



# **Northern Virginia Transportation Authority**

*The Authority for Transportation in Northern Virginia*

## **PROJECT IMPLEMENTATION WORKING GROUP** **10:30am, Wednesday, October 7, 2015**

**Northern Virginia Transportation Authority**  
**3040 Williams Drive, Suite 200**  
**Fairfax, Virginia 22031**

### **AGENDA**

- I. Call to Order/Welcome** Chairman Nohe
- II. Meeting Summary of September 16, 2015, Meeting**  
*Recommended action: Approval [with abstentions  
from those who were not present].*

### **Discussion/Information**

- III. FY2017 Program** Mr. Jasper
- i. Congestion Reduction Relative to Cost**
  - ii. Project Selection Criteria and Weightings**
- IV. Finance Committee Report** Mr. Longhi
- i. Updated Appendix Bs**
  - ii. Request for Insurance Certifications**
- V. NVTa Update** Ms. Backmon

### **Adjournment**

- VI. Adjourn**

**Next Meeting: TBD (suggested – November 4, 2015)**



## Northern Virginia Transportation Authority

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### PROJECT IMPLEMENTATION WORKING GROUP

Wednesday, September 16, 2015, 9:30 am

Northern Virginia Transportation Authority

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

### SUMMARY NOTES

#### I. Call to Order/Welcome

Chairman Nohe

- Chairman Nohe called the meeting to order at 9:37 am.
- Attendees:
  - **PIWG Members:** Chairman Nohe; Chairman Bulova (Fairfax County); Chair Hynes (Arlington County); Council Member Rishell (City of Manassas Park); Del. Randy Minchew; Rick Canizales (Prince William County); Tom Biesiadny, Karyn Moreland (Fairfax County); Joe Kroboth (Loudoun County); Andrew D'huyvetter (Arlington County); Jim Maslanka, Pierre Holloman (City of Alexandria); Paul Stoddard (City of Falls Church); Wendy Block Sanford (City of Fairfax); Patrick Moore (City of Manassas); Mark Duceman (Town of Herndon); Maria Sinner, Valerie Pardo (VDOT); Todd Horsley (DRPT); Kate Mattice, Dan Goldfarb (NVTC); Elena Constantine (MWCOG/TPB); Christine Hoeffner, Sonali Soneji (VRE); Cynthia Porter-Johnson (PRTC); Allison Davis, Mark Phillips (WMATA).
  - **NVTA Staff:** Monica Backmon (Executive Director); Mike Longhi (CFO); Keith Jasper (Program Coordinator).
  - **Other Staff:** Ellen Posner, Mark Thomas (Fairfax County), Kimberly Bibbee (Prince William County); David Roden (AECOM).

#### II. Meeting Summary of July 13, 2015, Meeting

- Approved.

### Discussion/Information

#### III. HB 599 Transit Test Results

DRPT/AECOM

- Mr. Roden presented the results of the HB 599 evaluation of test transit projects. The transit projects selected for the test were:
  - All eight-car trains on Metrorail in Northern Virginia (WMATA)

- Gainesville to Haymarket extension (VRE)
- Potomac Yard Metrorail station (City of Alexandria)
- In response to a question from Chair Hynes, Mr. Roden commented that the evaluation was difficult and complicated, and the results were fair. With respect to the ridership estimates for Potomac Yard Metrorail station, he noted these were consistent with other studies. Chairman Nohe asked about the assumptions for this project regarding six versus eight-car trains. Mr. Roden stated that the project had been evaluated based on the current operational service levels.
- Mr. Biesiadny asked for clarification on how parking space constraints at Metrorail stations affected the analysis, noting that there are no such limitations in Fairfax County at the present time. Mr. Roden clarified that the constraints will become a factor as growth continues thru the modelling horizon year of 2040.
- Mr. Stoddard asked how the model addressed changes in land use associated with the Potomac Yard Metrorail station. Mr. Roden stated that the model uses the employment totals for 8.3 version of the MWCOG model, but it was concentrated closer to the new station. In addition some other factors were adjusted to reflect the increased pedestrian-favorable environment around the new station.
- Chair Hynes expressed concern that modest adjustments to existing infrastructure would not score highly when compared with large capacity road and transit projects. Chairman Nohe pointed out that the congestion reduction relative to cost component is important to consider and, for smaller-scale projects, he suspected that congestion reduction relative to cost would become more competitive. He explained that new ways to look at long-term benefit would be explored so that, if resources diminish for the smaller projects, these projects may be justified on a cost/long-term benefit basis. Ms. Backmon added that an important lesson learned from the previous program is the need to group projects appropriately when reviewing the projects independently does not provide a full picture on how each project (large or small) contributes to the transportation network.

#### **IV. FY2017 Program**

Mr. Jasper

- Mr. Jasper presented the initial recommendation for the FY2017 Program Project Selection Process. He emphasized the goal of enhancing the process for the FY2015-16 Program to establish a standard project selection process so that those who submit projects understand how their projects will be evaluated when the call for projects occurs.
- Mr. Jasper reviewed the tentative schedule and emphasized that the only period of time that has some flexibility is during project evaluations. Ms. Backmon noted that, since the CTB usually adopts their program in June and some projects submitted for the FY2017 Program will also undergo the CTB's HB2 process, it will be necessary to ensure coordination between the two processes.
- Mr. Jasper explained there are 25 candidate projects totaling \$750 million, including the I-66/Route 28 interchange project, which accounts for about half of this funding. Eleven of these projects are continuing projects that were previously approved for funding by the Authority and 14 projects will be new in that they have not previously

received any NVTAs regional revenue funds; many of the submitted projects have already undergone an HB 599 evaluation.

### TRANSIMS

- Mr. Jasper provided an overview of the HB 599 methodology recommendations and noted the intention is to be consistent with the FY2015-16 Program with added enhancements for the FY2017 Program.
- Mr. Biesiadny pointed out that doing an analysis based on a 2020 evaluation may be challenging since projects would not be complete in 2020 and suggested considering 2030. He added that, if the model is based on the highest scoring project and values are adjusted based on that high score, it is necessary to re-evaluate all projects as scoring from FY2015-16 Program cannot be compared with FY2017 scores transparently. Chairman Nohe agreed that, in this second round of evaluation, all projects would need to be re-evaluated.
- Ms. Sinner noted that due to cost constraints, a maximum of 25 projects could be evaluated.
- Ms. Backmon explained, the ‘universe’ of projects changes and would include transit projects for the first time. Adjusting scores based on the highest ranking project means that ratings of previously evaluated projects would change. She and Chairman Nohe emphasized the need to ensure a transparent and fair evaluation. She stated that incorporating HB599 into TransAction will take away the issue of the universe of projects changing because the analysis will already be complete. Mr. Jasper added that for the FY2017 Program, the TRANSIMS baseline would be updated to reflect the 2015 CLRP.
- Mr. Canizales inquired how to inform modelers of changes not reflected in the CLRP and was advised to submit any changes as soon as possible for implementation.
- Mr. Kroboth inquired about the impact on ratings when a project is submitted as a full corridor constructed in phases versus projects submitted in individual phases. He provided the example of rating a project that includes a full 5-mile corridor that will be constructed in phases versus rating each individual phase project in that corridor separately. Mr. Jasper responded that, for the FY2015-16 Program, projects were evaluated based on the funds being requested; however, the goal is to look at corridors, evaluate groups of projects and their long-term outcomes. Chairman Nohe and Ms. Backmon agreed the grouping of projects will be further explored.
- Mr. Jasper recommended, and the group agreed, that the use of TRANSIMS will continue for the FY2017 Program, and all projects will need to be rated. More consideration is needed on whether to continue using 2020 and 2040 as the modeling horizons, or whether 2025 or 2030 should be considered instead of 2020.
- Mr. Jasper informed the group of the four proposed enhancements to the FY2017 Program:
  - Eligibility for funding
  - HB 599 measures versus HB 2 measures
  - Criteria weighting for NVTAs quantitative score
  - Congestion reduction relative to cost

### Eligibility for funding

- The group agreed that, for the FY2017 Program, funding will not be provided for preliminary studies/feasibility studies.
- Mr. Jasper emphasized that, because the FY2017 Program is a one-year program, if a project will not require funds for five years, this may not be the appropriate program for that project submission.
- Setting limits on the timeframe for expending program funds (requiring FY2017 Program funds to be used before FY2020) was discussed. In response to concern over establishing time constraints, Ms. Backmon explained there are approved projects from the FY2014 Program that have not yet requested reimbursement; which leads to concern over how projects are assessed and if they are receiving the appropriate scores, given that project readiness is weighted at 25 percent. This leads to questions regarding whether the project should have been considered for that particular program year or should have been submitted in the next call for projects cycle.
- Mr. Biesiadny agreed there should be a deadline since this funding should be going toward making improvements; he also suggested not eliminating Project Readiness and instead better defining what should be completed for a project to be considered ready. Mr. Canizales agreed that Project Readiness is an important criterion in the quantitative evaluation and should not be removed. He added that lowering the percentage weighting for Project Readiness and redefining other criteria would be a better solution.
- The group agreed that projects approved for the FY2017 Program would be required to make their first drawdown of NVTAF funds by the end of FY2019.

### HB 599 measures versus HB 2 measures

- Mr. Jasper provided an overview of the similarities and differences between HB 599 and HB 2 processes. He provided a list of 20 projects funded by the Authority in the FY2015-16 Program in tables that compare ratings based on HB 599 and HB 2 measures. He noted that, with the exception of three projects, most projects scored higher in the HB 2 measures. He explained that the asterisks on the table represent a new facility (as opposed to an expansion). For congestion reduction, HB 599 uses seven measures while the HB 2 process uses two measures and retaining these seven HB 599 measures for the FY2017 Program was recommended.
- In response to the suggestion that the scoring might be more transparent to the public if the measures are the same, Ms. Backmon reminded the group that, even if the two performance measures used by the State are used for this evaluation, the scores will not be the same because the universe of projects and the baseline will be different. She recommended not altering the process for the FY2017 Program. Council Member Rishell and Chair Hynes concurred and Chairman Nohe added that the results will inevitably be different from other evaluations; but they need to be defensible.

### Criteria weighting for NVTAF quantitative score

- Mr. Jasper reviewed the quantitative score criteria weighting for the FY2015-16 Program and suggestions for the FY2017 Program. Ms. Backmon explained that, since the CTB adopted a Congestion Reduction weight of 45 percent as part of the HB 2 process, she has received feedback in support of increasing this weight

accordingly. She asked the group to consider adjusting the Congestion Reduction weight defined by the Authority for the FY2017 Program. The group discussed raising the 35-percent criteria weighting for Congestion Reduction to 45 percent. Mr. Canizales said he was in favor of raising the Congestion Reduction weighting but emphasized not removing Project Readiness to make this happen. Mr. Biesiadny suggested increasing the Congestion Reduction weight to 45 percent and dropping Project Readiness to 15 percent. Council Member Rishell requested information regarding how the 10-percent increase affects final scores.

- Ms. Backmon and Chairman Nohe emphasized that the Authority has heard feedback from various members of the General Assembly and the public that this increase in the Congestion Reduction weighting is greatly needed.
- Chair Hynes noted that a \$370-million-dollar project for an intersection of I-66 that has little benefit to those on the receiving end of improvements causes concern over the consideration of other projects and there is a perception of skewing toward moving cars rather than people. She pointed out that people in her county have a different perspective depending on what is being delivered. Ms. Backmon assured the group that NVTa staff tracks internally the geographic balance and modal distribution regarding long-term benefit. It was also clarified that the \$370 million does include the cost of HOV/HOT ramps that were added to the original price of the project.

#### Congestion reduction relative to cost

- Mr. Jasper outlined the NVTa proposed methodology for estimating Congestion Reduction Relative to Cost for the FY2017 Program. He stated that this process will reflect Project Readiness more realistically than the high, medium, low system used in the previous program. He explained the Congestion Reduction number is divided by cost and, ideally, the ratio is greater than 1; the higher the ratio, the better the project is performing. He noted that addressing costs other than capital cost is under consideration.
- Ms. Hoeffner asked why the calculation seems more complicated than simply dividing the reduction in delay for 2020 or 2040 by project cost. Mr. Jasper explained that, while it is more complicated, this is a fairer, more standard calculation as it takes into consideration projects that can be implemented sooner and generate benefits over a longer period of time.
- The use of the word “benefit” in the Congestion Reduction Relative to Cost slide was questioned, and Mr. Jasper agreed that replacing “benefits” with “congestion reduction” would be more appropriate.
- In response to the question of how the projected life expectancy of the improvement is factored into the calculation, the group discussed how to plan for the maintenance and replacement of buses over the long term and whether this would be included in the long-range plan, built into the cost of the project, or be paid for at the local level.

#### Call for Projects

- The group recommended that the NVTa move forward with issuing the call for projects for the FY2017 Program at its meeting on September 24, 2015 with a deadline of November 30, 2015. In the interim, the PIWG will continue to review the

proposed cost-benefit methodology and analysis of the 10-percent change in weighting for congestion reduction.

- Chair Hynes stated, prior to making a recommendation on weightings, she would also like to see the impact of removing Project Readiness, increasing Congestion Reduction to 45 percent, and adding the other 15 percent into Connectivity. Chairman Nohe requested that NVTa staff conduct this analysis for review at the next PIWG meeting.

**V. NVTa Update**

Ms. Backmon

- Ms. Backmon notified the group of the upcoming NVTa ribbon-cutting at the City of Fairfax City Hall on September 21, 2015, at 1:00 p.m. for the Arlington County ART, Fairfax Connector, the City of Fairfax CUE, and PRTC buses.

**Adjournment**

**VI. Adjourn**

- The meeting adjourned at 11:37 a.m.
- The next PIWG meeting was scheduled for 10:30 a.m. on Wednesday, October 7, 2015 at NVTa

# **FY2017 Program: Project Selection Process**

## Updated Recommendation



Presentation to the Project Implementation Working Group

October 7, 2015

Northern Virginia  
Transportation Authority  
*The Authority for Transportation in Northern Virginia*



# Tentative Schedule

- Sept. 25 thru 5pm Nov. 30: Call for Projects
- Dec. 10: NVRTA approves candidate project list (for HB 599 and NVRTA evaluations)
- April 2016: Project evaluations complete
- May 2016: NVRTA approves draft project list (for public comment)
- June 2016: Public Hearing and Town Halls
- July 2016: NVRTA adopts FY2017 Program



# Recap of 9/16/2015 PIWG Meeting

- Continue to use TRANSIMS
  - Need to confirm evaluations for 2020 and 2040
- Studies ineligible for FY2017 Program
- First drawdown of FY2017 Program funds must occur before FY2020
  - Need to develop policy
- Retain the seven HB 599 measures
  - Review possible changes for FY2018 and beyond as part of TransAction Update



# Congestion Reduction Relative to Cost

- Need a comparison methodology that
  - Updates congestion reduction relative to cost
  - Complements the NVTa quantitative score
  - Enhances decision making
- TRANSIMS estimates congestion relief

One suggestion...



# Congestion Reduction Relative to Cost

Project Name (* = new facilities)	Location	NVTA FY2015-16 Funds (\$M)	Total Project Cost (\$M)	Reduce Person Hours of Delay (2020)	Congestion Relief relative to NVTA FY2015-16 Funds (2020)	Congestion Relief relative to Total Cost (2020)	Reduce Person Hours of Delay (2040)	Congestion Relief relative to NVTA FY2015-16 Funds (2040)	Congestion Relief relative to Total Cost (2040)
Glebe Rd Corridor ITS Improvements	Arlington	\$ 2.0	\$ 2.0	(2,169)	1,084.7	1084.7	(1,839)	919.6	919.6
Loudoun County Parkway extension to US 50*	Loudoun	\$ 31.0	\$ 51.0	(18,638)	601.2	365.4	(27,219)	878.0	533.7
Route 28 Widening near Centreville	Fairfax	\$ 5.0	\$ 47.4	(9,136)	1,827.1	192.9	(15,805)	3,161.1	333.8
Rolling Road Widening near Springfield	Fairfax	\$ 5.0	\$ 35.2	(5,163)	1,032.5	146.7	(6,767)	1,353.4	192.2
Route 28 Widening near Manassas	Manassas/PW	\$ 20.0	\$ 29.5	(393)	19.7	13.3	(5,599)	280.0	189.5
US 1 Widening and Relocation - Dumfries	Dumfries	\$ 6.9	\$ 82.5	(2,343)	339.6	28.4	(14,415)	2,089.2	174.7
Kamp Washington Intersection (US 50/29 @ VA236)	City of Fairfax	\$ 1.0	\$ 9.8	(606)	605.5	61.8	(1,655)	1,655.2	168.9
Fairfax County Pkwy Improvements	Fairfax	\$ 10.0	\$ 396.1	(17,236)	1,723.6	43.5	(53,175)	5,317.5	134.2
US 1 Widening near Woodbridge	Prince William	\$ 49.4	\$ 52.4	(1,993)	40.4	38.0	(6,356)	128.7	121.3
Columbia Pike Multimodal Streets in Arlington	Arlington	\$ 10.0	\$ 82.5	(1,134)	113.4	13.7	(6,952)	695.2	84.3
Route 7 Bridge Widening near Tysons Corner	Fairfax	\$ 13.9	\$ 34.4	(2,571)	185.0	74.7	(2,796)	201.1	81.3
Jermantown/US 50 Roadway Improvements	City of Fairfax	\$ 1.0	\$ 6.5	(376)	376.0	57.8	(425)	424.8	65.4
Route 28 - Godwin Drive Extension near Manassas*	Manassas/PW	\$ 2.5	\$ 400.0	(10,858)	4,343.1	27.1	(21,820)	8,727.9	54.5
US 1 Widening near Ft. Belvoir	Fairfax	\$ 1.0	\$ 90.0	(1,492)	1,492.2	16.6	(3,569)	3,569.0	39.7
Route 15 Bypass/Edwards Ferry Road Interchange	Leesburg	\$ 1.0	\$ 50.0	(964)	964.2	19.3	(1,469)	1,469.1	29.4
Belmont Ridge Rd widening near Broadlands	Loudoun	\$ 19.5	\$ 35.9	(566)	29.0	15.8	(1,035)	53.1	28.9
Route 7/Battlefield Pkwy Interchange	Leesburg	\$ 13.0	\$ 58.0	(1,538)	118.3	26.5	(858)	66.0	14.8
Frontier Dr Extension in Springfield*	Fairfax	\$ 2.0	\$ 84.5	(57)	28.5	0.7	(594)	297.0	7.0
Northfax Intersection (US29/50 @ VA123)	City of Fairfax	\$ 10.0	\$ 25.0	(72)	7.2	2.9	(91)	9.1	3.6
East Elden Street Widening in Herndon	Herndon	\$ 10.4	\$ 30.9	(60)	5.8	1.9	(106)	10.2	3.4



# Congestion Reduction Relative to Cost

- Combines HB 599 evaluation with cost component
- Selected measure is 'person hours of delay'
- Full project cost enables comparison of relative project impacts
- Using just the approved funds for the NVRTA FY2015-16 Program is not a good indicator of leveraging non-NVRTA funding sources
- Only considers a single year, regardless of when project opens
- Does not reflect project readiness

Another suggestion...



# Proposed Approach - Example #1

	Year	Person Hours of Delay			Daily Adjusted Hours	Annual Adjusted Hours	Annual VTT Savings	Annual VTT Savings Discounted	Project costs NVTA Only	Project costs NVTA Only Discounted
		Before	After	Diff.						
						260	\$15.00	4.40%		4.40%
0	2016				0	0	\$0	\$0		\$0
1	2017	211,805	207,174	4,631	0	0	\$0	\$0	\$1,750,000	\$1,676,245
2	2018	213,248	208,664	4,585	4,585	1,191,970	\$17,879,550	\$16,404,220		\$0
3	2019	214,692	210,153	4,538	4,538	1,179,945	\$17,699,175	\$15,554,338		\$0
4	2020	216,135	211,643	4,492	4,492	1,167,920	\$17,518,800	\$14,746,955		\$0
5	2021	217,578	213,133	4,446	4,446	1,155,895	\$17,338,425	\$13,979,999		\$0
6	2022	219,022	214,622	4,400	4,400	1,143,870	\$17,158,050	\$13,251,497		\$0
7	2023	220,465	216,112	4,353	4,353	1,131,845	\$16,977,675	\$12,559,569		\$0
8	2024	221,908	217,601	4,307	4,307	1,119,820	\$16,797,300	\$11,902,426		\$0
9	2025	223,352	219,091	4,261	4,261	1,107,795	\$16,616,925	\$11,278,366		\$0
10	2026	224,795	220,581	4,215	4,215	1,095,770	\$16,436,550	\$10,685,766		\$0
11	2027	226,238	222,070	4,168	4,168	1,083,745	\$16,256,175	\$10,123,085		\$0
12	2028	227,682	223,560	4,122	4,122	1,071,720	\$16,075,800	\$9,588,852		\$0
13	2029	229,125	225,049	4,076	4,076	1,059,695	\$15,895,425	\$9,081,669		\$0
14	2030	230,569	226,539	4,030	4,030	1,047,670	\$15,715,050	\$8,600,205		\$0
15	2031	232,012	228,029	3,983	3,983	1,035,645	\$15,534,675	\$8,143,192		\$0
16	2032	233,455	229,518	3,937	3,937	1,023,620	\$15,354,300	\$7,709,426		\$0
17	2033	234,899	231,008	3,891	3,891	1,011,595	\$15,173,925	\$7,297,758		\$0
18	2034	236,342	232,497	3,845	3,845	999,570	\$14,993,550	\$6,907,096		\$0
19	2035	237,785	233,987	3,798	3,798	987,545	\$14,813,175	\$6,536,401		\$0
20	2036	239,229	235,477	3,752	3,752	975,520	\$14,632,800	\$6,184,683		\$0
21	2037	240,672	236,966	3,706	3,706	963,495	\$14,452,425	\$5,851,002		\$0
22	2038	242,115	238,456	3,660	3,660	951,470	\$14,272,050	\$5,534,462		\$0
23	2039	243,559	239,945	3,613	3,613	939,445	\$14,091,675	\$5,234,210		\$0
24	2040	245,002	241,435	3,567	3,567	927,420	\$13,911,300	\$4,949,436		\$0
Total thru horizon year					93,742	24,372,985	\$365,594,775	\$222,104,613	\$1,750,000	\$1,676,245
Total project cost including non-NVTA Sources									\$1,750,000	
Congestion Relief relative to Cost (NVTA share only)										132.50



# Proposed Approach - Example #2

	Year	Person Hours of Delay			Daily Adjusted Hours	Annual Adjusted Hours	Annual VTT Savings	Annual VTT Savings Discounted	Project costs NVTA Only	Project costs NVTA Only Discounted
		Before	After	Diff.						
						260	\$15.00	4.40%		4.40%
0	2016				0	0	\$0	\$0		\$0
1	2017				0	0	\$0	\$0	\$1,000,000	\$957,854
2	2018				0	0	\$0	\$0	\$2,000,000	\$1,834,970
3	2019	279,897	210,601	69,296	0	0	\$0	\$0	\$10,000,000	\$8,788,171
4	2020	289,338	216,109	73,229	0	0	\$0	\$0	\$155,000,000	\$130,475,720
5	2021	298,780	221,617	77,162	0	0	\$0	\$0	\$125,000,000	\$100,787,697
6	2022	308,221	227,126	81,095	0	0	\$0	\$0	\$35,000,000	\$27,031,183
7	2023	317,663	232,634	85,028	85,028	22107397	\$331,610,955	\$245,315,720		\$0
8	2024	327,104	238,142	88,962	88,962	23130016	\$346,950,240	\$245,846,032		\$0
9	2025	336,546	243,651	92,895	92,895	24152635	\$362,289,525	\$245,895,901		\$0
10	2026	345,987	249,159	96,828	96,828	25175254	\$377,628,810	\$245,504,882		\$0
11	2027	355,429	254,667	100,761	100,761	26197873	\$392,968,095	\$244,710,050		\$0
12	2028	364,870	260,176	104,694	104,694	27220492	\$408,307,380	\$243,546,137		\$0
13	2029	374,312	265,684	108,627	108,627	28243111	\$423,646,665	\$242,045,665		\$0
14	2030	383,753	271,193	112,561	112,561	29,265,730	\$438,985,950	\$240,239,071		\$0
15	2031	393,195	276,701	116,494	116,494	30,288,349	\$454,325,235	\$238,154,822		\$0
16	2032	402,636	282,209	120,427	120,427	31,310,968	\$469,664,520	\$235,819,533		\$0
17	2033	412,078	287,718	124,360	124,360	32,333,587	\$485,003,805	\$233,258,065		\$0
18	2034	421,519	293,226	128,293	128,293	33,356,206	\$500,343,090	\$230,493,631		\$0
19	2035	430,961	298,734	132,226	132,226	34,378,825	\$515,682,375	\$227,547,890		\$0
20	2036	440,402	304,243	136,159	136,159	35,401,444	\$531,021,660	\$224,441,035		\$0
21	2037	449,844	309,751	140,093	140,093	36,424,063	\$546,360,945	\$221,191,878		\$0
22	2038	459,285	315,259	144,026	144,026	37,446,682	\$561,700,230	\$217,817,932		\$0
23	2039	468,727	320,768	147,959	147,959	38,469,301	\$577,039,515	\$214,335,488		\$0
24	2040	478,168	326,276	151,892	151,892	39,491,920	\$592,378,800	\$210,759,684		\$0
Total thru horizon year					2,132,284	554,393,853	\$8,315,907,795	\$4,206,923,418	\$328,000,000	\$269,875,596
Total project cost including non-NVTA Sources									\$500,000,000	
Congestion Relief relative to Cost (NVTA share only)										15.59



# Proposed Congestion Reduction Relative to Cost Methodology

- Inputs
  - 2020 and 2040 person hours of delay reductions for each candidate project (from TRANSIMS)
  - Annual conversion factor for time savings
  - Average value of time
  - Project costs allocated to years (full project cost and requested NVRTA share from FY2017 Program)
  - Discount rate to be applied to costs and monetized annual time savings





# Proposed Congestion Reduction Relative to Cost Methodology

- Advantages of Proposed Approach
  - Evaluation period will be thru 2040, not just a single year
  - Value of time (VTT) savings and costs will be allocated to the year in which they occur; VTT savings will be extrapolated using the 2020 and 2040 outputs from TRANSIMS
  - VTT savings cannot be accrued prior to the anticipated year of opening or after 2040
  - VTT savings and costs will be 'discounted' prior to summation
  - Ratios of congestion relief relative to cost  $< 1.0$  indicate value of congestion relief is less than the cost of the project
  - Two analyses will be prepared for each candidate project, one based on the full cost and one on just the NVTa share
  - Further consideration needed for other costs



# Proposed Congestion Reduction Relative to Cost Methodology

- Recommendations
  - Incorporate the proposed approach
  - Calculate two ratios for each candidate project, one based on the full cost and one on just the NVTa share



# Quant. Score: Criteria Weighting

- Recommendations:
  - Review alternative weightings for ‘Congestion Reduction’
  - Adjust other criteria to maintain similar level of relative emphasis to each other
- ‘Project Readiness’ will also be addressed through proposed funding eligibility rules and ‘congestion reduction relative to cost’
- Redefine ‘Project Readiness’ criteria



# Quant. Score: Criteria Weighting

## FY2015-16

- Congestion Reduction: 35%
- Project Readiness\*: 25%
- Urgency: 5%
- Reduce VMT: 5%
- Safety: 5%
- Connectivity\*: 10%
- Improved Bike/Ped: 5%
- Management/Ops: 5%
- Cost Sharing: 5%

## FY2017

- Congestion Reduction: review
- Project Readiness: review
- Urgency: 5%+
- Reduce VMT: 5%+
- Safety: 5%+
- Connectivity\*: 10%+
- Improved Bike/Ped: 5%+
- Management/Ops: 5%+
- Cost Sharing: 5%+

Notes: \* two criteria

+ adjust as needed



# Quant. Score: Sensitivity Tests

ID	Jurisdiction/ Agency	Project Name (Highway Projects Only)	Phase Funded	HB 599 Ratings (2040)	35-15-10 (see note 1)	Rank	TEST A 45-15-0 (see note 2)	Rank	TEST B 55-5-0 (see note 3)	Rank	TEST C 45-15-0 (see note 4)	Rank
2C	Loudoun	Loudoun County Parkway (VA Route 607) – U.S. 50 to Creighton Rd.	Construction	30.6	64.0	1	57.1	2	50.2	2	55.4	2
3H	Manassas	Route 28 (Manassas Bypass) Study - Godwin Drive Extension	Study	29.3	55.3	2	48.2	3	47.8	3	46.5	3
5B	Fairfax	Fairfax County Parkway Improvements (Study)	Preliminary Eng.	88.5	54.3	3	59.8	1	65.3	1	58.2	1
9F	Arlington	Glebe Road Corridor Intelligent Transportation System (ITS) Improvements	Construction	8.6	53.0	4	43.9	4	34.7	7	40.5	11
6H	City of Fairfax	Kamp Washington Intersection Improvements	Construction	3.5	52.9	5	43.2	5	33.6	10	43.2	5
8P	Prince William	Route 1 Widening from Featherstone Road to Marys Way	Construction	10.8	52.1	6	43.2	5	37.6	4	43.2	5
6I	City of Fairfax	Northfax - Intersection and drainage improvements at Route 29/50 and Route 123	Construction	0.2	51.7	7	41.8	8	31.8	12	41.8	8
9G	Arlington	Route 244 Columbia Pike Street Improvements (S. Gate Road to the Pentagon)	Construction	9.2	51.6	8	42.5	7	36.7	5	45.8	4
IL	Leesburg	Route 7 (East Market Street)/Battlefield Parkway Interchange	Final Design	1.8	50.6	9	40.8	9	34.3	9	40.8	10
IM	Fairfax	Route 7 Widening – Dulles Toll Road Bridge	Construction	4.6	49.9	10	40.4	11	30.9	14	42.1	7
3I	Manassas	Route 28 Widening South to the City Limits	Construction	8.7	49.7	11	40.6	10	34.8	6	38.9	12
2D	Loudoun	Belmont Ridge Road (VA Route 659)- Turo Parish Road to Croson Ln	Construction	3.0	49.4	12	39.7	12	30.0	16	41.4	9
6J	City of Fairfax	Jermantown / Route 50 Roadway Improvements	Construction	1.3	48.8	13	38.9	13	29.0	18	37.3	14
3J	Prince William	Route 28 Widening from Route 234 Bypass to Linton Hall Road	Construction	8.7	48.0	14	38.9	13	33.1	11	37.2	15
8Q	Dumfries	Widen Route 1 (Fraleay Boulevard) Brady's Hill Road to Route 234 (Dumfries Road)	Preliminary Eng.	14.6	45.1	15	36.6	15	34.7	8	36.6	16
1N	Herndon	East Elden Street Improvements & Widening Project (UPC 50100)	ROW	0.3	45.1	15	35.1	16	28.5	19	38.5	13
6Q	Prince William	Route 15 Widening (Route 29 to Route 55), including RR Overpass	Construction	0.5	40.2	17	30.2	22	26.9	20	31.9	19
8R	Fairfax	Frontier Drive Extension & Braided Ramps	Preliminary Eng.	2.6	39.2	18	32.8	18	26.4	21	34.5	17
9H	Fairfax	Braddock Road HOV Widening	Study	6.8	39.0	19	33.1	17	30.4	15	31.4	20
1P	Leesburg	Route 15 Bypass at Edwards Ferry Road Interchange	Preliminary Eng.	1.9	39.0	19	32.5	20	29.4	17	32.5	18
9I	Alexandria	Real-Time Adaptive Traffic Control and Data Management System	Study	4.6	34.9	21	28.7	23	25.9	22	27.1	23
3K	Fairfax	VA Route 28 Widening (Prince William County Line to Route 29)	Preliminary Eng.	17.3	34.4	22	32.8	19	31.2	13	29.5	21
5C	Fairfax	Rolling Road Widening from Old Keene Mill Road to Franconia Springfield Pkwy	ROW	12.5	32.7	23	30.6	21	25.2	23	29.0	22
7B	Fairfax	South Van Dorn Street and Franconia Road Interchange	Preliminary Eng.	3.1	31.1	24	24.7	26	21.7	26	21.4	26
8S	Fairfax	US 1 Richmond Highway (from Mt. Vernon Memorial Highway to Napper Road)	Preliminary Eng.	12.0	29.2	25	27.1	24	24.9	24	25.4	24
6K	Fairfax	US 29 Lee Highway (from west of Union Mill Road to Buckley's Gate Drive)	Study	9.3	28.3	26	25.9	25	23.4	25	22.5	25
3L	Fairfax	Frying Pan Road (VA 28 to Centreville Road)	Study	2.7	25.9	27	22.9	27	19.8	27	19.5	27



# Quant. Score: Sensitivity Tests (Notes)

- 1) Original NVTA Quantitative Scores for FY2015-16 Two Year Program (35% Congestion Relief, 15% Project in Advanced Phase of Development, 10% Project able to be Readily Implemented)
- 2) TEST A - Adjusted NVTA Quantitative Scores for FY2015-16 Two Year Program (45% Congestion Relief, 15% Project in Advanced Phase of Development, 0% Project able to be Readily Implemented)
- 3) TEST B - Adjusted NVTA Quantitative Scores for FY2015-16 Two Year Program (55% Congestion Relief, 5% Project in Advanced Phase of Development, 0% Project able to be Readily Implemented)
- 4) TEST C - Adjusted NVTA Quantitative Scores for FY2015-16 Two Year Program (45% Congestion Relief, 15% Project in Advanced Phase of Development, 0% Project able to be Readily Implemented, 0% Urgency, 10% Bike/Ped)
- 5) Projects highlighted in red were not included in adopted FY2015-16 Two Year Program
- 6) 'Phase Funded' indicates most advanced phase for which NVTA regional funds will be used - some projects are currently in an earlier phase
- 7) Transit projects are excluded from this analysis as they were not subject to HB 599 evaluation for FY2015-16 Two Year Program



# Redefinition of 'Project Readiness'

- FY2015-16 Program
  - Project is in advanced phase of development (15%)
    - **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
  - Project is able to be readily implemented (10%)
    - **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)



# Redefinition of 'Project Readiness'

- Proposed FY2017 Program
  - Project will be advanced as a result of FY2017 Program funding (Weighting% TBD)
    - **High:** Project will be fully open/operational as a result of FY2017 Program funding (includes acquisition of buses)
    - **Medium:** Project will advance to the ROW or construction phase as a result of FY2017 Program funding
    - **Low:** Project will advance to the preliminary engineering or design phase as a result of FY2017 Program funding





# Other Considerations

- Methodology for evaluating selected projects:
  - Small projects
  - Alternate modes
- What if more than 25 projects are submitted?
  - Grouping of projects
  - Project selection model



# Summary

- Recommended Project Selection Process comprises:
  - Preliminary Screening
  - Screening for funding eligibility criteria (NEW)
  - NVTa Quantitative Score, incorporating HB 599 rating for ALL projects
  - Ratios of congestion reduction relative to total project cost and FY2017 funding (NEW)
  - Qualitative Considerations

