



Metropolitan Council ActivitySim Phase 1 Wrap Up

Agenda

- Sensitivity Test Results
- Phase 2 Improvement Recommendations
- Final Wrap-Up Items





Sensitivity Test Results

VMT Tax Test

- Changed Auto Operating Cost from 18.29 to 28.29 cents/mile
- Number of auto trips dropped 2.4% (SOV), 3.1% (SR2), and 4.4% (SR3+)
- Number of non-motorized trips increased 10.2% (walk) and 27.1% (bike)
- Number of transit trips increased 6.7% (walk acc) and 47.5% (drive acc)
- Number of rideshare trips increased 4%
- Number of school bus trips increased 15.9%
- Daily VMT decreases 8.47%



Transit Addition

- Added F Line and extended Green Line to Eden Prairie
- System-wide transit boardings increase 0.3%
 - Central Avenue Corridor boardings increase 31%
 - Green Line boardings increase 17%
- Slight VMT decrease (1,500 miles)
-  No change to tours or trips ActivitySim outputs
 - Checked Skim conversion – everything works
 - Potential issue in mode choice
 - Mode choice transferred from walk/PNR/KNR model to walk/drive model
 - Mode choice just uses IVT – not IVT by service type
 - Phase 2 recommendation to estimate mode choice models



Increased Telecommute

- Doubled telecommuting for all areas in the model
- Total telecommuting (all non-telecommute) slightly over-doubles
 - Base 14.8%, increase to 29.7%
- Number of trips decrease by 1.4%
- VMT decreases 2.6%



TNC Service Change

- 75% Discount on TNC cost for Income Group 1
- Slight decrease in tours (73 tours), slight increase in trips (296 trips) and stops (488) (all less than 0.001%)
- 0.2% drop in VMT
- Number of trips for Income Group 1 selecting rideshare increases 34.9%
 - Largest decreases in Walk Transit (-1.8%), Bike (-0.6%), Drive Transit (-0.4%)





Phase 2 Recommendations

Recommended Data Improvements

- Survey Weighting
- Synthesized Population Improvements
- Micro Analysis Zones
- SEDATA Format
- Transit Line Formatting/Headway Changes
- University Data



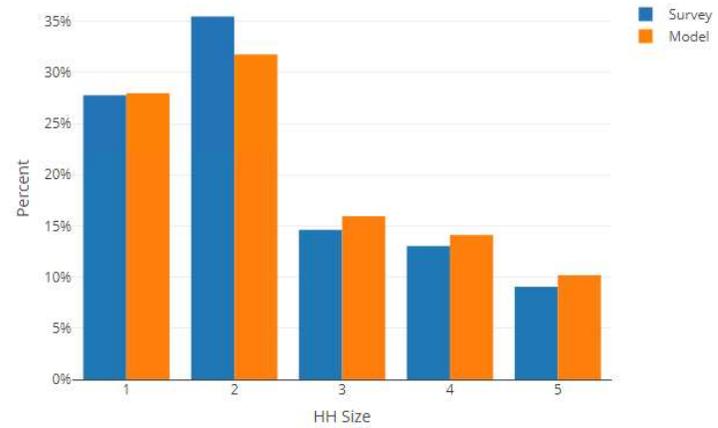
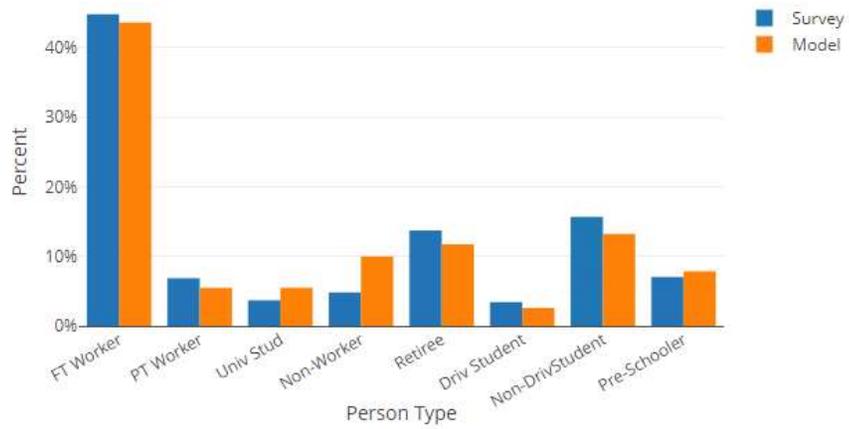
Survey Weighting

- Full year survey = some student data reflects summer pattern
 - Adjustment made, but...
 - SchD still high 1-work tour frequency
 - Preschool *may* be high for 2-school, but small (3.17%, others 0.3%, 1.9%, 16.1%)
- Initial FTW and PTW mandatory tour frequency very high 2-work tours
- University still high 1-work tour frequency, too low 1-school pattern
- Mode choices vs. VMT???
- **High Priority**



Population Synthesis

- Represented-ness



Population Synthesis

- Ages currently categories
 - Age group 1 = 0-5, CDAP models use age 0-1 and 4-5 for daycare (less/more likely)
 - Some models use 16-19 groups, age group 4 is 16-17, age group 5 is 18-24
- Incomes in categories
 - May be okay, some components originally setup with <\$25k, \$35k, \$60k, and \$120k+
 - Current setup is <\$20k, \$40k, \$70k, and \$100k+
- Person type vs. Student Status
 - Model currently changes PTW with school status to Univ Student
 - Model currently changes Univ Students that do not go to school to PTW
- **High Priority**



Micro Analysis Zones

- Subdivides TAZs
- Improves transit and non-motorized representation in urban and CBD areas
- Low priority unless significant transit or non-motorized modeling expected



SEDATA Format Update

- Incorporate additional variables
 - School enrollment
 - County Name
 - State Abbreviation or FIPS code
- Adopt “universal standardized” area type
 - 1 = CBD, 2 = Urban, 3 = Suburban, 4 = Rural
 - Maybe add additional for outlying business district
- Medium priority, easy to implement



Improved Transit Representation

- Currently, Headway 1 is used for peak period, headway 2 for off-peak
- Peak skims transposed for off-peak
 - Assumption that PK and OP are mirrors, frequently they are not
- Recommendation:
 - Headway 1 – AM Peak
 - Headway 2 – MD
 - Headway 3 – PM Peak
 - Headway 4 – Evening (until ~9:00 PM)
 - Headway 5 – Overnight (if exists)
- Medium priority unless significant transit modeling expected



Improved University Data

- Universities are already difficult
 - Not transferrable due to many issues
 - Number in region
 - Location relative to CBD
 - Transportation and parking supply
 - Specific university and location issues
- Updates require a university survey and/or significant data from universities
- Low Priority



Model Estimation Improvements

- Auto Ownership (medium priority)
- Mandatory Location Choice (high priority)
- Destination Choice Models (high priority)
- Mode Choice Models (high priority)
 - Special attention to transit, particularly because different access (walk/drive vs walk/p/k)
- Time of Day Models (medium priority)
- Calibration of other models
 - CDAP and tour frequency models are high priorities
 - Telecommute, joint tour participation, and trip purpose are medium priorities
 - WFH and free parking are low priorities
 - Transit and toll pass ownership is variable priority (based on expected transit/toll uses)





Final Wrap-Up Items

Final Wrap-Up Items

- ActivitySim calibration vs. full validation
 - More counts would be better (highway validation)
- Inputs must be moved from RSG Sharepoint to Met Council location

