

NORTHERN VIRGINIA TRANSPORTATION AUTHORITY

FY2015-16 Two Year Program: Project Selection Process

I. Background

In December 2013, NVTA issued a call for projects for the HB 599 process¹ as part of the first 2.5 years of its Six Year Program, now referred to as the FY2015-16 Two Year Program. The FY2015-16 Two Year Program will contain the regional projects that will be funded by NVTA's regional (70%) funds.² The FY2015-16 Two Year Program does not include projects funded by member jurisdictions using their local (30%) funds from NVTA.

A total of 52 regional projects were nominated for funding consideration:

- 33 highway projects, including two intelligent transportation system (ITS) projects
- 19 mass transit projects
- Includes 6 (out of 15) 'Carryover' projects from FY2014
- Four counties, three cities, four towns, and three transit agencies responded.

For the HB599 process, two adjacent highway projects were combined and evaluated as a single project. The Commonwealth Transportation Board (CTB) nominated five additional highway projects for evaluation as part of the HB599 process, making a total of 37 highway projects. The 19 mass transit projects were not required to be evaluated by the HB599 process. The five CTB projects were not considered for funding by NVTA.

II. Funding Requests

NVTA estimates that approximately \$373 million will be available from regional revenues thru FY2016 to fund regional projects, assuming PayGo funding only. The original funding requests thru FY2016 associated with the 52 highway and mass transit projects totaled nearly \$770 million:

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| • Highway projects | \$423,452,810 |
| • Mass Transit projects | <u>\$346,166,000</u> |
| • Total | \$769,618,810 |

¹ See VDOT website: http://www.virginiadot.org/projects/northernvirginia/evaluating_significant_projects.asp

² Funding based on FY2015/16 revenue and FY2014 remaining balances

III. Overall Approach to Project Selection

At its meeting on October 9, 2014, the Authority approved an overall approach (including project selection criteria) to facilitate its decision-making process for determining which projects will receive NVTA funding in the FY2015-16 Two Year Program. This approach uses three types of screening.

- Preliminary Screening: this is a pass/fail filter. Each project must pass all applicable criteria to be considered for funding.
- Detailed Screening: projects that pass Preliminary Screening are then evaluated in more detail using a combination of quantitative and qualitative criteria in parallel:
 - Quantitative Score: a composite score is calculated for each project, using weighted selection criteria. Eleven selection criteria are used, based on criteria from the TransAction 2040 long range transportation plan; the FY2014 project selection methodology, and (for highway projects only) the legislatively required HB599 (2012) Evaluation and Rating Study.³
 - Qualitative Considerations: projects are assessed using qualitative factors and considerations that do not lend themselves to be scored quantitatively.⁴

The highest quantitative score that can be achieved using this approach is 100.0, for both highway and transit projects. The lowest score that can be achieved varies between highway and transit projects, because of the different approaches used for the congestion reduction criteria. For highway projects, the lowest quantitative score is 21.7. For transit projects, the lowest quantitative score is 33.3.

Appendix A provides full details of the project selection criteria for each type of screening.

IV. HB599 Evaluation and Rating Study

The HB599 process provided a detailed and objective evaluation of highway projects. While NVTA and its member jurisdictions were stakeholders in this process, the study was conducted independently by a consultant team managed by the Virginia Department of Transportation (VDOT).

The final HB599 rating for each highway project was used by NVTA as one criterion (representing congestion reduction), and was weighted highest of all eleven selection criteria used by NVTA to determine each project's quantitative score. The HB599 rating itself is a composite of seven different measures, encompassing congestion (three

³ Congestion reduction, project readiness (two criteria), urgency, reduction of vehicle miles traveled, safety, connection of activity centers, regional connectivity/modal integration, improved bike/pedestrian options, management/operations, and cost sharing.

⁴ Congestion reduction relative to cost, continuity of project funding, cost sharing, geographic balance, modal balance, and any additional information not taken into account elsewhere.

measures), transit (two measures), accessibility (one measure), and emergency evacuation (one measure).

The HB599 study, which used the TRANSIMS micro-simulation modeling tool, evaluated the operational impacts of highway projects during typical morning and afternoon peak periods, and for typical workdays. However ratings were based on daily impacts, including peak period impacts.

The HB599 study compared transportation system performance (using each of the seven HB599 measures) with and without each project on a digital representation of the expected transportation networks in 2020 and 2040. For consistency with NVTA's evaluation of mass transit projects, only the HB599 project ratings for 2040 were used for NVTA's evaluation of highway projects.

The definition of each project was based on information provided to the VDOT consultant team by the project sponsor. The HB599 ratings were calculated assuming the projects were fully operational in each of the evaluation years – 2020 and 2040 – regardless of the current status of the project (study, design, right of way acquisition, etc.) The HB599 study was not required to take into account factors such as project cost, environmental impacts, or funding availability. These factors are considered to some extent as part of NVTA's project selection process.

Two of the 33 highway projects under consideration by NVTA for the FY2015-16 Two Year Program were grouped together for the HB599 process (Route 28 improvements in Prince William County and the City of Manassas.) For the most part however, the HB599 process considered projects on a standalone basis, rather than packaged together in a way that might generate synergistic benefits. NVTA's approach to project selection also considers projects on a standalone basis.

Theoretically, HB599 ratings could range from a maximum possible 100.0 (greatest congestion relief) to 0.0 or lower (least congestion relief.) In practice, one of the seven performance measures (reduce transit crowding) was not calculated because only highway projects were evaluated. As this performance measure accounted for 11.5 percent of the overall HB599 rating, the effective maximum rating is 88.5.

The composite HB599 rating for each project reflects modeled absolute changes for each criterion, within an agreed 'influence area.' Larger projects had larger influence areas. Consequently, the HB599 process rated projects with new or improved highway segments higher than projects featuring a new or improved highway intersection or interchange. This was especially so for longer distance projects on routes with high demand and severe congestion. This approach also tended to favor broadly defined studies over projects that are at a more advanced phase of development, which tend to be more narrowly defined.

V. Project Evaluation Activity

During October and November 2014, NVTA staff evaluated each of the 52 highway and mass transit projects using the approach approved by the Authority. As part of this approach, staff reviewed the NVTA project evaluations with the respective sponsoring organizations. In December 2014, NVTA staff observed a series of briefings by VDOT's consultant team with individual project sponsors regarding their respective HB599 highway project evaluations.

On January 6, 2015, VDOT presented the draft detailed ratings from the HB599 Evaluation and Rating Study to project sponsors. NVTA staff incorporated the HB599 ratings into its evaluation of the 33 highway projects.

VI. Next Steps

At its meeting on February 26, 2015, the Authority will consider releasing a draft FY2015-16 Two Year Program for public input, including a Public Hearing during March 2015 to be held at NVTA offices at 3040 Williams Drive, Fairfax.

Following the Public Hearing, public inputs will be summarized by NVTA staff, and reported to the Authority at its meeting on April 23, 2015. The Authority is expected to approve a final version of the FY2015-16 Two Year Program at this meeting.

Appendix A: Project Selection Criteria

Preliminary Screening: Pass/Fail Assessment

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| Screening Criteria |
| All projects |
| Contained in NVTA's regional transportation plan (TransAction 2040), or included in the Transportation Planning Board's 2010 Constrained Long Range Plan |
| Reduces congestion |
| Within locality embraced by the Authority or in adjacent localities but only to the extent that such extension is an insubstantial part of the project and is essential to the viability of the project within the localities embraced by the Authority. |
| Highway projects only |
| Rated in the HB599 Project Evaluation and Rating Study. |
| Mass Transit projects only |
| Mass Transit project that increases capacity. |

Detailed Screening: Quantitative Scores

| TransAction 2040 Goal: Provide responsive transportation service to customers | | | |
|---|--|---|-----------------------|
| Topic | Selection Criteria | Rating Scale (unless indicated otherwise, High = 1, Medium = 2/3, Low = 1/3) | Weighting (75 points) |
| Reduce Roadway Congestion (Highway projects) | Project reduces roadway congestion | HB599 detailed rating will be on a continuous scale of 0 (least congestion relief) to 100 (greatest congestion relief) Rating: HB599 detailed rating ÷ 100 | 35 |
| Reduce Roadway Congestion (Transit projects) | Project reduces roadway congestion | High: Project will significantly improve traffic flow. Medium: Project will moderately improve traffic flow. Low: Project will have minimal to no effect on traffic flow. | |
| Project Readiness | Project is in advanced phase of development | High: Project is in the ROW or construction phase. Medium: Project is in the design phase. Low: Project is in the study or planning phase. | 15 |
| | Project is able to be readily implemented ⁵ | High: Project can be implemented in the near term (<6 years). Medium: Project can be implemented in the short term (6-12 years). Low: Project can be implemented in the long term (>12 years). | 10 |
| Urgency | Project addresses existing significant level of service (LOS) deficiencies for all modes of transportation | High: Project addresses existing LOS F condition. Medium: Project addresses existing LOS E condition. Low: Project addresses existing LOS A, B, C, or D condition. | 5 |
| Reduce VMT | Project reduces vehicle-miles traveled | High: Project directly reduces VMT (i.e., transit project, park-and-ride lot, new HOV lane(s), new pedestrian and bicycle trail). Medium: Project indirectly or through expansion reduces VMT (i.e., expansion of HOV, transit improvement, or expansion). Low: Project does not reduce VMT. | 5 |
| Safety | Project improves the safety of the transportation system | High: Project designed to specifically improve system safety and/or address an existing safety deficiency. Medium: Project will generally result in a safety improvement. Low: Project will have no discernible positive effect on safety. | 5 |

⁵ Definition of 'implemented' refers to the point in time when the intended transportation functionality of a project is fully available to users, e.g. completion of the construction phase, operation of a new transit service.

| TransAction 2040 Goal: Maximize community connectivity by addressing transportation and land use together | | | |
|--|--|--|------------------------------|
| Topic | Selection Criteria | Rating Scale (High = 1, Medium = 2/3, Low = 1/3) | Weighting (10 points) |
| Activity Center Connections | Project improves connections between multiple Activity Centers | High: Project improves connectivity between three or more activity centers. Medium: Project improves connectivity between two activity centers. Low: Project improves connectivity to one activity center only. | 5 |
| Regional Connectivity and modal integration | Project connects jurisdictions and modes | High: Project connects jurisdictions and modes. Medium: Project connects jurisdictions. Low: Project does not connect jurisdictions or modes. | 5 |

| TransAction 2040 Goal: Provide an integrated, multimodal transportation system | | | |
|---|---|---|-----------------------------|
| Topic | Selection Criteria | Rating Scale (High = 1, Medium = 2/3, Low = 1/3) | Weighting (5 points) |
| Improved Bicycle and Pedestrian Travel Options | Project supports multiple use development patterns in a walkable/bikeable environment | High: Project adds or extends non-motorized facility to and within activity center. Medium: Project improves existing non-motorized facility to and within activity center. Low: Project does not improve or provide a non-motorized facility to and within activity center. | 5 |

| TransAction 2040 Goal: Incorporate the benefits of technology | | | |
|--|--|--|-----------------------------|
| Topic | Selection Criteria | Rating Scale (High = 1, Medium = 2/3, Low = 1/3) | Weighting (5 points) |
| Management and Operations | Project improves the management and operation of existing facilities through technology applications | High: Project improves technological management and operations of an existing transportation facility. Medium: Project improves technological management and operations of an expansion of an existing transportation facility. Low: No improvement to management and operations of a facility. | 5 |

| TransAction 2040 Goal: Identify funding and legislative initiatives needed to implement the Plan | | | |
|---|--|---|-----------------------------|
| Topic | Selection Criteria | Rating Scale (High = 1, Medium = 2/3, Low = 1/3) | Weighting (5 points) |
| Cost Sharing | Project leverages private or other outside funding | High: Project leverages private or other outside funding. Medium: Project leverages modest private or other outside funding. Low: Project has no leveraged private or other outside funding. | 5 |

Detailed Screening: Qualitative Considerations

| Screening Criteria |
|---|
| Priority given to greatest congestion reduction relative to cost: the Authority is required to give priority to such projects. Benefit/cost analysis included in the TransAction 2040 long range transportation plan will be reviewed. |
| Continuity of project funding: In general, NVTA funding approval for most project phase(s) infers a commitment to fund the remainder of that phase (or phases), provided that the likely total commitment is reasonably known at the time of original funding approval. Funding decisions will continue to be based on the prevailing project selection criteria, subject to funding availability at the time of request. However, funding continuity decisions will be considered on a case-by-case basis. One exception to this is that NVTA funding approval for studies does not infer a commitment to fund any subsequent project phase, including additional studies. Continuity of funding commitments requires compliance with all terms and conditions associated with approved SPAs, and any requirements imposed by NVTA. Approved FY2014 projects that are now requesting FY2015-16 funds that meet the above requirements will have first call on available FY2015-16 funds. |
| Cost sharing: while cost sharing is included as a criterion for quantitative scoring, it is also included as a qualitative consideration to take account of any conditions associated with other funds, e.g. federal, state, local, and NVTA local (30%) funds. |
| Geographic balance: a policy consideration for the Authority when finalizing the FY2015-16 Two Year Program. |
| Modal balance: a policy consideration for the Authority when finalizing the FY2015-16 Two Year Program. |
| Additional supporting information |