

Version 2.5 travel demand model development

A Status Report

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Announcements

Currently adopted travel model (V2.3.70) is available

- Approved October 18, 2017
- Used in AQC of the 2016 CLRP “out-of-cycle” Amendments
- Round 9.0 land activity assumed, as with previous cycle
- Includes mostly minor updates to the 66 model

The next AQC cycle is in motion

- The Plan is known as “Visualize 2045”
- Land activity inputs will be updated: Round 9.1
- Six analysis years analyzed, including a 2045 out-year

The FY 2019 UPWP formulation is in progress



Version 2.5 Refinements:

1. Updated transit network/path-building software
 - Public Transport (PT)
2. Improved non-motorized model
3. Simplified mode choice model
 - Transit choice set reduced from 11 to 3 modes
4. Highway & transit assignment enhancements
 - Highway assignment: VOT stratification
 - Transit assignment: Transit sub-mode choice



Checklist for V2.5 adoption

1. Understanding application
2. Validation
3. Running time optimization
4. Sensitivity testing
5. Documentation



Understanding the application

- Consultant has provided report and Cube Voyager application process (validation year: 2014)
- TPB staff accomplishments:
 - Refinements to scripting have been implemented and will continue to make process application ready
 - 2014 and 2020 models have been executed
 - 2040 run is in progress
- Still to do:
 - Need for improved reporting of outputs
 - Transit constraint process tailored to V2.5 model is required



Validation

- Consultant has have provided initial validation results for 2014
- Still to do:
 - More detailed traffic assignment validation
 - Transit ridership by sub-mode
 - Assessment of V2.5 results with currently adopted V2.3 model



Running time optimization

- Staff has observed that V2.5 running times are almost twice that V2.3 model
- Staff is investigating:
 - Reducing the number of speed feedback iterations using initial speeds from a pre-existing highway network
 - Eliminating the “Base”/”Final” construct currently used for scenarios involving HOT lanes



Sensitivity testing & documentation

- Sensitivity tests: analyzing the effects of altering:
 - Transit fares
 - Transit service frequencies
 - Auto operating costs
 - Land development patterns
- Documentation: Critical for federal certification



Envisioned TPB travel model application/development timeline

2018				2019				2020			
Jan-Mar	Apr-Jun	July-Sep	Oct-Dec	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec
	Visualize 2045 AQC (Ver 2.3 Application)										
Version 2.5 Development/Testing Evaluation of 2.3 vs 2.5 results				==>	AQC analysis (V2.5 Application)				AQC analysis (V2.5 Application)		
	NextGen Travel Model Development			==>		==>		==>	==>	==>	==>

Today

- V2.3 will be used in application this year
- Anticipate V2.5 to be adopted in FY 2019
- NextGen development will begin in August '18

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