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

AGENDA

I. **Call to Order/Welcome** — Chairman Boice

II. **Meeting Summary of August 17, 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**
Performance Measures — Mr. Jasper, Program Coordinator

Adjournment

V. **Adjourn**

Next Meeting: October 19, 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; Shanjiang 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.

Summary of TransAction Measures

	Tier 1: Needs Assessment		Proposed Measure	Tier 2: Corridor Solution Packages		Proposed Measure	Tier 3: Regional Plan Objectives		Proposed Measure
Goal 1: Enhance quality of life and economic strength of NoVA through transportation	1	Person Hours of Delay*	Daily number of person-hours of travel above free-flow travel time for auto and transit	1	Person Hours of Delay*	Daily number of person-hours of travel above free-flow travel time for auto and transit	1	Reduce congestion and crowding experienced by travelers in the region (1a)	Total Person Hours of Delay* (HB599)
	2	Congestion Severity/Duration	Maximum ratio of congested travel time to free-flow travel time	2	Congestion Severity/Duration	Maximum ratio of congested travel time to free-flow travel time	2	Improve Travel Time Reliability (1b)	Congestion Severity: Maximum Travel Time Ratio Congestion Duration (HB599) Person Hours of Congested Travel in Automobiles (HB599)
	3	Transit Accessibility	The number of daily transit routes that serve a stop multiplied by the person capacity of each route (activity density)				3	Increase access to jobs, employees, markets, and destinations (1c)	Percent of jobs/population within 1/2 mile Accessibility to Jobs (HB599)
	4	Transit Crowding*	Number of transit route miles with ridership greater than the vehicle capacity	3	Transit Crowding*	Number of transit route miles with ridership greater than the vehicle capacity	4	Reduce congestion and crowding experienced by travelers in the region (1a)	Transit Crowding* (HB599) Person Hours of Congested Travel in Transit Vehicles (HB599)
				4	Improved Connections	Qualitative assessment of improvements to connections within Activity Centers	5	Improve connections among and within areas of concentrated growth (1e)	**Needs refinement**
				5	Local and Regional Planning Efforts	Qualitative assessment of consistency with local and regional planning	6	Support and strengthen local land use objectives (1g)	Qualitative assessment of consistency with local planning efforts
							7	Reduce household transportation costs (1f)	Average cost per commute trip
Goal 2: Enable optimal use of the transportation network and leverage the existing network	5	Crash Rate	Number of crashes per VMT (for injuries and fatalities)	6	Crash Rate	Reduction in severe crashes per Vehicle Miles Traveled expected	8	Improve the safety of transportation network (2b)	Serious injuries and fatalities by mode
	6	Pedestrian and Bike Accessibility	Locations with poor accessibility for pedestrians and bicyclists				9	Increase integration between modes and systems	Qualitative assessment of improved last mile connections
				7	Non SOV-mode share	Number of trips taken by non-SOV modes, including non-motorized trips	10	Provide more route and mode options to expand travel choices and improve resiliency of the system (1d)	Share of travel by non-SOV modes
							11	Manage travel demand during peak periods (2d)	Number of SOV trips during peak periods
				8	Miles Traveled	Passenger Miles of Travel per Vehicle Miles Traveled	12	Sustain and improve operation of the regional system (2a)	PHT in congested/crowded conditions Emergency mobility* (HB599): change in MPT time cause by 10% increase in
				9	Implementation	Qualitative assessment of implementation timeline and potential for benefits to accrue over time	13	Optimize investments by increasing benefits relative to costs for short-, medium-, and long-term timeframes (2c)	Cost Benefit Analysis **NVTA's 'congestion reduction relative to cost' (CRRC) ratio**
Goal 3: Reduce negative impacts of transportation on communities and the environment							14	Reduce greenhouse gas emissions caused by transportation (3a)	GHG emissions based on VMT by speed
							15	Reduce stormwater runoff (3b)	Amount of impervious area
							16	Protect environmental and cultural assets and resources (3c)	Number of ROW expansions that impact resources
							16	Reduce transportation-related air pollution (3d)	Criteria pollutant emissions based on VMT by speed

* Measures used by HB599 Analysis

NVTA's TransAction
Transportation Action Plan for Northern Virginia

TECHNICAL MEMORANDUM

Performance Measures

DRAFT
September 14, 2016

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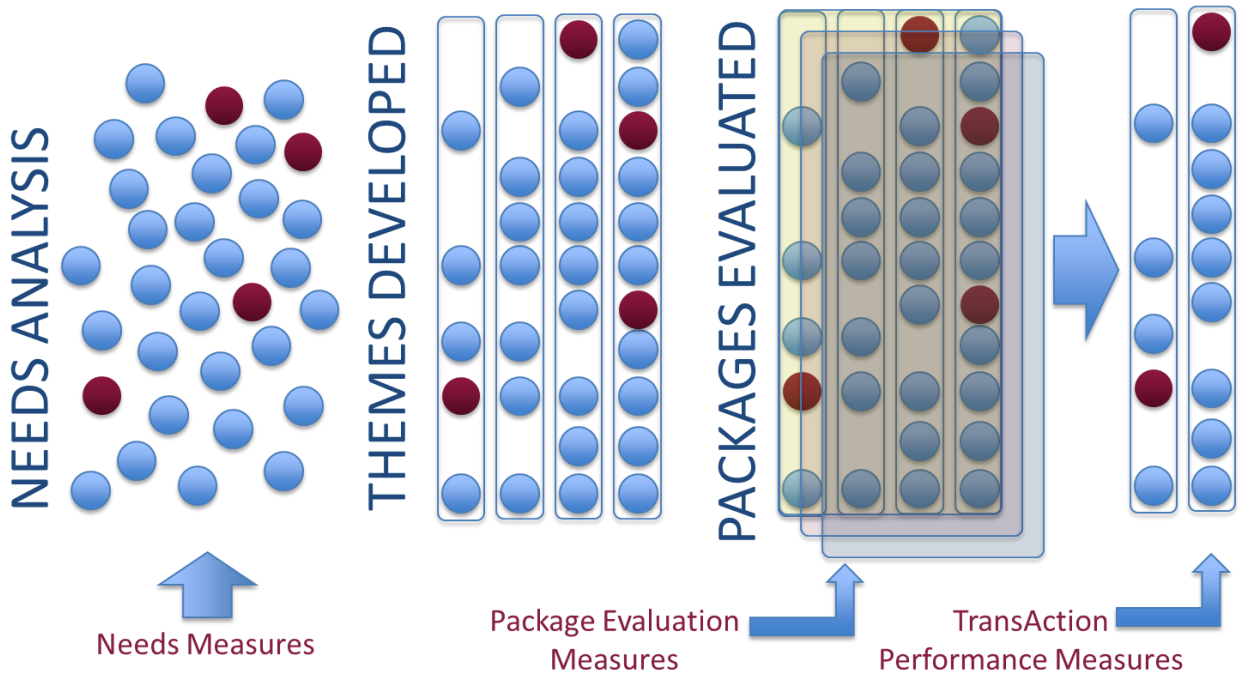
1 Introduction

This document outlines the proposed approach to applying performance measures through the TransAction plan development process in order to identify and quantify the plan's progress towards its stated goals and objectives. This includes the use of performance measures in different ways at three stages of the plan development, as shown in Figure 1-1. Three sets of performance measures, with some overlap, will be deployed at different stages of analysis:

1. Needs Measures: used during the Needs Analysis (Task 6.2) to help identify locations with significant regional transportation needs and issues.
2. Package Evaluation Measures: used during the package analysis (Tasks 7.3 and 7.4) to understand the relative strengths and weaknesses of different packages and themes.
3. TransAction Performance Measures: used to evaluate the potential benefits of the overall plan (Task 7.5), and includes at least one performance measure for each of TransAction's objectives.

Figure 1-1: Performance Measures in TransAction



2 Needs Measures

The Needs Measures will be used to identify needs in the Northern Virginia region as part of the Needs Assessment being conducted in Task 6.2. They will help focus the plan and the analysis on solutions that are most likely to have a significant benefit and address a regional transportation problem. They will not be used to assess the efficacy or impact of any particular project or package of projects (unless they are also included as Package Evaluation Measures). Based on the stated goals and objectives of TransAction, several categories have been identified for potential regional Needs which can be measured and identified using the Needs Measures outlined in Table 2-1.

Two of the measures were also used as part of the HB 599 Analysis of Significant Projects in Northern Virginia, and are consistent with VDOT efforts to measure congestion on roadways and crowding on transit. The statewide HB2 analysis also includes the total person delay measure as one of the primary measures of congestion.

Table 2-1: Needs Measures

Proposed Measure	Description	Considerations/Follow-up Items	HB599 Measure
Total Person Delay	Daily number of person-hours of travel above free-flow travel time for auto and transit	Includes additional waiting time associated with failing to board the intended vehicle due to capacity constraints or transfer timing issues	X
Congestion Severity	Maximum ratio of congested travel time to free-flow travel time	Can be used as a proxy for locations with reliability issues	
Transit Access	Identify locations with significant number of jobs without access (½ mile) to high-frequency/high-capacity transit	- Need to define thresholds for high-frequency/high-capacity transit - Need to account for access to VRE differently from access to local transit	
Transit Crowding	Transit route-miles experiencing crowded conditions	Confirm mode-specific load-factor thresholds: local bus > 1.0; express bus > 0.9; Metrorail > 100 passengers/car; commuter rail > 0.9	X
Crash Rate	Number of severe crashes per VMT	- May start from VTrans Statewide safety analysis - Can be used as a proxy for locations with reliability issues	
Ped/Bike Accessibility	Identify locations with poor accessibility for pedestrians and bicyclists	Need to define how we will measure this. WalkScore? Analysis of intersection density? Other ideas?	

Additional needs may be gathered from other sources, including public outreach efforts, the VTrans 2040 Needs Assessments for Northern Virginia, and TransAction's analysis of Land Use and travel patterns in the

region. All of these quantitative and qualitative needs will then be used to inform the development of corridor themes and corridor packages for testing and analysis under later stages of the project.

3 Package Evaluation Measures

Package Evaluation Measures will be used to evaluate each package of projects. These measures are intended to provide quantifiable metrics with which to understand the differences between packages of projects, and identify the packages that are the most likely to be successful across the spectrum of potential Future Scenarios. These evaluation metrics will be used as part of Task 7.3 and 7.4 to analyze the relative strengths and weaknesses of the tested packages. However, they will not be used to compare the relative performance of the alternative Future Scenarios against one another. Table identifies the Package Evaluation Measures that will be used at this stage of the TransAction process.

The first two Package Evaluation Measures were also included as Needs Measures. Three of the measures were also used as part of the HB 599 Analysis of Significant Projects in Northern Virginia, and are consistent with VDOT efforts to measure congestion on roadways and crowding on transit. In addition, the Crash Rate measure has been used as part of statewide HB 2 analysis of project impact on safety.

Table 3-1: Package Evaluation Measures

Proposed Measure	Description	Considerations/Follow-up Items	HB599 Measure
Transit Crowding	Transit route-miles experiencing crowded conditions	Also used as Needs Measure	X
Congestion Duration	Number of daily hours travelers experience heavy congestion	- Auto: Need to confirm threshold for defining "heavy congestion (TTR ≥ 2.0 in HB 599) - Transit: Includes length of time transit is over capacity	X
Total Person Delay	Daily number of person-hours of travel above free-flow travel time for auto and transit	Also used as a Needs Measure	X
Improved Connections	Qualitative measure(s) of improvements to connections between AND within areas of concentrated growth	- Need to define measures - May need two measures to capture connections within and between activity centers	
Consistency with Local and Regional Planning Efforts	Qualitative assessment of packages consistency with existing planning efforts in the region	Need to develop standards for evaluating this measure (scale, definitions, etc.)	
PMT/VMT	PMT per VMT as a measure of the efficiency of vehicle travel	Needs to include transit VMT as well as auto VMT	
Implementation	Qualitative assessment of implementation timeline and potential for benefits to accrue over time	Need to develop standards for evaluating this measure (scale, definitions, etc.)	
Non-SOV Mode Share	Number of trips taken by non-SOV modes, including non-motorized trips		

Proposed Measure	Description	Considerations/Follow-up Items	HB599 Measure
Crash Rate	Reduction in the number of severe crashes per VMT	Need to develop a clear methodology for estimating the impact to crashes caused by specific projects/types of projects	

A single package evaluation score will not be developed at this stage. Instead, the Package Evaluation Measures will be used individually to highlight the relative strengths and weaknesses of different packages and themes. These results will then be used to identify develop and test hybrid packages and ultimately make recommendations on the recommended solution for each corridor in the region.

4 TransAction Performance Measures

These measures will be both qualitative and quantitative criteria that measure what can be achieved through the investments included in the plan, and will be analyzed for the recommended plan as a whole, primarily in Task 7.5. There is at least one measure for each objective of the plan, which will help to quantify the total benefits proposed by TransAction. In future years, these metrics can be reevaluated to determine if progress is being made towards the goals and objectives.

The plan performance measures are broken out by goal in this section. Several of these performance measures, especially those under Goal 1 have also been proposed as performance measures at other stages in the TransAction process. Where noted, these measures also incorporate the measures used as part of the HB599 Analysis process.

4.1 Goal 1

The first goal of the TransAction plan is:

Enhance quality of life and economic strength of Northern Virginia through transportation.

This goal is represented by seven objectives and nine performance measures, as shown in Table 4-1. Many of the performance measures included under this Goal have also been proposed for inclusion as Needs Measures and/or Package Evaluation Measures.

Table 4-1: TransAction Performance Measures: Goal 1

Objective		Proposed Measures	Considerations/Follow-up Items	HB599 Measure
1a	Reduce congestion and crowding experienced by travelers in the region	Total Person Hours of Delay	Also used as Needs and Package Evaluation measures	X
		Transit Crowding	Also used as Needs and Package Evaluation measures Other potential measure: Person Hours of Congested Travel in Transit Vehicles (HB599)	X
1b	Improve travel time reliability	Congestion severity: maximum travel time ratio	Also used as a Needs measure Acute congestion can be used as a proxy for reliability Other potential measures: Congestion Duration (HB599) Person Hours of Congested Travel in Automobiles (HB599)	

Objective		Proposed Measures	Considerations/Follow-up Items	HB599 Measure
1c	Increase access to jobs, employees, markets, and destinations	Percent of jobs/population within ½ mile	Also used as a Needs measure Other potential measure: Accessibility to Jobs (HB599)	
1d	Provide more route and mode options to expand travel choices and improve resiliency of the system	Non-SOV Mode Share	Also used as a Package Evaluation Measure	
1e	Improve connections among and within areas of concentrated growth	Access to jobs by HHs within 45 or 60 min peak travel time	Select appropriate time threshold	X
		Qualitative or quantitative assessment of connections within activity centers	Need to define how this measure will be assessed Also used as a Package Evaluation Measure	
1f	Reduce household transportation costs	Average cost per commute trip	Mean vs. Median?	
1g	Support and strengthen local land use objectives	Qualitative assessment of consistency with existing planning efforts in the region	- Need to define how this qualitative measure will be assessed - Also used as a Package Evaluation Measure	

4.2 Goal 2

The second goal of the TransAction plan is:

Enable optimal use of the transportation network and leverage the existing network.

This goal is represented by five objectives and six performance measures as outlined in Table 4-2. Only one of the performance measures included under this Goal has also been proposed for inclusion as a Package Evaluation Measure.

Table 4-2: TransAction Performance Measures: Goal 2

Objective		Proposed Measures	Considerations/Follow-up Items	HB599 Measure
2a	Sustain and improve operation of the regional system	PHT in congested/ crowded conditions	Determine threshold for "congested conditions"	X
		Emergency Mobility: change in MPT time caused by 10% increase in demand	Determine if necessary based on HB599 requirements	X
2b	Improve the safety of transportation network	Serious injuries and fatalities by mode	Safety also used as a Package Evaluation Measure	
2c	Optimize investments by increasing benefits relative to costs for short-, medium-, and long-term timeframes	Congestion Reduction Relative to Cost Ratio (CRRC)	Consider relative benefits at different time-frames	
2d	Manage travel demand during peak periods	Number of SOV trips during peak periods		
2e	Increase integration between modes and systems	Qualitative or quantitative assessment of improved last mile connections	Incorporate intermodal connections as part of longer trips	

4.3 Goal 3

The third goal of the TransAction plan is:

Reduce negative impacts of transportation on communities and the environment.

This goal is represented by four objectives and four performance measures, as outlined in Table 4-3. While none of the performance measures included under this Goal are used in other phases of performance measurement, many are based on measures used at other phases of the process (such as VMT by speed).

Table 4-3: TransAction Performance Measures: Goal 3

Objective		Proposed Measures	Considerations/ Follow-up Items	HB599 Measure
3a	Reduce greenhouse gas emissions caused by transportation.	GHG emissions based on VMT by speed		
3b	Reduce stormwater runoff	Amount of impervious area		
3c	Protect environmental and cultural assets and resources	Number of ROW expansions that impact resources		
3d	Reduce transportation-related air pollution	Criteria pollutant emissions based on VMT by speed		

5 References

5.1 HB5 599 Measures

The measures used to analyze the performance of projects in VDOT's HB 599 Analysis of Significant Project include:

- Congestion Duration = reduction in the number of hours of the day auto and transit passengers experience heavily congested travel conditions.
- Person Hours of Delay = reduction in the number of person hours of travel time above free flow travel time.
- Person Hours of Congested Travel in Automobiles = reduction in the number of person hours of travel in automobiles and trucks on heavily congested facilities.
- Person Hours of Congested Travel in Transit Vehicles = reduction in the number of person hours of travel in buses and trains on heavily congested facilities or in crowded vehicles.
- Transit Crowding = reduction in the number of transit person miles experiencing crowded conditions (local bus > 1.0; express bus and commuter rail > 0.9; Metrorail > 100 passengers/car).
- Accessibility to Jobs = increase in the number of jobs that can be reached from each household based on a 45 minute travel time by automobile and a 60 minute travel time by transit.
- Emergency Mobility = increase in the person hours of travel time resulting from a 10 percent increase in peak hour trip making.

5.2 HB 2 Measures

The measures being used to analyze the potential benefits of projects under the HB 2 legistative requirements include:

1. Safety

   S1: Number of Fatal and Severe Injury Crashes

   S2: Rate of Fatal and Severe Injury Crashes

2. Congestion Mitigation

   C1: Person Throughput

   C2: Person Hours of Delay

3. Accessibility

   A1: Access to Jobs

   A2: Access to Jobs for Disadvantaged Populations

   A3: Access to Multimodal Choices

4. Environmental Quality

E1: Air Quality and Energy Environmental Effect

E2: Impact to Natural and Cultural Resources

5. Economic Development

   ED1: Project Support for Economic Development

   ED2: Intermodal Access and Efficiency

   ED3: Travel Time Reliability

6. Land Use Coordination

   L1: Land Use Policy Consistency

5.3 NVTA 2017 Program Measures

Criteria	Weighting
Congestion Reduction	45%
Project Readiness	15%
Reduce VMT	5%
Safety	5%
Connectivity (two criteria)	10%
Improve Bike/Ped	10%
Management/Operations	5%
Cost Sharing	5%

TransAction Process Overview (1 of 2)

Public Engagement

Spring/Summer 2016 Needs Assessments

Summer/Fall 2016 Solution Assessments

Plan Development

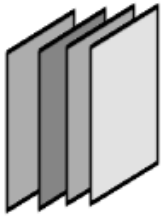
Measures

Regional Needs Criteria

Previous Plans and Agency/Jurisdiction/ Public Feedback

Vision and Goals

Base and Alternative Futures



Review Regional Needs along Regional Travel Corridors

New Projects

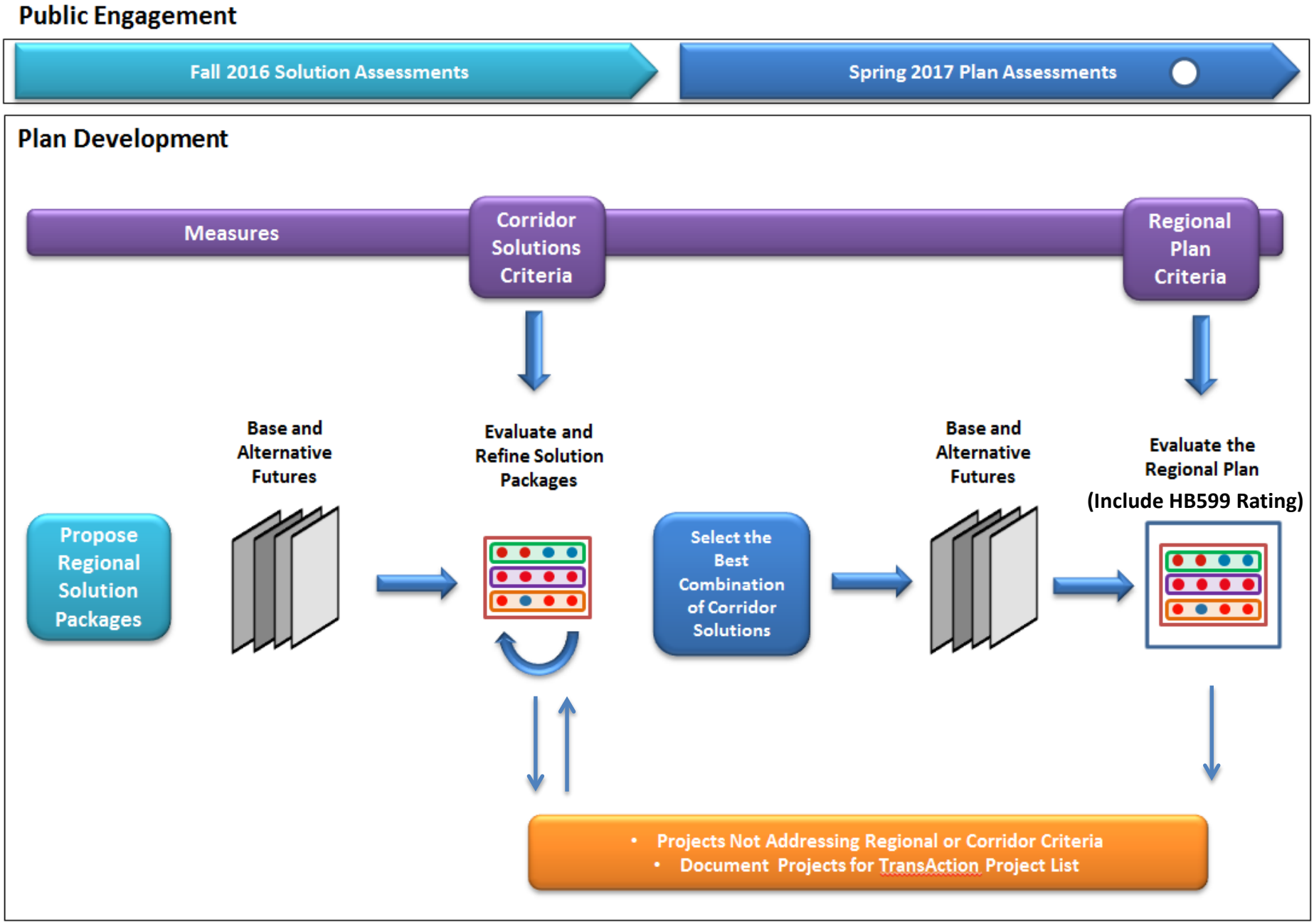
Projects from Jurisdictions and Agencies

Develop Alternative Corridor Solutions based on Regional Needs

Evaluation

- Projects Not Addressing Regional or Corridor Needs
- Document Projects for TransAction Project List

TransAction Process Overview (2 of 2)



NVTA Technical Advisory Committee

September 21, 2016

Questions for Discussion

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?

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?

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?

NVTA Technical Advisory Committee

September 21, 2016

Bob Dunphy
Thoughts on performance measures
(received via two emails on 9/20/16 and 9/21/16)

The revised goals are more focused, but it would help to have brief explanatory info, especially to clarify difference btw goal 1 and 2. I am assuming 1 is broad QofL and 2 more focused on operations. Qual of Life - we cannot discuss residents views of QofL and economy w/o a measure of housing costs. Suggest 1a,b,d be moved to goal 2, or dropped.

Not clear abt diff btw perform measures percent of pop wi 1/2 mile (of what, transit?) - 1c, and access to jobs w/I 45-60 - 1e. Can we use just one? Also, perhaps the measure could be "loss of accessibility due to congestion" - see new report by accessibility lab. The second measure under1e could be blended into a broader accessibility measure - how much do better connections within activity centers add to accessibility. A broader measure of 1f would be total transportation costs per household - not just commuting.

Optimal use of transport network. - if the goal here is better reliability, over and above broader access measures, it could emphasize reducing extreme congestion, safety, and possibly congestion reduction relative to cost. Transit crowding would also fit here. Seems like SOV trips in peak periods, and SOV share is superfluous if auto and transit measures are included. Ditto "last mile connections" if included in goal 1.

Goal 3 - improved safety under goal 2 seems more logical here.

On the question of targets, it is hard to do without some idea of what the historical trends have been, and we have no idea whether the funding can make a dent. I think we should focus on maintaining accessibility to employment for inner, beltway, and outer counties - or simply for individual counties. That seems a manageable target, avoiding access losses through congestion, and the advantage is that this target can be increased through:

- New cross county projects (perhaps more than reducing congestion on radial facilities)
- Development patterns that add jobs in bedroom suburbs, and housing in job rich inner

Even better would be disaggregating employment by income level, if available from models

A poorer alternative, if more broadly understandable, would be maintaining average commute times and distances, probably by county. That is data we should have regardless.