



Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE

Wednesday, October 12, 2016, 7:00pm

NVTA Office

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

AGENDA

I. Call to Order/Welcome Chairman Boice

II. Meeting Summary of August 17, 2016 Meeting and September 21, 2016 Meeting

*Recommended Action: Approval [with abstentions
from those who were not present]*

Discussion/Information

III. NVTA Update Ms. Backmon, Executive Director

IV. TransAction Update Mr. Jasper, Principal, Transportation Planning and
Performance Measures Programming

Adjournment

V. Adjourn

Next Meeting: November 16, 2016

7:00pm

NVTA Office



Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE

Wednesday, August 17, 2016, 7:00pm

NVTA Office

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

SUMMARY NOTES

I. Call to Order/Welcome Mr. Fahl

- Mr. Fahl called the meeting to order at 7:00pm.
- Attendees:
 - Members: Agnes Artemel; Armand Ciccarelli; Bob Dunphy; Doug Fahl; Kathy Ichter; Meredith Judy; Pat Turner; Shanjia Zhu.
 - NVTA Staff: Monica Backmon (Executive Director); Keith Jasper (Program Coordinator); Sree Nampoothiri (Program Coordinator).
 - Other: Noelle Dominguez (Fairfax County); Jason Mumford (AECOM)

II. Meeting Summary of May 18, 2016 and June 15, 2016 Meetings Mr. Fahl

- Ms. Artemel moved approval of the May 18, 2016 and June 15, 2016 meeting summaries; seconded by Ms. Judy. Motion carried unanimously with abstention from those who were not present at the respective meetings.

Discussion/Information

III. NVTA Update Ms. Backmon

- Ms. Backmon informed the Technical Advisory Committee (TAC) members that the Authority approved 12 projects for the FY2017 Program at the July 14, 2016 meeting. The FY2017 Program includes the Leesburg Route 7/ Battlefield Parkway project and the Arlington Crystal City Streets project, in addition to the ten projects recommended by the TAC.
- Ms. Backmon also informed the Committee that the Authority will need to go to the bond market in order to fund the FY2017 Program in its entirety, but there is no urgent need based on the current cash flow requirements of the projects.
- In response to Mr. Fahl's question on the basis for including the Crystal City project, Ms. Backmon informed him that the project scored reasonably well on the Congestion Reduction Relative to Cost (CRRC) ratio. Ms. Backmon further noted that a project need not be large in order to be regional.
- In response to Ms. Ichter's question on the eligibility criteria, Ms. Backmon noted that the primary criteria for FY2017 Program were that the project being included in TransAction 2040 (though TransAction 2040 predates HB 2313)

and was evaluated under the HB 599 process. Project sponsors must commit to submitting a first drawdown request to the NVTa by no later than June 30, 2019.

Vice Chairman Fahl and the Committee members approved Mr. Jasper's request to move item V before item IV in order to have a logical sequencing of discussion.

IV. Development of Six-Year Program

Mr. Jasper

- Mr. Jasper presented the current process of advancing from planning to programming and the lessons learned from NVTa's past funding programs. Mr. Jasper also provided a path forward, which is being considered to be a part of the ongoing TransAction Update and the opportunity to develop a Six Year Program.
- In response to Mr. Fahl's comment that the projects can be improved if given a second chance to refine the scope after a first round of analysis, Mr. Jasper noted that the TransAction Update provides that opportunity.
- In response to Mr. Dunphy's question on the potential reuse of HB 599 ratings from subsequent programs, Ms. Backmon noted that projects are scored relative to the pool of projects within each program, which makes it necessary to evaluate projects in each program cycle.
- Mr. Fahl requested NVTa staff provide materials related to the TransAction Update, especially the performance measure and programming aspects, in advance of future TAC meetings in order to have enough time to understand the details.
- In response to Ms. Ichter's comment that by the time the FY2018-2023 Six Year Program is in place, it will already be well into FY2018, Mr. Jasper noted that there is precedent for such delay but that the intent is to have the program in place by early FY2018.
- In response to Ms. Turner's question on the synergy between the State's Six Year Improvement Program and the NVTa Six Year Program, Ms. Backmon mentioned that the NVTa is striving to bring synergy, though it is not required by law. Ms. Backmon added that the main difference is in the performance/selection measures for candidate projects. She also noted that the jurisdictions sometimes apply to the State and the NVTa for the same phases of their projects and NVTa will have to take decisions based on each situation.
- In response to Mr. Ciccarelli's question regarding the opportunity to consolidate 18 plus performance measures, Mr. Jasper noted that there will be multiple opportunities and that the TransAction Update presentation to follow will talk more about it.

V. TransAction Update

Mr. Mumford

- Mr. Mumford (AECOM) presented the draft needs assessment and performance measures being considered as part of the TransAction Update.

- In response to Dr. Zhu's question regarding the difference between the TransAction needs assessment and that of the Metropolitan Washington Council of Governments (MWCOG), if TransAction Update is using the MWCOG model, Mr. Mumford informed the Committee that while we are currently looking at the needs from public outreach and basic model understanding, we will be looking at the needs from multiple scenarios as well.
- Mr. Fahl stressed the need to link travel patterns, congestion and other issues. He requested that the Committee be provided with maps and other visual materials, such as the base Constrained Long Range Plan (CLRP) network, to help understand the dynamics better in the future. Ms. Backmon agreed that NVTa staff will provide as many materials as possible. She also noted that there are more than 100 Northern Virginia projects in the CLRP and mapping them all in detail could be a challenge.
- Ms. Artemel observed that there is congestion in many locations, even with all the projects from VDOT and NVTa in place.
- Dr. Zhu observed that the American Legion Bridge does not show any congestion in the maps and Mr. Mumford agreed to review the data.
- Mr. Dunphy observed that there is a spike in the trip length by purpose in the 10-15 miles region. Mr. Mumford agreed to check the data.
- Mr. Fahl suggested to ensuring outreach not only to the general public, but to all stakeholders. Ms. Backmon informed the Committee that NVTa is using all potential avenues for inputs, including social media.
- In response to Dr. Zhu's question regarding how to address the down-stream effects from individual jurisdictional projects, Ms. Backmon noted that the TransAction Update will look into such aspects and develop top-down projects to address any such effects. She also noted that jurisdictions are encouraged to work collaboratively and the Regional Jurisdiction and Agency Coordinating Committee (RJACC) and TransAction Subcommittee provide the opportunity to start that collaboration.
- In response to Mr. Fahl's comment on the need to reach out to jurisdictions outside Northern Virginia, Ms. Backmon noted that the NVTa is working with the Transportation Planning Board (TPB) and VDOT staff throughout the TransAction Update.
- In response to Ms. Turner's question regarding the definition of activity centers, Mr. Jasper noted that it is the same as concentrated growth areas defined by MWCOG.
- Mr. Dunphy noted that concentrated growth areas defined by jurisdictions may not be truly regional. Mr. Mumford noted that the TransAction Subcommittee is having that discussion, but does not want to preclude potential new growth concentrations.
- Mr. Fahl suggested that travel within activity centers should be less important than between activity centers since the density of activity centers vary geographically (e.g. inner core vs outer suburbs).
- Mr. Jasper encouraged the Committee members to provide feedback on performance measures (particularly Tier 3 measures), ideas to reduce the number of measures and the plan evaluation process.

- Mr. Fahl requested a draft set of suggestions for the Committee to reflect upon. Ms. Ichter requested the measures and weightings used in the FY2017 Program for reference.

Adjournment

VI. Adjourn

Mr. Fahl

- Meeting adjourned at 8:50pm.



Northern Virginia Transportation Authority
The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE

Wednesday, September 21, 2016, 7:00pm

NVTA Office

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

SUMMARY NOTES

I. Call to Order/Welcome

Chairman Boice

- Chairman Boice called the meeting to order at 7:07pm.
- Attendees:
 - Members: Randy Boice; Kathy Ichter; Pat Turner; Shanjiang Zhu.
 - NVTA Staff: Keith Jasper (Principal, Transportation Planning and Programming); Sree Nampoothiri (Program Coordinator).
 - Other: Noelle Dominguez (Fairfax County); Dan Goldfarb (NVTC); Jason Mumford (AECOM); Douglas Noble (Town of Vienna); Stewart Schwartz (Coalition for Smarter Growth).

II. Meeting Summary of August 17, 2016 Meeting

Chairman Boice

- Due to a lack of quorum, the approval of the minutes was postponed until the next meeting.

Discussion/Information

III. NVTA Update

Mr. Jasper

- Mr. Jasper informed the Technical Advisory Committee (TAC) members that there will be groundbreaking ceremonies for two projects partly funded by NVTA – the West Ox Bus Garage Expansion (Fairfax County) on September 22nd and the Belmont Ridge Road Construction (Loudoun County) on September 27th.
- Mr. Jasper also informed the Committee that the Planning Coordination Advisory Committee (PCAC) is scheduled to meet on September 28th and the Planning and Programming Committee (PPC) on September 30th. These committees are expected to discuss the development of the FY2018-23 Six Year Program and the same topic of performance measures for the TransAction update that the TAC is expected to discuss at this meeting.
- In response to Mr. Boice's question on the public outreach activities, Mr. Jasper informed the Committee that a combination of online survey, stakeholder focus groups, and workshops are being planned for the fall.

IV. TransAction Update

Mr. Mumford

- Mr. Mumford presented the draft Tier 3 performance measures that have been developed to evaluate the TransAction plan and invited the Committee to comment on the basis of three questions including suggestions for revisions, development of a subset of measures and weighting for comparative rating of projects, and any potential target setting.
- Question #1: The TransAction plan will be evaluated using what is referred to as Tier 3 performance measures. These measures will serve to: A) evaluate the Plan as a whole (the Tier 3 analysis step will evaluate multiple alternative Plans); and B) evaluate various smaller groups of projects. With reference to the draft Tier 3 performance measures, do you have any suggestions for revising, combining, deleting, or adding performance measures?
 - ✓ In response to Mr. Boice's question on the number of measures included in the TransAction 2040 Plan, Mr. Jasper noted that the TransAction 2040 plan included six goals and 18 evaluation criteria.
 - ✓ Dr. Zhu pointed out that congestion reduction can induce more demand and the combined effect may not reduce transportation-related emissions and therefore objectives 3a (GHG reduction) and 3d (emission reduction) could be considered secondary impacts. He also suggested considering reduction of Vehicle Miles Traveled (VMT) as an alternative.
 - ✓ Ms. Ichter opined that all the objectives under Goal 3 are not only difficult to measure, but also may not be meaningful. She suggested that most of these community and environmental impacts should be dealt with at the project level, not at the plan level. She also added that if these measures are considered, then noise pollution and land/property acquisition must also be considered as these are major impacts from transportation projects. Mr. Mumford noted that the TransAction Subcommittee had debated this Goal and determined that it is important to encompass factors that may be detrimental to the environment and communities.
 - ✓ Dr. Zhu pointed out that measuring safety could be tricky as this may vary depending on the economy and other factors that influence how much travel occurs. Mr. Mumford mentioned that the safety measure is a proxy for the travel reliability, as incidents disrupt travel disproportionately compared to recurring congestion. Mr. Jasper noted that safety is one of the TransAction 2040 measures and projects are scored high/medium/low. Ms. Dominguez added that the high, medium, and low scores relate to projects directly addressing a safety concern, safety improvement as a by-product, and no safety benefit respectively.
 - ✓ In response to Dr. Zhu's question on incorporating the measure for land use support into the model, Mr. Mumford replied that it is not considered as a model output but is a matter of being consistent with adopted jurisdictional plans and strategies. Mr. Jasper added that the top-down analysis might

bring forward some projects that may not fit exactly with a local comprehensive plan and this measure could address such inconsistencies.

- Question #2: A subset of the draft Tier 3 measures will be used to generate comparative ratings for individual projects and/or small groups of synergistic projects. Keeping in mind how NVTa has used project selection criteria to evaluate projects in previous funding programs, which of the draft Tier 3 measures should be included in that subset, and what weightings should be associated with each measure?
 - ✓ Chairman Boice suggested ensuring inclusion of measures such as congestion reduction, safety, and connectivity to comply with the legislative language.
 - ✓ Chairman Boice suggested exploring the possibility of combining the objectives of access (#3) and connectivity (#5), unless one measures roadways and the other transit. Mr. Mumford mentioned that they are not exclusive, but a combination of all modes. Mr. Nampoothiri pointed out that Mr. Dunphy, in his email response, also suggested a single broader measure for these two measures.
 - ✓ Chairman Boice suggested combining the objectives of reliability (#2) and safety (#8).
 - ✓ Ms. Ichter opined that household transportation cost itself may not capture the total cost. She pointed out that though the transportation cost for residents in and near the metropolitan core might be low, their housing cost could be higher than the residents in the outer areas. She suggested exploring the option of looking at the total household cost. Mr. Boice suggested keeping this measure secondary.
- Question #3: TransAction may include a limited number of ‘targets’, i.e. reduce congestion by X% in 2040 relative to current levels. Which of the draft Tier 3 measures are the best candidates for target-setting, and what are your thoughts on what the corresponding target should be?
 - ✓ Dr. Zhu mentioned a USDOT grant that looked at general affordability matrix, but opined that that may be difficult to measure at the plan level.
 - ✓ Ms. Turner observed that transit is specifically mentioned under Tier 1 and Tier 2, but is not so specific in Tier 3.
 - ✓ Chairman Boice suggested looking at congestion reduction and accessibility more holistically, not mode by mode.
 - ✓ Ms. Ichter opined that for the accessibility objective, you can have different measures for different modes and suggested including bike and pedestrian accessibility to road and transit accessibility. Mr. Mumford pointed out that Arlington County uses the measure Annual Daily Traffic (ADT) per population as a proxy for bike-ped use.
 - ✓ In response to Dr. Zhu’s question on the use of targets being internal or external, Mr. Jasper suggested that it is primarily for plan development, but could be useful to help set expectations for the plan.

- ✓ Ms. Turner suggested considering measures such as congestion severity and delay, in relation to population growth, as a way of developing realistic targets.
- ✓ Dr. Zhu suggested developing targets tied to the economy (i.e. reduce congestion by x% for every y% increase in economy).
- ✓ Ms. Ichter mentioned that many measures could be linked to cost, but operational cost also might need to be considered. Mr. Jasper agreed that operational cost also needs to be considered in the plan. Ms. Ichter added that the road projects need to include operation and maintenance costs, such as repair and tolls.
- ✓ Dr. Zhu requested including TransAction 2040 goals and measures for reference. Mr. Mumford agreed to provide a table of measures, categorized based on the discussion, which can include previous plan and program measures.

Adjournment

V. Adjourn

Chairman Boice

- Chairman Boice requested that NVTa staff poll the Committee members regarding moving the October meeting to October 12th to avoid conflict with the Governor's Transportation Conference on the regularly scheduled meeting date of October 19th.
- Meeting adjourned at 8:42pm.



TAC Meeting

(Summary of September TAC Discussion)

October 12, 2016

1



Revising, combining, deleting, or adding performance measures?

- Reduced congestion may not reduce transportation-related emissions; objectives 3a (GHG reduction) and 3d (emission reduction) could be considered secondary impacts. Consider reduction of VMT as an alternative.
- Goal 3 MOEs difficult to measure and may not be meaningful. Is it important to encompass factors that may be detrimental to the environment and communities?
- Measuring safety could be tricky. Safety measure is a proxy for the travel reliability, and safety is one of the TransAction 2040 measure and projects are scored high/medium/low.
- Measure for land use support is subjective/qualitative

2



What weightings should be associated with each measure?

- Legislation includes congestion reduction, safety, and connectivity
- Combine the objectives of access (#3) and connectivity (#5)
- Combine the objectives of reliability (#2) and safety (#8).
- Household transportation costs are difficult to measure; this may be a “secondary” measure. (Total household cost, housing + transportation, is being used more broadly by USDOT and HUD.)

3



Which of the draft Tier 3 measures are the best candidates for targets?

- Consider congestion reduction and accessibility holistically, not mode by mode.
- Different measures can apply to different modes; bike and pedestrian accessibility different from road and transit accessibility.
- Are targets internal or external? Primarily for plan development, but could be useful to help set expectations for the plan.
- Develop realistic targets by factoring congestion severity and delay in relation to population growth or economic activity.
- Many measures could be linked to cost; operational cost should also be considered.

4



Candidate TransAction Measures

Questions for Discussion

1. The TransAction plan will be evaluated using performance measures. These measures will serve to:
 - a. evaluate the Plan as a whole (the analysis step will evaluate multiple alternative Plans); and
 - b. evaluate various smaller groups of projects.

With reference to the candidate TransAction measures, do you have any suggestions for revising, combining, deleting, or adding performance measures?

2. A subset of the candidate TransAction measures will be used to generate comparative ratings for individual projects and/or small groups of synergistic projects. Keeping in mind how NVTA has used project selection criteria to evaluate projects in previous funding programs, which of the candidate TransAction measures should be included in that subset, and what weightings should be associated with each measure?
3. TransAction may include a limited number of 'targets', i.e. reduce congestion by X% in 2040 relative to current levels. Which of the candidate TransAction measures are the best candidates for target-setting, and what are your thoughts on what the corresponding target should be?

Summary of Candidate TransAction (TA) Measures

TA Goals	Proposed TA Objectives		Candidate TA Measures/Weightings ¹			TransAction 2040 Measures/Weightings			FY2017 Program Measures/Weightings	
Goal 1: Enhance quality of life and economic strength of NoVA through transportation	1.1	Reduce congestion and crowding experienced by travelers in the region	1.1.1	Total Person Hours of Delay (HB599)		2.8	Reduces roadway congestion	6.67	Project reduces roadway congestion (HB599 overall rating)	45
			1.1.2	Transit Crowding (HB599)						
			1.1.3	Person Hours of Congested Travel in Automobiles (HB599)		2.1	Addresses existing significant level of service (LOS) deficiencies for all modes of transportation	3.33		
			1.1.4	Person Hours of Congested Travel in Transit Vehicles (HB599)						
	1.2	Improve Travel Time Reliability	1.2.1	Congestion Severity: Maximum Travel Time Ratio		2.2	Addresses existing structural and maintenance deficiencies for all modes of transportation	3.33		
			1.2.2	Congestion Duration (HB599)		1.1	Improves capacity and reliability of freight	6.67		
	1.3	Increase access to jobs, employees, markets, and destinations	1.3.1	Percent of jobs/population within 1/2 mile of transit						
			1.3.2	Access to Jobs within 45 mins by auto (HB599)						
	1.4	Improve connections among and within areas of concentrated growth	1.4.1	TBD		4.1	Improves connections between multiple Activity Centers	6.67	Project improves connections between multiple Activity Centers	5
									Project connects jurisdictions and modes	5
	1.5	Support and strengthen local land use objectives	1.5.1	Consistency with local planning efforts (qualitative assessment)		4.2	Supported by a Comprehensive Plan	6.67		
	1.6	Reduce household transportation costs	1.6.1	Average cost per commute trip						
					2.3	Able to be readily implemented	6.67	Project will be advanced as a result of FY2017 Program funding;	15	
Goal 2: Enable optimal use of the transportation network and leverage the existing network	2.1	Improve the safety of transportation network	2.1.1	Serious injuries and fatalities by mode		2.5	Improves the safety of the transportation system	6.67	Project improves the safety of the transportation system	5
	2.2	Increase integration between modes and systems	2.2.1	Last mile connections (qualitative assessment)		1.2	Supports multiple use development patterns in a walkable environment	6.67	Supports multiple use development patterns in a walkable environment	10
	2.3	Provide more route and mode options to expand travel choices and improve resiliency of the system	2.3.1	Share of travel by non-SOV modes		1.4	Creates multimodal choices for travelers as indicated by increases in transit capacity	3.33		
						1.3	Creates multimodal choices for travelers as indicated by increases in non-SOV mode share	3.33		
	2.4	Manage travel demand during peak periods	2.4.1	Number of SOV trips during peak periods		2.6	Increases person-miles traveled by non-SOV modes.	3.33		
	2.5	Sustain and improve operation of the regional system				2.7	Increases person-miles traveled by SOV mode	3.33		
			2.5.1	PHT in congested/crowded conditions		2.9	Reduces person-hours traveled	6.67		
			2.5.2	Person hours of travel caused by 10% increase in PM peak hour demand (HB599)						
						5.1	Improves the management and operation of existing facilities through technology applications	6.67	Project improves the management and operation of existing facilities through technology applications	5
	2.6	Optimize investments by increasing benefits relative to costs for short-, medium-, and long-term timeframes	2.6.1	Cost Benefit Analysis		N/A	Benefit/Cost Rating		Congestion Reduction Relative to Cost (CRRC) ratio	N/A
					6.1	Leverages private or other outside funding	6.67	Project leverages private or other outside funding	5	
Goal 3: Reduce negative impacts of transportation on communities and the environment	3.1	Reduce greenhouse gas emissions caused by transportation	3.1.1	GHG emissions based on VMT by speed		2.4	Reduces vehicle-miles traveled (VMT)	6.67	Project reduces vehicle-miles (VMT)	5
	3.2	Reduce stormwater runoff	3.2.1	Amount of impervious area						
	3.3	Protect environmental and cultural assets and resources	3.3.1	Number of ROW expansions that impact resources		3.1	Right-of-way minimizes impacts on sensitive areas	6.67		
	3.4	Reduce transportation-related air pollution	3.4.1	Criteria pollutant emissions based on VMT by speed			See TransAction 2040 measure 2.4		See TransAction 2040 measure 2.4	

¹ Note: ‘HB599’ indicates measure used by VDOT during the HB599 Evaluation and Rating process for the FY2015-16 and FY2017 Programs.

