

# Transform 66 Multimodal Project: Prioritization Process and Evaluation Criteria

The [Memorandum of Agreement \(MOA\) for the Transform 66: Inside the Beltway Project](#) directs NVTC to develop a prioritization process and evaluation criteria for the submitted multimodal components. This document describes the process and criteria that NVTC will use to guide the selection of the components.

NVTC will screen components to determine if the components meet the eligibility criteria as established by Section II.B.1 of the MOA. Eligible components will be evaluated according to the criteria described in this document. The results of the evaluation will be provided to the Commission.

The criteria used to evaluate components consider the following items item noted in Table 1:

Table 1: Transform 66 Multimodal Project Evaluation Criteria		
Evaluation Category	Evaluation Criteria	Criteria Objective
<b>Congestion Relief</b>	Person Throughput	To move more people through the corridor efficiently.
	Peak Period Travel Time	To provide consistent travel during congested periods for users of the corridor and improves operational efficiency of the transportation network
	Connectivity	To create, complete, or link transportation network elements and/or modes.
	Accessibility	To provide people access to opportunities.
<b>Diversion Mitigation</b>		To mitigate the impacts of trips diverted from I-66 inside the Beltway as a result of tolling and/or high occupancy vehicle restrictions
<b>Cost Effectiveness</b>	Cost Effectiveness	To have a cost-effective solution
	Cost Sharing	To have a solution that leverages other sources of funding

## Congestion Relief – Person Throughput

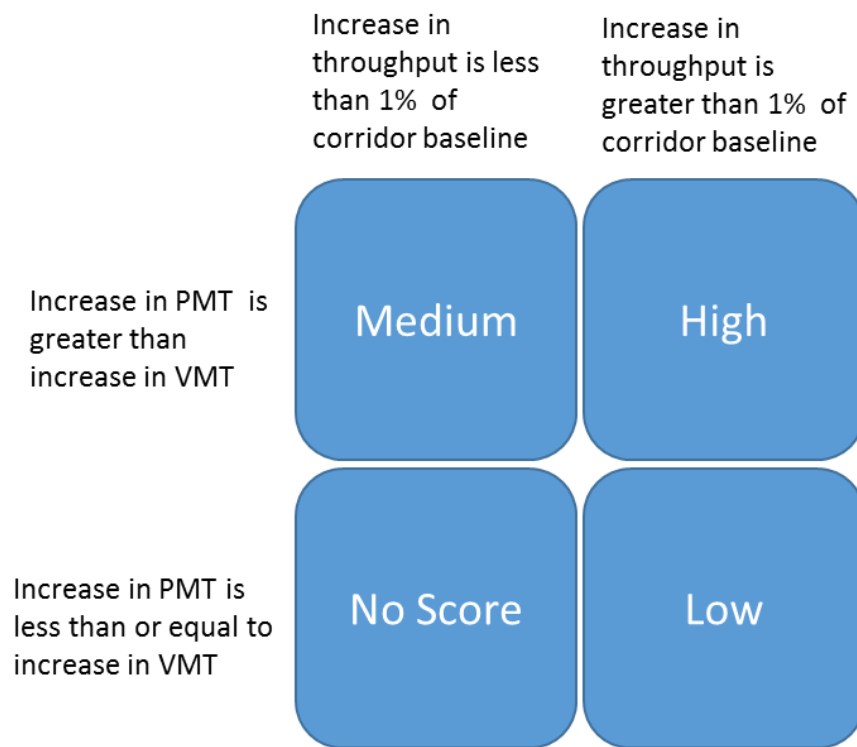
The objective of the Person Throughput evaluation criteria is to assess how well a component is suited to move more people through the corridor efficiently, which is the first improvement goal of the multimodal project.

For non-motorized travel modes (i.e. bike, walk), the component will be given a “Low” score if the component can be reasonably assumed to increase person throughput. If there are no expected changes to throughput, the component will be give “No Score.” This scoring recognizes the throughput benefits (i.e. increase in person miles traveled) of components geared towards non-motorized modes, but recognizes that those benefits may not be within the same scale as the throughput benefits potentially realized by components geared towards

motorized travel. However, if the component is likely to result in a strong increase in the corridors person throughput follow, the scoring methodology described for motorized travel modes can be applied.

For motorized travel modes (i.e. vehicular, transit), the component will be assessed based on a comparison of PMT to VMT.

- High – Component results in an increase in person miles traveled (PMT) that is greater than the increase in vehicle miles traveled (VMT) AND the increase in person throughput is greater than 1 percent when compared to baseline throughput in the corridor.
- Medium – Component results in an increase in person miles traveled (PMT) that is greater than the increase in vehicle miles traveled (VMT) AND the increase in person throughput is less than 1 percent when compared to baseline throughput in the corridor.
- Low – Component results in an increase in VMT that is equal to or greater than PMT AND the increase in vehicle throughput is greater than 1 percent when compared to baseline throughput in the corridor.
- No score – Component results in an increase in person miles traveled (PMT) that is less than or equal to the increase in vehicle miles traveled (VMT) AND the increase is less than 1 percent when compared to baseline throughput in the corridor.



The corridor's baseline throughput is defined by the most recent Metropolitan Washington Council of Governments (MWCOG) Central Employment Core Cordon Count within the I-66 study corridor as bounded by US Route 29 to the north and US Route 50 to the south in the AM peak period (5 AM to 10 AM) in the inbound (eastbound) direction<sup>1</sup>.

<sup>1</sup> 2013 Central Employment Core Cordon County of Vehicular and Passenger Volumes, MWCOG, 2014. Cordon Count stations V2B, V2C, V2D, V2E, V3A, V3B, V3C, V3D and V3E.

- For the FY 2017 Call for Project Components, the 2013 MWCOC count of 89,000 AM peak period inbound person trips is considered the baseline. A one percent increase in the corridor's AM peak period person throughput is equivalent to 900 persons per AM peak period or an average of 180 persons per hour.
- For the FY 2017 Call for Components, the 2013 MWCOC count of 50,900 vehicles per peak period is considered the baseline. A one percent increase in the corridor's AM peak period vehicular throughput is 500 vehicles per peak period or an average of 100 vehicles peak hour.

If the project component is large enough in scope to require more complex analysis tools, such as travel demand forecast model, then the person throughput data can be calculated using the model for the study area as defined in the I-66 Multimodal Study Inside the Beltway.

### **Congestion Relief – Peak Period Travel Time**

The objective of the peak period travel time criteria is to assess how well a component is suited to provide or support consistent travel time during congested periods for users of the corridor as well as to improve the operational efficiency of the transportation network. This measure addresses the goal of reducing roadway congestion.

Each component will be assigned a score of “High,” “Medium,” “Low,” or no score based on the likelihood of significant, moderate, minimal, or no reductions in per person congested travel time compared to a similar commute without the component.

High – Component is likely to result in significant reductions (30 percent or greater) in inbound AM peak hour total travel time per person

Medium – Component is likely to result in moderate reductions (15 to 30 percent) in inbound AM peak hour total travel time per person

Low – Component is likely to result in minimal or indirect reductions (5 to 15 percent) in inbound AM peak hour total travel time per person

No score – Component is likely to result in no significant change (i.e. less than 5 percent in inbound AM peak hour travel time).

Each component will be categorized by project type, travel time of a comparable trip, and serviced population. Components that move more people through the corridor, faster and more efficiently, in the peak directions during the peak period will be identified as having a higher likelihood for moderate or significant travel time reductions.

### **Congestion Relief – Connectivity**

The objective of the connectivity criteria is to assess how well a component is suited to create, complete, or link transportation network elements and/or modes. The measurement of this criteria is based on the number of created or enhanced connections between and the promotion of transportation choice in daily travel.

Each component will be assessed for potential impacts on modal interaction and transportation choice in the corridor and assigned a score of “High,” “Medium,” “Low,” or no score.

High – Component provides or enhances connections between two or more travel modes

Medium – Component provides new modal connections AND/OR further promotes transportation choice

Low – Component has no impact on connectivity

No score – Component creates a barrier between modes OR results in a loss of travel options

### **Congestion Relief – Accessibility**

The objective of the accessibility criteria is to evaluate the component's ability to provide people with opportunities. This measure is based on the connections created or enhanced between people and activity centers.

Each component is assigned a score of "High," "Medium," "Low," or no score based on a qualitative assessment of the Component's impact on accessibility.

High – Component connects residents to two or more activity centers

Medium – Component connects residents to at least one activity centers

Low – Component addresses, improves, OR enhances "first/last mile" travel between home/employment locations and transit or carpool/vanpool facilities

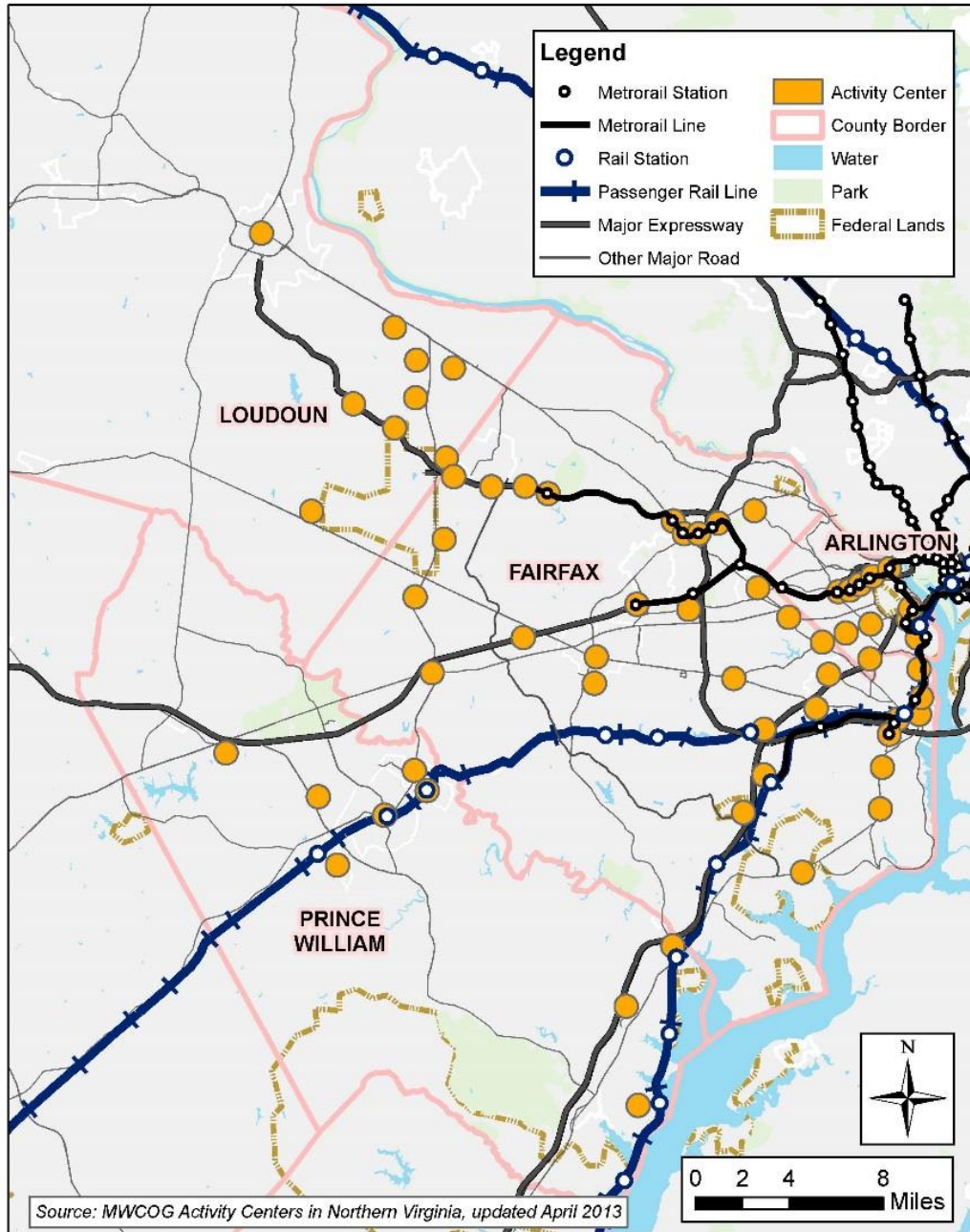
No score – Component does not connect residents to activity centers nor improve "first/last mile" travel

Components that support travel to one or more of the activity centers will be considered for the high or medium evaluation scores. Activity centers are based on locations identified on the most recent MWCOG Regional Activity Center Maps and located within the jurisdictional boundaries of Planning District 8 (see Figure 1: Activity Center Mapping).

Components will also be assessed on how well they address, improve, or enhance "first/last mile" travel between transit or multimodal hubs (such as park-and-ride lots with transit service) and home or work locations.

**Figure 1: Activity Center Mapping**

**Inside the Beltway Project Submission Area - Activity Centers**



## **Diversion Mitigation**

The objective of the diversion mitigation criteria is to assess how well a component is suited to mitigate the impacts of trips that are diverted from I-66 inside the Beltway onto parallel routes as a result of tolling and/or the high occupancy vehicle restrictions.

Each component is assigned a score of "High," "Medium," "Low," or no score based on the Component type and a qualitative assessment of trip diversion mitigation.

High – Component provides or enhances transit service and attracts trips that are diverted from I-66 due to tolling or HOV restrictions

Medium – Component provides or supports carpool or vanpool services and attracts trips that are diverted from I-66 due to tolling or HOV restrictions

Low – Component provides operational or geometric improvements along a roadway in the Corridor that may be used by trips that are diverted from I-66 due to tolling or HOV restrictions

No score – Component does not mitigate the impacts of diversion

Consideration will be given to locations where trip diversion is expected based on most-recently available I-66 inside the beltway traffic analysis at the time of the prioritization scoring.

## **Cost Effectiveness – Cost Effectiveness**

The objective of the cost effectiveness evaluation criteria is to identify cost effective solutions to multimodal issues. This evaluation measure is based on a comparison of the cumulative benefit score with the requested funding from the multimodal project. A higher cost effectiveness score is awarded to projects that have higher cumulative benefit scores and lower funding requests. This measure may be calculated to be absolute or calculated relative to funding requests of other Components in a given application year.

For each component, the cost effectiveness score will be calculated as the sum of the benefit scores divided by million dollars of funding request, multiplied by \$1,000,000.

## **Cost Effectiveness – Cost Sharing**

The objective of the cost sharing evaluation criteria is to identify Components that are leveraging funding from other committed sources. A higher cost sharing score is awarded to Components where the funds requested through the multimodal project are a smaller percentage of the total project costs.

For each component, the cost sharing score will be calculated as the sum of the benefit scores divided by the funding request multiplied by total project cost.

## **Evaluation Criteria Weighting**

After components are assigned a score of 0 (No Score), 1 (Low), 2 (Medium), or 3 (High) for each evaluation measure, the 100-point weighting in Table 2 will be applied to determine total benefit score. The cost effectiveness score and cost sharing score are also calculated based on the weighted total benefit score, total project cost, and total funding request.

<b>Table 2: Transform 66 Multimodal Project Evaluation Criteria Weights</b>			
<b>Evaluation Category</b>	<b>Evaluation Criteria</b>	<b>Criteria Objective</b>	<b>Weight</b>
<b>Congestion Relief</b>	Person Throughput	To move more people through the corridor efficiently.	45
	Peak Period Travel Time	To provide consistent travel during congested periods for users of the corridor and improves operational efficiency of the transportation network	15
	Connectivity	To create, complete, or link transportation network elements and/or modes.	15
	Accessibility	To provide people access to opportunities.	15
<b>Diversion Mitigation</b>		To mitigate the impacts of trips diverted from I-66 inside the Beltway as a result of tolling and/or high occupancy vehicle restrictions	10
<b>Total Benefit Score</b>			<b>100</b>
<b>Cost Effectiveness Score</b>			$\frac{\text{Total Benefit Score} * 1,000,000}{\text{Funding Request}}$
<b>Cost Sharing Score</b>			$\frac{\text{Total Benefit Score} * \text{Total Cost}}{\text{Funding Request}}$

Evaluation scores for the congestion relief and diversion mitigation categories are weighted, consistent with other transportation evaluation and ranking processes in the region. The total weighted evaluation score is divided by the total and share cost of the component to result in two separate cost scores. The three scores (evaluation, cost effectiveness, and cost sharing) are used to aggregate the components into three categories– “highly recommended,” “recommended,” and “less effective.”