



# Appendix D: TransAction Goals, Objectives, Measures, and Weightings



TransAction Technical Report

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Vision <sup>[1]</sup>									
In the 21st century, Northern Virginia will develop and sustain a multimodal transportation system that enhances quality of life and supports economic growth.									
Investments in the system will provide effective transportation benefits, promote areas of concentrated growth, manage both demand and capacity, and employ the best technology, joining rail, roadway, bus, air, water, pedestrian, and bicycle facilities into an interconnected network that is fiscally sustainable.									
Goals	Objectives		Adopted Measures <sup>[2]</sup> / Definitions / Weightings <sup>[3]</sup>						
<b>Goal 1:</b> Enhance quality of life and economic strength of Northern Virginia through transportation	1.1	Reduce congestion and crowding experienced by travelers in the region	1.1.1	Total Person Hours of Delay <b>(HB599)</b>	①		③	Daily number of person-hours of travel above free-flow travel time for motorized trips (automobile and transit).	10%
			1.1.2	Transit Crowding <b>(HB599)</b>	①	②		Daily number of transit route-miles experiencing crowded conditions (local bus > 1.0 seating capacity; express bus and commuter rail > 0.9 seating capacity; Metrorail > 100 passengers/car).	5%
			1.1.3	Person Hours of Congested Travel in Automobiles <b>(HB599)</b>	①		③	Daily number of person-hours of travel in congested conditions, where “congested” is travel time in excess of 2.0 times the free-flow travel time.	5%
			1.1.4	Person Hours of Congested Travel in Transit Vehicles <b>(HB599)</b>	①		③	Daily number of person-hours of travel in congested conditions (buses on roadways), where “congested” is travel time in excess of 2.0 times the free-flow travel time.	5%
	1.2	Improve Travel Time Reliability	1.2.1	Congestion Severity: Maximum Travel Time Ratio	①	②		Maximum ratio of congested travel time to free-flow travel time during the AM and PM peak period.	5%
			1.2.2	Congestion Duration <b>(HB599)</b>	①	②	③	Number of hours of the day auto and transit passengers experience heavily congested travel conditions (travel time ratio greater than 2.0) times the number of facility miles.	10%
	1.3	Increase access to jobs, employees, markets, and destinations	1.3.1	Percent of jobs/population within 1/2 mile of high frequency and/or high performance transit	①			Percent of activity (population + 2 * employment) within 1/2 mile of Metrorail, commuter rail, or high capacity bus service (at least 500 seats per hour)	5%
			1.3.2	Access to Jobs within 45 mins by auto or within 60 mins by transit <b>(HB599)</b>	①			Average number of regional jobs that households in Northern Virginia can reach within 45 minutes by auto or 60 minutes by transit in the AM Peak Period.	5%
	1.4	Improve connections among and within areas of concentrated growth	1.4.1	Average travel time per motorized trip between Regional Activity Centers	①			Average travel time per trip for motorized trips between and among zones within one mile of Regional Activity Center centroids.	5%
			1.4.2	Walkable/bikeable environment within a Regional Activity Center	①		③	Qualitative: High, Med, Low, None thresholds to be defined for impacts of project improvements on amenities within one mile of the RAC centroid -- Pedestrian Facilities, Street Grid Improvements, Bikesharing, Bicycle Facilities, Transit Circulation and Connectivity within Activity Center. Combined score across amenities based on improvement from existing conditions (None=0, Low=1, Medium=2, High=4).	5%
<b>Goal 2:</b> Enable optimal use of the transportation network and leverage the existing network	2.1	Improve the safety of transportation network	2.1.1	Safety of the transportation system	①	②		Qualitative: Equivalent Property Damage Only (EPDO) safety measure from VDOT, reduced by 10% for each adjacent project on a corridor that specifically identifies safety improvements for vehicles, pedestrians, or cyclists in its definition. EPDO = (# fatal crashes*541.7) + (# injury crashes*29.2) + (# property damage crashes*1)	5%
	2.2	Increase integration between modes and systems	2.2.1	First and last mile connections	①	②		Qualitative: High, Med, Low, None thresholds to be defined for impacts of project improvements on amenities within one mile of high-capacity transit stations -- Pedestrian Facilities, Street Grid Improvements, Ridesharing, Bikesharing, Bicycle Facilities, Transit Connections to Transit Station. Combined score across amenities based on improvement from existing conditions (None=0, Low=1, Medium=2, High=4).	10%
	2.3	Provide more route and mode options to expand travel choices and improve resiliency of the system	2.3.1	Travel by non-SOV modes	①	②	③	Daily Non-SOV person volume per mile on links within geographic area	10%
	2.4	Sustain and improve operation of the regional system	2.4.1	Person hours of travel caused by 10% increase in PM peak hour demand <b>(HB599)</b>		②		Change in PM peak period person-hours of travel resulting from a 10 percent increase in PM peak hour (5-6pm) trip-making.	5%
<b>Goal 3:</b> Reduce negative impacts of transportation on communities and the environment	3.1	Reduce transportation-related emissions	3.1.1	Vehicle miles traveled (VMT) by speed			③	VMT by speed class in AM and PM peak and off-peak periods. (VMT < 15 mph/hour or > 65 mph/hour = high emission rates)	10%

① ② ③ Indicate primary goal supported by each measure

① ② ③ Indicate other goals supported by each measure

[1] Vision and Goals were adopted in December 2015.

[2] 'HB599' indicates measure used by VDOT during the HB599 Evaluation and Rating process for the FY2015-16 and FY2017 Programs.

[3] Recommendations for weightings of individual measures were adopted in January 2017.

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