DRPT

VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

April 2025

MERIT - Capital Assistance Program Prioritization Scoring

FY27 Technical Guidance

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1.0 Capital Assistance Prioritization Process Overview

The Capital Assistance program is guided by a project prioritization process for capital needs that allows DRPT to allocate and assign limited resources into projects and investments identified as the most critical. The prioritization process is designed to favor projects that (1.) Achieve the statewide policy objective of maintaining a state of good repair of existing assets, and (2.) Have the greatest impact on the provision of public transportation services throughout the state. In addition, under this prioritization process, major capital investments are evaluated in terms of their potential benefits related to congestion mitigation, economic development, accessibility, safety, environmental quality, and land use.

Under the Capital Assistance program, projects are now classified, scored, and prioritized in the following categories:

1. **State of Good Repair (SGR):** Capital projects or programs to replace or rehabilitate an existing asset, excluding major capital construction projects with a total cost over $3 million.

2. **Minor Enhancement (MIN):** Capital projects or programs that add capacity or include the purchase of new assets meeting the following criteria:
    a. Total project cost: less than $3 Million; or
    b. For expansion vehicles, an increase of 5 vehicles or less, or 5% or less of the fleet size, whichever is greater ; or
    c. All projects for engineering and design

3. **Major Expansion (MAJ):** Capital projects or programs to add, expand, or improve transit services or facilities, with a total cost exceeding $3 million, or for expansion vehicles, an increase of greater than 5 vehicles or 5% of fleet size, whichever is greater, or all projects that include the replacement of an entire existing facility.

    (Note: in the rare instance that a project submitted for DRPT funding fits the definition of a Major Expansion project based solely on total project cost, but does not add, expand, or improve transit services or facilities, the DRPT Director shall determine the appropriate project category for project evaluation)

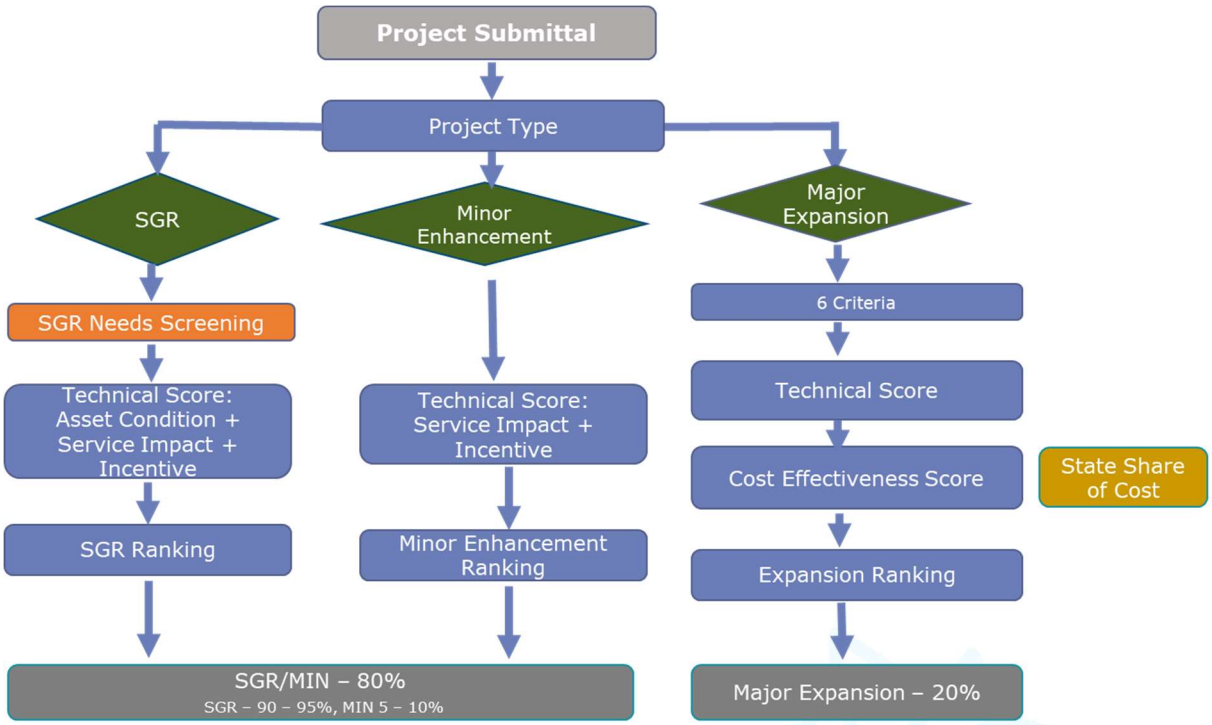
Exemptions from prioritization scoring:

- Capital project types that do not receive any State transit capital funding contribution are exempt from the prioritization process entirely.

1.1 Prioritization Process Framework

The capital assistance prioritization process begins by separating projects into the three categories listed above. Different criteria and scoring approaches have been determined for each capital project category (Figure 1-1). For example, State of Good Repair (SGR) projects are screened using asset condition and age data to determine whether there is a legitimate need for asset replacement or rehabilitation. Once an asset is deemed "eligible," the funding request is scored based on Asset Condition and Service Impact criteria. Additional incentive points are added to the service impact score to prioritize specific statewide goals and program requirements, allowing for further differentiation in project scores. After all projects are scored, they are prioritized from highest to lowest.

Figure 1-1 Prioritization Process Framework



The process to prioritize Minor Enhancement (MIN) projects scores each individual project based on service impact criteria. Additional incentive points are added to the service impact score to prioritize specific statewide goals and program requirements, allowing for further differentiation in project scores. After scoring, similar to the SGR process, the minor enhancement applications are prioritized from highest to lowest score.

Finally, the process to score Major Expansion projects considers the six criteria required under House Bill (HB) 1359: congestion mitigation, economic development, accessibility, safety, environmental quality, and land use. Technical scores are calculated as an average of the scores of the six criteria. The technical score is then divided by the amount of State transit capital funding being requested for the project to calculate the cost-effectiveness score. Major expansion projects are prioritized based on the cost-effectiveness score, resulting in a final list of prioritized projects.

Projects are prioritized for funding based on score and available funding for each project category separately. The Capital Assistance Program is structured to provide a minimum of 80% of the annual statewide capital allocation to State of Good Repair (SGR) and Minor Enhancement (MIN) projects with a maximum of 20% available for Major Expansion (MAJ) projects. At the discretion of the Commonwealth Transportation Board, funding can move from MAJ to SGR/MIN if there is not sufficient funding available to meet SGR needs (but not from SGR/MIN to MAJ).

In order to provide predictability and to ensure projects are funded at a level sufficient to move forward, SGR and MIN projects will be matched at a maximum State match rate of 68% of total project cost. Major expansion projects will be funded at a maximum State match rate of 50% of total project cost, providing applicants with funding that can be leveraged against other State and Federal funding programs. Local matching funds, at a minimum of 4% of total project cost, are required for all transit capital projects except those that have been awarded federal discretionary grant funding. DRPT may allow for a lower local match for a capital project that has been awarded funding through a federal discretionary grant program.

DRPT may recommend to the Board an allocation of capital funding reserved to provide matching funds for projects awarded federal discretionary grants throughout the fiscal year. Projects will be evaluated using the MERIT prioritization methodology and allocations reported to the Board when the reserve funds are utilized.

A project that has been selected for transit capital funding (state of good repair, minor enhancement, or major expansion) must be rescored and the funding decision reevaluated if there are significant changes to either the scope or cost of the project.

1.2 Project Types

For the purposes of prioritization, project types were further defined in order to apply uniform scoring across projects with similar characteristics. Project scoring in the SGR category relies on both a documented asset age and an approved estimated service life (ESL) of the asset being requested for replacement. However, for many asset types that are eligible for funding under DRPT's capital assistance program, the state has not determined an approved ESL. For this reason, DRPT has determined a number of "Special Asset Categories," that will be scored and prioritized as MIN projects. These "Special Asset Categories" are listed below.

Table 1-1 provides examples of projects that fall into each of the three prioritization categories. For the purpose of the prioritization, project types were further defined for application of project scoring.

Table 1-1 Project Types for SGR, Minor Enhancement, and Major Expansion

	Project Types
State of Good Repair (SGR)	**Replacement/Rehabilitation of:** • Vehicles/rolling stock (buses, vans, rail cars, support vehicles, etc.) • Administrative/maintenance facilities • Customer amenities (parking facilities, bus shelters, benches, signage) • Any other specific existing pieces of equipment and/or technology that do not fall into ***Special Asset Categories****
Minor Enhancements (MIN)	**Investments in:** • Fleet expansion (less than 5 vehicles of 5% of fleet) • New customer amenities (parking facilities, bus shelters, benches, accessibility improvements, signage) • New equipment and technology • New small real estate acquisition • Capital project development less than $3 Million (engineering and design, construction management) • All projects for engineering and design • All assets that fall into ***Special Asset Categories**** *(incl. replacement/rehabilitation and new)*
Major Expansion (MAJ)	**Investments in:** • Construction of new fixed guideway corridor (heavy rail, light rail, bus rapid transit) • Construction of new administrative/maintenance facility • Construction of new transit center, transfer center, or parking facility (more than $3 Million) • Major fleet expansion (more than 5 vehicles or 5% of fleet) • Technology improvement (mobile ticketing solutions, real time arrival information, etc.

**** Special Asset Categories:**

- **Tools:** all tools needed to provide maintenance services (i.e., new/replacement tools, tool cabinets, etc.)
- **Maintenance Equipment:** all equipment needed to maintain vehicles, infrastructure, and/or other assets (i.e., bus lift, tire mounting device, forklifts, etc.)
- **Spare Vehicle/Rail Parts:** all spare vehicle and rail parts that will be used to maintain assets in working order that are not part of a larger rehabilitation project (i.e., alternators, transmissions, engines, rail track, seats, windows, gas tanks, etc.)
- **Building/Facility Items and Fixtures:** all individual, small facility parts and fixture that are being replaced outside of a larger rehabilitation project (i.e., concrete floors, stairs, escalators, hand dryers, fans, lighting systems, etc.)
- **Grouped Assets/Programs of Projects** (less than $3 million): includes large groups of assets that cannot be broken down into subcomponents (i.e., general “SGR” purchase of parts or track)
  - DOES NOT INLUDE: Grouped or Program of Project for vehicle rehab or replacement
- **Other Financial Tools:** includes funds for needed capital investments that cannot be scored as a replacement/rehabilitation (i.e., capital cost of contracting, track lease payments, debt service on previously approved projects)

2.0 Scoring Methodology for SGR and MIN Projects

SGR projects (Figure 2-1) are evaluated considering asset condition (60 points), service impact (up to 40 points), and incentive scoring (up to 10 points). The combined score from the two criteria adds up a maximum total of 110 points. Minor enhancement projects (Figure 2-2) are evaluated considering the same service impact and incentive scoring methodology that is applied to State of Good Repair, with projects receiving up to 50 points.

Figure 2-1 SGR Project Scoring

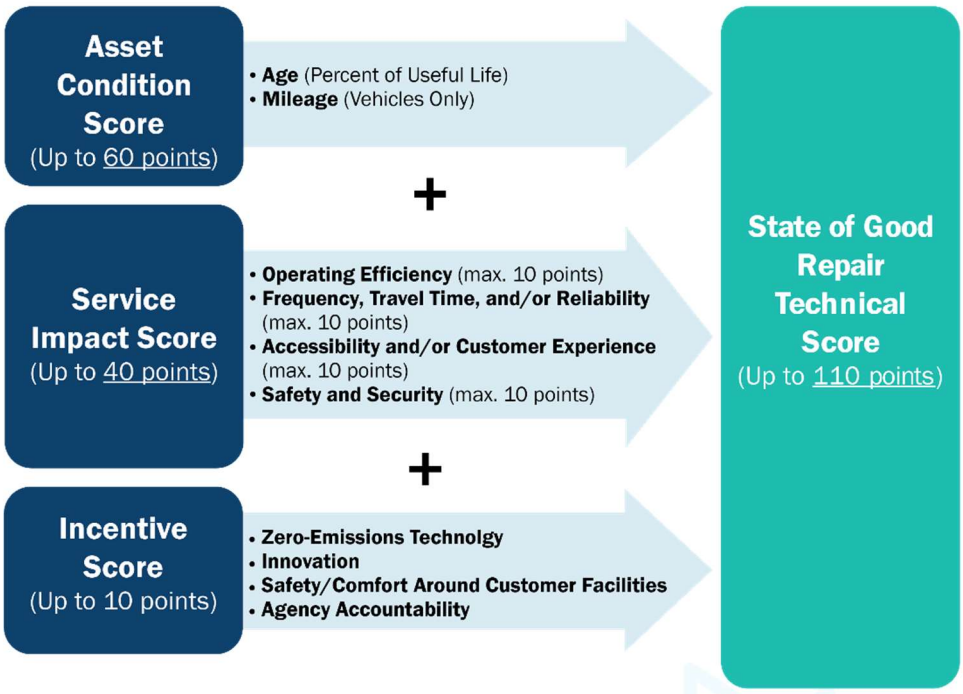


Figure 2-2 Minor Enhancement Project Scoring

2.1 Asset Condition Score

Projects are scored between 0 and 60, based on the asset age and mileage. Assets that are older or have higher mileage will receive higher scores.

The asset condition score is calculated based on the asset's age and mileage (reported in TransAM) at the time of application. For vehicles, the asset condition rating score is the average of the age and mileage-based scoring systems (50 percent mileage score and 50 percent age score). For non-vehicle assets, only the age score is used. Asset age and mileage are compared against the Expected Service Life (ESL), which is the FTA standard for minimum service life of that type of asset (FTA Circular 5010.IE). Note that each individual vehicle that is being replaced receives a score, while nonvehicle assets with the same age ("in-service date") are expected to be rated as one project. If an entire facility is requested to be replaced or rehabilitated, it will be scored as one project as well.

Table 2-1 shows the resulting points based on the age and mileage (mileage applies to vehicles only). The scoring system is set so that assets well past ESL have higher scores than those which have just reached their useful life. This approach of rating the oldest assets highest may need to be revisited once the State backlog of SGR needs is addressed and it is possible to reward requests for assets to be replaced on their expected lifecycle.

Table 2-1 Age and Mileage Scoring

Age of Asset Relative to Service Life	Points	Mileage of Vehicle Relative to Service Life	Points
< 80% of ESL Age	0	< 80% of ESL Mileage	0
80-89.9% of ESL Age	25	80-89.9% of ESL Mileage	25
90-99.9% of ESL Age	30	90-99.9% of ESL Mileage	30
0-9.9% > ESL Age	35	0-9.9% > ESL Mileage	35
10-19.9% > ESL Age	40	10-19.9% > ESL Mileage	40
20-29.9% > ESL Age	45	20-29.9% > ESL Mileage	45
30-39.9% > ESL Age	50	30-39.9% > ESL Mileage	50
40-49.9% > ESL Age	55	40-49.9% > ESL Mileage	55
50% or more > ESL Age	60	50% or more > ESL Mileage	60

Vehicle rehabilitation projects (including midlife overhauls, rebuilds, or repowers) are prioritized along with other vehicle replacements as SGR projects; however, the asset condition score is calculated in a slightly different way. For a bus to quality for a midlife rehabilitation, it must meet 40% of ESL for either age or mileage, and the proposed modifications must extend the estimated service life (ESL) of the vehicle by at least 4 years. To calculate the asset condition score, each eligible bus receives 30 points if it meets or exceeds 40% of ESL for age, and 30 points if it meets or exceeds 40% of ESL for mileage. These two scores are averaged to determine a final asset condition score.

For vehicle rebuilds and repowers that are part of a rebuild, DRPT requires that the ESL of the vehicle be extended by 4 years and 125,000 miles. Vehicle overhauls and repowers that are not part of a rebuild do not require extension of ESL. For rebuilds, documentation of the planned modification must be provided demonstrating the expected extension in service life. Once the rebuild modifications are complete, TransAM must be updated to reflect the new estimated service life (ESL) of the vehicle which will be used to prioritize the replacement of the vehicle for funding.

Note: Beginning in FY23, vehicle rehabilitation projects will be evaluated as SGR projects, but funding will be rewarded as MIN projects. This means that funding will be approved based on the asset condition of specific vehicles, but funds awarded will not be tied to the rehabilitation of specific vehicles. This allows agencies to substitute the vehicles that will be rehabilitated based on operational needs without having to submit a scope change application, as long as the total cost of the grant award does not change.

In the future, the asset condition score may be calculated or adjusted based on the observed asset condition. FTA has developed an asset condition rating from 1 (worn) to 5 (excellent) scale that can be used to rate the asset condition. Currently, TransAM does not include this observed asset condition data consistently for all agencies but this approach may be revisited when consistent condition data has been compiled statewide.

2.2 Service Impact

Service impact considers the asset impact on service (direct or indirect), and to what extent an asset affects the rider experience. Measuring service impact in this way is a qualitative exercise, assigning points based on the determined level of impact to service quality by project subtype. There are four sub-criteria under service impact which can each receive up to 10 points (40 points total):

- Service Frequency, Travel Time, and Reliability.
- Operating Efficiency.
- Service Accessibility and/or Customer Experience.
- Safety and Security.

The definitions of each of the criteria are shown in Table 2-2.

Table 2-2 Service Impact Criteria

Criteria	Definition
Operating Efficiency	Provides for significantly more cost-effective provision of service
Frequency, Travel Time and/or Reliability	Speeds up transit routes or allows for increased frequency. Significant impact on reliability either through preventing breakdowns or removing vehicles from mixed traffic
Accessibility and/or Customer Experience	Significant improvement in a customer's ability to access the system or a significant improvement in the ease of use of the system.
Safety and Security	Provides a significant improvement in safety or security

Table 2-3 provides the default rating by criteria for each project type (using project types defined in TransAM). Default ratings were initially set by the project team based on alignment of the asset type with achievement of each of the service impact criteria (Table 2-4).

Table 2-3 Default Service Impact Ratings by Project Type

Primary Project Types	Secondary Project Types	Operating Efficiency	Frequency, Travel Time and/or Reliability	Accessibility and/or Customer Experience	Safety and Security	Total Default Score
Admin/ Maintenance Facilities	Supports Operations	High Impact	Medium Impact	Low Impact	Medium Impact	25
Admin/ Maintenance Facilities	Non-Operational	Low Impact	Low Impact	Low Impact	Medium Impact	15
Capital Finance Strategies	All	High Impact	High Impact	High Impact	Medium Impact	36
Customer Facilities	Transit Centers/ Stations	Medium Impact	Medium Impact	High Impact	Medium Impact	28
Customer Facilities	Bus Stop/Shelter Improvements	Low Impact	No Impact	High Impact	High Impact	23
Maintenance Equipment & Parts	Vehicle and Vehicle Support Equipment	High Impact	High Impact	Medium Impact	Medium Impact	32
Maintenance Equipment & Parts	Property and Facilities	Medium Impact	Low Impact	Low Impact	High Impact	22
System Infrastructure	All	High Impact	Medium Impact	Medium Impact	Medium Impact	28
Technology/ Equipment	Onboard Systems—ITS/ Communications	Medium Impact	Medium Impact	High Impact	Medium Impact	28
Technology/ Equipment	Operations Support	Medium Impact	Medium Impact	Medium Impact	Medium Impact	24
Technology/ Equipment	Onboard Systems—Safety	No Impact	No Impact	Medium Impact	High Impact	16
Technology/ Equipment	Administrative	Low Impact	Low Impact	Low Impact	Low Impact	12
Vehicles	Revenue Vehicles	High Impact	High Impact	High Impact	High Impact	40
Vehicles	Overhaul/Engine Replacement	High Impact	High Impact	Medium Impact	High Impact	36
Vehicles	Support Vehicles	Medium Impact	Medium Impact	Low Impact	Low Impact	18

Table 2-4 Explanation of Default Service Impact Ratings by Project Type

Primary Project Types	Secondary Project Types	Notes on Updated Ratings Table (A) Operating Efficiency; (B) Frequency, Travel Time and/or Reliability; (C) Accessibility and/or Customer Experience; and (D) Safety and Security
Admin/ Maintenance Facilities	Supports Operations	High ratings for A because this directly impacts operations. Medium ratings for B, and D because of impact of maintenance. Low impact on C because this is for admin/maintenance, not customer-facing facilities.
Admin/ Maintenance Facilities	Non-Operational	Low ratings for A, B, and C due to not supporting operations. Medium rating for D because of impact on safety of work environment.
Capital Finance Strategies	All	High ratings for A, B, and C since capital financing has the potential to significantly benefit all asset types that impact operations.
Customer Facilities	Bus Stop/Shelter Improvements	Includes shelters, parts, signage, and graphics. Improvements to bus shelters could have a low impact on A due to reduced maintenance costs, no impact on B, high impact on C (direct impact), and medium impact on D because of improved waiting areas.
Customer Facilities	Transit Centers/ Stations	Includes transit centers, stations, and parking facilities. Compared with bus stop improvements, A is medium because transit centers have potential to save operating costs (route optimization), B is medium because parking facilities and stations have impact on travel times.
Maintenance Equipment & Parts	Vehicle and Vehicle Support Equipment	Directly impacts reliability of the vehicle fleet. Receives high ratings on A and B because of the efficiency and reliability impacts. Medium ratings for C and D since there are positive impacts on customer experience and safety.
Maintenance Equipment & Parts	Property and Facilities	Medium rating for A due to potential for efficiency benefits. Low ratings for B and C as there is less impact on reliability and customer impacts for a facility improvement. D received a high for safety benefits of maintenance.
System Infrastructure	All	This category is for system facilities and infrastructure including transit ways, rail, power, utilities, etc. For service impact rating, this category will be used primarily for SGR, so emphasis is on lifecycle replacement and reducing maintenance costs. High for A, medium for other criteria.
Technology/ Equipment	Administrative	Primarily for hardware, software, and equipment for administrative functions. Since these are support functions, received a low for all four categories because of indirect impact on service.
Technology/ Equipment	Operations Support	Includes hardware and software that are used in operations such as dispatch, scheduling, etc. Received a medium rating across all four categories since it impacts all aspects of operations.
Technology/ Equipment	Onboard Systems—ITS/ Communications	This project type includes real-time customer information and AVL. Receives a high rating for C because of the direct customer benefit.
Technology/ Equipment	Onboard Systems—Safety	This project type includes onboard cameras or other safety features (e.g., collision avoidance) that are purchased separately from a bus. Medium for C because of customer perception of safety and security. High for D because of direct safety impact.

Primary Project Types	Secondary Project Types	Notes on Updated Ratings Table (A) Operating Efficiency; (B) Frequency, Travel Time and/or Reliability; (C) Accessibility and/or Customer Experience; and (D) Safety and Security
Vehicles	Revenue Vehicles	Includes all revenue vehicles (fixed-route and paratransit). This is the only project type receiving a high rating on all four criteria. Revenue vehicles have the most direct and comprehensive impact on service delivery of any asset type.
Vehicles	Support Vehicles	Received a medium on A and B because of indirect impact on operations, and a low on C and D because these assets do not directly affect the customer.
Vehicles	Overhaul/Engine Replacement	Slightly lower rating than for revenue vehicle. Received a medium for C because this has less of a direct impact on customer experience.

Points are assigned initially based on the default rating for each criterion:

- High = 10
- Medium = 6
- Low = 3
- No Impact = 0

Projects automatically receive the minimum score for the criteria based on the default values for each impact level. For example, a project ranked as high impact for the operating efficiency criterion would automatically receive 10 points for the criterion.

Note on SGR Scoring Exemptions:
If unforeseen circumstances create a situation where a specific asset or group of assets will need to be replaced despite not receiving a high enough score to be funded through the SGR methodology outlined above, an exemption to SGR scoring may be granted on a case by case basis. If an applicant would like to request a scoring exemption, the application must contain documentation describing the issue in detail. If an SGR scoring exemption is rewarded, the project will be assigned a default score of 70 points. Examples of acceptable SGR scoring exemptions include, but may not be limited to: a totaled vehicle, a lemon vehicle, technology or equipment that is no longer supported by the vendor, or other asset conditions that cause an immediate operational hardship.

2.3 Incentive Scoring

Incentive scoring prioritizes specific statewide goals and program requirements, and allows for further differentiation in project scores as shown in Table 2-5. Incentive points are awarded within four criteria areas: Zero-Emissions Technology, Innovation, Safety and Comfort around Customer Facilities, and Agency Accountability. The maximum score in each criteria area will be 5 points, not to exceed a maximum of 10 points total.

Table 2-5 Incentive Scoring

Criteria	Points	DRPT Incentive Points: SGR and MIN Projects *Incentives for projects that satisfy DRPT Goals* *(Not to exceed 10 points total per project)*
Zero-Emissions Technology	5 Points, if project includes one of the following:	• Procurement of Zero-Emissions Vehicles, or • Installation of Zero-Emissions Infrastructure
Innovation	5 Points, if project includes one of the following:	• Installation of Real-Time Departure/Arrival Information, or • Automated Data Collection, Scheduling and Dispatch technology acquisition, or • Utilization of Transit Signal Priority, or • Installation of safety technology, or • Mobile Ticketing
Safety and Comfort Around Customer Facilities	5 Points, if project includes one of the following:	• Enhanced Lighting at Transit Stations or Stops, or • Enhancements for Pedestrians/Accessibility connecting passengers to Transit, or • Projects that include benches or shelters
Agency Accountability	5 point, if all requirements are met:	• Compliance with State Asset Management Requirements (TransAM Updates on time) • Compliance with State Strategic Planning Requirements (TSP/TDP Up to Date) • Compliance with State Capital Planning Requirements (5-year Capital Budgets) • Compliance with State Performance Reporting (On-time reporting in OLGA)

3.0 Scoring Methodology for Major Expansion Projects

For Major Expansion (MAJ) transit projects, six prioritization criteria are utilized to prioritize projects. These six measures are the same measures identified in Virginia's SMART SCALE legislation, which required the measures be quantifiable and objective and that the analysis of a project's benefits is relative to its cost. The following MAJ prioritization factors (Table 3-1) will be considered relative to the cost of the project for MAJ projects.

Table 3-1 Major Expansion Prioritization Factors

Criteria	Objective
Congestion Mitigation	Reduce delay, improve transportation system reliability, and encourage transit use
Economic Development	Support existing economies and enhance opportunity for economic development
Accessibility	Enhance worker and overall household access to jobs and other opportunities, and provide multiple and connected modal choices
Safety	Address multimodal safety concerns and improve transit safety and security
Environmental Quality	Reduce emissions and energy consumption by providing modal choices, and minimize natural resources impacts
Land Use	Improve consistency of the connection between local comprehensive plans and land use policies with transit investments

The selected prioritization measures for each of the six factor areas are displayed in Table 3-2. The detailed methodology on calculating these is described in the sections below.

Table 3-2 Prioritization Measures for Major Expansion Projects

Factor	Measure	Measure Weight
Congestion Mitigation	Change in peak-period transit ridership attributed to the project	100%
Economic Development	Project consistency with regional and local economic development plans and policies, and support for local development activity	100%
Accessibility	Project improvement in accessibility to jobs	50%
	Disadvantaged population (low-income, minority, or limited English proficiency) within walking distance of project	50%
Safety	Project contribution to improving safety and security, reducing risk of fatalities or injuries	100%
Environmental Quality	Reduction in CO_2 resulting from project	100%
Land Use	Transit supportive land use served by the project	100%

The following sections provide a detailed description of the methodology in each factor area used to calculate the prioritization measure values. Specific scoring methods are presented for eight different types of projects to illustrate some differences in approaches depending on the type of projects:

1. Fixed-guideway (BRT/LRT) Corridor;
2. Fleet Expansion (Systemwide);
3. Fleet Expansion (Specific Routes);
4. Customer Facilities (Station Improvements);
5. Customer Facilities (Park & Ride);
6. Customer Facilities with System Impacts (Transit/Transfer Center);
7. Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.); and
8. Technology/Information Systems.

Additional information on projects that provide systemwide benefits or indirect impacts is provided below.

Projects with Systemwide/Indirect Impacts

Four of the project types listed above have systemwide impacts or otherwise impact a significant portion of the system – types 2, 6, 7, and 8. For a number of the measures, the calculation of ridership, population, or jobs served by the project are factored as lower impact to account for the indirect benefits that these projects provide and so they can be compared fairly against projects that have a more direct impact on riders and land use. For this reason, three categories of factors are defined to reflect the amount of impact:

- Critical Impact: For systemwide projects where a project is “mission-critical” to the continuation of transit activities and failure to complete the project could have significant implications on the ability to maintain transit service. Critical impact projects receive credit for 25% of system-level measures of ridership, population, and jobs.
- *High Impact*: For improvements that have a significant impact on service frequency, travel time and/or reliability. High impact projects receive credit for 10% of the systemwide measures.
- *Low Impact*: For other improvements having an indirect impact on ridership and not classified as “critical impact” or “high impact”. Low-impact projects receive credit for 5% of the system-level measures.

The determination of whether a project can be classified as a “critical impact” or “high impact” systemwide project is determined based on a combination of inputs:

1. The applicant’s response to Question 2 on the MERIT capital funding request data sheet indicating whether the project is mission critical and the implications if the project is not funded;
2. Customer facilities that save significant amount of time for riders through reduced transfer, walk, wait, or in-vehicle time, e.g., greater than 5 minutes per rider;
3. Maintenance facilities serving more than 50% of the agency fleet; or a maintenance facility that saves a significant amount of travel or dead-heading time per trip;

4. Technology projects that have a measurable impact on travel time, e.g., greater than 5 minutes per rider.

3.1 Congestion Mitigation

The congestion mitigation measure evaluates the increase in transit users the project accommodates. This projected increase in transit users will provide an alternative to SOV travel and a potential reduction of congestion in the project area.

Peak-Period Transit Riders Impacted	
Objective	Assess the potential benefit of the project in increasing the number of transit users served, providing an alternative to SOV travel, and providing increased person throughput
Definition	Change in peak-period transit system ridership attributed to the project

Methodology

This measure is a quantitative analysis that requires an estimate of the projected change in peak-period ridership, or difference between the existing (last completed fiscal year) a.m. peak-period ridership and the future 2035 peak-period ridership attributed to the project.[1] The change in ridership accounts for both new transit trips (e.g., those who diverted from auto to transit) as well as anticipated increases in ridership due to future population and employment growth between the existing year and 2035 in the project area. The measure is calculated based on the 10-year forecast (2035) for a.m. (three-hour) peak-period ridership to capture the impacts on congestion mitigation. If only daily forecasts are available, the daily forecast will be factored by the percentage of ridership occurring in the highest three-hour period. If the local agency does not provide a peak-period percentage, the default value will be 25% of daily ridership. If 2035 ridership projections are not available, 2035 ridership values will be calculated by applying a compound annual growth factor to the existing year ridership. The growth factor will be estimated based on the projected population growth rate produced by a regional planning organization, where available, for jurisdictions within the project's service area.

The change in peak-period ridership/users attributed to the project improvements will be estimated. This will vary by project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** Project daily ridership forecast and peak-period ridership on the BRT or LRT line(s) will be requested as these are typically available from project ridership forecasts. Ridership for improvements to a section of a fixed guideway only includes the riders in the portion of the route where the improvement (e.g., a dedicated bus lane) is proposed. This is typically a fraction of the total route ridership since not all riders travel on every segment.
2. **Fleet Expansion (Systemwide).** If fleet expansion vehicles will be used systemwide, peak transit ridership attributed to the vehicles will be estimated by calculating the

[1] For the FY2027 funding cycle, FY2024 data will be requested as the "existing year." Additionally, 2035 will be used for the 10-year forecast.

current system daily ridership per vehicle in the fleet (daily passengers per vehicle). Peak ridership added = vehicles added * existing daily pass/vehicle * peak-period factor (percent of daily ridership) * 10-year growth.

3. **Fleet Expansion (Specific Routes).** If fleet expansion vehicles are tied to specific routes, the peak-period ridership that will be served by the new vehicles for that service will be requested. If an estimate of ridership is not available, the approach outlined for systemwide improvements will be used.
4. **Customer Facilities (Station Improvements).** Project daily ridership and peak-period ridership forecasts for the station will be requested. The affected ridership for a station improvement project includes both the boardings and alightings that occur at the station. If alighting information is not available, the boardings can be doubled to yield the total daily activity for the station. The portion of daily ridership occurring in the peak period is based on both boardings and alightings during the peak period. Ridership for a new station entrance that is part of an existing station is calculated based on the difference between the 10-year forecast and existing station ridership. Only the ridership associated with the proposed improvement is included (the ridership at the new entrance, not the total station ridership). Ridership for a new station entrance that is a part of a proposed station is equal to the 10-year forecast ridership (since there is no existing station ridership) and also only includes the ridership associated with the proposed improvement.
5. **Customer Facilities (Park & Ride).** For parking facilities, peak ridership will be assumed to be the number of spaces added * utilization percentage in the peak period.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For facilities that provide some benefit to multiple routes (and potentially to the entire system), future peak period ridership impacted by the improvement will be estimated and then factored to account for the scale of the improvement. For example, for a transfer facility that serves half of the bus routes in the system, provide the existing peak period ridership on those affected bus routes, and apply growth factor to estimate future 2035 peak ridership. To account for the indirect impact on peak period ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** Future system ridership will be estimated based on existing system ridership. If the maintenance facility directly supports the addition of new service, the peak ridership on the new routes will be used. Otherwise, to account for the indirect impact on peak period ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
8. **Technology/Information Systems**. Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on peak period ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

Scoring Value

Difference between the existing a.m. 3-hour peak period ridership and the future 2035 3-hour peak period ridership attributed to the project.

3.2 Economic Development

Project Support for Economic Development	
Objective	Assess if the project is supporting future economic development and the progress made toward development in the project corridor at the local level
Definition	Project consistency with regional and local economic development plans and policies and support for local development activity

Methodology

The focus of this measure is on support of planned transit-oriented development/redevelopment within the project corridor. Project assessment is based on the use of a checklist, which is shown in Table 3-2 below. Validation (a brief narrative) of the existence of the actions in the checklist is included as part of the project nomination. The project would be awarded points for each question and total points are summed with a maximum score of up to 5 points.

Table 3-2 Scoring Approach—Economic Development

Rating Description	Points Value
1) Transit project referenced in or consistent with economic development strategies cited in local or regional plans (i.e. Long Range Plans, Comprehensive Plans, TDPs, TMPs, etc.). Comprehensive Plan, local Economic Development Strategy or Regional Economic Development Strategy	Referenced in: 2.0 or consistent with: 1.0
2) Transit project located in an area of economic distress	Up to 1.0
3) Transit-Supportive Policies—Plans have been developed to increase corridor and station area development and/or enhance the transit-friendly character of corridor and station area development and/or improve pedestrian facilities	1.0
4) Supportive Zoning Near Transit—Zoning ordinances are in place that support increased development density in transit station areas and/or enhance transit-oriented character of station area and development and pedestrian access and/or and allow for reduced parking and traffic migration	1.0
	Total (maximum points in rows above) 5

Guidance for Questions 1 to 4 in Table 3-2

Question 1 Guidance: To determine whether a project is consistent with local Comprehensive Plan, local Economic Development Strategy or Regional Economic Development Strategy the project sponsor should conduct the following steps:

- **Step 1.** Identify local or regional plans (i.e. Long Range Plans, Comprehensive Plans, TDPs, TMPs, etc. for the geographic area in which the transportation project is proposed.
- **Step 2.** Review the goals, objectives and strategies noted in the document(s).

- **Step 3.** Review the document to determine if the proposed transportation project is specifically cited in the document(s) as a key project desired to support local/regional economic development.
- **Step 4.** If the proposed transportation project is specifically mentioned as a key economic development project in at least one of the local Comprehensive Plan, local Economic Development Strategy or Regional Economic Development Strategy documents, the project is considered "referenced in," and is awarded 2 points. If the proposed project is not specifically mentioned but its characteristics are discussed as improving economic development in the above document types, then it is awarded 1 point for being considered "consistent with."

Question 2 Guidance: To determine whether a project is located in an area of economic distress, consult the Economic Innovation Group's latest Distressed Communities Index by ZIP Code (ZIP Codes refer to U.S. Census Bureau ZIP Code Tabulation Areas). An interactive map is available at: https://eig.org/distressed-communities/2022-dci-interactive-map/. Find the ZIP Code or Codes in which the transportation project is located, or the service area supported by the project. Use the highest distress score and divide by 100. If the transportation project is located in a ZIP Code that does not have a distress score (ZIP Codes with populations under 500 do not have a value calculated), then use the highest value adjacent ZIP Code and divide by 100. For systemwide projects, an *average* of the highest and lowest Distressed Community Index (DCI) values of Zip Codes within the project area buffer should be used to calculate the economic development score.

Question 3 Guidance: Transit-Supportive Policies: plans have been developed to increase corridor and station area development and/or enhance the transit-friendly character of corridor and station area development and/or improve pedestrian facilities. For additional guidance on this question, refer to Federal Transit Administration, *Guidelines for Land Use and Economic Development Effects for New Starts and Small Starts Projects*, Section 4.1.2, August 2013. Systemwide improvements that do not have a direct land use impact would not qualify for a point under Question 3.

- **Step 1.** Identify local jurisdiction conceptual plans and policies that increase corridor and station area development at transit-supportive densities.
- **Step 2.** Identify local jurisdiction conceptual plans and policies that enhance transit-friendly character of the corridor and station area development.
- **Step 3.** Identify local jurisdiction conceptual plans and policies that improve pedestrian facilities, including facilities for persons with disabilities and parking policies in the corridor or station area.
- **Step 4.** If the project meets the criteria of step 1, 2, and/or 3, award one point.

Question 4 Guidance: Supportive Zoning Near Transit: zoning ordinances are in place that support increased development density in transit station areas and/or enhance transit-oriented character of station area and development and pedestrian access and/or allow for reduced parking and traffic migration. For additional guidance on this question, refer to Federal Transit Administration, *Guidelines for Land Use and Economic Development Effects for New Starts and Small Starts Projects*, Section 4.1.3, August 2013. Systemwide improvements that do not have a direct land use impact would not qualify for a point under question 4.

- **Step 1.** Identify adopted, or in the process of being adopted, local zoning ordinances that support increased development density in the project corridor transit station areas.

- **Step 2.** Identify adopted, or in the process of being adopted, local zoning ordinances that enhance transit-oriented character of station area development in the project corridor.
- **Step 3.** Identify adopted, or in the process of being adopted, local zoning ordinances that reduce parking and/or encourage traffic mitigation in the station areas in the project corridor.
- **Step 4.** If the project meets the criteria of step 1, 2, and/or 3, award one point.

Scoring Value

Scaling of Qualitative Measure: The qualitative rating will be factored/scaled by the change in forecasted jobs (year 2035 - existing) within walk distance of project. This is different from SMART SCALE approach which uses square feet of development in order to simplify calculation, and to incorporate revitalization/re-use of sites near transit.

The data source will be land use inputs from a travel demand model produced by a regional planning organization, where available, or from the Virginia statewide travel demand model . Growth in jobs = year 2035 jobs - existing jobs, for the traffic zones within a project buffer. For traffic zones that are only partially within the project buffer, job totals are factored based on the portion of the traffic zone area that falls within the project buffer. The calculation of the job change will vary by project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** The project buffer is defined as areas with ½ mile walking distance of the BRT or LRT stops. The change in jobs will be calculated for traffic zones within the project buffer.
2. **Fleet Expansion (Systemwide).** For systemwide fleet expansion, the areas within ½ mile walking distance of all stops will be included in the project buffer. The change in jobs will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits of systemwide fleet improvements.
3. **Fleet Expansion (Specific Routes).** For fleet expansion that serves specific routes, the areas within ½ mile walking distance of the stops on the specific routes will be included in the project buffer. If the fleet expansion is for new service, the change in jobs within the buffer is used. If the fleet expansion is to support existing routes, the change in jobs will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits.
4. **Customer Facilities (Station Improvements).** The project buffer is defined as areas within ½ mile walking distance of the station. The change in jobs will be calculated for traffic zones within the project buffer.
5. **Customer Facilities (Park & Ride).** For parking facilities, project buffer is defined as areas within ½ mile walking distance of the stops along transit routes serving the Park & Ride lots. The change in jobs will be calculated for traffic zones within the project buffer.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For customer facilities serving a large portion of the system routes, the areas within ½ mile walking distance of stops along all supported routes will be included in the project buffer. If the transit center directly supports the addition of new service, 100 percent of the change in jobs within the buffer around the new routes will be used. Otherwise, to account for the indirect impact on job growth, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** For operational facilities, the areas within ½ mile walking distance of all stops will

be included in the project buffer. If the maintenance facility directly supports the addition of new service, 100 percent of the change in jobs within the buffer around the new routes will be used. Otherwise, to account for the indirect impact on job growth, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

8. **Technology/Information Systems.** Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on job growth, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

3.3 Accessibility

Measure 1: Access to Jobs

A. Access to Jobs	
Objective	Measure improvement in accessibility to jobs
Definition	Population that gains improved access to jobs due to the transit project

Methodology

This measure assesses the average change in access to employment opportunities in the region as a result of project implementation. In order to simplify the calculation of this measure for transit agencies, this calculation does not require the use of a network-based model. Instead, the approach involves calculating three components of job accessibility:

- **Potential Users**—the population that gains better access to transit as a result of the project.
- **Potential Job Market Served**—the number of jobs that can be reached with the public transit service being improved.
- **Relative Time Improvement**—the approximate amount of time savings attributed to the transit project.

Each of these components is described in more detail below.

Potential Users

A GIS-based calculation will be made of the population that gains better access to transit as a result of the project. The data source will be land use inputs from a travel demand model produced by a regional planning organization, where available, or from the Virginia statewide travel demand model for the year 2035. For traffic zones that are only partially within the project buffer, population totals are factored based on the portion of the traffic zone area that falls within the project buffer. It is acceptable to count population and jobs outside Virginia (i.e., Washington DC) if they are served by the route. (Note: Do not include population that is not accessible due to topographical barriers, such as a river.)

The calculation of affected population varies by project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** The project buffer is defined as areas with ½ mile walking distance of the BRT or LRT stops. The population will be summed within the project buffer.
2. **Fleet Expansion (Systemwide).** For systemwide fleet expansion, the areas within ½ mile walking distance of all stops will be included in the project buffer. The population within the buffer will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits of systemwide fleet improvements.
3. **Fleet Expansion (Specific Routes).** For fleet expansion that serves specific routes, the areas within ½ mile walking distance of the stops on the specific routes will be included in the project buffer. If the fleet expansion is for new service, the population within the buffer is used. If the fleet expansion is to support existing routes, the population within

the buffer will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits.

4. **Customer Facilities (Station Improvements).** The project buffer is defined as areas within ½ mile walking distance of the station. The population will be summed within the project buffer.
5. **Customer Facilities (Park & Ride).** The project buffer is defined as areas within a 3-mile distance of the Park & Ride facility. The population will be summed within the project buffer. The potential users for Park & Ride facilities cannot exceed an amount that is five (5) times the number of new spaces being added at the facility. Commuter Rail or Metrorail Park & Ride facilities are handled the same as other Park & Ride facilities in terms of the buffering.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For customer facilities serving a large portion of the system routes, the areas within ½ mile walking distance of stops along all supported routes will be included in the project buffer. If the transit center supports new service, the total population within the buffer of any new routes can be used. Otherwise, to account for the indirect impact on users, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** For operational facilities, the areas within ½ mile walking distance of all stops will be included in the project buffer. If the facility supports new service, the total population within the buffer of any new routes can be used. Otherwise, to account for the indirect impact on users, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
8. **Technology/Information Systems.** Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on users, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

Potential Job Market Served

A GIS-based calculation will be made of the job centers served that are made more accessible by transit as a result of the project. The data source will be land use inputs from a travel demand model produced by a regional planning organization, where available, or from the Virginia statewide travel demand model for the year 2035. As shown in Table 3-4, job totals are grouped into three categories: greater than 40K, between 10K and 40K, and less than 10K. So, the estimate of jobs served can be a rough approximation, rather than the more precise method used to calculate population totals. For traffic zones that are only partially within the project buffer, job totals are factored based on the portion of the traffic zone area that falls within the project buffer. It is acceptable to count jobs outside Virginia (i.e., Washington DC) if they are served by the route.

The calculation of the jobs served will vary by project type:

1. **Fixed-Guideway (BRT/LRT) Corridor.** The project buffer is defined as areas with ½ mile walking distance of the BRT or LRT stops. The jobs served will be calculated for traffic zones within the project buffer.
2. **Fleet Expansion (Systemwide).** For systemwide fleet expansion, the areas within ½ mile walking distance of all stops will be included in the project buffer. The jobs served

will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits of systemwide improvements and the significant impact of fleet expansion on frequency and reliability.

3. **Fleet Expansion (Specific Routes).** For fleet expansion that serves specific routes, the areas within ½ mile walking distance of the stops on the specific routes will be included in the project buffer. If the fleet expansion is for new service, the jobs served within the buffer will be used. If the fleet expansion is to support existing routes, the jobs served will be factored by the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) to account for indirect benefits.
4. **Customer Facilities (Station Improvements).** If the station improvement allows users in the project station area to have greater access to jobs at nearby stations along the same fixed-guideway line/route served by the project station, such as access to the CBD, the job market served can be based on the total number of jobs served by the transit line. The project buffer is defined as areas within ½ mile walking distance of all stations served by the fixed-guideway line where the improved station is located.
5. **Customer Facilities (Park & Ride).** For parking facilities, the project buffer is defined as areas within ½ mile walking distance of the stops along transit routes serving the Park & Ride facility. The jobs served will be calculated for traffic zones within the project buffer.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For customer facilities serving a large portion of the system routes, the areas within ½ mile walking distance of stops along all supported routes will be included in the project buffer. If the transit center supports new service, the total jobs served within the buffer of any new routes can be used. Otherwise, to account for the indirect impact on users, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** For operational facilities, the areas within ½ mile walking distance of all stops will be included in the project buffer. If the facility supports new service, the total jobs served within the buffer of any new routes can be used. Otherwise, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.
8. **Technology/Information Systems.** Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on users, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

Average Time Improvement

In order to measure an individual project's impact on accessibility, the average time savings attributed to the project (for a typical user) will be assessed by the type of project and used to factor the number of potential users. The time savings are expressed as the average time savings in minutes, relative to current transit service in the corridor/market. Time savings will be grouped into four categories:

- Greater than 10 minutes
- Between 1 and 10 minutes savings
- Reliability benefits only
- No time savings or reliability benefits

To estimate the rough time savings, the project should be evaluated in terms of impact on access time, wait time, and in-vehicle time (Table 3-3).

Table 3-3 Time Savings Calculation

Average Time Improvement	Calculation Approach
Walk Access Time	Improvement in walk access times to the stop/station, relative to existing transit service. Generally, if new stops are added and can reduce walking distance by ½ mile, that equates to a 10-minute savings.
Drive Access Time	If Park & Ride facility is new, the time savings will be counted as greater than 10 minutes. If the project is an improvement to an existing Park & Ride facility, such as adding more spaces, the time savings will be counted as less than 10 minutes.
Wait Time	Calculated at one-half of the change in headways between new and existing service. Ex. If existing service operates every 30 minutes, and new service is every 15 minutes, wait time improvement is ½ of 15 minutes = 7.5 minutes.
In-Vehicle Time	Time savings due to improvements in transit speed (TSP, queue jumps, bus lanes) relative to existing bus service in the corridor.

The calculation of time savings will vary by project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** For new transit service routes or rapid transit lines in a corridor, an estimate should be made of the average travel time savings relative to existing transit service in the corridor. This can include a combination of in-vehicle travel time (resulting from dedicated lanes or priority treatment), wait time improvements (1/2 the change in headway), or walk time improvements.
2. **Fleet Expansion (Systemwide).** For systemwide fleet expansion, time improvements should be based on any change in wait time due to additional service and lower headways. If fleet expansion does not improve travel time, only the reliability benefits will be considered.
3. **Fleet Expansion (Specific Routes).** If the fleet expansion is for new or more frequent service, an estimate should be made of the average travel time savings (combination of access, wait, or in-vehicle time) relative to existing transit service in the corridor. If the fleet expansion is to support existing routes without direct time savings, only reliability benefits will be included.
4. **Customer Facilities (Station Improvements).** For new rail stations or bus stops served by transit operating every 15 minutes or better, the time savings will be counted as greater than 10 minutes. If the project is an improvement to an existing stop or station, the time savings will be counted as less than 10 minutes.
5. **Customer Facilities (Park & Ride).** If Park& Ride facility is new, the time savings will be counted as greater than 10 minutes. If the project is an improvement to an existing Park & Ride facility, such as adding more spaces, the time savings will be counted as less than 10 minutes.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** Time improvements should be based on any change in wait time (due to lower headways) or transfer times. If travel time benefits are negligible, only reliability benefits will be included.

7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** If the operational facility directly supports new or more frequent service, an estimate should be made of the average travel time savings (combination of access, wait, or in-vehicle time) relative to existing transit service in the corridor. If the facility is to support existing routes without direct time savings, only reliability benefits will be included.

Scoring Value

Accessibility to Jobs = Potential Users * Job Accessibility Factor (JAF) where the maximum value for JAF is 10 points using the inputs shown in Table 3-4. Note: Projects that have no time savings or reliability benefits receive a 0.

Table 3-4 Job Accessibility Factor

Average Time Improvement	Jobs Served < 10,000	Jobs Served Between 10,000 and 40,000	Jobs Served Greater than 40,000
Reliability Gain Only	1	2	3
Between 1 and 10 mins.	2	4	6
Greater than 10 min.	3	6	10

Measure 2: Access to Disadvantaged Communities

B. Access to Disadvantaged Communities	
Objective	Measure change in transit accessibility for disadvantaged populations
Definition	Disadvantaged population (low-income, minority, or limited-English proficiency) that gains improved access due to the project

Methodology

The overall methodology for this measure follows the same basic steps as for "Accessibility to Jobs" measure described above with one significant difference:

- **Potential Disadvantaged Users**—the disadvantaged population that gains better access to transit as a result of the project.

For the purposes of this analysis, "disadvantaged population" is calculated as low-income, minority, or limited-English proficiency (LEP) population. The data source for total population will be land use inputs from a travel demand model produced by a regional planning organization, where available, or from the Virginia statewide travel demand model for the year 2035. The percentage of disadvantaged population impacted by the project can be found using EPA's EJScreen tool: https://ejscreen.epa.gov/mapper/. Rather than drawing the project using the EJScreen tool, GIS data can be downloaded from the EJScreen website and overlaid against project buffer shapefiles.

See the description of the methodology described in section 3.3 (Potential Users) for determining the project buffer for calculation of the affected disadvantaged population. The EJScreen tool will generate the percentage of Low Income, Minority, and LEP ("Linguistically Isolated") population within the project buffer. Given that there is typically overlap between these three categories, the highest percentage of any one of these variables should be used. For example, if a project buffer shows 44% minority population, 16% low-income population, and 8% linguistically isolated population, the percentage of disadvantaged population will be set at 44%.

Scoring Value

Accessibility for disadvantaged population = Potential Users (Population * % of Low-Income, Minority, or LEP Population) * Accessibility Factor (AF), where the AF is calculated as shown in Table 3-5. Note: Projects that have no time savings or reliability benefits receive a 0.

Table 3-5 Accessibility Factor for Disadvantaged Population

Average Time Improvement	Accessibility Factor
Reliability Gain Only	1
Between 1 and 10 mins.	2
Greater than 10 min.	3

3.4 Safety

Expected Safety Benefit	
Objective	Evaluate the project's contribution to improving safety and security and reducing the risk of fatalities or injuries
Definition	Assign points based on direct safety benefit

Methodology

The focus of this measure is on support of improvements to user, employee, and system safety. Project assessment is based on the use of a checklist, which is shown in Table 3-6. Validation (a brief narrative) of the existence of the actions in the checklist is included as part of the project nomination. The project would be awarded points for each question and total points are summed with a maximum score of up to 4 points.

There are four questions used to determine scoring for this criterion: project includes asset-condition related improvements, project includes technology-related improvements, project includes customer facility improvements, and project includes projects directly related to safety or emergency response.

Table 3-6 Scoring Approach—Safety

Project Characteristics	Points (If Yes)
1. Project includes asset-condition related (new major facilities or fleet expansion bringing down fleet age) improvements that could reduce risk of accidents	1
2. Project includes technology-related (cameras, crash-avoidance systems)	1
3. Project includes customer-facility improvements (waiting areas with lighting, pedestrian access)	1
4. Project includes projects directly related to safety or emergency response (transit police-related, fire prevention, etc.)	1
Total Points Possible	**4 points maximum**

Guidance for Questions 1-4 in Table 3-6:

Question 1 Guidance—Project includes asset-condition related improvements that could reduce the risk of accidents:

- **Step 1.** Provide documentation and an explanation of project asset-condition related improvements.
- **Step 2.** Provide documentation of the expected reduction in risk of accidents (data from studies on the asset, data from past projects implementing the same asset-condition improvements, etc.).
- **Step 3.** Award one point if the project provides an asset-condition related improvement that demonstrably reduces the risk of accidents to customers or staff.

Question 2 Guidance—Project includes technology-related safety improvements:

- **Step 1.** Provide documentation of purchase of safety-improving technology.
- **Step 2.** Provide an explanation of how the technology will improve safety, referencing data and studies if possible.
- **Step 3.** Award one point if the project includes technology-related safety improvements.

Question 3 Guidance—Project includes customer-facility improvements:

- **Step 1.** Provide documentation and an explanation of customer-facility improvements.
- **Step 2.** Provide documentation of the expected reduction in risk/increase in safety, referencing data and studies if possible.
- **Step 3.** Award one point of the project includes customer-facility improvements that demonstrably improve customer safety.

Question 4 Guidance—Project includes projects directly related to safety or emergency response:

- **Step 1.** Provide documentation and an explanation of the safety or emergency response related project.
- **Step 2.** Award one point if the project includes projects directly related to safety or emergency response.

Scoring Value

Scaling of Qualitative Measure. Safety points are scaled by daily transit person miles traveled served, calculated as: 2035 Daily Ridership on the project * Average trip length for transit passengers using the project.

The daily ridership and average trip length on the project will be requested from the applicant, or else estimated based on project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** Project future daily ridership forecast on the BRT or LRT line(s) will be requested as these are typically available from project ridership forecasts. Average trip length should be based on forecasts, or else estimated based on the length of the corridor (default is to use ½ the length of the corridor).
2. **Fleet Expansion (Systemwide).** If fleet will be used systemwide, daily transit ridership attributed to the vehicles will be estimated by calculating the current system daily ridership per vehicle in the fleet (daily passengers per vehicle). Daily ridership = vehicles added * existing daily passengers/vehicle * 10-year growth. Average trip length will be the system average.
3. **Fleet Expansion (Specific Routes).** If fleet is tied to specific routes, the daily ridership that will be served by the new vehicles for that service will be requested. If an estimate of ridership is not available, the approach outlined for systemwide improvements will be used (for the specific routes). Average trip length will be the average for the selected routes.
4. **Customer Facilities (Station Improvements).** Project daily ridership forecasts for the station will be requested. Ridership should be associated with the proposed improvement – for example, a new station entrance would only count the ridership expected at the new entrance, not the total station ridership. Average trip length will be the system average, or the average for routes that serve the station. For this calculation, the effected ridership for a station improvement project includes both the boardings and alightings that occur at the station. If alighting information is not available, the boardings can be doubled to yield the total daily activity for the station.

5. **Customer Facilities (Park & Ride).** For parking facilities, daily ridership will be assumed to be the number of spaces * utilization percentage * 2 (reflecting commuting inbound and outbound). Average trip length should be based on the distance from the park & ride facility to the major destination (such as the central business district (CBD)) for service that originates at the facility.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For facilities that provide some benefit to multiple routes (and potentially to the entire system), future daily ridership impacted by the improvement will be estimated and then factored to account for the scale of the improvement. To account for the indirect impact on ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied. If project-specific ridership forecasts are available, these would be used instead of the default approach outlined above. Average trip length will be the system average, or the average for routes that serve the transit center.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** Future system ridership will be estimated, based on existing system ridership. To account for the indirect impact on ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied. Average trip length will be the system average.
8. **Technology/Information Systems.** Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied..

3.5 Environmental Quality

Air Quality and Energy Impacts	
Objective	Potential of project to improve air quality and reduce energy use.
Definition	Expected daily CO2 reduction

Methodology

Air quality and energy benefits are computed based on the estimated reduction in carbon dioxide emissions resulting from implementation of the proposed project. Projects can reduce CO2 emission through three different avenues – a "mode shift" avenue, where a project reduces emissions by reducing passenger vehicle miles traveled (VMT), a "technology" avenue, where a project reduces emissions by investing in zero-emission technologies (e.g. electric buses), or an "efficiency" avenue, where buses reduce their vehicle miles traveled without compromising service, through methods such as reduced deadheading.

To calculate daily emissions reductions resulting from mode shift, the following formula can be used:

CO2 reduction (kg) = VMT reduced * (1 / Average Passenger Car Fuel Economy) * CO2 Emission Factor for Gasoline

The Average Passenger Car Fuel Economy can be sourced from local data or national averages. The US Energy Information Administration estimates that light duty vehicles in 2035 will have an average fuel economy of 28.9 miles per gallon[2]. The CO2 Emission Factor for Gasoline is 8.78 kg CO2 per gallon of gasoline, according to the Energy Information Administration.[3]

Daily VMT reduction is either provided in the project application or calculated using the expected change in daily transit trips, defined as the difference between the existing daily ridership and the future 2035 daily ridership attributed to the project. This accounts for both new transit trips (e.g., those who diverted from auto to transit) as well as anticipated increases in ridership due to future population and employment growth in the project area. The calculation can be generally summarized as:

VMT Reduction = (change in daily transit trips expected / average auto occupancy) * average trip length

Trip length for this measure comes from the National Transit Database (NTD): https://www.transit.dot.gov/ntd/transit-agency-profiles. Auto occupancy should be based on local data or else use the state average of 1.25 occupants per vehicle (work-related, 2017 NHTS). The specific approach will vary by type of project:

1. **Fixed-guideway (BRT/LRT) Corridor.** The expected change in daily VMT resulting from the project will typically be available from travel forecasts.

[2] Table 40 of https://www.eia.gov/outlooks/aeo/tables_ref.php.

[3] https://www.eia.gov/environment/emissions/co2_vol_mass.php.

2. **Fleet Expansion (Systemwide).** If fleet will be used systemwide, daily transit ridership attributed to the vehicles will be estimated by calculating the current system daily ridership per vehicle in the fleet (daily passengers per vehicle). New daily ridership = vehicles added * existing daily passengers/vehicle * 10-year growth. Average trip length will be the system average.
3. **Fleet Expansion (Specific Routes).** If fleet is tied to specific routes, the daily ridership that will be served by the new vehicles for that service will be requested. If an estimate of ridership is not available, the approach outlined for systemwide improvements will be used.
4. **Customer Facilities (Station Improvements).** Project daily ridership forecasts for the station will be requested. Ridership change should be associated with the proposed improvement – for example, a new station entrance would only count the change in station ridership, not the total station ridership. For this calculation, the effected ridership for a station improvement project includes both the boardings and alightings that occur at the station. If alighting information is not available, the boardings can be doubled to yield the total daily activity for the station.
5. **Customer Facilities (Park & Ride).** For parking facilities, daily ridership will be assumed to be the number of spaces * utilization percentage * 2 (reflecting commuting inbound and outbound). Average trip length should be based on the distance from the park & ride facility to the major destination (such as the central business district (CBD)) for service that originates at the facility.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For facilities that provide some benefit to multiple routes (and potentially to the entire system), future daily ridership impacted by the improvement will be estimated and then factored to account for the scale of the improvement. To account for the indirect impact on ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied. If project-specific ridership forecasts are available, these would be used instead of the default approach outlined above.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** Future daily system ridership will be estimated, based on existing system ridership. To account for the indirect impact on ridership, the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied. If the maintenance facility directly supports the addition of new service, the expected daily ridership added on the new routes will be used instead. Average trip length will be the system average.
8. **Technology/Information Systems.** Major investments in technology or information systems that are not part of a specific corridor, station, or facility (described above) should be scored as a systemwide improvement. Examples include customer information systems, such as real-time arrival information; operations systems, such as automatic vehicle location (AVL) systems; and administrative systems, such as fare payment or scheduling software. To account for the indirect impact on ridership the appropriate systemwide/indirect impact factor (critical impact: 25%, high impact: 10%, and low impact: 5%) should be applied.

Through the “technology” avenue, a project can reduce CO2 emissions by replacing vehicles on “dirty” fuel sources with vehicles running on zero-emissions energy. To calculate daily emissions reductions resulting from the technology avenue, the following formula can be used:

CO2 reduction (kg) = Total Daily Project VRM * (1 / Average Vehicle Fuel Economy) * CO2 Emission Factor for Diesel * Impact Factor

Total Daily Project VRM is the total daily vehicle revenue miles traveled by the vehicles that will be replaced. This value can be sourced either from the applicant directly, or by going through the National Transit Database (NTD). To get the average daily vehicle revenue miles for a bus (mode "MB"), the following formula can be used:

Daily Bus VRM[4] = Total Annual Vehicle Revenue Miles / Vehicles Operated at Maximum Service / Average service days per year (assumed to be 250 for weekday-only service, 275 for weekday + Saturday service, and 300 for service offered on weekdays + Saturday and Sunday service)

The Average Vehicle Fuel Economy (for buses, this is typically miles per diesel gallon) can be sourced from either from the NTD (in the Fuel and Energy spreadsheet), or from other national average sources[5]. The CO2 Emission Factor for Diesel is 10.12 kg CO2 per gallon of diesel, according to the Energy Information Administration.[6]

Since both the battery electric buses, as well as the infrastructure supporting them, are necessary for the realization of environmental benefits, an impact factor is assigned to avoid double counting emissions reductions from electrification. As such, an impact factor of 50% is applied to projects which *procure the buses*, and an impact factor of 50% is applied to projects which *procure the charging infrastructure*. For projects that fund both the vehicles as well as the charging infrastructure, an impact factor of 100% is applied.

Finally, through the "efficiency" route, a project can reduce CO2 emissions by reducing bus vehicle miles traveled. To calculate daily emissions reductions resulting from the efficiency, the following formula can be used, applying data values and sources outlined above:

CO2 reduction (kg) = Daily Bus VMT Reduction * (1 / Average Vehicle Fuel Economy) * CO2 Emission Factor for Diesel

Importantly, it is possible for a project to receive benefits from "mode shift", "technology", and "efficiency" avenues. If that is the case, then the CO2 reductions from both methodologies should be added together.

Scoring Value

Project expected daily CO2 reduction from mode shift, technology, and efficiency.

[4] This value is for the daily VRM of a single bus. Assuming multiple buses are replaced, this number will need to be multiplied by the total number of buses.

[5] https://afdc.energy.gov/conserve/public_transportation.html.

[6] https://www.eia.gov/environment/emissions/co2_vol_mass.php.

3.6 Land Use

Expected Land Use Benefit	
Objective	Evaluate the transit-supportive land use that will be served by the transit improvement
Definition	Future activity density plus the change in activity density expected in the project corridor

Methodology

To calculate activity density, land use data will be compiled for an area around the project. The data source will be land use inputs from a travel demand model produced by a regional planning organization, where available, or from the Virginia statewide travel demand model. The population and job totals for each traffic zone (TAZ) are factored based on the portion of the TAZ area that falls within the project buffer. The projected future employment for the horizon year will be added to the projected future population for the horizon year, the sum is then divided by the acres within the buffered area. The land use measure will be based on both the future activity density (20% of land use score) and the change in activity density (80% of land use score):

- 20% based on Future Activity Density = (projected 2035 employment + projected 2035 population)/acres within the buffered area.
- 80% based on Change in Activity Density = Growth in Density (2035 Density - Existing Density).

The calculation of land use will be based on a project buffer that varies by project type:

1. **Fixed-guideway (BRT/LRT) Corridor.** The project buffer is defined as areas with ½ mile walking distance of the BRT or LRT stops. The population and employment density within the buffer will be calculated.
2. **Fleet Expansion (Systemwide).** For systemwide fleet expansion, the areas within ½ mile walking distance of all stops will be included in the project buffer. The population and employment density within the buffer will be calculated.
3. **Fleet Expansion (Specific Routes).** For fleet expansion that serves specific routes, the areas within ½ mile walking distance of the stops on the specific routes will be included in the project buffer. The population and employment density within the buffer will be calculated.
4. **Customer Facilities (Station Improvements).** The project buffer is defined as areas within ½ mile walking distance of the station. The population and employment density within the buffer will be calculated.
5. **Customer Facilities (Park & Ride).** The project buffer is defined as areas within a 3-mile distance of the Park & Ride facility. The population and employment density within the buffer will be calculated. Commuter Rail or Metrorail Park & Ride facilities are handled the same as other Park & Ride facilities in terms of the buffering.
6. **Customer Facilities with System Impacts (Transit/Transfer Center).** For customer facilities serving a large portion of the system routes, the areas within ½ mile walking distance of stops along all supported routes will be included in the project buffer. The population and employment density within the buffer will be calculated.
7. **Construction of Operational Facility (Admin/Maintenance facilities, bus parking, etc.).** For operational facilities, the areas within ½ mile walking distance of all stops will be included in the project buffer. The population and employment density within the buffer will be calculated.

Scoring Value

Land Use Score = Future Activity Density*20% + Change in Activity Density*80%

Calculating Benefit Score

Step 1. Within each of the measures identified for each of the six scoring factors, the raw measure value is normalized against a maximum value for that measure (putting each number on a 0-100 scale). Maximum values have been set based on actual projects in Virginia (see table below). The advantage of setting a maximum value, rather than using the highest value submitted for each application year (as is done for SMART SCALE), is that it provides consistency and allows scores to be compared from year-to-year. This is especially beneficial if there are a relatively small number of applications received in any one year.

Maximum Value by Measure

Factor	Measure	Maximum Value (= 100 Points) for Normalization
Congestion Mitigation	Increase in Peak-Period Ridership Attributed to the Project	4,000
Economic Development	Project Support for Economic Development (Scaled by Change in Jobs)	81,000
Accessibility	Project Improvement in Accessibility to Jobs	950,000
	Disadvantaged population (low-income, minority, or limited English proficiency) Accessibility	175,800
Safety	Project Contribution to Improving Safety and Security (Scaled by Transit Person Miles Traveled)	615,100
Environmental Quality	Reduction in CO2 Resulting from Project	36,000
Land Use	Future Activity Density (20%) and Change in Activity Density (80%)	40

Step 2. The average of the six factor scores becomes the total Benefit Score for the project.

Step 3. The Benefit Score is divided by the state's contribution to the cost of the project in $10 millions of dollars to get the Score per Cost used for the final ranking of projects.

4.0 Data from Agencies

The Capital Assistance program decision-making comes mainly from the data that applicants provide. There are different data needs for the project application types.

- **State of Good Repair (SGR):** Capital projects or programs to replace or rehabilitate an existing asset, excluding major capital construction projects with a total cost over $3 million
- **Minor Enhancement (MIN):** Capital projects or programs that add capacity or include the purchase of new assets meeting the following criteria:
  - Total project cost: less than $3 Million; or
  - For expansion vehicles, an increase of 5 vehicles or less or 5% or less of the fleet size, whichever is greater; or
  - All projects for engineering and design
- **Major Expansion (MAJ):** Capital projects or programs to add, expand, or improve transit services or facilities, with a total cost exceeding $3 million, or for expansion vehicles, an increase of greater than 5 vehicles or 5% of fleet size, whichever is greater, or all projects that include the replacement of an entire existing facility.

A description of the data applicants must provide for each prioritization factor are identified in Table 4-1, Table 4-2, and Table 4-3.

Table 4-1 SGR Data Requirements

Evaluation Criteria	Measure	Data Source	Applicant Responsibility
Asset Condition	Asset Age	TransAM	Yes (bi-annual update in TransAM)
	Vehicle Mileage	TransAM	Yes (bi-annual update in TransAM)

Table 4-2 Incentive Scoring (SGR and MIN) Data Requirements

Evaluation Criteria	Measure	Data Source	Applicant Responsibility
Zero – Emissions Technology	Project includes purchase of zero-emissions vehicles or installation of infrastructure to support zero-emissions fleet	Project description	Yes
Innovation	Project includes real-time departure/ arrival information, automated date collection/ scheduling/ display technology, transit signal priority, safety technology, or mobile ticketing	Project description	Yes
Safety and Comfort Around Customer Facilities	Project includes enhanced lighting at stops/ stations, enhancements for pedestrians/ accessibility connecting passengers to	Project Description	Yes

	transit, or benches/ shelters		
Agency Accountability	TransAM updates on time (July and January), TSP/ TDP up to date, 5-year capital budgets submitted with capital application, on time reporting of performance metrics in OLGA	Ongoing grants management requirements	Yes (applicant must comply with requirements throughout the year)

Table 4-3 MAJ Data Requirements

Evaluation Criteria	Measure	Data Source	Applicant Responsibility
Overall	Project Map/Shape Files	GIS shape files for the project – corridor/line, station/stops, facility location, and any bus routes supported by the project	Yes—Provide map and description of the project location
	System/Route Impacts	Information on if the project is impacting the entire system, a portion of the system, or one route. For projects, that impact a portion of the system, list the routes and/or percent of service/fleet impacted	Yes
	Project Need	Agency information on need for the project, if the project is mission critical and the implications if the project is not funded	Yes—Provide description
Congestion Mitigation	Current Daily and A.M. (3-hour) Peak-Period Ridership	One year of data for calculating the weekday average daily and A.M. peak-period ridership[7]. For station improvement projects provide boardings and alighting. For all other projects, provide boardings only.	Yes
	10-year Forecast (2035) for Daily and A.M. (3-hour) Peak-Period Ridership7	Project weekday average daily and A.M peak-period ridership forecasts and description of how ridership forecast figures were estimated.	Yes
	Percent of Ridership in Project Segment (Projects affecting a Segment of the Route or a Portion of Riders at a Station Only)	Percent of total daily riders expected in project segment of the route for projects only affecting a portion of the route. Percent of total daily riders expected to use a new station entrance when a new entrance is added to an existing station.	Yes - Projects affecting a segment of the route or a portion of riders at a station only

[7] For the FY2027 funding cycle, FY2025 will be used as the "existing year." Additionally, 2035 will be used for the 10-year forecast.

Evaluation Criteria	Measure	Data Source	Applicant Responsibility
	Number of Expansion Vehicles (Fleet Expansion Only)	Number of vehicles project adds to fleet	Yes - Fleet Expansion only
	Existing Passengers Per Vehicle (Fleet Expansion Only)	Average number of daily passengers per available fleet vehicle	Yes - Fleet Expansion only
	Revenue Vehicles in the Existing Fleet (Fleet Expansion Only)	Number of existing revenue vehicles in the fleet (including spare vehicles)	Yes - Fleet Expansion only
	Number of New Parking Spaces (Park & Ride only)	Number of new parking spaces being added for the facility	Yes - Park & Ride only
	Estimated Utilization Rate of Parking Facility during the Peak Period	Percent of parking facility utilized during the peak period	Yes - Park & Ride only
Economic Development	Inclusion in Planning Documents (Long-Range Transportation Plan, Comprehensive Plan, Economic Development Plan, Transit Development Plan)	Local Planning Office or Economic Development Office; or Regional Council of Governments or Economic Development Office	Yes—Provide description and attach relevant planning documents
	Project Located in Areas of Economic Distress	Economic Innovation Group's Distressed Communities Index by ZIP Codes	No
	Transit-Supportive Policies: local jurisdiction plans and policies	Local Planning Office, Economic Development Office, Transportation Office, or Regional Council of Governments Office	Yes—Provide description and attach policy documents
	Supportive Zoning Near Transit	Local Planning Office or Zoning Office	Yes—Provide description and attach relevant documentation
	Change in Jobs Near Project	Regional or Statewide Travel Demand Model—Land Use Inputs	No
Accessibility	Access to Jobs (current and 2035 forecasted data)	Regional or Statewide Travel Demand Model—Land Use Inputs	No
	Access to Disadvantaged Communities (current and 2035 forecasted data)	U.S. Census Data	No
	Estimated Travel Time Improvement, due to the project	Project forecasts or estimates from local agencies on time savings or reliability benefits for a typical user attributed to the implementation of the project	Yes–Provide estimate and description of how the estimate was determined
Safety	Asset-Condition Related Safety Impact	Description of the asset-condition related safety impact (i.e., new facility, fleet age reduction)	Yes—Provide description

Evaluation Criteria	Measure	Data Source	Applicant Responsibility
	Technology-Related Safety Impact	Description of the technology-related safety impact (i.e., cameras, crash avoidance)	Yes—Provide description
	Customer-Facility Safety Impact	Description of customer-facility safety impact (i.e., lighting, pedestrian access)	Yes—Provide description
	Safety or Emergency Response Impact	Description of the safety or emergency response impact (i.e., transit police, fire prevention)	Yes—Provide description
Environmental Quality	Change in Vehicle Miles Traveled Due to Project	Change in vehicle miles traveled between today and 2035 due to the project (if available) If data is not available, change in vehicle miles traveled will be estimated using the change in ridership between existing and 2035, Virginia statewide average auto occupancy, and average trip length	Yes
	Vehicle Revenue Miles (zero emission technology projects only)	Agency data for total daily vehicle revenue miles traveled by vehicles that will be replaced	Yes – monthly reporting throughout fiscal year
	Vehicle Fuel Economy (zero emission technology projects only)	Agency data for average vehicle fuel economy (i.e., miles per diesel gallon) for vehicles that will be replaced	Yes – monthly reporting throughout fiscal year
Land Use	Employment (current and 2035 forecasted)	Regional or Statewide Travel Demand Model—Land Use Inputs	No
	Population (current and 2035 forecasted)	Regional or Statewide Travel Model—Land Use Inputs	No