|  |  |
| --- | --- |
| **TO:** | Alex Bettinardi, Oregon DOT |
|  | |
| **FROM:** | Joel Freedman, RSG |
|  | |
| **CC:** |  |
|  | |
| **DATE:** | August 8, 2018 |
|  | |
| **SUBJECT:** | Southern Oregon Activity-Based Model (SOABM) Second Round of Calibration Peer Review Meeting Notes |
|  |  |

A meeting was held on August 7th, 2018 at McMinnville Community Center in McMinnville Oregon discuss the results from the third round of SOABM calibration. Below are the list of attendees and meeting notes. All other proceeds from this meeting which include a power point presentation, final Utility Expression Calculator (UEC) spreadsheets, four HTML files comparing the results from SOABM runs and JPEG plots were shared separately with all of the attendees.

Attendees

Alex Bettinardi, ODOT

Jin Ren, ODOT

Sam Ayash, ODOT

Tara Weidner, ODOT (phone)

Peter Schuytema, ODOT (phone)

Ray Jackson, Salem-Keizer Transportation Study (phone)

Chetan Joshi, PTV

Joseph Lubliner, PTV

Joel Freedman, RSG

Binny Paul, RSG

Peter Bosa, Metro

Chris Johnson, Metro

Keith Lawton, Consultant

Agenda

Welcome and Introductions All 5 min

Review of Current ABM Results RSG 75 min

A walk through and discussion of all of the comparison measures between the ABM and the observed data complied.

BREAK

Approach for Dealing with Shadow Pricing RSG 20 min

An update from the second peer review meeting regarding a discussion around how shadow pricing should be implemented in the final production model. This relates to; sample rate, number of iterations, and issues introduced by re-developing new shadow prices for every run or applications deemed to require new prices.

Review of Current ABM Sensitivity Test Results RSG 20 min

A walk through and discussion of how the SOABM compared against the three specified sensitivity scenarios.

Discussion on Third Phase of Calibration All 50 min

Recommendations and discussion around lessons learned and important findings from the third phase of calibration, and if the model looks acceptable for application or if further issues need to be addressed.

Closing Thoughts All 5 min

See the HTMLs and spreadsheets for calibration and sensitivity test results.

Meeting Notes

**Model Calibration\Validation Discussion**

Clarification on UEC: Utility Expression Calculator, contains utility expressions for all of the CT-RAMP demand models. We stripped out all calibration constants except for the constants estimated or adjusted during the initial application of the models for San Diego.

Keith asked about CVM adjustments; to the extent that they are compensating for lack of visitors, they would send the visitors to the wrong locations due to the trip rate variables and attraction variables, which don’t account for visitor activities. Joel mentioned that a visitor model would be a better way to address the under-estimate, or at least the portion of the VMT under-estimate due to visitors. But, would require an inventory or estimate of AirBnB and other types of rental properties due to the significant proportion of visitors staying in secondary homes. This would be an important component of an application to Bend.

Chetan: There is a node-delay function in VISUM that could be used to reflect stop sign delay on local roads.

Keith: Screenline in Ashland is over-estimated due to network loading. Not a good location for a screenline.

Rosella: Point of clarification that the loading is at the TAZ level.

Sam: What summaries did you use from OHAS versus other data sets? Joel: We calibrate most of the models to OHAS data except for tour frequency (which is clearly low compared to other large-scale household surveys) and for stop frequency (which is low compared to more recently-collected GPS-enabled Smartphone surveys, such as the recent 5000 household SANDAG survey)

Rosella: Add summaries of estimated versus observed by volume group. Also outline what steps could be taken to address discrepancies between counts and assigned traffic. Issues to address: counts on the same or adjacent links that are inconsistent. Centroid connectors that could be recoded to better match actual network loading. Land use reviews for major land-uses such as Rogue Valley Mall. Alex: We may want to follow up on these issues in-house, or maybe schedule a webinar to go over the counts.

Sam: What analysis was done for special generators in the region? We don’t have a lot of data for special generator trips, and the OHAS data is very thin. RSG recently conducted an analysis of special destinations for SANDAG using Streetlight data and traffic counts. In most cases the model performed very well. In some cases the problems were due to land-use issues – medical employment coded as university employment, or casino employment coded as government. In some cases the model under-estimated trip length for outlet malls.

Jin: the model seems to under-estimate park-and-ride trips. Binny: The on-board survey only had ~70 park-and-ride trips.

**Shadow Pricing Discussion**

Chetan: Could only apply shadow price in case where employment is exceeded.

Alex: Is there any way to check that the number of workers by occupation category compares to the total number of jobs by occupation? There is no current method that does this, but it could be developed.

Rosella: Suggest to plot the distribution of the final iteration size term adjustments.

Alex: Suggest test run with no shadow pricing. Keith agrees.

Rosella: Did the trip lengths change after implementing shadow pricing? Binny thinks they may have changed slightly but there were a lot of other changes. We could summarize the trip length in the test with no shadow price.

**Sensitivity Test Discussion**

Chris J: Asked about adjustments to synthetic population, whether worker distributions were adjusted. Joel: Yes the other controls were adjusted by Alex. Analysis was done to investigated implied controls of age 65+ population using PUMS data including workers per household, household size, etc.

Alex: Would be interesting to see the reductions of shopping tours\trips to other MAZs.

Rosella: Asked whether the commercial vehicle models and external models would have reacted to the difference in land-use. Joel: Yes the models were re-run as part of the scenario and would have produced a trip-table consistent with the revised land-use.

Rosella: Suggests to look at second order effects for transit scenario: changes in attractions in transit corridors, auto ownership. If you decide to drop shadow pricing could re-run scenario without shadow pricing.

Peter Bosa: Question on how to model land use developments. Depends on where the development is, how big it is, etc. Could split zone, use existing zone geography, add MAZ (would require re-running synthetic population). Turnkey model system. Everything in VISUM (except population synthesizer). All land-use data is in one file.

Alex would like comments back on documentation by August 21. Joel: try Open->Open in Word. If that doesn’t work try Open->Word Online. If that doesn’t work\times out, download the document and edit locally, send edited document to Alex.

**Summary of Recommendations:**

* Add summaries of estimated versus observed by volume group.
* Outline what steps could be taken to address discrepancies between counts and assigned traffic.
* Add check that the number of workers by occupation category compares to the total number of jobs by occupation
* Plot the distribution of the final iteration size term adjustments.
* Run a test of the model with no shadow pricing. Summarize the trip length in the test with no shadow price.
* Summarize\plot the reductions of shopping tours\trips to other MAZs in the land-use scenario.
* Summarize changes in attractions in transit corridors, auto ownership in the transit scenario.