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16. Abstract  
This study seeks to enhance MDOT’s multimodal project selection process by developing a set of scalable and implementable project selection criteria and improved prioritization methodologies to assist the agency with continuous improvement of their Multimodal Transportation Improvement Program. The implementation of such enhancements can better ensure that key infrastructure investments reflect up-to-date mobility performance measures and meet long-term program objectives.

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# Table of Contents

Executive Summary .................................................................................................................................................. 2
Emerging Trends in Project Prioritization & Development ..................................................................................... 4
MMTIP Program & Benefits ....................................................................................................................................... 7
Best Practices ............................................................................................................................................................ 10
Process Overview and Observations .......................................................................................................................... 16
  Summary and Observations of Current Prioritization and Scoring.......................................................................... 16
  Stakeholder Engagement Results ............................................................................................................................ 17
  Criteria & Scoring Recommendations ..................................................................................................................... 19
Opportunities to Enhance Success—Key Recommendations ................................................................................... 23
  Overall Programmatic Opportunities for Success .................................................................................................. 25
  Modal Opportunities to Enhance Success .............................................................................................................. 27
Executive Summary

Multimodal projects provide significant benefits to the state’s transportation system through positive impacts to the local and regional modal networks as well as direct and induced benefits to the economy through improved freight and passenger mobility. MDOT’s current Multimodal Prioritization and Selection Process is based on results of thorough reviews and scoring completed by the aeronautics, ports, transit, and rails committee stakeholders. Each modal committee prioritizes projects according to its own criteria and the final selection is based upon available funding. MDOT is interested in documenting other possible factors and approaches to prioritization and selection of projects that could be useful when considering efforts to enhance the Multimodal Transportation Improvement Program (MMTIP).

MDOT retained Michael Baker International to examine the current methods, criteria, tools, and processes used to prioritize and select projects funded under the MMTIP. The overarching objective was to provide observations and recommendations that are scalable when possible changes to the Program are considered. To accomplish this study, the consultant team implemented a comprehensive process evaluation, including a combination of best practices and case study research of other DOT and multimodal agency programs, staff and expert interviews, and workshops. These were each designed to collect information and provide a set of procedural and programmatic options that are scalable and implementable to assist MDOT with possible incremental changes to the MMTIP. While particular emphasis was placed on potential selection criteria and scoring, broader fundamental questions were explored with key MDOT staff and stakeholders from each of the four modes, including:

- How is the MMTIP operating overall?
- Is the multimodal program being implemented as it was envisioned?
- Is the MMTIP program mission clear and are the goals and objectives being reached?
- Do selected projects align with statewide transportation priorities or other modal priorities?
- Are there any other MMTIP processes that should be changed?

In answering the questions above, based on the extensive dialogue throughout the study process, the overall program is successful in leveraging funds to implement critically-needed multimodal projects across the state. There were, however, some elements that could be improved upon, or at a minimum, streamlined. Three primary areas for potential improvement included: (1) **fine-tuning of scoring procedures**, (2) **more precise and uniform accounting for project return on investment and quality-of-life impacts**, and (3) **the enhancement of overall MMTIP visibility**. The workshop process provided an open and honest assessment of the current state of the program and proved to be an invaluable source of feedback. While there were a variety of perspectives offered on how the program and its processes could be modified, across modes there was a universal sentiment that the MMTIP is a significant tool for MDOT and a valuable resource for communities throughout the state. Without this program, transportation resources ranging from critical port and rail infrastructure projects that facilitate goods movement throughout and beyond the state; to airports and public transit systems that provide businesses and people with access to mobility options would be compromised.
The observations and potential solutions contained herein are not explicitly intended to serve as hard and fast recommendations, but rather “opportunities to enhance success” for the MMTIP over the short- and long-term. These opportunities or strategies for future success are organized by specific modal category and for the overall program. These are explained in more detail in the last section of the report, immediately following the feedback from the workshop in the Process Overview and Observations section. Some of the overall major opportunities or strategies identified include:

- Modifying existing and adding new performance criteria with clearly defined thresholds; and using “dashboard-based metrics and tools” for improved project prioritization and information on status and benefits. Specific recommendations to the criteria, including new cross-cutting sets, are provided in the Process Overview and Observations section and specifically integrated into an illustrative prioritization matrix, with the basis of improving overall measurable effectiveness linked to the MMTIP priorities.

- Introducing scenario planning to better assess the interrelationships between transportation, land use, and economic development when making infrastructure development decisions.

- Website and marketing enhancements to showcase the MMTIP “brand,” increasing public awareness about the program and potentially diversifying the current funding allocations to support larger projects.

- Incorporating “sketch-level” benefit cost analysis tools to provide a more level playing field among applicants, support livability issues, and enhance the decision-making process.

- Committing planning dollars or other mechanisms to ensure that projects are derived from adopted master plans or capital improvement plans (CIPs) so that short-term needs and opportunities are consistent with the infrastructure needed to support future growth and development.

- Establishing a Steering Committee Advisory Group focused on identifying future strategies to enhance the program and promoting regionally-significant benefits. Additionally, adopting an MMTIP Strategic Plan with a 5- and 10-year horizon, would be aimed at increasing overall funding to meaningful multimodal projects across the state.

There is consensus that the program assists in making investments that support economic development and positive quality-of-life impacts in communities throughout the state, yet it is also clear that there remain unmet modal needs. Adequately responding to these needs will require that MDOT continue a strategic approach that considers impacts and raises awareness of benefits. The real value of this study derives from how much MDOT and the modal partners can find practical value in the options and recommendations. Thoughtfully integrating the appropriate enhancements can potentially improve investment decisions, thereby improving the modal networks.
Emerging Trends in Project Prioritization & Development

At the core of the MMTIP is the desire to assist MDOT’s and stakeholder’s support of local and regional transportation projects that improve or sustain the state’s multimodal transportation network. This requires an objective and transparent selection and prioritization process that includes several tools that are useful in making sound investment decisions. What follows is brief contextual discussion and illustration of some potential strategies and tools, with an emphasis on federal transportation performance management and scenario planning.

Developing a systematic way to identify, prioritize, fund, and monitor transportation investments is an essential component of transportation decision-making. This has been heavily mandated at the federal level for state DOT’s and MPOs since the passage of the Move Ahead for Progress in the 21st Century Act (MAP-21) in 2012 and continues today under the Fixing America’s Surface Transportation (FAST Act) authorization. Examining evaluation and funding for transportation and mobility projects, the regions and stakeholders who prioritize performance management with measurable results directly tied to their investments continue to be the most successful at competing for grant funding, particularly from discretionary program sources. Key variables and outcomes must demonstrate a positive return on investment around major planning factors such as safety, security, accessibility, system reliability, resiliency, congestion management, and economic development, particularly for tourism and travel enhancements.

Additionally, the incorporation of strategies and activities that lead to the preservation and maintenance of existing assets is critical to meeting many state and national targets for the condition and performance of highway, aviation, transit, and port infrastructure. Long-term transportation asset management, including data, is the engine that drives performance. Consideration of engineering, life cycle cost, and risk analysis with investment strategies developed to best manage physical assets is essential, recognizing the need for greater self-reliance at the state and local levels in the wake of uncertain funding availability in the future.

Prioritizing performance measurement and supporting transportation projects that demonstrate significant and measurable regional benefits begins with developing and integrating a “culture” of performance-based planning, programming, and communication throughout an organization. As a starting point, establishing a strategic direction and focus through well-defined goals and objectives that can be assessed over time will better guide both day-to-day activities within the agency as well as project decision-making and funding needs. The primary mission of the Office of Intermodal Planning (OIP) is to ensure quality-of-life and economic development by providing support for a well-planned, comprehensive, coordinated, and sustainable intermodal transportation network guaranteeing safety, access, and mobility. Creating a direct linkage between this bold mission and the investment decisions of the respective modes will help answer the question of why such investments are prioritized and best support adopted performance targets. Linking investments to larger goals, objectives, and performance measures provides clarity to the
public and other key stakeholders that investment decisions are fundamentally rooted in the agency’s strategic mission. To further increase coordination, goals and objectives should be linked to those of local, regional, and statewide partner entities including MPOs, local governments (i.e. Comprehensive Plans), and regional planning commissions.

Scenario Planning

The use of scenario planning is another useful tool applicable to MMTIP. Despite being in the planning and policy fields for decades, scenario planning has grown exponentially due to the rapid pace of open-source data and software innovation in recent years. These tools enable planning and engineering staff to better assess the interrelationships between transportation, land use, and economic development when making infrastructure development decisions. Allowing stakeholders to “think about the unthinkable,” some of the more common scenario-planning tools include GIS computer simulations to develop alternative future land use scenarios and other models to assess factors such as land consumption, travel demand, network accessibility, and public expenditures. There are a variety of tools in the marketplace, such as CommunityViz, UrbanFootprint, or MetroQuest, designed to address a specific set of questions, based on assumptions, and vary in context for application, budget, and technical capabilities. For example, scenario planning could provide an opportunity for local transit providers to model and assess how a new high-frequency route could directly increase access to new opportunities, goods, services, and other resources on the fly. For aviation, such tools could be used to model alternative capacity flows through an airport’s infrastructure. This would enable aviation staff to test flows against alternative traffic scenarios to analyze potential capacity constraints and optimize existing infrastructure utilization or determine where new capacity improvements are needed.
Integrating more appropriately-scaled performance measurement into MDOT’s multimodal decision-making process could not only provide greater opportunities for increased federal funding from BUILD, FTA Capital Investment Grants, Port Security Grants, or other sources, but also potentially increase private-sector interest and participation via P3s or other joint participation agreements.

In short, Transportation Performance Management (TPM):
- Is systematically applied and a regular ongoing process
- Provides key information to help decision makers, allowing them to understand the consequences of investment decisions across transportation assets or modes
- Improves communications between decision makers, stakeholders, and the traveling public
- Ensures targets and measures are developed in cooperative partnerships and based on data and objective information
MMTIP Program & Benefits

In 2001, the Mississippi Legislature established the Multimodal Transportation Improvement Program (MMTIP) set forth in Section 65-1-701 through 65-1-709 of the Mississippi Code. This Program provides the mechanism to fund high-priority improvement projects for airports, ports, railroads, and public transit systems for which dedicated funds were previously unavailable. Since 2005, The Mississippi Transportation Commission has provided funding and awarded over $150 million supporting 10 publicly-owned railroads and authorities, 21 public transit providers, 16 publicly-owned ports, and 76 airports that are vital parts of the state’s multimodal transportation system. The OIP includes the operating divisions of all modes of transportation in Mississippi except for highways. Included within OIP are the divisions of Aeronautics, Public Transit, and Ports & Waterways, while coordinating rail programs are administered through the Traffic Engineering Division. The OIP oversees the MMTIP and allocates funding to each of the respective modes and projects. The program is a valuable resource for strategic investments throughout the state and a fundamental component of MDOT’s role in promoting economic growth. This impact is illustrated by the fact that over $24 million of local investments were leveraged by FY 2018 awards from the MMTIP. Clearly articulating and promoting the benefits provided by MDOT through this program is an essential part of building a culture of performance management and enhancing the decision-making process.

The current $10 million MDOT budget allocation to the program is distributed based on requirements set forth in legislation (34% aeronautics, 38% ports, 12% rails, and 16% transit). Committees for each mode, formed of representatives from aeronautics, ports, rails, and transit providers, Mississippi Development Authority (MDA), and MDOT are appointed to review project applications based on an established set of criteria. Projects are then awarded funding once approved and authorized by the Mississippi Transportation Commission. OIP staff also assists in conducting the actual application process, awarding grants following approval by the Commission, providing technical assistance when requested, processing eligible payments to recipients, and ensuring closeout of each project. Beyond the procedural requirements, the OIP’s fundamental responsibilities are to improve the state’s quality of life and support economic development by increasing awareness, facilitating partnerships, and providing support for building an efficient, interconnected transportation system through modal investments. This role is critical to the sustainability of the program and should foster the basis for future strategic discussions around potential program expansion. Except for routine maintenance and marketing or promotional expenses, eligible uses of the funds include the following range of activities:

- Local share required to match a federal grant
- Pre-construction studies, planning, and design
- Acquisition of personal property
- Acquisition of real property
- Reclamation and related relocation costs
- Professional services
- Construction

"MDOT’s responsibilities include maintaining and improving the state's highways and interstates, but also focus on providing a safe intermodal transportation network for airports, ports and waterways, railroads and public transit. Each of these modes of transportation play a vital role in transporting people, goods and services that promote economic growth and development throughout Mississippi."

-Commissioner Mike Tagert, 2017
The MMTIP website and the Annual Summaries are great vehicles to continue fostering communication and awareness about the program and its benefits. Regular updated highlights of this type of valuable information could provide key stakeholders with current data and analytics for supporting the MMTIP impacts and benefits. Revamping the website could include a dashboard-based graphical user interface, such as Virginia’s SmartScale program, to visually translate key statements and benefits, such as:

- “MMTIP’s ability to match federal funds has increased transit vehicle capacity over 12% since inception, improving the capacity to handle more employment and medical trips by our providers.”

Likewise, dynamic infographics can communicate to the public and decision-making bodies how, for example:
• “Since 2010 Mississippi ports have experienced x% increase in rail infrastructure projects, which has directly positioned them to remain more competitive in today’s good’s movement industry.” Or “the continued x% of track rehabilitation projects exhibit the high priority that Mississippi’s public railroads have placed on keeping the state’s rail infrastructure in a state of good repair.”

• “The state’s 76 airports have been able to fund x dollars in rehabilitation of critical runways, taxiways, aprons, and access facilities that have yielded x number of additional enplanements since 2005.”

• “On-time delivery of the projects under budget has increased x% since the implementation of the new MMTIP performance dashboard.”

The use of “storytelling” around the benefits for each respective mode is an effective promotional strategy. The public and elected officials often respond positively to personal stories and examples that support economic and quality-of-life impacts. From direct business partnerships with the state’s waterborne industry to create jobs to ensuring safe and affordable mobility options for persons living in rural and small urban areas of the state, there are numerous ways to increase MMTIP visibility.

Continuous dialogue around modest process improvements to the MMTIP “brand,” including the forthcoming discussion on enhancing the ranking process, will serve to increase public awareness and potentially diversify and increase the current funding allocation to support larger projects with meaningful long-term benefits.
Best Practices

A growing number of agencies across the nation have continued to adopt and refine measures for identifying, prioritizing, implementing, and funding regional transportation and infrastructure. From the use of informational dashboards and data-driven scoring methodologies to livability indices and open-source geospatial tools, technology has enabled agencies and stakeholders to measure performance and link project investment decisions to a host of indicators and benefits more accurately and holistically than ever before. Over 10 unique state DOT and MPO programs were explored in detail to better understand how particular projects in other states are identified, prioritized, developed, and eventually constructed. Michael Baker staff also conducted a series of internal stakeholder interviews with company experts in aviation, transit, and intermodal practices to gain additional perspectives.

In researching potential solutions that could be integrated into the MMTIP process, the Michael Baker team was particularly mindful of the issues and concerns of the modal directors, such as scalability, capacity, and ease of use, while focused on how the overall program could be substantially improved from a policy and funding standpoint. Greater clarity (both in terms of the prioritization process and what has been achieved via the program to date), longer-term master planning, and demonstrating local and regional community and livability benefits are fundamental goals that will best ensure the long-term success of the MMTIP. While there are numerous states and programs with prioritization processes for selection and development, the following provides a snapshot of five example programs and their characteristics across the country selected for potential scalability for MMTIP based on current financial capacity. These examples were illustrated during the June modal workshops prior to the surveys and feedback discussions with the stakeholders to explore potential best practices, identify the most beneficial criteria, and propose options to consider integrating into the MMTIP selection, prioritization, and monitoring process.

1. Virginia’s SMART SCALE Program

   The state of Virginia introduced a new multimodal transportation selection process in 2014 to improve transparency, increase accountability, create an objective scoring process, provide clear project status information, prioritize projects based on achieving the most benefit at the least cost, avoid the need for political intervention, and streamline the application process by providing easy-to-use tools. The use of an “informational dashboard” that provides updated, easy-to-interpret information on project delivery, budget, and benefits is one of the major highlights that is applicable to the MMTIP.

   Program Highlights:
   - Uses a five-step process that expands on the concept of weighted scoring: eligibility, application, screening, scoring, and prioritization.
   - The screening process requires that projects meet long-range transportation goals. They must address issues in at least one of the following: a corridor of statewide significance, regional network, urban development area, and/or transportation safety needs.
1. The program uses a weighted scoring system. Once a project has been screened, it is passed to a group that evaluates the impact of each project on six factors: safety, congestion mitigation, accessibility, environmental quality, economic development, and in areas with populations greater than 200,000, land use.

2. Weighted measures are then applied based on the area type of the project location. There are four categories of land types (A-D) ranging from high population areas to rural areas.

3. One apparent success of the new program is the online project portal which provides structure and ease for the application process. A review conducted by an outside firm concluded that applying agencies found the online tool was easy to use and made the process of applying clear and concise.

2. North Carolina (NCDOT) Project Prioritization Process

The NCDOT program focuses on improving existing infrastructure, supporting economic growth, and improving quality of life with a “transparent, systematic and data-driven” process for prioritizing the transportation in the state and making investment decisions. Projects are evaluated based on their merit through an analysis of the existing and future conditions, the benefits the project is expected to provide, the project’s multi-modal characteristics, and how the project fits in with local priorities. In addition to the use of an objective scoring system, NCDOT incorporates local project ranking for regional and local projects. Prioritization aligns with NCDOT’s primary goals of “Safety, Mobility and Infrastructure Health.”

Program Highlights:

- Under NCDOT’s “Strategic Mobility Formula” projects are sorted into one of three categories, each with its own weighting of criteria: division needs, regional impact, and statewide mobility.
- State transportation division and regional projects are evaluated using both qualitative and quantitative criteria while statewide mobility project selection is 100% based on data-driven analysis.
- The data-driven criteria are: congestion, cost/benefit, safety, freight/military, accessibility/connectivity, and, at the statewide level, economic competitiveness.
- Projects applying for the NCDOT multimodal mobility fund must meet a predefined set of criteria and are scored on a point scale using two categories: Mobility Cost/Benefit (80%) and Multimodal/Intermodal Qualities (20%).
NCDOT includes an exclusive “Prioritization 5.0” resources data page, which is updated periodically, displaying quantitative scoring methodologies and opportunities for training and local input.

3. Kansas Transportation Alternatives (TA) Program & Alabama Selection Processes:
The Kansas TA project incorporates a multi-phase review process that can be tailored to the MMTIP, particularly transit modes and multimodal connectivity. The TA Program specifically supports: on/off-road bicycle and pedestrian facilities; improving non-driver access to transit; community improvement; historic transportation preservation; hurricane evacuation; environmental mitigation and vegetation management; recreational trails; safe routes to school programs; cost sharing; and planning/designing/constructing roadways largely in the right of way of former interstate routes or other divided highways. Goals include supporting local projects that support alternative transportation modes; improve the local economy; improve quality of life; enhance environmental protection; and preserve/maintain transportation infrastructure. Of note, Kansas deducts up to 15 points for deliverable delays on projects.

Program Highlights:
TA Multi-Phase Review Process
Projects are screened for eligibility and categorized based on information provided by the applicant that shows if the project will:
- Increase safety
- Increase accessibility and mobility by enhancing integration and connectivity
- Support economic development
- Protect and enhance environmental protection, conservation, improve quality of life, and/or promote consistency between trans improvements and land use goals
- Enhance system efficiency
- Preserve existing transportation system

Alabama’s selection process includes a component for readiness and incorporates the use of the TELUS (Transportation Economic Land Use System) Online System to exchange information and manage transportation improvement programs (TIPs)/projects
- TELUS provides a customizable scoring module for project prioritization
• Features of the software include project information that can be made public, project status tracking, budget and financial management, and a GIS-based mapping module that provides location and related transportation layers and report creation.
• Software is free to MPOs, state, and federal agencies.
• According to the software site, agencies in MDOT neighboring states (Louisiana, Tennessee and Arkansas) also use this system.

4. The Pennsylvania Multimodal Program
The main goal of this program is to provide financial assistance for agencies to improve transportation assets that impact communities, pedestrian safety, and transit revitalization. This program focuses on public transportation, rail freight, ports and waterways, and aviation.

Program Highlights:
• Dedicated Multimodal Transportation Fund (MTF) administered by State Department of Community and Economic Development and includes the Pennsylvania Cargo Growth Incentive Program (PICGIP), that mandates port throughput volume benchmarks (i.e. TEUs) and reporting. If a port is awarded funds for capacity based on proposed increase in carriers and goods and the volumes do not meet the benchmarks, points can be deducted on future applications.
• Applications are submitted using an online portal.
• The following are criteria by which a PennDOT committee evaluates screened projects:
  - Economic conditions in the project area
  - Compliance with local, regional, and statewide planning agencies
  - Benefits to safety, mobility, economic competitiveness, and transportation system integration
  - Technical and financial feasibility
  - Amount of local matching funds exceeding the required 30% minimum
  - Number and quality of jobs that will be created or preserved
  - Regional nature of the project
  - Project readiness
  - Energy efficiency
  - Operational sustainability
  - Multimodal nature
5. Jacksonville (FL) Transportation Authority (JTA) Complete Streets Prioritization Matrix

As a potential option for a more streamlined and simplified scoring procedure, a ranking tool was developed as part of the Jacksonville Transportation Authority’s MobilityWorks program. Based on the outcomes of public charrettes and workshops; a comprehensive analysis of proposed complete street and accessibility projects in terms of their contribution to key criteria including safety; multimodal access; community livability; innovation; and funding leveragability; the following matrix was used to create a series of tiered project priorities. Project categories were also created for overall prioritization:

- **Keystone Projects**: Represent demonstration projects to showcase “complete streets” for immediate effect. These are reasonably substantial projects designed to be implemented in the near term.
- **Operational/Safety Enhancements**: Represent “quick fix” improvements designed to provide immediate safety and operational improvements at a lower cost.
- **Long-Term Vision Projects**: Represent complete, larger-scale projects for the corridor or corridor segment. These are bolder, more costly investments, which are included in a long-range plan.

The scoring matrix shown below was developed around four major goal categories, (Safety and Mobility; Planning and Funding Leveragability; Livability and Health Development and Competitiveness) including measurable objectives weighted and scored relative to their importance in corridor project prioritization. A weighting scale was introduced to give precedence to safety, accessibility (including ADA compliance), and funding leveragability objectives.

<table>
<thead>
<tr>
<th>Goal 1: Increasing Mobility and Safety for All Users</th>
<th>Goal 2: Planning and Funding Leveragability</th>
<th>Goal 3: Public Health and Livability</th>
<th>Goal 4: Economic Development &amp; Competitiveness</th>
<th>Total Score</th>
<th>Relative Priority (Critical, High, Medium, Low)</th>
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</table>

**Note:** Scoring is subjective and reflects the importance of potential projects. The relative priority is determined based on the overall score and the total score. Projects are prioritized based on their ability to meet the goals and objectives of the MobilityCorridors Complete Streets Project Prioritization Matrix.
primarily associated with JTA’s core transit access needs. The scoring methodology uses a simple 1-to-3 scale, with “1” corresponding to not satisfying the intent of the goal and “3” satisfying the goal very well. Apart from policy support, such as the extent to which a corridor project supports other ongoing planning initiatives in the area, the scoring was conducted based on geospatial results (using GIS methods) with a set of index values created using a Jenks Natural Data Breaks (statistical) algorithm. Keystone projects that were identified represented those with the highest rankings in the matrix.

Such a matrix format could be adapted for each of MDOT’s modal needs and criteria and would more clearly display project rankings with a blend of qualitative and quantitative performance measures.
Process Overview and Observations
Summary and Observations of Current Prioritization and Scoring

Based on the extensive engagement with staff and stakeholders, beginning with interviews in fall 2017, one of the primary issues identified was the existing scoring process. While flexible, it was determined that it can introduce inconsistencies and more varied interpretations given the wide range of points per criterion and lack of defined thresholds. Creating a more simplified process for submitting and scoring projects that is visibly outlined and understood by all stakeholders will provide more effective direction and support greater overall visibility and participation in the program. This involves developing well-defined parameters for eligibility and a potentially simplified and/or weighted scoring system that is tailored to the specific needs of each mode. These parameters should also be published on the MDOT’s website for easy access by the public or other interested stakeholders.

Throughout the process, comments were made in favor of a more objective, potentially weighted scoring approach both to foster greater clarity and allocate additional value to certain variables in the process. Some, however, also had concerns that weighted systems could lead to a process that is too stringent. Rather than creating a rigid, purely numeric scoring system that precludes flexibility, the weighted scoring system should include both qualitative and quantitative elements. This way, more intangible project qualities and community impacts can be considered while still considering factors such as cost benefit analysis and return on investment. In addition, the criteria for projects in each mode should be tailored to their goals and respective needs. As an example, in North Carolina, an overall set of scoring criteria is provided with the understanding that each division can propose and receive changes, if the changes are unanimously approved by each of the affected planning organizations and the department of transportation.

General Observations & Feedback
- Enhancing program visibility and scoring procedures
- Encouraging more regional cooperation and prioritizing projects with regional benefits
- Rewarding project readiness and timely implementation
- Better ranking of small, rural systems against urban, high-volume areas
- Accounting for livability or other equity variables in criteria
- A Strategic or Master Plan for each modal division with criteria linked to major division goals would be desirable (projects generated from capital improvements plan)
- Streamlining formatting and submittal method
According to one respondent, the basic application provided to submitting agencies does not request enough information to adequately critique a project. To account for this, many agencies provide supplemental narratives that are sometimes quite extensive. It was also frequently noted that there is no easy way to track how many times a project has been submitted. To ensure that adequate information is provided to reviewers and that application history and status can be easily retrieved, an online dashboard-style application process could be established. When Virginia, for example, overhauled their selection process, they instituted an easy-to-use, one-stop-shop online application system. The dashboard setup displays a listing of active applications along with their status and provides notifications if an item needs to be addressed or the application was not submitted properly.

To guarantee that projects meet the needs and goals of the modal agencies, planning organizations, and DOT, strategic master plans including a capital improvements element (with a 5- to 10-year horizon) could be developed for each mode. Many programs require applicants to directly link intended project outcomes to a defined master plan, need, or goal to be considered and include it as part of the scoring system. This ensures that short-term needs and opportunities are consistent with the infrastructure to support future growth and development.

**Stakeholder Engagement Results**

Throughout the process, various meetings and workshops were held to engage MDOT directors and staff, including a series of workshops that were broken out by mode. Detailed notes and feedback of each can be found in the Study Appendix of this report.

**MDOT Intermodal Planning Directors Interviews: October 11-12 & 20th, 2017**

1) **Meeting Goals and Takeaways**

As a kick-off to the MDOT Statewide Multimodal Project Prioritization and Selection Study, representatives from Michael Baker met with the Intermodal Director and each of the modal directors within the Office of Intermodal Planning over a two-day period (October 11-12, 2017) to engage in an open dialogue regarding the overall MMTIP process. In addition, a conference call was conducted on October 20 with the Rails Manager, located within the Traffic Engineering Division. The purpose of the meetings was to initiate a general discussion about the MMTIP and its overall mission. The meetings provided a sense of how each of the directors and managers feel about the program’s effectiveness, and in addition, to what extent fundamental process and project evaluation mechanisms could be improved to support the continued success of the program. In general, most of the staff agreed that the program was working admirably overall but could use some tweaking of its selection and ranking processes and project implementation timelines. This included ways to refine processes based on best practices by flexibly balancing objectivity and empirical approaches.
MDOT Intermodal Planning Staff Meeting: February 16, 2018

1) Meeting Goals and Takeaways
As a follow-up to the kickoff meeting, representatives from Michael Baker met with the Intermodal Director and Staff from the Office of Intermodal Planning on February 16, 2018, to engage in a status briefing and a more open dialogue regarding the MMTIP Project Prioritization and Selection study process to date, including a review of the preliminary findings and case study draft report. In addition, the group discussed long-term objectives of the program and how the study should serve as an interim step for achieving the desired outcomes, particularly increasing visibility, support, and resources to potentially increase the capacity of the MMTIP. The Michael Baker team also provided a template presentation that could be a useful tool during discussions or presentations to MDOT’s Executive staff, Commissioners, and other stakeholders to elicit their feedback and provide future direction on the overall program and prioritization process. Discussions took place around increasing resources, potential public-private partnership arrangements, and balancing the desire to go very bold immediately with the long-term value of adopting an incremental approach that could ultimately yield greater success.

Mode Specific Workshops: June 19-20, 2018

1) Meeting Goals and Takeaways
The multimodal workshops gathered representatives from each mode to discuss how the program is currently working while exploring ways to improve and share information on best practices that could be leveraged to realize improvements. Based on this input and information, strategies were identified to improve specific elements and enhance the program in a manner responsive to the needs of each mode.

The participants provided quantifiable digital input using keypad polling in response to a series of critical questions. This input was followed up by discussion to clarify and provide nuance to the polling results. Based on this input, the team developed options for consideration related to program needs, improvements, what to retain, and how to expand to provide additional critical support for each mode. The keypad polling presented defined questions on the current program functionality and performance, as well as a hypothetical project using a revised scoring system. A detailed summary of both keypad polling and participant discussions can be found, by mode, in Appendices F and H.
Criteria & Scoring Recommendations

In addition, a customizable “MMTIP Project Prioritization Tool” was provided, reflecting a combination of existing and modified sets of criteria discussed and polled during the survey as an optional mechanism for staff and committee members to assist in streamlining scoring and ranking. The tool specifically includes a detailed selection criteria tab, with a weighting scale totaling 100%, designed to match existing and future modal priorities including: “Safety & Operational Impacts”; “Economic & Livability Impacts”; “Funding Leveragability”; “Plan Consistency”; and “Project Readiness.” These primary goals and priorities are supported by a set of measurable selection criteria or objectives which can be used as a basis to evaluate the performance of individual projects seeking funding. The scoring sheet incorporates a more compressed scoring threshold (For example, “1=Project Does Not Satisfy Criteria”; “3=Project Minimally Satisfies Criteria”; “5=Project Satisfies Criteria Exceedingly Well”) to reduce the potential for wide variation and outliers during the scoring process.

The existing scoring criteria for each mode under the required MMTIP Project Justification application is reasonable, capturing key components such as operational impacts, safety and security, funding, and agency capacity to deliver the proposed project. However, the measurable effectiveness of the criteria could be enhanced with more defined thresholds and performance measures directly linked to the MMTIP priorities. For example, rather than asking if a project will “enhance aviation service to the public” or “directly benefits the operation of the transit system,” the criteria could be modified to yield degrees of benefit that are linked directly to the scoring protocols. As an alternative to a “yes” or “no” response with a brief qualitative narrative, responses should be required to demonstrate measurable quantities of benefits, such as number of increased enplanements, TEUs, and/or benefit cost ratios greater than 2. The provided Prioritization Tool contains a set of potential criteria modifications, including new criteria for each mode, much of which is cross-cutting. Additionally, much of the newly recommended criteria is designed to address concerns voiced throughout the process to incorporate a more simplified scoring method. The following represent six (6) potential criteria enhancements:

1. **Intermodal Connectivity**: Degree to which a project connects or facilitates direct connections to other modes such as rails, airports, and/or transit? (“1”=Does not directly provide intermodal connections; “3”= Provides connections to at least 1 other mode; “5” = Provides connections to 2 or more modes)

2. **Project in Adopted CIP or Master Plan**: Is the project specifically identified in adopted 5-Year CIP program or in long-range Master Plan? (“1”= No; “3”= In 5-year CIP; “5”=In adopted long-range Master Plan)

3. **Planning Consistency**: Is the project consistent with other local or regional planning and policy activities? (“1”= Project not consistent with LGCP or Regional Planning initiatives; “3”= Project supports/consistent with LGCP or Regional Planning initiatives; “5”=Project identified in LGCP or Regional Planning initiatives and has multi-jurisdictional impacts)

4. **Timely Obligation**: Recipient has a demonstrated past record of timely expenditure of MMTIP funds? (“1”=Has consistently missed previous deadlines and documentation requirements to ensure project completion within two years of Commission approval; “3”= Has missed only 1 previous obligation deadline/documentation requirement to ensure project completion within 2 years of commission approval; “5”=Has consistent track record of timely funding obligation/documentation requirements)
5. **Job Creation and Ladders of Opportunity**: Does the project request support new jobs and provides community benefits such as increasing "ladders of opportunity?" ("1"=Project request provides temporary job creation or access to new employment; "3"= Project results in the creation of at least 5 new permanent jobs and access to indirect new jobs; "5"=Project results in at least the creation of 10 new direct jobs and accessibility to indirect new jobs)

6. **B/C Analysis**: Does the project have at least a B/C ratio greater than "1"? ("1"= No; "3"= At least 2; "5"= Greater than 2)

To facilitate communication regarding results and the collective performance of individual projects in meeting the modal priorities, the tool includes a final rankings tab and bubble matrix. This provides a visual display to convey if all projects are meeting, for example, MMTIP safety and economic priorities. The tool and description of recommended criteria is provided in Appendix G.

**ILLUSTRATIVE MMTIP PRIORITIZATION TOOL**
Participants across modes agreed that the program was working well overall and that without it, many agencies would not be able to sustain their programs. After showcasing the best practices and the different approaches to criteria and scoring, there was a great deal of discussion and opinions on modifying the process, including: increasing clarity on how projects are scored; the need for projects to come from adopted plans; potential weighting factors; and the adoption of “sketch level” benefit cost analysis tools to enhance the decision-making process.
Additional options or strategies for future consideration discussed during the engagement process included:

- Consideration of providing multi-year commitments to the highest priority projects that may extend longer than one year and/or may involve more than one year of funding requirements. This would support the implementation of larger, more regionally-significant projects.
- Providing more funding for planning or encouraging planning-based applications. Projects from long-term capital improvement plans, strategic plans, market analyses, and master plans can provide a future direction for modes and reduce short-term approaches to project development. This would need to be balanced, however, with program focus on significant capital improvements.
- Modification of local match beyond the typical 1% to increase local and regional “skin in the game” to advance larger projects.
- Dividing applications into two or three category types including: central business districts, urban and rural, for example, and evaluating them separately or providing less weight on rural so that they are not losing out to larger areas each year, thereby mitigating population bias.
- Introducing potential weighting schemes to emphasize the achievement of critical modal goals and objectives more effectively while reducing scoring thresholds from the current 0-100 to a more compressed set of numbers (i.e. 1-10) to increase mutual understanding and simplicity around scoring procedures and rankings.
- Directing limited MMTIP transportation funds to projects that directly support key strategic goal areas, enhancing the program’s value by linking directly to the MMTIP mission.
- Integrating better-defined processes for selecting, adding, and removing projects based on non-asset related needs such as land use policy, economic development, quality of life, multi-modal access and/or resiliency.
- Prioritizing the projects that yield the highest rate of return or meaningful regional benefits (recognizing that infrastructure needs will exceed available revenue).
- Ensuring that project selection criteria and the prioritization process is performance-based, data-driven, and simplified.
- Implementing a structured methodology that clearly communicates the MMTIP’s commitment to managing its resources efficiently and effectively.
Opportunities to Enhance Success—Key Recommendations

In addressing the five key questions posed at the beginning of the report, the MMTIP has successfully leveraged funds to implement critically-needed, multimodal projects across the state. The program’s mission is clear and working to meet the outlined goals and objectives as envisioned. While the program is working admirably in this respect, there were some elements, most notably scoring procedures, that could be improved upon or at a minimum streamlined. With respect to the question of alignment with statewide or other modal priorities, there was consensus that projects should be consistent with state, regional, and/or local planning initiatives. To guarantee that projects meet the needs and goals of the modal agencies, planning organizations and DOT, strategic master plans including a capital improvements element (with a 5 to 10-year horizon) could be developed for each mode.

Based on the results of interviews, best practices research, and workshop engagement, a set of potential options for consideration have been developed. The options are distinguished by modal-specific considerations and overarching programmatic recommendations to improve the existing program and strategically increase program capacity. Specific details on feedback throughout the process are provided in the Study Appendix.

The overall programmatic opportunities reflect unified strategies across the MMTIP over the short- and long-term. Looking into the near term, major points of emphasis include: initial modifications to the scoring procedure, including introducing the BCA sketch tool, a practicable version of the illustrated matrix provided during the workshops, and to consider developing an advisory committee to assist in looking at ways to further enhance the program. These efforts can be coalesced into the development of an MMTIP Strategic Plan including five- and ten-year goals aimed at more robust enhancements such as increasing overall program funding. During the interim, website or other collateral updates to build support should be considered. These opportunities are by no means designed to be mandatory recommendations, but rather come from key observations taken throughout this process.
Synthesizing the input gathered from research and discussions, the team identified **six major opportunities for success at the program.** These are also displayed in the following graphic on page 25:

1. Modifying existing and adding new performance criteria with clearly defined thresholds, using “dashboard-based” metrics and tools for improved project prioritization, and providing additional information on project status and benefits. This also includes fine-tuning of the scoring procedures and criteria to integrate reduced ranges and potential weighting for simplicity and clarity while better accounting for quality-of-life impacts and return on investment. The measurable effectiveness of the criteria could be enhanced with more defined thresholds and performance measures directly linked to the MMTIP priorities, with the suggested criteria recommended to be modified to yield degrees of benefit that are linked directly to the scoring protocols.
2. Introducing the use of scenario planning to better assess the interrelationships between transportation, land use, and economic development when making infrastructure development decisions.
3. Refreshing the website and marketing enhancements that showcase the MMTIP “brand,” increase public awareness about the program, and potentially diversifying the current funding allocations to support larger projects.
4. Incorporating “sketch-level” benefit cost analysis tools to provide a more level playing field among applicants, support livability issues, and enhance the decision-making process.
5. Committing planning dollars or other mechanisms to ensure that projects are derived from adopted master plans or capital improvement plans so that short-term needs and opportunities are consistent with the infrastructure to support future growth and development.
6. Establishing a Steering Committee Advisory Group focused on identifying future strategies to enhance program and promote regionally-significant benefits while adopting an MMTIP Strategic Plan with a 5- and 10-year horizon primarily aimed at increasing overall funding to meaningful multimodal projects across the state.
Overall Programmatic Opportunities for Success

- Steering Committee Advisory Group & Strategic Plan for MMTIP
- Website and Marketing Enhancements
- Scenario Planning
- Promote use of CIPs or Master Plans for project development
- Adoption of Sketch Level BCA
- Promote use of Dashboard Metrics & Spreadsheet Tool
Across the modes there was general agreement on improving the scoring procedures, primarily to increase mutual clarity and understanding behind the scores and rankings. As discussed, reduced thresholds and the use of tools, such as the illustrative prioritization matrix, could help enhance the process and link projects to their contribution to the mission, goals, and objectives of MMTIP. Additional modal-specific recommendations or points of emphasis from the respective groups are displayed in the following graphic on page 27 with major highlights including:

**Aeronautics:** Enhancing overall program visibility by showcasing high-performing projects and their corresponding ROI. This could be facilitated by the introduction of the proposed sketch-level BCA analysis.

**Ports:** A major emphasis on strategically integrating port projects and plans into regional and local plans for consistency and funding while deriving projects from adopted capital improvement plans. As discussed throughout the process, this will better tie funding to the implementation of significant, long-term infrastructure.

**Rails:** While ROI is more difficult to demonstrate, given the scale and functions of the rail program, increasing public awareness and celebrating project successes will go a long way to increasing overall program capacity for support and funding.

**Transit:** Providing more understanding about project eligibility, criteria, and inputs. There was unified interest in replicating FTA-based programs, such as 5311, in the criteria so rural projects will be better-positioned for federal formula dollars and matching requirements.

This study is the first step in a longer-term process of continuous improvement within MMTIP. The recommendations and strategies outlined here are intended to provide staff and modal stakeholders with a menu of opportunities that can be implemented in phases. Successful adherence to the strategies, particularly around scoring and metrics in the short-term, while forming a Strategic Plan Advisory Committee for increasing capacity in the long-term, will yield greater opportunities for the state to grow its portfolio of regionally-significant multimodal projects funded under the program.
Modal Opportunities to Enhance Success

- Enhance visibility and clarity about the program and process
- Develop a strategy to highlight the benefits and value that the program creates by showcasing high-performing projects and their return on investment
- Build the case for increasing program capacity
- Revise program scoring
- Explore the cost benefit analysis sketch tool as an option to assist in leveling the playing field between all applicants and identifying future return on investment

- Track and share return on investment, which can make a strong case for further program support
- The scoring should be clearer, and a given score should be understood by both applicant and selection committee; feedback on why a score was given should be provided to the applicant
- Increasing the capacity of the program and celebrating successes to potentially increase support and funding
- Explore the cost benefit analysis sketch tool as an option

- Exploring cost benefit analysis sketch tool as an option to assist in leveling the playing field between all applicants and identifying future return on investment
- Enhance visibility and clarity about the program and process
- More understanding about project eligibility, criteria, and inputs
- Revise program scoring and incorporate weighting factors
- Replicating FTA-based programs (i.e. 5311) in selection criteria
- More funding to move beyond basic insurance/operational support
- Explore the cost benefit analysis sketch tool as an option to assist in leveling the playing field between all applicants and identifying future return on investment

- The project selection process could be clarified for participants, enhancing transparency
- The program could be expanded by strategically integrating port projects and plans into regional and local plans and/or deriving them from capital improvement plans
- Simplified and definable scores and ranges would improve understanding and scoring consistency
- Expand selection committee awareness and familiarity of port and related infrastructure needs prior to scoring