

Version 5 Travel Demand Model Review

September 10, 2018



Background on Model Review Work

- VDOT has created a new Version 5 travel demand model for the FAMPO/GWRC region with significantly more capability than existing Version 3.1 model used in FAMPO 2045 LRTP and I-95 Phase 2 studies
 - Full mode choice for Transit, carpooling, and slugging
 - Based on more recent travel survey data and national practice
 - Includes Quantico area in Southern Prince William County, Virginia.
- FAMPO Task Order with Michael Baker to review Version 5 Model with initial results available in September 2018 and final results in October 2018.
- Version 5 model will be used by VDOT to evaluate FAMPO/GWRC area Smart Scale projects involving new roadways, e.g., Gateway Blvd extension, Germanna Point Drive extension.
- Version 5 model will be used by VDOT and FAMPO to evaluate potential additional I-95 improvements in the future

Version 5 Model Review Progress

Completed

- Executed FAMPO version 5 model sets received from VDOT.
- Verified output of model sets received matches output generated by VDOT.
- Analysis of model set output indicates performance of the base year (2015) model is the same as described in model documentation received from VDOT.
- Completed *static validation* comparing version 5 model performance to VTM Policies and Procedures Manual and the version 3.1 model.

Pending

- Dynamic Validation
- Technical Memorandum

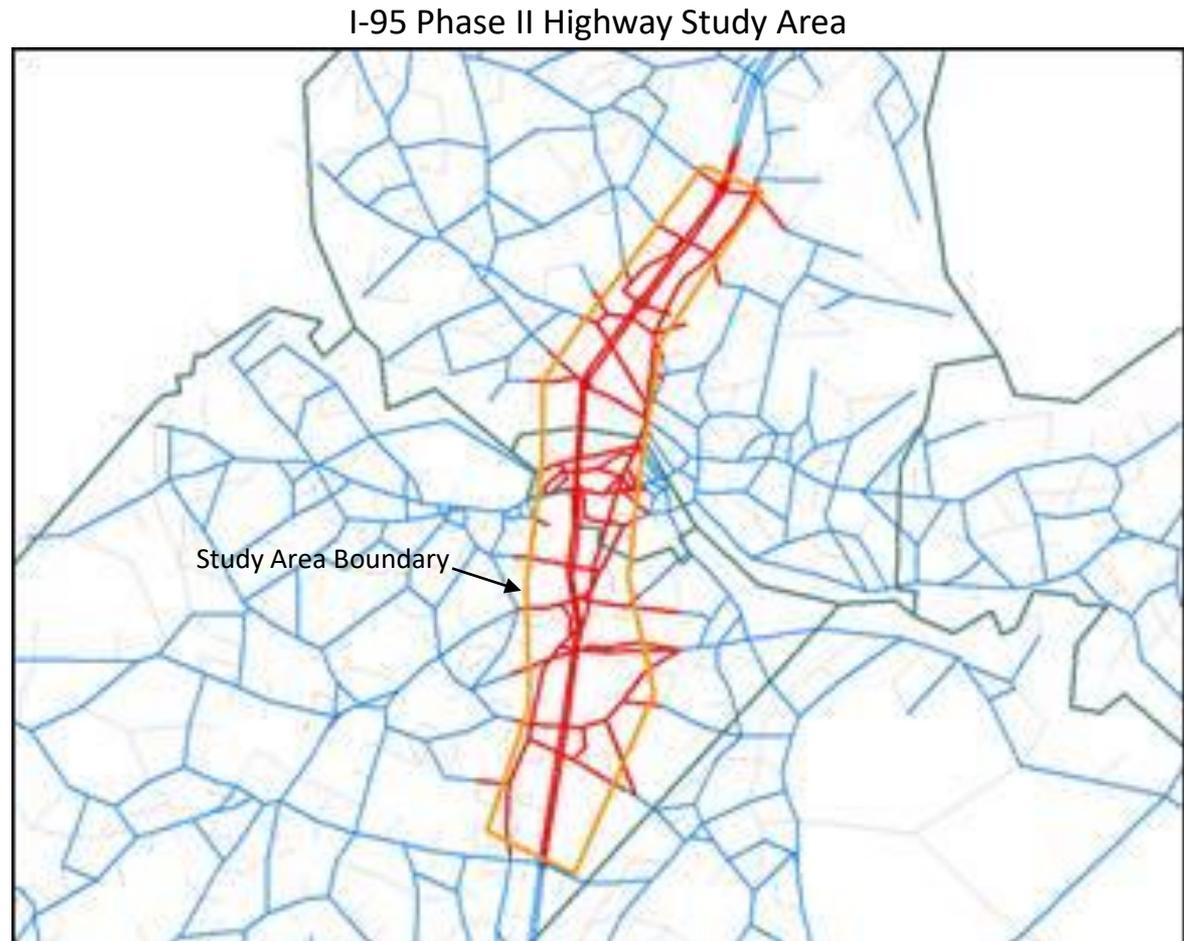
Static Validation – Version 5 vs. Version 3.1

- Accuracy of the version 5 model over the entire FAMPO region in matching observed daily volumes is generally better than version 3.1.
 - Improved on roadways carrying greater than 40,000 vehicles per day.
 - Improved in dense/urban areas of the FAMPO region.
 - This improvement translates to greater accuracy in the I-95, US 1, and US 17 corridors.
 - Route 3 corridor accuracy is approximately the same for both of the models.
- The version 3.1 model tended to under-estimate travel on higher volume roadways and over-estimate travel in dense/urban areas. The version 5 model corrects this, but at the expense of accuracy on lower volume facilities and roadways in suburban and rural areas.

Static Validation - Version 5 vs. Version 3.1

- At the location of the study area used in the previous I-95 Phase II Highway Study, accuracy of the version 5 model is better as compared with version 3.1.

- Greater accuracy on I-95.
- However, traffic volumes on arterials and collectors are significantly under-estimated.



Static Validation vs. VTM Policy Guidance

- The version 5 model validation generally conforms to VTM guidance.

