projects based on mode-neutral characteristics, such as “asset condition” rather than “pavement condition”; and
- Criteria should focus on outcomes rather than outputs.

Connecting Criteria to Values

Selecting project prioritization criteria offers transportation agencies the opportunity to connect planning and programming with value statements such as an agency’s mission, vision, and goals. For that reason, clear objectives, targets, and performance measures can help agencies choose effective prioritization criteria; however, selecting criteria can also require agencies to assign relative weight to various priorities, such as saving lives, saving time, or providing economic development.

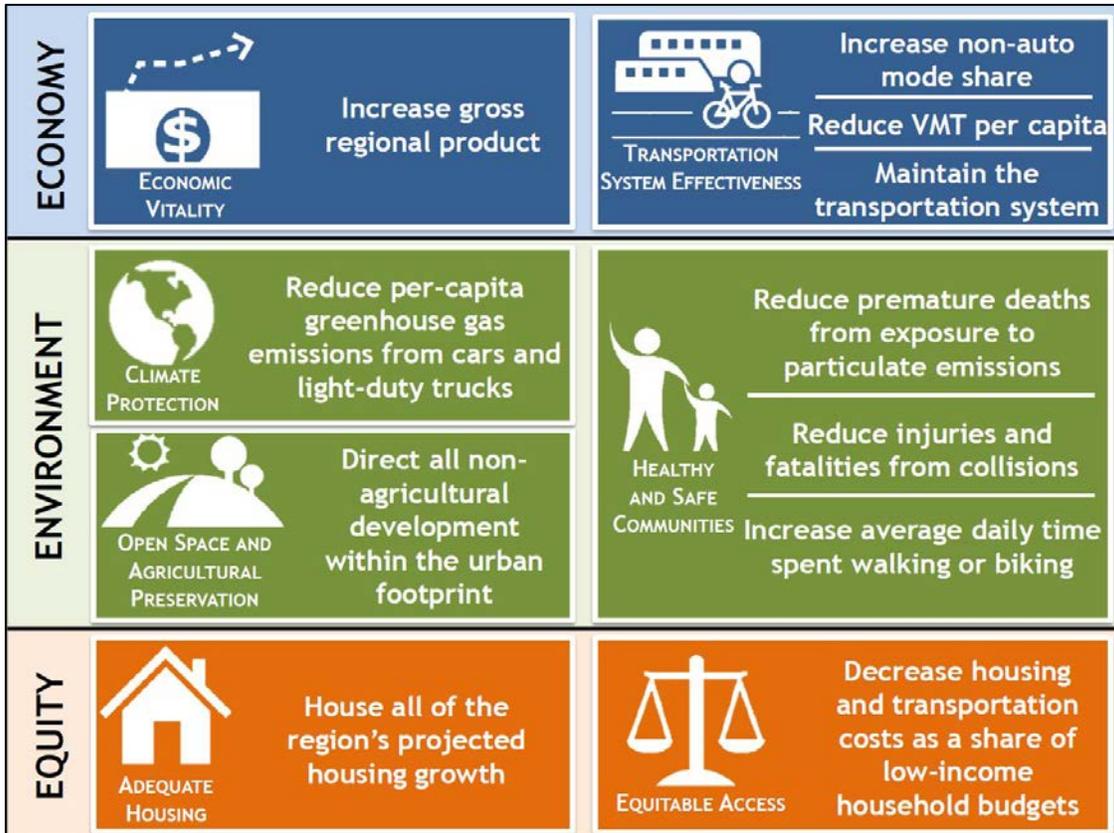
Example: DeIDOT developed a new, formula-based prioritization system in accordance with Title 29 Chapter 84 § 8419 of the Delaware Code. In preparing this system, DeIDOT developed a list of criteria that corresponded closely to the agency’s mission, vision, and goals (see Table 2). For more information on DeIDOT’s selection of project prioritization criteria, view this handout on the [DeIDOT Project Prioritization Criteria](#).

Table 2: DeIDOT’s Mission, Vision, and Goals, with Connections to Project Prioritization Criteria

Mission	Vision	Goals	Prioritization Criteria
Every Trip	We strive to make every trip taken in Delaware safe, reliable and convenient for people and commerce.	Minimize the number of fatalities and injuries on our system Build and maintain a nationally recognized system benefiting travelers and commerce	Safety System Operating Effectiveness System Preservation
Every Mode	We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths.	Provide every traveler with access and choices to our transportation system	Multimodal Mobility/Flexibility/Access
Every Dollar	We seek the best value for every dollar spent for the benefit of all.	Minimize the environmental impact of the state’s transportation system Achieve financial sustainability through accuracy, transparency and accountability	Environmental Impact/Stewardship Revenue Generation and Economic Development
Everyone	We engage and communicate with our customers and employees openly and respectfully as we deliver our services.	Develop and maintain a place where talented and motivated employees love to work and can be national leaders in transportation	Impact on the Public/Social Disruption/Environmental Justice

Example: To score major projects, MTC scores each project based on its impacts in 10 target areas; however, MTC does not assign a relative weight to any of the 10 target areas because of the political challenges of prioritizing one focus area over another (e.g., economic vitality over equitable access or vice versa). In selecting performance measures for each target area, MTC avoids measures that may be biased toward any one mode of transportation, as well as measures that favor mileage over user benefits. MTC focuses on measures that address the fundamental outcomes and objectives identified by stakeholders, such as public health, environmental quality, regional affordability, or air quality – then selecting strategies and projects that move towards that goal regardless of their mode. In addition to evaluation of the 10 performance targets, MTC conducts a benefit-cost assessment of the 100 most significant projects included in the agency’s LRTP. More information on the use of benefit-cost assessments is available in Section C.

Figure 1: MTC’s 2040 Regional Transportation Plan, known as Plan Bay Area, identified outcome-based performance targets that draw upon the three “E’s” of sustainability.



Advantages and Disadvantages of Specific Criteria Types

Meeting participants considered the advantages and disadvantages of several types of criteria, including:

- Economic impacts;
- Safety;
- Time savings;
- Costs savings;
- Public health;
- Social equity;
- Air quality;
- Accessibility;
- Mobility;
- Congestion;
- Environmental stewardship;
- Multimodality; and
- Efficiency/effectiveness.

As highlighted below, meeting participants discussed several of these in greater detail.

Congestion: Measuring congestion provides transportation agencies with a good sense of system operating effectiveness and a general assessment of the health of a transportation system. Several of the peers indicated that congestion relief is one of the most easily quantifiable prioritization criteria. In light of this fact, NCDOT's Working Group developed a formula to evaluate projects based on travel time benefits as part of the P2.0 process.

Example: In addition to traffic volume to capacity (V/C) ratio and other standard measures of congestion, MTC suggested the use of an innovative performance measure, the congested share of vehicle miles traveled (VMT), which can help agencies score projects based on their ability to relieve congestion. This measure allows agencies to address highway congestion while also influencing mode shift, since the congested share of VMT measure can decrease due to either expanding highway capacity or to reducing driving through mode shift. Notably, MTC does not treat traffic congestion relief as a primary benefit in project prioritization, instead focusing on a project's potential to reduce travel time across all modes.

Economic Development/Competitiveness: Economic development and economic competitiveness are key considerations for any transportation project; however, defining, estimating, and quantifying the economic impacts of any given project can be a challenging and multi-faceted task. Estimates of economic impacts might account for a wide range of factors, including: access to jobs, job creation, job retention, port connectivity, freight mobility, attractiveness to new/existing businesses, access to shopping, and even impacts to regional food systems. Another challenge to estimating economic impacts in cross-modal prioritization is that job creation estimates often favor the selection of highway construction projects, which tend to require higher labor costs over projects from other modes. While job creation is an important aspect of transportation activities, several peer agencies suggested that access to key job centers may be a more useful criterion for cross-modal project prioritization.

Example: NCDOT uses a tool called TREDIS (Transportation Economic Development Impact System) to define the impacts of transportation projects on job creation and the economy. These tools allow NCDOT to calculate the change in an area's economy based as a result of increased

productivity and expected long-term jobs created resulting from a project. Inputs include the anticipated travel time savings, the existing industries and the employers in the vicinity of a project.

Public Health: Transportation agencies are increasingly considering the impact of transportation projects on public health in their planning and project development processes. To this end, some agencies are developing metrics for the impacts of transportation projects on physical activity, particularly with regard to bicycle and pedestrian facilities. For example, ODOT has partnered with the Oregon Health Authority to conduct health impacts assessments at the planning level. ODOT recognizes that the data collected for health impact assessments may be helpful at the planning level and can be useful for project selection alternative analysis.

Revenue Generation: Apart from the economic impacts described above, some transportation agencies score projects based on a related revenue generation criteria. This criteria type can refer to both project funding from partner agencies and the potential for continual revenue generation through tolling or other means.

Safety: Saving lives and preventing serious injuries is a top priority for all transportation agencies, including NCDOT; however, meeting participants observed that comparing the safety impacts of projects across modes is a major challenge. In developing a truly cross-modal project prioritization process, the peers noted that agencies must develop a strategy for valuing lives equally across all modes of travel.

Weighting Project Criteria

After selecting criteria to use for the project prioritization process, many agencies assign each criterion a relative weight. Weights allow agencies to choose which criteria are the most important for project prioritization and helps agencies to emphasize projects that address the most important needs.

Example: To develop the priority weights of each prioritization criterion, DeIDOT polled leaders from various disciplines within the agency, including operations and maintenance, transit, project development, and planning. This process created a level of importance (i.e., weight) for each criterion based largely on DeIDOT's mission, vision, and goals (see Table 2). Through this process, DeIDOT decided to weight safety (33 percent) and system operating effectiveness (24.8 percent) most highly, followed by multimodal mobility, revenue generation, environmental impacts, impact on the public, and system preservation.

B. Incorporating Local Input Points

Local input can be a helpful contribution to cross-modal project prioritization. Local input can be used to normalize scores across modes, to refine project locations, and to ensure that local priorities are incorporated into project prioritization. Because local input is an important part of North Carolina's Strategic Prioritization Process, meeting participants discussed various strategies for incorporating regional and local agencies into the project prioritization process.

Local Input and North Carolina's STI Legislation

In addition to quantitative project criteria, the STI legislation requires NCDOT to incorporate local input points in the prioritization of transportation projects. Under P3.0, NCDOT currently considers input from MPOs, RPOs, and Division Engineers on two categories of STI funding: "regional impact" and "division needs." In the regional impact category, decisions are based on 30 percent local input. In the division needs category, decisions are based on 50 percent local input. For projects in these funding categories,

each MPO/RPO and NCDOT Division Office can assign up to 100 points per project according to a local methodology approved by NCDOT. The total number of points available to each MPO/RPO and Division Office is based on the population of the area it represents.

Working with Partners to Solicit Input

Several peers noted that early and continuous involvement of partner agencies can build strong collaborative relationships between State DOTs, MPOs, RPOs, counties, city governments, and other transportation partners. Trust and transparency are essential to gaining buy-in and support for innovative project prioritization processes. For this reason, several participating agencies explained that their outreach efforts to potential partner agencies form an important part of their prioritization processes. For example, NCDOT created its multi-agency Working Group to incorporate MPOs, RPOs, and other partners into the development of the State's cross-modal prioritization process.

Example: ODOT divides its capital programs into “enhance” projects, which expand or improve the existing system, and “fix-it” projects, which repair or preserve the existing system. The prioritization process for “enhance” projects incorporates input from Oregon’s Area Commissions on Transportation (ACTs), which are advisory bodies chartered by the Oregon Transportation Commission to play a local advisory role in the development of the STIP. ACTs establish and deploy a public process for project selection, prioritize transportation solutions, and recommend local projects to be included in the STIP. ACTs consider transportation projects from multiple modes (e.g., surface, marine, air, and transportation safety). ACTs are effective in incorporating input from multiple partners because the ACTs themselves include representation from local elected officials, ports, businesses, universities, tribes, and other stakeholders.

C. Using Data for Project Prioritization

The use of data justifies decisions and adds credibility to the project prioritization process. Most importantly, quantitative decisionmaking allows agencies to objectively assess which projects are going to bring the most value to their stakeholders. In preparing for P4.0, NCDOT was interested in learning more about the use of quantitative data in the project prioritization process, including strategies for estimating project benefits, collecting data, and keeping data current.

Developing Quantitative Project Scores

Many of the criteria discussed in Section A are easy to measure. For example, congestion reduction can be measured using data that agencies typically collect as part of their normal operations. Several peer agencies had developed strategies for scoring projects’ predicted impacts according to a range of criteria, including:

- *Safety:* Agencies can assign points to a project based on its connection to the emphasis areas listed in the state’s Strategic Highway Safety Plan (SHSP).
- *Multimodality:* One peer agency assigned additional points for each mode of travel included in a proposed project.
- *Revenue Generation:* To assess a project’s impacts on revenue, agencies can assign points according to the level of local or private funding contribution expected for a project.
- *System Preservation:* Some agencies prioritize preservation projects that can be leveraged against capital expansion projects. DelDOT assigns a “bonus” score for capital projects that have system preservation components to them.
- *Greenhouse Gas (GHG) Emissions:* Agencies can use data models of nitrous oxide and carbon dioxide emissions to estimate air quality impacts of projects.
- *Mobility:* While mobility can be a difficult criterion to estimate, one option for transit projects to

consider is journey to work data from the American Community Survey. On-board transit surveys are another option. MTC uses these surveys to understand how its services are used and how travel needs are changing.

- *Congestion/Systems Operating Effectiveness:* In addition to V/C ratio and other standard measures of congestion, the peers discussed other options for measuring congestion, including person miles traveled to capacity, which allows agencies to compare congestion across modes. Considering travel time savings rather than changes in the V/C ratio is another option for transportation agencies.

Measuring Qualitative Factors

While many project criteria are easily quantified, others are more qualitative in nature. Considerations such as impact on the connectivity, social equity, and other impacts on the public may be difficult to quantify. The peers noted one strategy for measuring more qualitative considerations is to organize an informed and impartial panel to assess these issues.

Example: In preparing TIP updates, GTC and the New York State Department of Transportation (NYSDOT) Region 4 office separately score each potential project according to 20 criteria. Staff from the two agencies then meet and discuss their respective scores for each project and each criterion. GTC developed a Rater's Guide to help ensure consistency across multiple raters by providing a consistent rating scale for TIP projects and using specific criteria to score how well a proposed project supports the region's goals and objectives. The guide helps to rank projects using both a set of common criteria (e.g., safety, mobility) and mode-specific criteria.

Collecting Data and Keeping it Current

Estimating project benefits and assigning numerical scores to projects requires accurate and up-to-date data, including traffic data, crash data, roadway attribute data, and many other forms of data, as discussed above. While data collection can be a challenge for many agencies, the peers discussed several innovative strategies for collecting data and keeping it current.

Example: Traffic data is one of the most essential data types for project prioritization. DeIDOT uses a network of strategically-located automatic traffic recorders (ATRs) around the State to measure highway traffic volumes. DeIDOT initiated a bicycle and pedestrian count program in 2014 to estimate the demand and latent demand for bicycle and pedestrian infrastructure, which is essential for estimating the cross-modal impacts of transportation projects.

Example: ODOT applies several strategies to keep its data current: ODOT uses a powerful web mapping tool known as [TransGIS](#) to keep transportation asset data up-to-date and to standardize traffic counts across the State. ODOT also conducts a longitudinal household survey every 10 years to provide current data to the statewide travel model. For roadway attribute data, ODOT records a video of one-third of the State-owned mileage every three years. ODOT has plans to expand this videolog effort to include sidewalks and other bicycle and pedestrian infrastructure in the future.

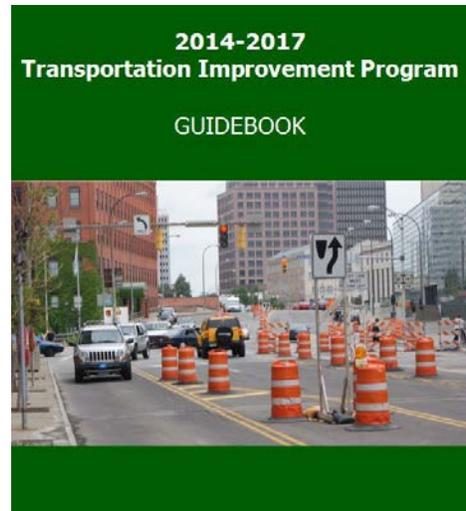


Figure 2: GTC's Rater's Guide defines scores for each criterion based on estimated project impacts.

Using Existing Data

Because data collection can be expensive, agencies rely on existing data sources to rate projects. MPOs and DOTs often rely on quality data generated from partner agencies and member agencies such as counties, transit agencies, and law enforcement agencies.

Example: For each TIP update, GTC uses two quantitative measures: carbon emissions (data-modeled) and direct energy usage (measured in BTUs/day). GTC adjusts the network of the base year of the model to include projects in the proposed TIP (i.e., creating a build scenario) and conducts regional emissions and GHG analysis. Per the GTC Rater's Guide, GTC uses Transportation Research Board (TRB) cost per ton reduction estimates by project type for criteria pollutants. GTC selected these measures in part because the agency had access to the necessary data from partners and member agencies, including the City of Rochester, county governments, transit authorities, and NYSDOT. By using data collected by its partner agencies, GTC is able to avoid conducting data collection efforts itself.

Developing Benefit-Cost Ratios

Many meeting participants considered benefit-cost ratios to be a primary consideration for project prioritization. As a distinct factor in project prioritization decisions, the benefit-cost ratio can serve as a “catch-all” for all project benefits and a measure of a project's cost effectiveness; however, developing benefit-cost ratios requires agencies to define which project benefits will feed into this measure (e.g., safety, congestion, accessibility) and how these benefits will be monetized. Project costs, on the other hand, are less abstract and easier to estimate.

The peers identified several obstacles to using benefit-cost ratios to compare projects across different modes. For one, projects from each mode of transportation produce different types of benefits that may need to be measured in different units. For that reason, transportation agencies may need to either focus on benefits that apply to all modes of transportation or develop a strategy for normalizing benefits across modes, as discussed in Section D. Another challenge for developing benefit-cost ratios is the difference in the magnitude of benefits between large projects and small projects, which can make it difficult to compare the cost effectiveness of projects at different scales.

D. Comparing Projects across Modes

Meeting participants discussed various approaches for comparing project scores across modes, including normalizing project scores across modes and directly comparing projects according to a common set of criteria for all modes.

Combining Mode-Neutral Criteria with Mode-Specific Criteria

Many participating agencies develop project scores using a combination of mode-specific criteria (e.g., lane width) and mode-neutral criteria (e.g., safety). While each peer agency rates projects according to a different score, most noted that a majority of project points should account for mode-neutral considerations to select the best overall transportation projects. For example, GTC assigns transportation projects 100 points for common, mode-neutral criteria and just 30 points for mode-specific criteria; however, retaining some mode-specific criteria can serve as a “tie-breaker” or a tool for prioritizing projects within a mode-specific funding source, if applicable.

Normalizing Project Scores

Many of the project scoring strategies discussed during this peer exchange include a combination of both mode-neutral criteria and mode-specific criteria. In these cases, when two projects of different modes

receive two different project scores, their scores cannot be directly compared to one another. One potential technique for cross-modally comparing scores that rely partly on mode-specific criteria is to compare projects based on the percent of possible points, if the scales of two different scoring systems vary; however, some peers commented that this can be problematic because it can undo the weighting systems applied to scores within different criteria and potentially result in suboptimal prioritization. Furthermore, normalizing scores by using percent of possible points can create a situation in which outlier projects disadvantage projects that score only moderately well. Regardless, normalization does help agencies to compare high-scoring projects from different modes. In combination with other strategies for comparing projects, normalization can be a useful tool for cross-modal prioritization.

Local Input Points and Investment Summits

As discussed in Section B, local input points can provide agencies with a mode-neutral mechanism for prioritizing projects. Because local agencies can assign points to projects of any mode, local input points are more likely to address transportation needs without regard to specific modes of travel. In addition to local input, the peers discussed the use of investment summits as an alternative approach to comparing potential projects representing different modes of travel. NCDOT in P2.0, for example, held a series of investment summits where its partner agencies and the general public can provide input into how funds should be allocated for transportation projects. The summits produced an investment strategy that NCDOT could use in combination with scoring criteria, performance measures, and local input points to prioritize projects across modes; however, there are disadvantages to using investment summits to prioritize projects. Specifically, the use of investment summits may not be effective for prioritizing projects at a statewide level since they are more likely to produce investment strategies that are regional in nature. Note that NCDOT did not hold investment summits in P3.0.

E. Overcoming Challenges to Cross-Modal Project Prioritization

As a novel practice for most transportation planning agencies, cross-modal project prioritization can be challenging for State DOTs and MPOs to implement. Throughout the exchange, the peers discussed several strategies useful for overcoming common challenges for cross-modal prioritization.

Organizational Structure for Cross-Modal Prioritization

One goal of the peer exchange was to gather information on the organizational framework and other resources that agencies need to support effective cross-modal prioritization. Considerations such as a staff time, funding, data modeling, analytical tools, data collection, interagency partnerships, and subject matter expertise can all influence an agency's ability to apply the innovative prioritization strategies discussed during this peer exchange.

Example: The DelDOT Division of Planning is responsible for project prioritization in Delaware. The Division of Planning includes data support staff, one transportation demand management data modeling expert, and one person responsible for project intake and coordination with the state's two MPOs. The Planning Director is responsible for the project scoring process and the ranking of projects based on these scores. After the prioritization process is complete, Planning works with DelDOT finance staff to develop the State's six-year Capital Transportation Program.

Example: The project prioritization process at GTC is a joint effort of GTC and NYSDOT staff. NYSDOT submits projects for consideration and takes part in prioritization decisions. GTC assigns three staff to review proposed projects on a part-time basis. These three staff coordinate with subject matter experts from across the organization to estimate the overall impacts of each project. GTC staff rely on project sponsors to develop reliable cost estimates for each project.

After generating estimates of benefits and costs, GTC's part-time modeling staff run project scenarios and GTC planning staff complete the process to create an initial set of rankings for member agency review.

Adhering to Funding Constraints

Many streams of funding are restricted to particular uses or particular modes of transportation (see Table 1 for more information on funding set-asides at each participating agency). Aligning all of the projects in a TIP or STIP with the appropriate funding silos and adhering to all legislative funding constraints present a major challenge to cross-modal decisionmaking. NCDOT has overcome this challenge by separating the functions of scoring projects (i.e., SPOT's responsibility) from applying funding according to various constraints, which is the responsibility of NCDOT's Project Development Branch; however, because Federal funding only accounts for approximately 25 percent of NCDOT's capital program, it faces fewer constraints than State DOTs that rely less on State funding.

Modal Biases

Throughout the peer exchange, meeting participants discussed the need to select project criteria that can apply to multiple modes of transportation without unfairly favoring one mode over another. Beyond the selection of cross-modal criteria, modal biases may also emerge during the process of choosing the methodology for measuring each criterion or assigning project scores.

Example: To 'level the playing field' for park-and-ride and bicycle and pedestrian projects, DelDOT developed a methodology for using adjacent road data to estimate highway congestion impacts based on latent demand for other modes. DelDOT found that this methodology has boosted the scores for project types that had been difficult to compare to highway projects.

Tailoring Projects to Local Needs

North Carolina is a large and diverse state, with a variety of large and small counties. As is the case with many states, the diversity of transportation needs in North Carolina can make it difficult for NCDOT to set goals and scoring criteria that can apply to communities across the state. To resolve this issue, the peers discussed options for customizing transportation goals to the unique transportation needs of different regions. The peers noted that building in a degree of regional flexibility tends to benefit all regions.

Example: Like North Carolina, Virginia is a state with a large, diverse population and a wide range of varying transportation needs. For this reason, VDOT's project screening process must work equally well for all sizes of governments and it must allow projects in small, rural counties to compete fairly with major projects from the state's more populous regions. To achieve this balance, VDOT allows MPOs and planning district commissions (PDCs) to choose between various weighting scenarios set by the Commonwealth Transportation Board. As a result, these regional planning agencies are able to select weighting scenarios that address their local transportation concerns. In some regions, safety or economic development is rated as the top priority. In other regions, such as Northern Virginia, congestion is the most heavily-weighted factor.

F. Conclusion and Next Steps

At the end of the exchange, NCDOT identified several next steps based on discussions at the event. These actions included:

- Select key criteria for P4.0, such as time, money, lives, quality of life, and environment that can be measured in a fair, consistent and reliable manner.
- Likely continue to use a “normalization” approach, since the Peer Exchange confirmed that no agency has been able to quantitatively evaluate projects across six modes of transportation.
- Continue to not allow “perfect” to get in the way of “good”. Data needs to be accurate and defensible, but not perfect.
- Revisit whether to link the Strategic Vision Plan to project prioritization criteria.
- Complete development of a Statewide Travel Demand Model in order to address future conditions, and use its outputs when they are shown to be reliable.
- Re-examine strategies for estimating cross-modal project benefits.
- Request input on potential opportunities to strengthen cross-modal prioritization during the public comment period for the draft 2016-2025 STIP.

About the Transportation Planning Capacity Building (TPCB) Program

The [Transportation Planning Capacity Building \(TPCB\) Program](#) is a joint venture of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) that delivers products and services to provide information, training, and technical assistance to the transportation professionals responsible for planning for the capital, operating, and maintenance needs of our nation's surface transportation system. The TPCB Program website (www.planning.dot.gov) serves as a one-stop clearinghouse for state-of-the-practice transportation planning information and resources. This includes over 70 peer exchange reports covering a wide range of transportation planning topics.

The [TPCB Peer Program](#) advances the state of the practice in multimodal transportation planning nationwide by organizing, facilitating, and documenting peer events to share noteworthy practices among State DOTs, Metropolitan Planning Organizations (MPOs), transit agencies, and local and Tribal transportation planning agencies. During peer events, transportation planning staff interact with one another to share information, accomplishments, and lessons learned from the field and help one another overcome shared transportation planning challenges.

Appendices

A. Project Prioritization Summary Tables

Delaware Department of Transportation (DeIDOT)	
Regional Characteristics	<ul style="list-style-type: none"> The population of Delaware is approximately 900,000 Two MPOs, three counties Maintains about 90 percent of highway miles in State, including 13,000 lane miles
Programming Authority	<ul style="list-style-type: none"> Title 29 Chapter 84 § 8419 of the Delaware Code – requires a formula-based process for transportation priority planning
Sources of Funding Prioritized	<ul style="list-style-type: none"> State transportation capital improvement program (operating budget, transit system, and capital expenditures)
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> All Department transportation projects System preservation projects to be prioritized based upon performance measures established for pavement management, bridge management, and safety management
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> Municipal street aid projects Transit Aviation
Prioritization Criteria	<ul style="list-style-type: none"> Safety System operating effectiveness System preservation Multimodal mobility/flexibility/accessibility Environmental impact/stewardship Revenue generation and economic development Impact on the public/social disruption/environmental justice
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> DeIDOT uses data to assess the value of each quantitative criterion. For the system operating effectiveness criterion, DeIDOT uses a volume-to-capacity (V/C) ratio. For safety, DeIDOT uses metrics from the Highway Safety Improvement Program. For the multimodal mobility criterion, DeIDOT assigns points for the number of modes incorporated into the project. For revenue generation, DeIDOT considers the availability of local funding or public-private-partnership (P3) funding contributions as an indicator of economic activity. DeIDOT also assigns extra points for projects included in the State Freight Plan. For system preservation, DeIDOT assigns points to projects that can be leveraged against capital expansion projects.

Genesee Transportation Council (GTC)	
Regional Characteristics	<ul style="list-style-type: none"> • Modest growth region, with a population of 1.2 million people over 9 counties • New York is a home-rule state, in which each city and town has land use decisionmaking authority • 30 million VMT/day and 27,000 lane miles
Programming Authority	<ul style="list-style-type: none"> • Long-Range Transportation Plan (LRTP) 2035 provided benchmarks, desired changes, and likely changes for key metrics of system performance
Sources of Funding Prioritized	<ul style="list-style-type: none"> • GTC prioritizes projects that local agencies, the New York State DOT, and transit operators submit for funding from the MPO
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> • Highway and bridge • Public transportation • Bicycle and pedestrian • System management and operations • Goods movement
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> • Locally- and State-funded projects
Prioritization Criteria	<ul style="list-style-type: none"> • Safety • Mobility and accessibility • Community and economic development • System continuity and optimization • Environment • Fiscal responsibility • Mode-specific criteria (<i>up to 30 points out of 130</i>)
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> • GTC uses data-driven prioritization for the environment criterion which the agency measures in terms of nitrogen oxides emissions, emissions of carbon dioxide, and direct energy usage in BTUs/day • GTC also uses AADT and highway/bridge condition data for mode-specific criteria
Approval Process	<ul style="list-style-type: none"> • GTC and the NYSDOT Region Office independently score each one of the project criteria, relying on a rater's guide to ensure consistency and compare scores across modes. • GTC and NYSDOT then confer to discuss the scores for each project before providing tiered lists of proposed project to the Transportation Improvement Program Development Committee (TDC), which develops a draft program for Planning Committee approval for public review. The TDC reviews public comments received, determines if any changes need to be made, and develops a final draft for Planning Committee consideration. The Planning Committee considers the TDC provided final draft and makes a recommendation to the Policy Board, which has responsibility for adoption of the TIP. • The common criteria account for 100 points, with mode-specific scores accounting for an additional 30 points

Metropolitan Transportation Council (MTC)	
Regional Characteristics	<ul style="list-style-type: none"> The population of the MTC planning area is approximately 7 million people, with an anticipated population of 9 million by 2040 Comprises 101 cities and 9 counties over 7,000 square miles
Programming Authority	<ul style="list-style-type: none"> Plan Bay Area (2040 LRTP) increased MTC's emphasis on project-level evaluation, and tied transportation planning to land use and housing California Senate Bill 375 established greenhouse gas reduction as the top priority for all LRTPs in California
Sources of Funding Prioritized	<ul style="list-style-type: none"> Vast majority of funds are from local sources, not State or Federal funds Non-Federal funds include: State transportation expansion funding (STIP/ITIP), regional gas tax, toll bridge revenue, State Transit Assistance (STA) and State JARC funds, Transportation Fund for Clean Air, High Speed Rail regional rail funds, and local transportation sales taxes
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> Freight Highway Transit Ferry Bicycle and pedestrian
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> Projects under construction or about to begin construction
Prioritization Criteria	<ul style="list-style-type: none"> Climate protection Adequate housing Particulate matter Collisions Active transportation Open space Equitable access Economic vitality Non-auto mode share/VMT State of good repair Benefit-cost assessment
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> Focus on measures that emphasize benefits to users/customers rather than infrastructure itself (e.g. not every lane-mile of pavement is equally important to drivers, transit riders, pedestrians, bicyclists, etc.) MTC uses sophisticated travel demand model and other analytical tools to assess project criteria and conduct benefit-cost analysis for significant projects
Approval Process	<ul style="list-style-type: none"> MTC conducts a targets assessment for all 900 uncommitted projects MTC conducts a benefit-cost assessment for approximately 100 significant projects with costs over \$50 million (>80% of total costs) MTC plots performance assessment according to benefit/cost and impact on targets, and compares forecasted scenario outcomes to regional targets

North Carolina Department of Transportation (NCDOT)	
Regional Characteristics	<ul style="list-style-type: none"> The population of North Carolina is approximately 9.8 million NCDOT is responsible for 6 modes of transportation: aviation, bicycle and pedestrian, ferry, highway, public transportation, and rail NCDOT maintains 80,000 miles of highways North Carolina comprises 19 MPOs and 20 RPOs NCDOT has an annual budget of approximately \$4.1 billion, of which Federal dollars account for 25 percent
Programming Authority	<ul style="list-style-type: none"> 2013 House Bill 817 established a new funding formula for NCDOT capital expenditures, known as Strategic Transportation Investment (STI) legislation. STI first applied to the third generation of prioritization (Prioritization 3.0). NCDOT is currently preparing for Prioritization 4.0 for the next STIP.
Sources of Funding Prioritized	<ul style="list-style-type: none"> North Carolina Highway Trust Fund (funded by highway use tax), which funds expansion/modernization projects across all modes
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> Aviation Bicycle and Pedestrian Ferry Highway Public Transportation Rail
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> Operations and maintenance expenditures Federally-funded projects Bridge replacement Interstate maintenance Highway safety improvements
Prioritization Criteria	<ul style="list-style-type: none"> According to the STI legislation, projects must be rated with a mix of quantitative criteria and local input from MPO/RPOs and NCDOT Divisions. Statewide mobility projects are scored based only on quantitative data. Regional impact projects are scored according to 70 percent quantitative data and 30 percent local input. Division needs projects are scored according to 50 percent quantitative data and 50 percent local input.
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> Benefit-cost Congestion (measured in travel time savings) Economic competitiveness Safety Freight Multimodal Pavement Condition Lane Width Shoulder Width Accessibility/Connectivity Non-highway criteria (minimum of 4 quantitative criteria per mode)
Approval Process	<ul style="list-style-type: none"> In the initial implementation of STI (Prioritization 3.0), NCDOT developed different criteria and weights for evaluating projects in each mode and allocated a set amount of funding to each mode (a minimum of 90 percent to highways and a minimum of 4 percent to non-highways). In Prioritization 3.0, NCDOT scored nearly 3,100 projects, including 1,800 highway projects.

Oregon Department of Transportation (ODOT)	
Regional Characteristics	<ul style="list-style-type: none"> • The population of Oregon is approximately 3.9 million • ODOT maintains over 8,000 miles of State-owned highways as part of a \$1.8 billion four-year STIP • ODOT's STIP is almost entirely made up of Federal funding sources • ODOT does not typically build along new alignments, but rather focused on constructing passing lanes, interchange improvements, etc.
Programming Authority	<ul style="list-style-type: none"> • ODOT is not legislated to prioritize their projects; however, the Oregon Transportation Commission assigns program funding levels for the "Fix-it" and "Enhance" programs based on policy direction from the Oregon Transportation Plan (OTP). The OTP's detail policies for maintaining and preserving existing assets ("Fix-it") and developing a multimodal transportation system ("Enhance").
Sources of Funding Prioritized	<ul style="list-style-type: none"> • Federal-aid highway funding in the amount of approximately \$450 million/year
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> • Primarily "Enhance" and "Fix-it" capital programs. "Fix it" projects receive 75 percent of STIP funding. • "Enhance" projects include bicycle and pedestrian projects, highway capacity projects, modernization projects, transit capital projects, scenic byways, Safe Routes to School projects, and transportation demand management • "Fix-it" projects include operations, bridge and culvert repair, pavement preservation, intelligent transportation systems, rail-highway crossings, site mitigation and repair, and work zone safety
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> • State highway gas tax • Railway-Highway Crossings • CMAQ
Prioritization Criteria	<ul style="list-style-type: none"> • Economic development • Social benefits • Environmental stewardship • Safety • Project readiness • Leverage
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> • Project selection process at ODOT is qualitative
Approval Process	<ul style="list-style-type: none"> • Project selection at ODOT is driven by 11 Area Commissions on Transportation (ACTs) comprising elected officials of cities and towns, modal representatives, universities, ports, tribes, businesses, etc. Each ACT submits requests to ODOT in the form of 150 percent lists. ODOT Regional Offices work with the ACTs to develop a 100 percent list that becomes part of the STIP. For "fix-it" projects, ODOT develops a needs list based on management systems for bridge, pavements, and safety.

Virginia Department of Transportation (VDOT)	
Regional Characteristics	<ul style="list-style-type: none"> The population of Virginia is approximately 8.2 million VDOT's total annual capital budget is approximately \$1.1 billion
Programming Authority	<ul style="list-style-type: none"> House Bill 2 requires the Commonwealth Transportation Board to establish cross-modal prioritization process for expansion projects to go into effect on July 1, 2016
Sources of Funding Prioritized	<ul style="list-style-type: none"> Each year, \$350-\$500 million of State funds will be prioritized through this new process
Project Types Subject to Cross-Modal Prioritization	<ul style="list-style-type: none"> Highway Transit Rail Operational improvements Transportation demand management
Excluded Funding Sources and Project Types	<ul style="list-style-type: none"> CMAQ funding STP funding Economic Development Access Program funding Maintenance projects Hampton Roads Transportation Fund Northern Virginian Authority Fund
Prioritization Criteria	<ul style="list-style-type: none"> VDOT is developing weighing strategies and potential performance measures for the Commonwealth Transportation Board According to House Bill 2, VDOT's prioritization must weight factors such as congestion mitigation, economic development, accessibility, safety, and environmental quality. In areas with populations over 200,000, there will be an additional composite transportation and land use factor.
Quantitative Criteria Factors and Data Sources	<ul style="list-style-type: none"> Stakeholders from various regions, including VDOT construction districts, MPOs, and the Commonwealth Transportation Board will collaboratively set weights for quantitative factors. VDOT has recommended establishing 4-5 different weighing frameworks that each MPO and Planning District Commission will be able to select from.
Approval Process	<ul style="list-style-type: none"> The solicitation of candidate projects is set to begin in 2015 VDOT has proposed a hybrid model in which both local and regional government entities will be able to submit projects according to specific capacity needs

B. Key Contacts

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C. Event Participants

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Van Argabright	North Carolina Department of Transportation (NCDOT)
Bryce Ball	North Carolina General Assembly (NCGA)
Loretta Barren	Federal Highway Administration (FHWA)
Lauren Blackburn	NCDOT
Jerri Bohard	Oregon Department of Transportation
Drew Boyce	Delaware Department of Transportation
Neil Burke	Charlotte Regional Transportation Planning Organization
Anna Cameron	NCGA
Rob Cary	Virginia Department of Transportation
Debbie Collins	NCDOT
Matt Day	Triangle Area Metropolitan Planning Organization
Jon Dodson	Triangle Transit
Patrick Flanagan	Eastern Carolina Metropolitan Planning Organization
Karyl Fuller	Isothermal Regional Planning Organization
Joe Guerre	Cambridge Systematics
Peggy Holland	Jacksonville Metropolitan Planning Organization
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David Vautin	Metropolitan Transportation Commission
Don Voelker	NCDOT
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D. Peer Exchange Agenda

Cross-Modal Project Prioritization

**Peer Exchange: North Carolina Department of Transportation
Raleigh, North Carolina**

Dates: December 16-17, 2014

Host Agency: North Carolina Department of Transportation (NCDOT)

Exchange Location: Museum of Natural Sciences/Nature Research Center – Ross Conference Center.
Raleigh, NC.

Facilitator: Terry Regan, Volpe Center

Peers:

Delaware Department of Transportation (DelDOT)

Genesee Transportation Council (GTC)

Metropolitan Transportation Commission (MTC)

Oregon Department of Transportation (ODOT)

Format:

- Brief presentations by peer agencies
- Facilitated discussion among all participants
- Breakout groups
- Video recording of closing session

Day 1: Ross Conference Center

Time	Topic	Lead Presenter
8:30 a.m.	<p>Welcome and Overview</p> <p>Facilitator welcomes attendees, reviews the agenda, describes documentation/follow-up, and establishes ground rules for discussions. FHWA/FTA discuss TPCB and the Peer Program</p>	Facilitator and FHWA/FTA representatives
8:45 a.m.	<p>NCDOT Welcome and Goals</p> <p>NCDOT welcomes participants, provides context on what motivated the peer exchange request and outlines NCDOT's goals for the event. NCDOT introduces the Working Group, explains STI legislation, indicates which funding sources are subject to the legislation, and summarizes historic prioritization processes.</p> <p>Discussion of the role of the Prioritization 4.0 Working Group</p>	Host
9:45 a.m.	<p>Setting the context: key concepts in cross-modal project prioritization</p>	FHWA/FTA representatives
10:15 a.m.	Break	

Time	Topic	Lead Presenter
10:30 a.m.	Session 1: Existing Project Prioritization Systems <i>A summary of the project prioritization process in place or in progress in each peer agency.</i> <ul style="list-style-type: none"> • DeIDOT • GTC • MTC • ODOT 	Peers
	Comments and Discussion	All
12:00 p.m.	Lunch	
1:00 p.m.	Small Group Discussion of Prioritization Processes <i>Breakout discussions of common themes from peer presentations.</i> <i>Feedback from peers on prioritization at NCDOT.</i>	All
2:00 p.m.	Recap of Small Group Discussion	Facilitator/All
2:30 p.m.	Break	
2:45 p.m.	Session 2: Evaluating Projects Across Modes – State of the Practice <ul style="list-style-type: none"> • Feasibility of cross-modal prioritization at the State level? • Lessons learned from cross-modal prioritization at the regional level • Cross-modal prioritization in the context of national performance measures • Strategies for breaking silos between modes • Funding sources and funding limitations • Challenges and opportunities for each mode (<i>highway, aviation, bicycle/pedestrian, ferry, rail, and transit</i>) • Necessary capital expenditures for expansion, mobility, and modernization across and within all modes • Constraints and resources • Best practices from peers and lessons for NCDOT 	All
4:00 p.m.	Identification of key take-aways from Day 1	All
4:30 p.m.	Wrap up Day 1 and prepare for Day 2	Facilitator

E. Additional Resources

DeIDOT Project Prioritization Criteria Summary

http://www.deldot.gov/information/pubs_forms/CTP/ctp15-20/DeIDOT_project_prioritization_criteria.pdf

FHWA Moving Ahead for Progress in the 21st Century Homepage

<http://www.fhwa.dot.gov/map21/>

MAP-21 Implementation Schedule

<http://www.fhwa.dot.gov/tpm/about/schedule.cfm>

NCDOT Strategic Transportation Investments (STI) Law

<http://www.ncleg.net/Sessions/2013/Bills/House/PDF/H817v10.pdf>

NCDOT Strategic Prioritization Office of Transportation

<http://ncdot.gov/strategictransportationinvestments/>

Oregon Area Commissions on Transportation (ACTs)

http://www.oregon.gov/ODOT/COMM/Pages/act_main.aspx

TPCB Homepage

<http://www.planning.dot.gov/>

Transportation Economic Development Impact System (TREDIS)

<http://www.tredis.com/>

U.S. Census Bureau American Community Survey Journey to Work Data

<http://www.census.gov/hhes/commuting/>

Victoria Transport Policy Institute (VTPI) Transportation Cost and Benefit Analysis

<http://vtpi.org/tca/>

F. Acronyms

ACT	Area Commission on Transportation
DeIDOT	Delaware Department of Transportation
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GTC	Genesee Transportation Council
LRTP	Long-Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21 st Century
MPO	Metropolitan Planning Organization
MTC	Metropolitan Transportation Commission
NCDOT	North Carolina Department of Transportation
NCGA	North Carolina General Assembly (NCGA)
NYSDOT	New York State Department of Transportation
ODOT	Oregon Department of Transportation
RPO	Regional Planning Organization
SPOT	Strategic Prioritization Office of Transportation
STI	Strategic Transportation Investments
STIP	Statewide Transportation Improvement Program
TPCB	Transportation Planning Capacity Building
USDOT	U.S. Department of Transportation
V/C	Volume to Capacity Ratio
VDOT	Virginia Department of Transportation
VMT	Vehicle Miles Traveled