



- Transportation Analysis Process
 - Intersection Counts
 - Trip Generation
 - Estimates Growth Rates
 - Estimate Future Traffic Volumes
 - Recommend Mitigation
 - Conclusion



Measures of Effectiveness (MOEs)

- Measures of Effectiveness (MOEs) assess how well alternative transportation solutions are meeting our objectives and achieving our desired results
- MOEs can help to make both qualitative and quantitative comparisons
- One MOE expected to be applied is intersection level of service (LOS) which is used to assess vehicular traffic impacts is expected to be
- Other MOEs will be developed to assess performance of multimodal elements of the Plan, including bicycle and pedestrian connectivity and access



Quantitative Performance - Level of Service (LOS)

- LOS measures how well traffic flows along a roadway or how long vehicles wait at intersections (delay)
- LOS D is the default Comprehensive Plan acceptable standard
- LOS E is identified in the Comprehensive Plan as an acceptable standard for the Van Dorn TSA

	Delay (s/vehicle)
LOS	Signalized Intersections
A	≤ 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80





Comparison of Qualitative Performance

LIST OF CRITERIA FOR CONSIDERATION

Traffic Operations

Pedestrian Connectivity

Feasibility for Low-Stress Bike Facilities

Transit

Can Advance Context-Sensitive Solutions

A set of multimodal MOEs, such as these, could be used to compare and contrast transportation solutions

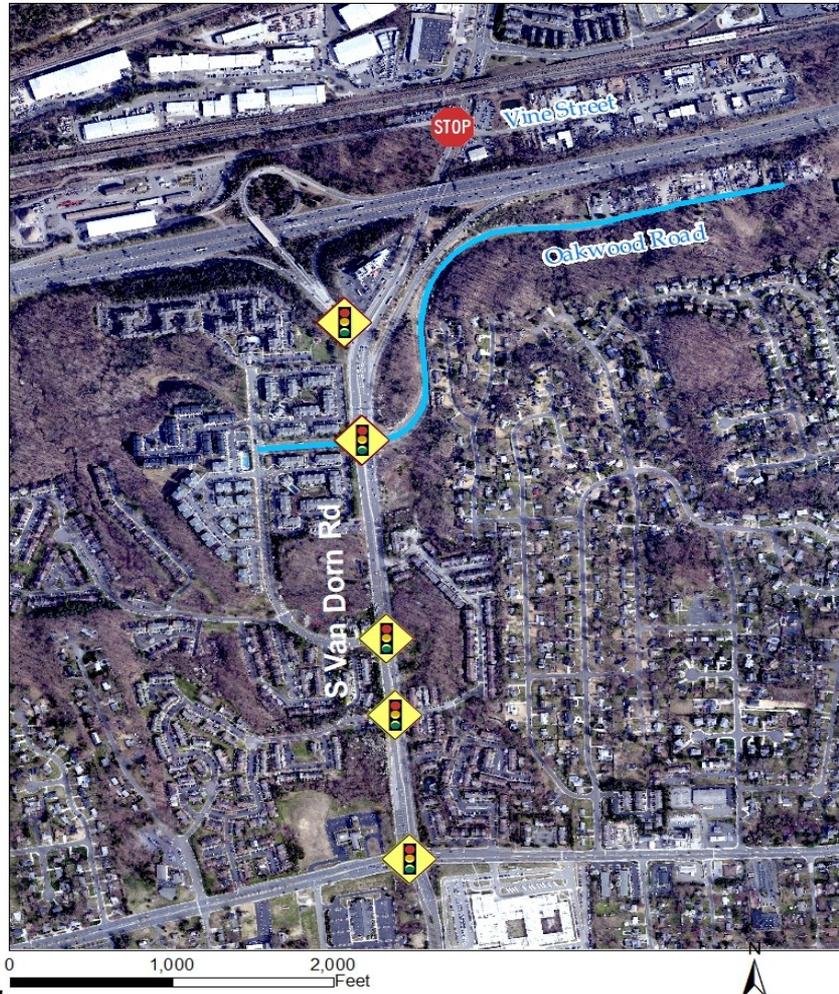
INDEX	
	Good
	Average
	Fair
	Poor



A color-coded index, such as this, could be used to measure performance



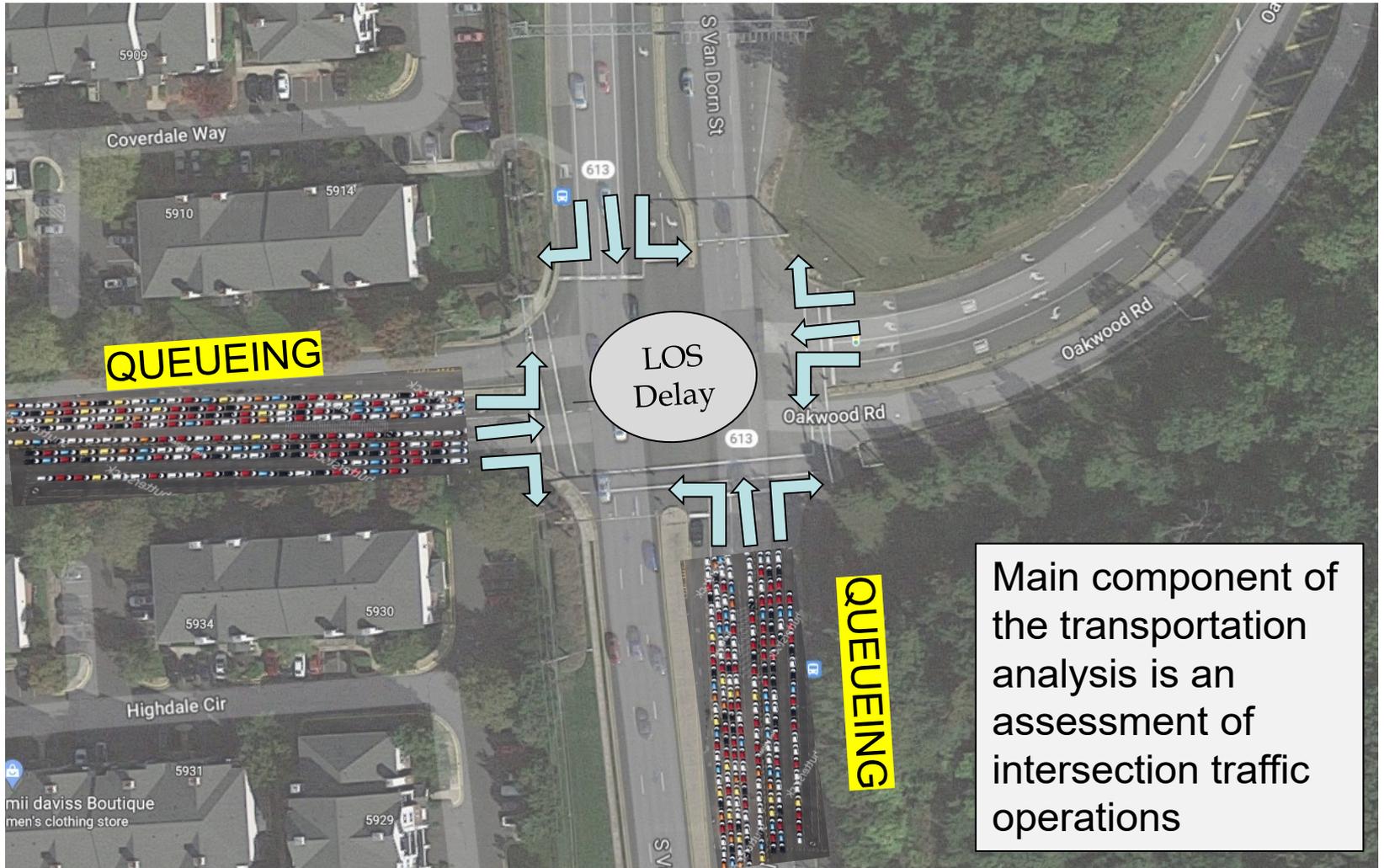
Anticipated Traffic Data Collection Locations



- South Van Dorn Street at
 - Franconia Road
 - Woodfield Estates Drive
 - Crown Royal Drive
 - Oakwood Road
 - I-95/495 (Capital Beltway)
 - Vine Street

Scoping with the applicant's transportation consultant is still pending, so some analysis details may be tweaked

****Revised Map - 7/29/21****

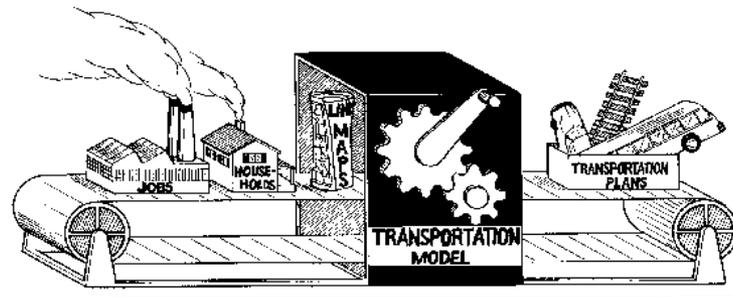


Hypothetical graphic for explanatory purposes only



Estimating / Forecasting Traffic Growth

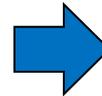
- Future traffic levels are forecasted based on projected land uses throughout the region, including population and employment
- Other factors are also in play, including transportation network characteristics, area types
- The models applied are validated and calibrated based on current traffic data
- Growth rates are determined by comparing the forecasted traffic to existing traffic data





Trip Generation

Land Use Input



Equation/Rate

ITE Code: 230
Directional Distribution:
67% entering, 33% exiting
Average Rate: 0.52
Standard Deviation: 0.75
Fitted Curve Equation:
 $\text{Ln}(T) = 0.80 \text{ Ln}(X) + 0.32$
 $R^2 = 0.80$



Output

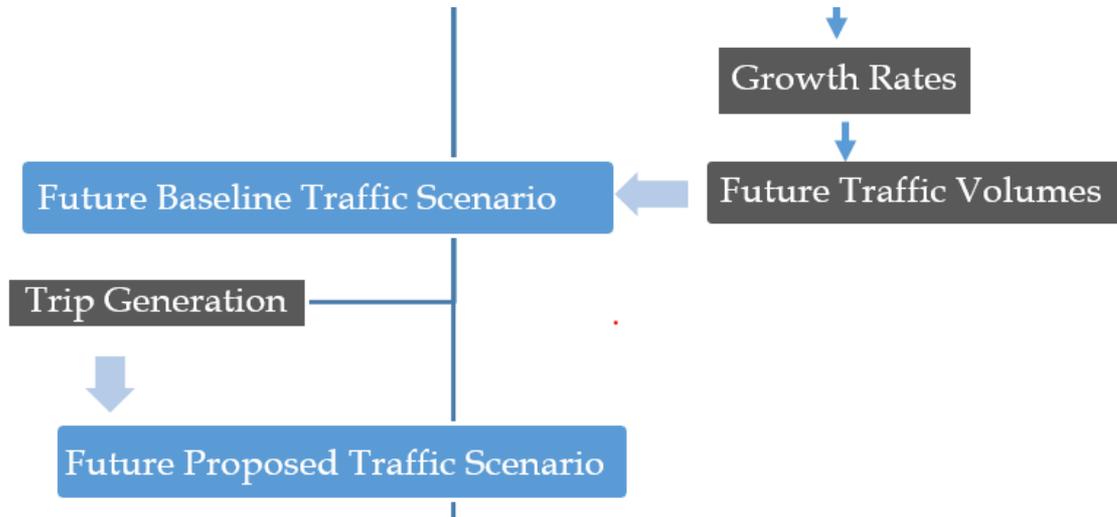


Some Considerations:

- Other land uses
- Transit
- Transportation Demand Management



Analyzing Future Baseline and Proposed Traffic Conditions



1. Future intersection turn movement volumes are estimated applying growth rates to existing traffic counts
2. Intersections are analyzed using industry standard tools

3. Intersection analyses help determine operational efficiency, evaluating LOS, delay and queuing
4. Future baseline traffic conditions are established
5. Steps 1-4 are repeated to establish conditions for the land use proposal
6. Baseline and proposed future transportation conditions are evaluated



Mitigation

- Analysis identifies deficiencies
- Mitigations are developed to address the deficiencies
- Mitigated intersections are again evaluated with standard transportation software
- Analysis results are reviewed using MOE's
- The mitigation process continues until desirable results are obtained

Conclusions and Recommendations

- Conclusions and recommendations are developed based on the analysis process



Questions ?