The Travel Model Improvement Program

Summary Report

Community Planning Association of Southwest Idaho (COMPASS) (Boise MPO)

Travel Demand Model Peer Review

Meridian, Idaho
January 2008

Helping Agencies Improve Their Planning Analysis Techniques

TMIP
Travel Model Improvement Program

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Introduction

Report Purpose

A travel demand model peer review is conducted at the request of the agency hosting the peer review panel as a means of soliciting:

- External guidance on addressing identified issues
- The identification of possible model deficiencies
- Recommendations for potential model enhancements
- Experienced advice on model development and application

Moreover, as noted on the Travel Model Improvement Program (TMIP) website, "few individuals have had the opportunity to develop and apply more than one travel demand forecasting procedure. No individual can foresee all the issues that may arise in developing or applying a new model set. One approach to improving travel forecasting procedures has been the use of Peer Review Panels. These panels, composed of individuals who have "hands-on" experience with both developing and applying travel forecasting models, assist local agency staff in both identifying possible problems and in developing workable solutions".

After a peer review panel meeting has been conducted a summary report is prepared that documents the panel's findings, recommendations and suggested course of action. While this is the primary purpose of the report, a secondary purpose is equally valuable; that being to delineate the identified issues and workable solutions as a means of providing modeling practitioners concepts and approaches to consider for incorporation into their own model set. Ideally it should offer new perspectives to question our standard assumptions regarding model development.

Report Structure

To facilitate assessing whether any noted recommendation is worth implementing, the peer review summary report does not extensively document the reviewed model's current structure. Instead, a brief summary of the model component is offered to merely place the topic of discussion in context. The majority of discussion for a given topic will focus on summarizing the technical issue, its significance, and providing context for the recommended approach or solution. Thus, each topic of discussion will be structured as follows:

- Model Component
    - Issue Synopsis
    - Overview of Existing Model Structure
    - Issue Significance
    - Panel Recommendation

For the reader that desires a more comprehensive review of the existing model, Appendix A, COMPASS Model Documentation, lists relevant references that can be acquired.

Peer Review Panel Meeting and Recommendations

This report, *Summary Report Community Planning Association of Southwest Idaho Travel Demand Model Peer Review,* documents the travel demand model peer review panel meeting held at the Community Planning Association (COMPASS) of Southwest Idaho office in Meridian, Idaho on June 5th and 6th of 2007. The one and a half-day peer review panel meeting was held as part of the TMIP that is sponsored by the Federal Highway Administration (FHWA). The peer review panel consisted of six travel demand modeling experts (ref. Appendix B, List of Peer Review Panel Participants, for list of panel members and meeting participants).

Appendix C, Peer Review Panel Meeting Agenda, provides the meeting agenda. The meeting began with COMPASS staff providing presentations on existing model

structure and proposed model improvements. Peer review panel discussion was based on questions and answers occurring throughout staff presentations as well as model documentation provided prior to the meeting and a pre-defined set of goals provided at the inception of the meeting.

Apart from a brief model overview, the majority of this report summarizes the findings and recommendations of the peer review panel. Prior to discussing the identified issues and recommendations it should be noted that the Peer Review Panel was appreciative and complimentary of the effort involved in developing and calibrating the COMPASS travel demand model. Panel members commended COMPASS staff for their integrity, dedication and knowledge of the travel modeling process.

Structuring the peer review panel report to primarily focus on issues and recommendations may leave one with an impression that the model was not entirely sound; that is not the case nor is it the intent of this report. Rather, it is assumed that the typical reader is more interested in identified issues and model nuances that required thoughtful consideration and that more can be learned from discussing aspects of a model with potential for enhancement as opposed to reviewing existing model structure and what works. To that end, COMPASS staff have been gracious enough to openly share their model's inner workings. Following the model overview the remainder of the report documents the identified issues and peer review panel recommendations.

Model Overview

This section of the report offers a brief overview of the COMPASS model components to provide some context for the discussion comprising the remainder of the report.

Data

Household Travel Survey
A household travel survey comprised of 3,488 recruited households and 2,582 completed travel diaries was conducted in the fall of 2002 to support model calibration efforts.

Traffic Counts
2,243 twenty-four hour traffic counts and 1,101 peak hour traffic counts were collected to support model validation.

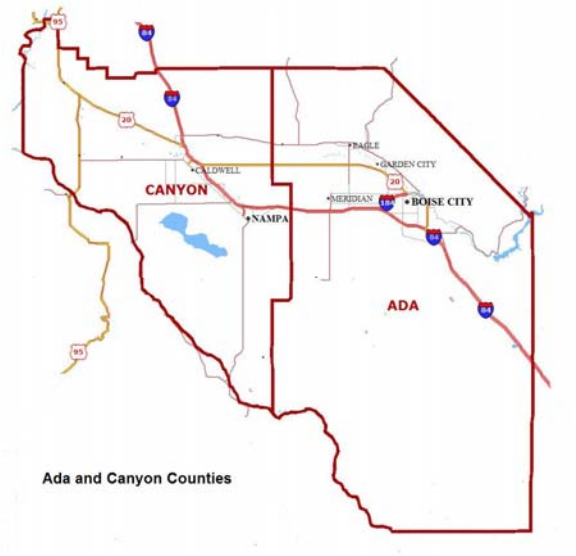
Speed Data
Posted speed limit data was inventoried.

Demographics
Population and household estimates for 2002 were estimated based on 2000 Census figures and building permit information. Base year 2002 population and household estimates were 481,235 and 176,666 respectively. Employment data was estimated at 241,411 for the base year. Estimates for the two counties are provided in Table 1 – 2002 Demographic Data.

Study Area

The COMPASS study area encompasses two counties, Ada and Canyon counties (ref. Figure 1), and is divided into 534 traffic analysis zones (TAZs) with 346 in Ada County and 188 in Canyon County.

Figure 1 – Ada and Canyon Counties



Network

The 2002 model network is comprised of all facilities functionally classified as collector and above. The 2002 network consists of 5,125 non-centroid links. Network capacities were based on the Highway Capacity Manual 2000 for mid level of service D.

Table 1 - 2002 Demographic Data

Demographic Data	Ada County	Canyon County	Total
Population	328,810	152,425	481,235
Households	124,522	52,144	176,666
Persons per Household	2.64	2.92	2.72
Vehicles	257,043	111,391	368,434
Vehicles per Person	0.78	0.73	0.77
Vehicles per Household	2.06	2.14	2.09
Employment	190,743	50,668	241,411
Employees per Person	0.58	0.33	0.50

Source: "*2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties*", COMPASS, June 2006

Trip Generation

The trip production model is a cross-classification model; production rates are stratified by household size (1 to 4+) and number of vehicles (0 to 4+) resulting in a cross-classification table of five vehicle ownership categories and four household size categories.

The trip attraction model is also a cross-classification model with attraction rates stratified by five employment types (retail, office, government, industrial and agricultural) plus households and three area types (Boise CBD, remainder of Ada County and Canyon County).

There are six internal trip purposes:

- Home Base Work
- Home Base Shop
- Home Base Social
- Home Base School
- Home Base Other
- Non-Home Base

And two external trip purposes:

- External-external
- Internal-external

Trip Distribution

The trip distribution model is a gravity model. Friction factors were initially derived from the previous base year model but calibrated to 2002 household survey trip length frequency distributions by trip purpose. K-factors were not used to calibrate the model.

Mode Choice

COMPASS has recently transitioned from a three-step model to a four-step model that includes a mode choice component. The mode choice model was borrowed and adapted from the Wasatch Front Regional Council (Salt Lake City MPO) model. The model is a nested logit structure with five modes:

- Auto
- Bus, walk access
- Bus, drive access
- Walk
- Bike

Trip Assignment

A daily 24-hour assignment and a peak hour assignment were run. The 24-hour assignment procedure was a multi-class user-equilibrium assignment process. The standard BPR function was used; however, alpha and beta values were iteratively derived. The final alpha and beta values are shown below in Table 2 – Alpha and Beta Values.

Table 2 – Alpha and Beta Values

Facility Type	Alpha	Beta
Interstate Ada Co.	0.56	4.0
Interstate Canyon Co.	0.56	3.6
All Other Facilities	0.15	5.0

Source: "*2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties*", COMPASS, June 2006

The peak hour assignment represented the 5:00 to 6:00 PM time period; it also was a user-equilibrium assignment process and used the same alpha and beta values as the daily assignment.

Issues and Recommendations

The Issues and Recommendations chapter concentrates on examining each of the technical issues that arose during the Peer Review meeting, its significance, and providing context for the Peer Review Panel's recommendations.

Demographic Data

Employment Data

Issue Synopsis
An apparent imbalance of base year employment estimates exists at the county level. The imbalance of employment by county is prominent when comparing employees per person by county and may have an unintended affect during calibration of trip generation and trip distribution models.

Overview
The travel demand modeling area encompasses two counties: Ada County and Canyon County. Base year 2002 employment estimates for the two counties were based on the purchase of a private vendor (Polk Directories) employment database. Though Department of Labor data was considered a superior source of employment data, COMPASS staff were unable to acquire the data given their public/private status. The Polk Directories database comprised over 17,000 employment records listing employers by name, address, Standard Industrial Classification (SIC) code and number of employees. Two comparative sources of local employment data, but only at the county level, were the Department of Labor and the 2002 State and County Economic Forecast (2001 – 2025).

Base year employment data was estimated at 241, 411 with Ada County having 190,743 and Canyon County at 50,668. Thus, 79 percent of the regional employment resides in Ada County. Overall the two-county total employment estimate for the region based on the Polk Directories database was approximately three percent higher than the Department of Labor estimates and the 2002 State and County Economic Forecast. Ada County estimates however, were ten percent higher than the other sources; whereas, Canyon County estimates were 27 percent lower.

Issue Significance
The impact of higher employment estimates in Ada County and lower estimates for Canyon County can be seen in the rather different employees per person ratio for each county as shown in Table 3. The imbalance of employment by county is prominent when comparing employees per person by county and may have an undesirable affect during calibration of trip generation rates and/or an unintended impact on average trip lengths and the calibration of friction factors during trip distribution.

Table 3 - 2002 Population and Employment Estimates

Demographic Data	Ada County	Canyon County	Total
Population	328,810	152,425	481,235
Percent of Total Population	68%	32%	100%
Employment	190,743	50,668	241,411
Percent of Total Employment	79%	21%	100%
Employees per Person	0.58	0.33	0.50

Source: "*2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties*", COMPASS, June 2006

In considering future employment forecasts, it may be worthwhile to consider whether the pattern of one county garnering the majority of employment continues over time particularly in relation to future allocation of population and households by county.

Panel Recommendation
Given the importance that accurate demographic data has in model development and its impact on model performance, the panel recommended that COMPASS enlist the assistance of the Idaho Transportation Department (ITD) in acquiring Department of Labor employment data. It was also noted that the differences in demographic data by county should be resolved instead of addressing the issue by revising attraction rates. In other words, attraction rates should not be increased to compensate for under reporting of employment. The panel also suggested that more detailed model documentation be provided regarding the process for developing regional employment forecasts and allocation of employment data to the TAZ level.

Trip Generation

Trip Generation Rates

Issue Synopsis
County of residence is used as an explanatory variable to account for perceived differences in household trip-making characteristics that have been attributed to an imbalance of employment by county. This has led to the development of distinct person trip production rates that were developed and applied for the two counties that comprise the modeled area.

Overview
Person trip production rates for six trip purposes are derived from a 2002 household travel survey. The production rates are stratified by household size (1 to 4+) and number of vehicles (0 to 4+) resulting in a cross-classification table of five vehicle ownership categories and four household size categories.

A third stratification arises from the separate production rates that have also been developed for the two counties comprising the region. The stratification of production rates by county was implemented in response to the perception that residents of each county exhibit different trip-making characteristics. The difference in household trip making characteristics by county has been tied to the previously noted imbalance of base year employment estimates at the county level.

Further stratifying the trip production rates by county resulted in cross-classification cells with minimal or no survey trip data; these were adjusted based on best fit. For the region as a whole, an average of 11 person trips per household is made on a daily basis with a range of 3.8 to 19.8 trips per household. In addition to county specific production rates, attraction rates in Canyon County were increased to account for the employment deficit.

Issue Significance
The stratification of production rates by county was implemented in response to the perception that residents of each county exhibit different trip-making characteristics. The difference in trip-making characteristics was attributed in part to the lesser amount of jobs in one county and consequently its residents commuting further to places of employment (ref. Employment Data issue) in the other county. As a result, the underlying assumption is that the same type of household (e.g. 2-person household with two vehicles) generates a different number of trips, for each trip

purpose, by virtue of residing in one county versus the other county. Similar types of households can indeed exhibit different trip making characteristics; however, additional household attributes can also usually account for the differences. In addition, household explanatory variables such as income or number of workers may be more defensible than county of residence.

It is exigent that validated models are able to accurately simulate regional travel behavior and trip patterns utilizing relevant socio-economic data, network based travel times and costs and other pertinent data. Using available socio-economic variables, market segmentation can be useful in accounting for differences among apparently similar households and provide a reasonable rationale for differences in household travel behavior.

Panel Recommendation
The Peer Review Panel recommended that greater market segmentation be included in the model, primarily by income distribution. Thus, differences in trip generation rates for two similar households (e.g. two-person, two-vehicle households) could be attributed to differences in household income (e.g. low income household versus high). This also would afford the ability to appropriately link household income to comparable employment income; for example, linking low-income households with low-income jobs which would benefit the trip distribution process.

It was also recommended that differences in production rates by county be eliminated and that an accessibility variable be considered to address the perceived differences in trip making characteristics arising from the imbalance of households and jobs by county and the distance separating those households and jobs. An additional recommendation was to consider using number of workers per household as an additional trip production variable.

Balancing Productions and Attractions

Issue Synopsis
For several trip purposes the unbalanced number of person trip productions and trip attractions are considerably different. Moreover, the balancing procedure results in an overall reduction of regional person trips.

Overview
As noted previously (ref. Trip Generation Rates issue), person trip production rates were derived from a 2002 household travel survey. Production rates were stratified by household size and number of vehicles resulting in a cross-classification table of five vehicle ownership categories and four household size categories. Separate production rates by county were implemented in response to the perception that residents of each county exhibit different trip-making characteristics. Stratifying the trip production rates by county resulted in cross-classification cells with minimal or no survey trip data. Consequently, the final values derived for those cells were based on best fit adjustments.

Attraction rates were initially based on recommendations outlined in National Cooperative Highway Research Program (NCHRP) Report 365; however, these were revised to be consistent with the number of person trips by trip purpose based on the 2002 household survey. For the home base school trip purpose, person trip attractions were estimated using trips per student per school type (i.e. elementary, middle school, high school and university). Final attraction rates for Canyon County, the county with lower employment estimates (ref. Employment Data issue), were increased to account for the employment shortfall in that county.

Except for the non-home base (NHB) trip purpose, attractions were balanced to productions. For NHB, productions were balanced to equal attractions. As shown in Table 4 - Comparison of Productions and Attractions, three of the trip purposes have a percent difference of 16 percent or greater.

Table 4 – Comparison of Productions and Attractions

Trip Purpose	Productions	Attractions	Percent Difference	Balanced P's and A's
Home Base Work	327,351	325,758	0.5%	321,825
Home Base Shop	211,648	328,837	-35.6%	211,275
Home Base Social	201,362	189,345	6.3%	199,315
Home Base School	216,577	198,867	8.9%	197,817
Home Base Other	438,449	375,673	16.7%	431,510
Non-Home Base	641,813	515,947	24.4%	515,947
Total	2,037,200	1,934,427	5.3%	1,877,689

Source: "*2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties*", COMPASS, June 2006

Issue Significance
With the exception of the home base work trip purpose, the magnitude of difference between the unbalanced productions and attractions indicates that there may be inconsistencies between:

- Population/household data and employment data, and/or
- Production rates and attraction rates

It should be kept in mind that the production rates and attraction rates were derived from two independent sources and that may account for some of the inconsistencies; however, by having significant differences in the base year it will be difficult to assess the adequacy of the relationship between future year productions and attractions. Whereas, if base year productions and attractions are nearly equal then future year imbalances can potentially act as an indicator of potential demographic problems. In other words, if base year scaling factors by trip purpose approximate 1.0 and future year scaling factors differ considerably from 1.0 then that difference can act as an indicator that forecasted households and employment may not be consistent.

Panel Recommendation
The panel recommended that the imbalances be reviewed and addressed.

Trip Distribution

Person Trip Composition

Issue Synopsis
The internal person trips by trip purpose developed in trip generation that are applied during trip distribution include non-motorized walk trips and bicycle trips; however, all trips(motorized and non-motorized) are distributed based on highway network travel times.

Overview
As noted previously, person trip production rates for six internal trip purposes were derived from a 2002 household travel survey. The household travel survey yielded information for nine modes of travel as shown in Table 5 - Modes of Travel from Household Travel Survey. The trip production rates that were developed from the household travel survey and applied during trip generation accounted for all modes shown in Table 5 and are used to estimate person trips for the following six internal trip purposes:

- Home Base Work
- Home Base Shop
- Home Base Social
- Home Base School
- Home Base Other
- Non-Home Base

applied during trip distribution and all trips would be distributed and subsequently fed to the mode choice model.

Table 5 – Modes of Travel from Household Travel Survey

Mode of Travel	Number of Person Trips	Percent of Trips
Walk	1,215	4.5%
Bicycle	300	1.1%
Driver	17,970	66.1%
Passenger	6,682	24.6%
City Bus/Public Transit	74	0.3%
School Bus	838	3.1%
Taxi/Shuttle/Limousine	30	0.1%
Motorcycle	46	0.2%
Other	37	0.1%
Total	27,192	100.0%

Source: "*Compass Mode Choice Tools Documentation and Final Report*", Fehr & Peers, April 2006

Issue Significance
Person trips are distributed using highway network travel times which tend to be faster than travel times for walk and bicycle modes. Consequently, the result of including walk and bike trips in the trip distribution process will be trip matrices that have a portion of trips traveling further than the observed travel survey data indicated. As shown in Table 5, for the COMPASS model walk and bicycle trips comprised 6.6 percent of the total person trips.

Panel Recommendation
If the three-step model is used, the panel recommended that walk and bicycle trips be removed prior to trip distribution. Recently however, COMPASS has transitioned from a three-step model to a four-step model that includes a mode choice component (see page 10, Mode Choice discussion). For the interim, only motorized trips need to be fed to the mode choice step; however, since the mode choice model includes a non-motorized nest it is recommended that eventually composite impedances be

Friction Factors

Issue Synopsis
It is uncertain whether comparable travel times were used to analyze household survey data and develop friction factors.

Overview
Trip length frequency distribution (TLFD) curves were derived from the household travel survey for the six internal trip purposes. The TLFD curves indicate the percentage of trips that occur at each minute of travel based on travel survey data. It is unclear however whether the travel times used to develop the TLFD curves were based on highway network times or reported travel times.

Friction factors for some trip purposes were developed by slightly revising the friction factors that had been calibrated in the previous 1997 base year model. For two new trip purposes, home base social and home base school, an iterative process was used to derive the additional set of friction factors.

Issue Significance
The TLFD curves for each of the six internal trip purposes are one means of assessing the performance of the trip distribution model. The survey derived TLFD curves are used as a comparative benchmark in evaluating the resulting modeled TLFD curves by trip purpose. If the travel times supporting the two sets of TLFD curves are from different sources (i.e. perceived travel times from survey data and network calculated) then the calibration of friction factors to yield TLFD curves that match survey data may not yield appropriate trip matrices.

Panel Recommendation
It was recommended that network travel times be used for both model development and application purposes.

Trip Origin and Destination

Issue Synopsis
For three of the six trip purposes modeled county to county trip interchanges between the two counties comprising the study area were considerably higher than observed movements from the travel survey data.

Overview
An analysis of trip distribution results indicated that county to county trip interchanges between Ada and Canyon counties were considerably higher than the observed trip interchanges derived from the household travel survey data. For the home base work trip purpose as an example, 50 percent of the Canyon County trips were destined to Ada County compared to 23 percent as indicated by household travel survey data. Efforts to address this issue included revisions to attraction rates and stratification of internal-external and external-internal factors.

Issue Significance
Trip movements that are improperly oriented to destinations counter to observed data can adversely affect a model's ability to properly mirror observed trip patterns. This can impact the model's ability to replicate observed screenline crossings, corridor movements and facility specific volumes.

Panel Recommendation
A number of recommendations were offered to enhance the trip distribution model, these included:

- Stratifying home base work trips by income to enhance work trip destinations by improving the linkage between household income and employment income (e.g. low-income households and low-income jobs)
- Forecast household income by TAZ as well as jobs by income group by TAZ
- Examine the contribution of employment estimates to the trip interchange imbalance
- Stratify trips by time period (e.g. peak and off-peak). By differentiating between peak and off-peak time periods, peak travel time matrices can be applied during home base work trip distribution and off-peak travel times can be used for the other trip purposes
- Implement a feedback process for peak period home base work trips
- Check district to district trip movements in addition to the county to county interchanges to better assess the performance of the base year trip distribution model

Mode Choice

Model Application

Issue Synopsis
COMPASS has recently transitioned from a three-step model to a four-step

model that includes a mode choice component. The mode choice model was borrowed and adapted from the Wasatch Front Regional Council (Salt Lake City MPO) model.

Issue Significance
COMPASS staff desired an assessment as to whether incorporating the borrowed mode choice model was a suitable approach in improving their model's capability.

Panel Recommendation
The panel recommended retaining the borrowed mode choice model but to include auto operating costs.

A second recommendation with regard to increased market segmentation was to include auto ownership in both trip generation and mode choice. This recommendation was made based on the observation that the imported mode choice model had not retained the original model's auto ownership stratification.

An observation was also made regarding some large recalibrated constant values. It was noted that the size of the constants might make the model insensitive to variations in level of service.

Trip Assignment

Network Capacities

Issue Synopsis
Network daily capacities appear to be low.

Overview
The 2002 base year network is comprised of all facilities classified as collector or higher. Using Highway Capacity Manual 2000 guidelines, network capacities were coded as mid level of service (LOS) D for all facilities except for freeways. In the case of 65 mile per hour freeway segments, capacities were based on a vehicle per hour per lane value of 1,750 as opposed to the mid-LOS D value of 1,940. Fifty-five mile per hour freeway segment capacities were also based on a lower vehicle per hour per lane value of 1,600. The lower freeway capacities were coded to reflect local conditions.

Issue Significance
Applying lower capacity values is sometimes used to improve traffic assignment results when an urban area is not overly congested in the base year. And while lower capacity values may be reflective of conditions in the base year, for regions experiencing substantial growth, future congestion levels will eventually exceed the lower base year capacities and potentially yielding:

- Misleading volume to capacity ratios in future traffic assignments
- Lower volumes on higher level facilities than would have occurred with higher capacities
- Wider dispersion of assigned traffic
- Higher vehicle miles traveled and vehicle hours traveled

Panel Recommendation
The panel noted that daily capacity values appeared low and made several recommendations with regard to capacity values and trip assignment in general:

- Apply the trip assignment model using three or four time periods (e.g. AM peak, mid-day peak, PM peak and overnight)
- If a daily assignment procedure is retained, then reduce the peak hour factor from the current ten percent to obtain higher capacity values
- Use travel time and speed data to check and validate networks and assignments

Additional Recommendations

In addition to the recommendations noted above the Peer Review Panel also offered the following comments:

Commercial Vehicle Trips

It was noted that commercial vehicle trips were not accounted for in the model. Since the base year modeled volume to count difference was slightly low (-7.6%), an observation was made that perhaps the lack of commercial vehicle trips might account for a portion of the missing modeled vehicle miles traveled (VMT).

The panel recommended development of a systematic procedure for deriving commercial vehicle trips. There was no consensus however on a methodology for accounting for commercial vehicle trips; two potential means were:

- Use vehicle classification count data to derive a synthetic commercial vehicle origin and destination (OD) trip matrix for the base year that could then be factored for future year applications
- Use vehicle classification counts to estimate the percent of commercial vehicle VMT. The percentage would then be used as a basis for estimating the number of commercial trips for inclusion in the trip generation and trip distribution models.

External Trips

It was recommended that some additional attention be given to the development of external trip movements. To substantiate the estimate of external to external and internal to external, external to internal trip distributions it was suggested that either a license plate survey and/or a roadside interview survey be conducted to collect additional information on external trip movements.

Post Processing of Assignment Speeds

The topic of post processing of assignment speeds arose during the discussion and whether it was necessary to implement a post-processing procedure for deriving appropriate speeds as input to air quality models. The panel noted that it should not be necessary if a multi-period (e.g. AM peak, mid-day peak, PM peak and overnight) trip distribution and trip assignment process were implemented.

Appendix A

COMPASS Model Documentation

1. COMPASS Community Planning Association of Southwest Idaho. “2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties”, June 2006.

2. Fehr & Peers. “COMPASS Mode Choice Tools Documentation and Final Report”, April 2006

The following link is to the model section of the COMPASS website with links to the “2002 Travel Demand Forecast Model Calibration Report for Ada and Canyon Counties” and the 2002 Treasure Valley Transportation Survey (household travel survey):

http://www.compassidaho.org/prodserv/traveldemand.htm

Appendix B

List of Peer Review Panel Participants

Peer Review Panel Members:

Name	Affiliation
Frank Spielberg	Vanasse, Hangen, Brustlin, Inc. (VHB)
Jennifer John	Tri-County Metropolitan Transportation District of Oregon (TriMet)
Mick Crandall	Utah Transit Authority (UTA)
Mark Schlappi	Maricopa Association of Governments (MAG) – Retired
Karl Quackenbush	Central Transportation Planning Staff (CTPS)

Supporting Staff to Peer Review Panel Members:

Name	Affiliation
Phillip Reeder	Texas Transportation Institute (TTI)

Local Agency Staff:

Name	Affiliation
MaryAnn Waldinger	Community Planning Association (COMPASS)
Yancey Willis	Community Planning Association (COMPASS)
Randy Romeo	Community Planning Association (COMPASS)
Amar Pillai	Ada County Highway District (ACHD)

Appendix C

Peer Review Panel Meeting Agenda

TRAVEL MODEL IMPROVEMENT PROGRAM
PEER REVIEW, MEETING
June 5 and 6, 2007—8:30AM
Community Planning Association
800 S. Industry Way, Suite 100
Meridian, ID 83647
** AGENDA**

JUNE 5, 2007

8:30 WELCOME
Matt Stoll, Executive Director

8:50 INTRODUCTION AND EXPERIENCE
Each participant will introduce themselves, the agency/company they represent, and travel modeling experience.
A. Frank Spielberg, VHB
B. Jennifer John, TriMet
C. Mick Crandall, UTA
D. Mark Schlappi
E. Karl Quackenbush, CTPS
F. Phillip Reeder, TTI
G. MaryAnn Waldinger, COMPASS

9:15 GENERAL OVERVIEW OF THE TREASURE VALLEY

10:00 BREAK

10:15 COMPASS ORGANIZATION STRUCTURE

10:30 KEY OBJECTIVES FOR PEER REVIEW

11:00 COMPASS' 3-STEP TRAVEL DEMAND MODEL
A. Data and structure
B. Trip Generation Step
C. Trip Distribution Step

12:00 LUNCH

1:00 COMPASS' 3-STEP TRAVEL DEMAND MODEL CONTINUED
D. Trip Assignment Step
E. Peak Hour Model Setup

2:00 BREAK

2:15 COMPASS' 4-STEP TRAVEL DEMAND MODEL
- F. Mode Choice
- G. Trip Assignment
- H. Transit Assignment

3:15 CURRENT MODEL AND FUTURE ENHANCEMENT PROJECTS

3:45 QUESTION AND ANSWER SESSION

4:45 ADJOURN

JUNE 6, 2007

8:15 FOLLOW UP DISCUSSION
Address any additional questions or discussion items from the previous day's information.

9:00 PANEL CAUCUS – (PANELISTS ONLY)

11:00 PANEL REPORT AND DISCUSSION

12:00 WRAP-UP AND LUNCH