

5 PROJECT DEVELOPMENT, EVALUATION, AND RANKING

This chapter summarizes how a list of the Universe of Projects and the project prioritization process were developed. The Universe of Projects, also known as fiscally-unconstrained projects (i.e., not limited by the availability of funding), was developed based on the assessment of existing needs, analysis of travel demand models to assess existing and future travel patterns, public and stakeholder input, and improvements recommended in previous plans or studies. Individual projects were then carefully evaluated relative to the MTP goals and objectives using a project prioritization tool developed during the MTP process. The result of this process was a prioritized project list constrained to available funding, discussed in detail in Chapter 6.

5.1 Universe of Projects

The project team compiled projects from state, regional, and locally published plans. These projects were compared against the needs identified based on public and stakeholder input and current as well as expected future conditions. Projects were then added to address unmet, identified needs to create a Universe of Projects of nearly 700 projects. From the Universe of Projects, some of the smaller projects, projects that require further study or projects for which delivery is dependent on future information, were separated from the list and grouped into project packages to be addressed by lump sum. This approach allows the 2050 MTP to adapt to the changing demand and proactively deliver projects in upcoming amendments to the plan. The remaining projects (the Universe of Projects minus the projects addressed by lump sum programs) make up the fiscally unconstrained project list. **Figure 5-1** summarizes the process of developing the Universe of Projects. **Technical Report #5** includes a fiscally unconstrained list of around 370 projects and their locations by project category. The fiscally unconstrained projects were prioritized based on criteria informed by the public and stakeholder input received during public outreach, and matched to available funds to create a fiscally-constrained program of projects. Further methodology is discussed in **Technical Report #6**.

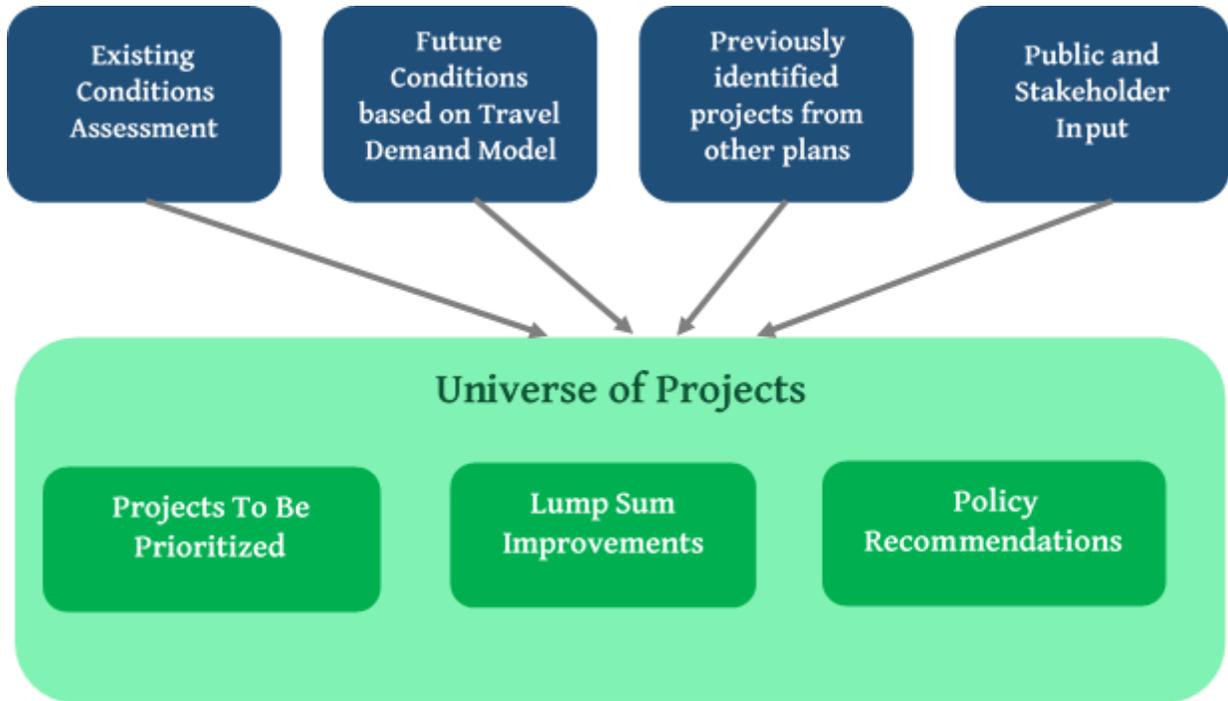


Figure 5-1. Universe of Projects

5.2 Project Prioritization Framework

Project prioritization was undertaken with a four-step process called the Project Prioritization Framework, as shown in **Figure 5-2**. First, the study team, Augusta Regional Transportation Study (ARTS) Metropolitan Planning Organization (MPO), and partner counties identified the draft Universe of Projects based on a data-driven needs assessment and a comprehensive review of previous proposals. The Universe of Projects is a list of potential improvements that address the needs identified throughout the planning process. It is not a fiscally constrained project list. Therefore, the project prioritization process evaluates the relative benefits of each project such that the most impactful projects are ultimately included in the fiscally constrained plan. To evaluate the project, a scoring methodology was developed, and projects received raw scores according to the selected project evaluation criteria metrics that align with the goals and objectives of the plan. Weights for each goal and corresponding metric were weighted based on priorities indicated through the stakeholder and public input process. The projects were then ranked according to their weighted scores. More detail on each step in the project prioritization process appears in the following sections of this report.

At the end of this section, the Federal Highway Administration (FHWA)’s Infrastructure Voluntary Evaluation Sustainability Tool (INVEST) and South Carolina’s Aiken County Project Prioritization Tool are carefully reviewed to ensure that the ARTS 2050 MTP project prioritization criteria incorporate key elements from these relevant tools.

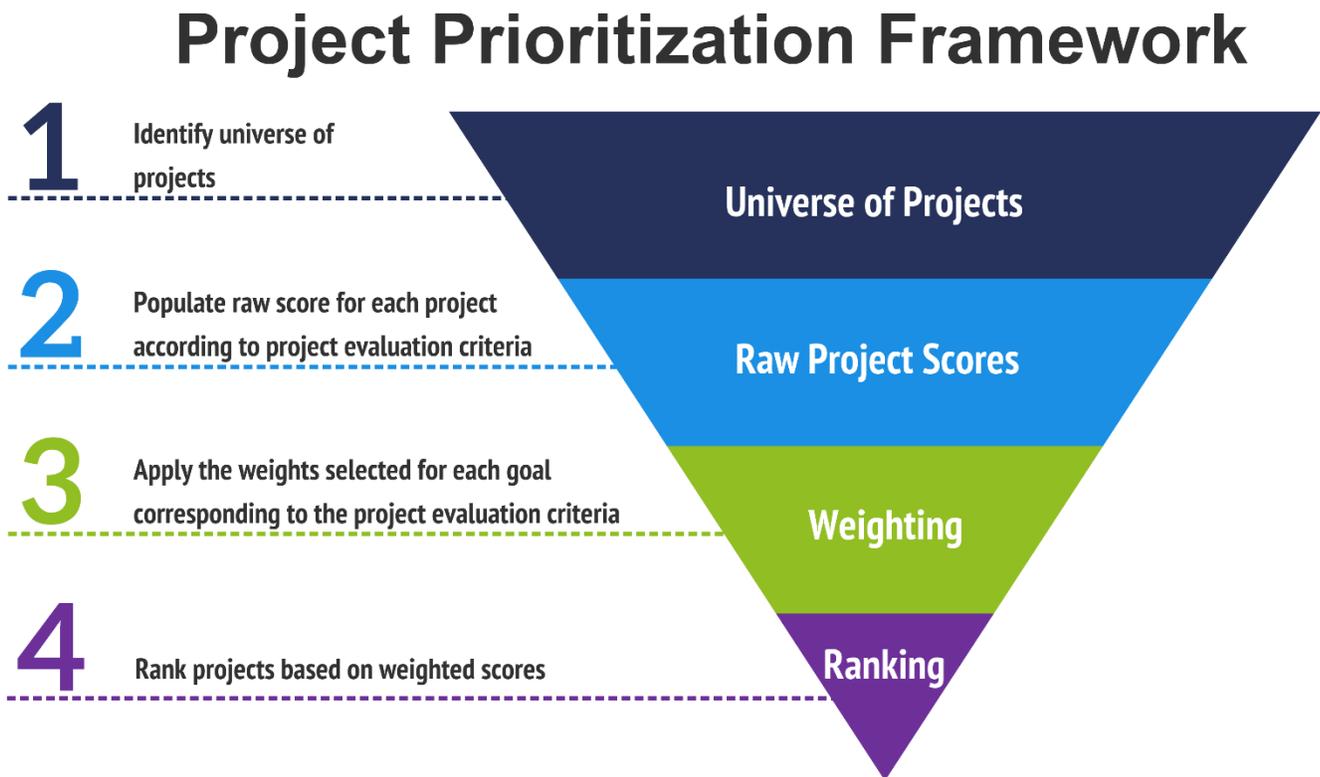


Figure 5-2: Project Prioritization Framework Summary

Project evaluation and prioritization was conducted using the following four (4) steps.

Step 1: Identify Universe of Projects

The project team compiled projects from state, regional, and locally published plans. These projects were compared against the needs identified based on public and stakeholder input and current as well as expected future conditions. Projects were then added to address unmet, identified needs to create a Universe of Projects. The needs assessment is described on further detail in **Technical Report #5: Needs Assessment**. The Universe of Projects is a list of potential improvements that address the needs identified throughout the planning process. Since it is not a fiscally constrained project list, the following steps in the project prioritization process evaluate the relative benefits of each project in order to develop a fiscally constrained plan that includes the highest performing projects at the top of the list.

Project evaluation criteria were developed that allow for measurement of each project’s ability to address established MTP goals and objectives. A total of 23 project evaluation criteria were identified and are shown in **Table 5-1**. The specific scoring thresholds were established by looking at the raw data for the projects and setting tiers based on the range of the data. Details for each of the 23 evaluation criteria are described in **Technical Report #3: Development of Goals, Objectives and Measures of Effectiveness**, which lists the specific scoring and data thresholds for each metric.

Step 2: Populate Raw Scores for Each Project According to Project Evaluation Criteria

Each project received a raw score determined by the project evaluation criteria described in this report. The project evaluation criteria have numerical values related to each objective, and projects gain points according to how well they meet each objective.

Step 3: Apply Weights Selected for Each Goal Corresponding to the Project Evaluation Criteria

Once these raw scores are populated, the value for each project evaluation criterion is weighed by the Goals and Objectives detailed in **Technical Report #3: Goals, Objectives and Measures**. **Figure 5-3** and **Table 5-1** illustrate the weighted goals and present the project prioritization framework, respectively. Stakeholder and public input in the planning process helped to determine these weights. Input methods include the MetroQuest survey, input received in public meetings, and stakeholder recommendations (See **Technical Report #1: Public Outlook Towards MTP Process, Potential Goals, and Transportation in the ARTS Planning Area**). The priorities indicated by these various sources were generally consistent and resulted in the selected category weightings. Each project received an overall score, which is the sum of the weighed scores for each project evaluation metric.

Step 4: Rank the Projects in Order by Score

The final step in the project prioritization process is to rank each project according to its weighted score, resulting in a prioritized project list.

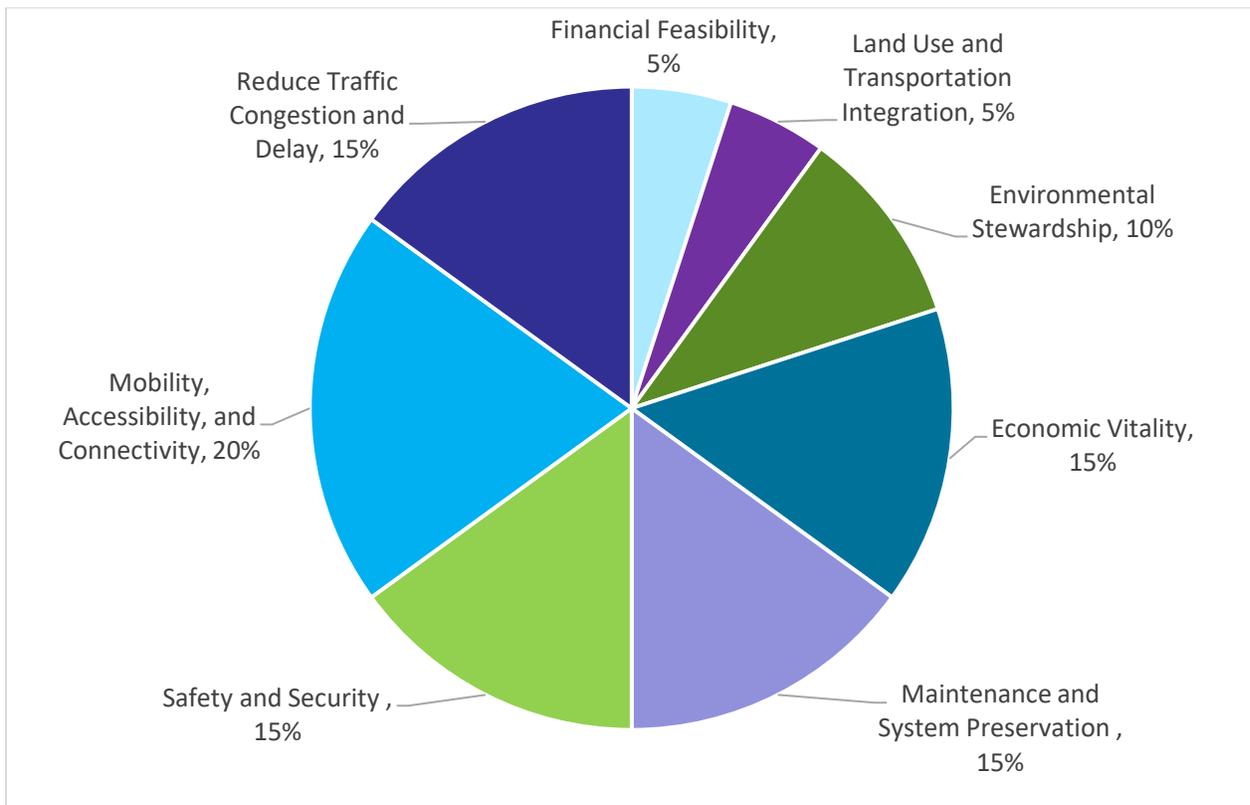


Figure 5-3: Summary of Plan Goals in Project Evaluation by Weight

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
Promote efficient system management and operation	Improve Reliability	Mobility and System Reliability	1. Reduce Traffic Congestion and Delay (15%)	Maximize existing transportation facilities through active management and integrated systems in real time. (3%)	Project types that align with this objective are: Operational, Intersection, ATMS/ITS, Safety.	Qualitative metric
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Relieve Congestion			Implement projects that improve street network connectivity to provide alternative routes and system redundancy. (6%)	Criteria 1: Project types that align with this objective are: Widening, Operational, Intersection, Extension, Bridge, High Occupancy Vehicle (HOV), ATMS/ITS. Criteria 2: For these project types, the following volume and volume to capacity ratio (V/C) thresholds were used: V/C >=1 & V >=10,000 V/C >=1 & V <10,000 1 > V/C >=0.75 V/C <0.75	Criteria 1: Qualitative metric Criteria 2: ARTS Travel Demand Model (2050 No Build E+C)
				Continue to implement and promote strategies and policies such as Transportation Demand Management (TDM), public transit, and alternative transportation modes to reduce demand for single-occupant motor vehicle travel. (3%)	Project types that align with this objective are: Transit, HOV, and Pedestrian/Bicycle.	Qualitative metric
				Support regional connectivity and ridesharing through investment in intercity bus service, intercity bus facilities, and commuter vanpool. (3%)	Project types that align with this objective are: Transit.	Qualitative metric

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria, Continued

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
Increase the accessibility and mobility of people and for freight	Improve Reliability	Mobility and System Reliability	2. Mobility, Accessibility and Connectivity (20%)	Prioritize transportation improvements that support access to the urban core. (10%)	Project located within the urban core: Yes/No.	GIS data from ARTS MPO; Urban core analysis based on urbanized areas and major road boundaries
				Increase access, expand, and improve the reliability of public transportation. (5%)	Project types that align with this objective are: Transit.	Qualitative metric
				Promote investment in infrastructure for non-motorized modes such as bicycles and pedestrians. (5%)	Project types that align with this objective are: Pedestrian/Bicycle.	Qualitative metric
Increase the safety of the transportation system for motorized and non-motorized users	Improve Safety	Safety and Security	3. Safety and Security (15%)	Reduce the number and severity of crashes, injuries, and fatalities across all modes by coordinating safety improvements with planning initiatives. (10%)	Criteria 1: Crash Rate (crashes /mile) when the project is located: > = 100 < 100 and >=75 < 75 and >=50 < 50 and >=25 < 25 Criteria 2: Fatalities where the project is located: 1 >1	Crash Analysis using GDOT, ARTS MPO, SCDOT data (2012-2017)

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria, Continued

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
Increase the security of the transportation system for motorized and non-motorized users				Reduce vulnerability of existing transportation infrastructure to natural disaster by supporting development of regional preparedness plans. (5%)	Project located along the Department of Defense’s Strategic Highway Network (STRAHNET): Yes/No.	STRAHNET
Emphasize the preservation of the existing transportation system	Maintain and Preserve	Infrastructure Condition	4. Maintenance and System Preservation (15%)	Adequately fund routine maintenance and rehabilitation of roadways and pavement. (3.75%)	Project types that align with this objective are: Bridge, Railroad, Aviation, Safety.	Qualitative metric
				Adequately fund routine maintenance and rehabilitation of bridges. (3.75%)	Bridge sufficiency rating: Sufficiency rating < 10 Sufficiency rating 10-19 Sufficiency rating 20-29 Sufficiency rating 30-39 Sufficiency rating 40-49 Sufficiency rating 50-59 Sufficiency rating 60-69 Sufficiency rating 70-79 Sufficiency rating >= 80 Non-bridge project	US FHWA National Bridge Inventory (2019)
				Provide viable public transportation options to meet daily travel needs. (3.75%)	Project types that align with this objective are: Transit.	Qualitative metric
				Monitor and manage transportation assets to prioritize improvements. (3.75%)	Pavement quality: Project located on roadways with International Roughness Index (IRI) > 170: Yes/No.	FHWA Highway Performance Monitoring System GIS Data (2017)

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria, Continued

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency	Improve Freight and Economic Development	Economic and Community Vitality	5. Economic Vitality (15%)	Provide transportation linkages to employment, business, retail activity, and other activity centers. (5%)	Employment density (jobs/sq. mile): >= 3 >= 2 and < 3 >= 1 and < 2 >= 0.2 and < 1 < 0.2	Socio-economic data from ARTS Travel Demand Model (2015 and 2050)
				Address the needs of the local freight industry and the intermodal movement of goods via rail and truck. (5%)	Freight volumes (trucks/day): >10,000 > 2,500 and <= 10,000 <= 2,500	ARTS Travel Demand Model
				Enhance the visual appeal of transportation facilities. (5%)	Within ½ mile of an activity, travel, or tourism location	GIS data for urban core boundaries, airports, regional attractors like golf and equestrian centers - ARTS MPO

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria, Continued

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns	Improve Environment	Environment; Equity	6. Environmental Stewardship (10%)	Minimize disruption or displacement of residential or commercial areas from restructured or new transportation facilities. (2%)	Displacement: Low Medium High	Google Satellite Imagery
				Minimize impact on environmental resources, wetlands, wildlife, historic properties, and water quality. (2%)	Environment and History: Environmental feature within 150 ft	ARTS MPO; National Park Service's National Register of Historic Places (2019); Columbia County Historic Resource Survey (2018)
				Reduce mobile emissions and meet air quality standards with projects including managed lanes, operational projects, transit, and non-motorized vehicles such as bicycle, and pedestrians. (2%)	Project types that are related to emissions reduction are: Operational, Intersection, Transit, HOV, and Pedestrian/Bicycle.	Qualitative metric

Table 5-1: Performance Measures Matrix: National, States, and ARTS MTP Goals, Weight of MTP Goals, Objectives, and Project Evaluation Criteria, Continued

National Planning Factors	GDOT Goals	SCDOT Goals	ARTS MTP Goals (Weights)	ARTS MTP Objectives/Project Prioritization Criteria (Weights)	ARTS MTP Project Evaluation Metrics	Data Sources
				Serve Environmental Justice populations through direct benefits or access to the project. (2%)	Environmental Justice: Criteria 1: Percent of Census tracts exceeding MPO average for each EJ category within half-mile of project Criteria 2: Number of different Environmental Justice categories within half-mile of project	American Community Survey (ACS) Five Year Data (2013-2017)
				Reduce or mitigate the stormwater impacts of surface transportation. (2%)	Project types that are related to storm water impacts are: Transit, HOV, and Pedestrian/Bicycle.	Qualitative metric
			7. Land Use and Transportation Integration (5%)	Provide transportation services that conform with regional and local land use plans. (5%)	2050 Population and Employment Growth within half-mile of each Project: >=5,000 >=2,500 and < 5,000 >=1,000 and < 2,500 >=500 and <1,000 >=100 and <500 <100	Socio-economic data from ARTS Travel Demand Model (2015 and 2050)
			8. Financial Feasibility (5%)	Prioritize projects with high project readiness and available funding. (5%)	Project has allocated funding	Project in TIP, TIA project list or SPLOST

5.3 Summary of Infrastructure Voluntary Evaluation Sustainability Tool (INVEST)

The Federal Highway Administration (FHWA) developed INVEST, to help make the nation’s transportation systems more sustainable – economically, socially, and environmentally. It is a free, web-based self-evaluation tool to help transportation agencies to identify, prioritize, and communicate balanced choices between the different and sometimes competing goals of highway infrastructure programs. Among INVEST’s four modules, the System Planning for Regions module and its criteria were reviewed in this section due to its relevance to the update of ARTS 2050 MTP. **Table 5-2** summarizes criteria and descriptions of the INVEST System Planning for Region Module and compares the criteria with the ARTS 2050 MTP Measures of Effectiveness.

Table 5-2: INVEST Criteria and Descriptions of System Planning for Regions Module and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal

INVEST Criteria	INVEST Criteria Meaning	2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal
SPR-01 Integrated Planning: Economic Development and Land Use (for Regions)	Integrate statewide and metropolitan LRTP with regional and/or local land use plans and economic development forecasts and goals. Proactively encourage and facilitate sustainability through the coordination of transportation, land use, and economic development planning.	• Metric 22: Growth Projections (Weight 5 percent) (Goal 7 Land Use and Transportation Integration)
SPR-02 Integrated Planning: Natural Environment (for Regions)	Integrate ecological considerations into the transportation planning process, including the development of LRTP, corridor plans, and the TIP. Proactively support and enhance long-term ecological function through the coordination of transportation and natural resource planning.	• Metric 18: Environment and History (Weight 2 percent) (Goal 6 Environmental Stewardship) • Metric 21: Stormwater Impacts (Weight 2 percent) (Goal 6 Environmental Stewardship)
SPR-03 Integrated Planning: Social (for Regions)	The agency’s LRTP is consistent with and supportive of the community’s vision and goals. When considered in an integrated fashion, these plans, goals and visions support sustainability principles. The agency applies context-sensitive principles to the planning process to achieve solutions that balance multiple objectives to meet stakeholder needs.	• Metric 17: Displacement (Weight 2 percent) (Goal 6 Environmental Stewardship) • Metric 18: Environment and History (Weight 2 percent) (Goal 6 Environmental Stewardship) • Metric 20: Environmental Justice (Weight 2 percent) (Goal 6 Environmental Stewardship)

Table 5-2: INVEST Criteria and Descriptions of System Planning for Regions Module and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal, Continued

INVEST Criteria	INVEST Criteria Meaning	2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal
<p>SPR-04 Integrated Planning: Bonus (for Regions)</p>	<p>The agency has a continuing, cooperative, and comprehensive (3-C) transportation planning process. Planners and professionals from multiple disciplines and agencies (e.g., land use, transportation, economic development, energy, natural resources, community development, equity, housing, and public health) work together to incorporate and apply all three sustainability principles when preparing and evaluating plans.</p>	<p>N/A (Not a project-level criteria)</p>
<p>SPR-05 Access and Affordability (for Regions)</p>	<p>Enhance accessibility and affordability of the transportation system to all users and by multiple modes.</p>	<ul style="list-style-type: none"> • Metric 1: Improve Operational Efficiency and Reliability (Weight: 3 percent) (Goal 1 Reduce Traffic Congestion and Delay) • Metric 2: LOS & AADT (Weight: 6 percent) (Goal 1 Reduce Traffic Congestion and Delay) • Metric 4: Intercity Transportation (Weight: 3 percent) Goal 1 Reduce Traffic Congestion and Delay • Metric 5: Urban Core Proximity (Weight: 10 percent) (Goal 2 Mobility, Accessibility and Connectivity) • Metric 6: Addresses Public Transportation Improvements (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity) • Metric 7: Supports Bicycles and Pedestrians (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity) • Metric 12: New or Improved Public Transit (Weight 3.75 percent) (Goal 4 Maintenance and System Preservation) • Metric 23: Project Readiness (Weight 5 percent) (Goal 8 Financial Feasibility)

Table 5-2: INVEST Criteria and Descriptions of System Planning for Regions Module and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal, Continued

INVEST Criteria	INVEST Criteria Meaning	2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal
SPR-06 Safety Planning (for Regions)	Agency integrates quantitative measures of safety into regional planning policies, ordinances, activities, projects, and programs, and across all modes and jurisdictions.	<ul style="list-style-type: none"> • Metric 8: Crashes (Weight 10 percent) (Goal 3 Safety and Security) • Metric 9: Critical Transportation Network (Weight 5 percent) (Goal 3 Safety and Security)
SPR-07 Multimodal Transportation and Public Health (for Regions)	Expand travel choices and modal options by enhancing the extent and connectivity of multimodal infrastructure. Support and enhance public health by investing in active transportation modes.	<ul style="list-style-type: none"> • Metric 6: Addresses Public Transportation Improvements (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity) • Metric 7: Supports Bicycles and Pedestrians (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity)
SPR-08 Freight and Goods Access & Mobility (for Regions)	Implement a transportation plan that meets freight access and mobility needs while also supporting triple bottom line sustainability principles.	<ul style="list-style-type: none"> • Metric 15: Freight Volumes (Weight 5 percent) (Goal 5 Economic Vitality)
SPR-09 Travel Demand Management (for Regions)	Reduce vehicle travel demand throughout the system.	<ul style="list-style-type: none"> • Metric 3: Travel Demand Management & Congestion Mitigation (Weight: 3 percent) • Metric 4: Intercity Transportation (Weight: 3 percent) Goal 1 Reduce Traffic Congestion and Delay • Metric 6: Addresses Public Transportation Improvements (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity) • Metric 7: Supports Bicycles and Pedestrians (Weight 5 percent) (Goal 2 Mobility, Accessibility and Connectivity)
SPR-10 Air Quality & Emissions (for Regions)	To plan, implement, and monitor multimodal strategies to reduce emissions and to establish a process to document emissions reductions.	<ul style="list-style-type: none"> • Metric 19: Emissions Reduction (Weight 2 percent)
SPR-11 Energy and Fuels (for Regions)	Reduce the energy and fossil fuel consumption from the transportation sector and document it in the transportation planning process.	<ul style="list-style-type: none"> • Metric 3: Travel Demand Management & Congestion Mitigation (Weight: 3 percent) • Metric 19: Emissions Reduction (Weight 2 percent)

Table 5-2: INVEST Criteria and Descriptions of System Planning for Regions Module and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal, Continued

INVEST Criteria	INVEST Criteria Meaning	2050 MTP Equivalent Measure of Effectiveness (Weight) and Goal
SPR-12 Financial Sustainability (for Regions)	Evaluate and document that financial commitments made across transportation system plans are reasonable and affordable.	• Metric 23: Project Readiness (Weight 5 percent) (Goal 8 Financial Feasibility)
SPR-13 Analysis Methods (for Regions)	Agencies adopt and incentivize best practices in land use, socioeconomic and transportation systems analysis methods.	• Metric 22: Growth Projections (Weight 5 percent) (Goal 7 Land Use and Transportation Integration)
SPR-14 Transportation Systems Management and Operations (for Regions)	Optimize the efficiency of the existing transportation system.	• Metric 1: Improve Operational Efficiency and Reliability (Weight: 3 percent) (Goal 1 Reduce Traffic Congestion and Delay)
SPR-15 Linking Asset Management and Planning (for Regions)	Leverage transportation asset management data and methods within the transportation planning process to make informed, cost-effective program decisions and better use existing transportation assets.	• Metric 10: Improvement to Existing Facilities (Weight 3.75 percent) (Goal 4 Maintenance and System Preservation) • Metric 11: Bridge Sufficiency Rating (Weight 3.75 percent) (Goal 4 Maintenance and System Preservation) • Metric 13: Pavement Quality (Weight 3.75 percent) (Goal 4 Maintenance and System Preservation)
SPR-16 Infrastructure Resiliency (for Regions)	Anticipate, assess, and plan to respond to vulnerabilities and risks associated with current and future hazards (including those associated with climate change) to ensure multi-modal transportation system reliability and resiliency. Identify a range of vulnerability and risks to both existing and planned transportation infrastructure.	• Metric 9: Critical Transportation Network (Weight 5 percent) (Goal 3 Safety and Security) • Metric 21: Stormwater Impacts (Weight 2 percent) (Goal 6 Environmental Stewardship)
SPR-17 Planning and Environmental Linkages (for Regions)	Integrate system planning process information, analysis, and decisions with the project-level environmental review process, and reference it in NEPA documentation.	N/A (Not a project-level criteria)

These elements are well reflected in the ARTS 2050 MTP goals, objectives, and project prioritization criteria. Some of the INVEST criteria that were not quantified in the project prioritization process, such as analysis methods, linking asset management and planning, and planning and environmental linkages, are reiterated as part of policy recommendations in Chapter 6 and in **Technical Report #6 Financial Plan**.

5.4 Summary of Aiken County Project Prioritization Tool

For the previous 2040 LRTP, the Aiken County Transportation Coordinating Subcommittee developed the Aiken County Project Prioritization tool to evaluate and rank road widening, intersection, and new construction projects. The criteria included:

- Traffic Volume and Congestion
- Public Safety
- Financial Viability
- Potential for Economic Development
- Traffic Status
- Truck Traffic
- Pavement Quality Index
- Environmental Impact
- Livability
- Alternative Transportation Solutions
- Serves to Implement Comprehensive Plan
- Serves to Implement LRTP
- Financial Viability and Maintenance Cost
- Improves Air Quality

As shown in **Table 5-3**, there is substantial overlap between these criteria when compared with the ARTS 2050 MTP project evaluation criteria, as similar, corresponding criteria are included in each project prioritization process.

Table 5-3. Aiken County Project Prioritization Tool and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness

Aiken County Project Prioritization Criteria (Weight)	2050 MTP Equivalent Measure of Effectiveness (Weight)
Traffic Volume and Congestion (30 percent for widening, 25 percent for intersection, and 40 percent for new construction projects)	<ul style="list-style-type: none"> • Metric 1: Improve Operational Efficiency and Reliability (3 percent) • Metric 2: LOS & AADT (6 percent) • Metric 3: Travel Demand Management & Congestion Mitigation (3 percent)
Public Safety (10 percent for widening, 20 percent for intersection, and not ranked for new construction projects)	<ul style="list-style-type: none"> • Metric 8: Crashes (10 percent) • Metric 9: Critical Transportation Network (5 percent)
Financial Viability (14 percent for widening, not ranked for intersection, and not ranked for new construction projects)	<ul style="list-style-type: none"> • Metric 23: Project Readiness (5 percent)
Potential for Economic Development (10 percent for widening, 7 percent for intersection, and 20 percent for new construction projects)	<ul style="list-style-type: none"> • Metric 14: Employment Density (5 percent) • Metric 15: Freight Volumes (5 percent) • Metric 16: Travel and Tourism (5 percent)
Truck Traffic (8 percent for widening, 10 percent for intersection, and not ranked for new construction projects)	<ul style="list-style-type: none"> • Metric 15: Freight Volumes (5 percent)
Pavement Quality Index (6 percent for widening, not ranked for intersection, and not ranked for new construction projects)	<ul style="list-style-type: none"> • Metric 13: Pavement Quality (3.75 percent)
Environmental Impact (10 percent for widening, 8 percent for intersection, and 15 percent for new construction projects)	<ul style="list-style-type: none"> • Metric 17: Displacement (2 percent) • Metric 18: Environment and History (2 percent) • Metric 19: Emissions Reduction (2 percent) • Metric 20: Environmental Justice (2 percent) • Metric 21: Stormwater Impacts (2 percent)
Livability (12 percent for widening, 10 percent for intersection, and 10 percent for new construction projects)	<ul style="list-style-type: none"> • Metric 1: Improve Operational Efficiency and Reliability (3 percent) • Metric 3: Travel Demand Management & Congestion Mitigation (3 percent) • Metric 6: Addresses Public Transportation Improvements (5 percent) • Metric 7: Supports Bicycles and Pedestrians (5 percent)
Alternative Transportation Solutions (yes/no: Documented and considered for each project, points not assigned for widening, not ranked for intersection, and yes/no: Documented and considered for each project, points not assigned for new construction projects)	<ul style="list-style-type: none"> • Metric 3: Travel Demand Management & Congestion Mitigation (3 percent) • Metric 4: Intercity Transportation (3 percent) • Metric 6: Addresses Public Transportation Improvements (5 percent) • Metric 7: Supports Bicycles and Pedestrians (5 percent)

Table 5-3. Aiken County Project Prioritization Tool and Corresponding ARTS 2050 MTP Equivalent Measure of Effectiveness, Continued

Aiken County Project Prioritization Criteria (Weight)	2050 MTP Equivalent Measure of Effectiveness (Weight)
Serves to Implement Comprehensive Plan (yes/no: Project must support Comprehensive Plan for widening, not ranked for intersection, and yes/no: Project must support Comprehensive Plan for new construction projects)	<ul style="list-style-type: none"> • Metric 5: Urban Core Proximity (10 percent) • Metric 22: Growth Projections (5 percent)
Serves to Implement LRTP (yes/no: Project must be in LRTP for widening, not ranked for intersection, and yes/no: Project must be in LRTP for new construction projects)	N/A (all are MTP projects)
Traffic Status (not ranked for widening, 20 percent for intersection, and not ranked for new construction projects)	<ul style="list-style-type: none"> • Metric 1: Improve Operational Efficiency and Reliability (3 percent) • Metric 2: LOS & AADT (6 percent)
Financial Viability and Maintenance Cost (not ranked for widening, not ranked for intersection, and 15 percent for new construction projects)	<ul style="list-style-type: none"> • Metric 23: Project Readiness (5 percent)
Improves Air Quality (not ranked for widening, not ranked for intersection, and not ranked (Documented and considered for each project, points not assigned) for new construction projects)	<ul style="list-style-type: none"> • Metric 19: Emissions Reduction (2 percent)

5.5 Project Evaluation

Using the project prioritization tool developed during the MTP process, individual projects were evaluated relative to the MTP goals and objectives. Project prioritization scoring sheet, in **Appendix 2**, includes raw scores of each project for identified evaluation criteria.

Chapter 5 Key Points

- The Universe of Projects, also known as fiscally-unconstrained projects, were developed based on the assessment of existing needs, analysis of travel demand models to assess existing and future travel patterns, public and stakeholder input, and improvements recommended in previous plans or studies. Individual projects were then carefully evaluated relative to the MTP goals and objectives using a project prioritization tool developed during the MTP process.
- Project prioritization was undertaken with a four-step process called the Project Prioritization Framework: 1) Identify Universe of Projects, 2) Populate Raw Scores for Each Project according to Project Evaluation Criteria, 3) Apply Weights Selected for Each Goal Corresponding to the Project Evaluation Criteria, and 4) Rank the Projects based on Weighted Scores.
- The ARTS 2050 MTP project prioritization criteria incorporate key elements from FHWA's INVEST and South Carolina's Aiken County Project Prioritization Tool.