Travel Demand Model Fact Sheet

Identification

Model Name:OKI/MVRPC Travel Demand Model

Model Area:Cincinnati/Dayton Metropolitan Areas

Purpose of Model: Forcast traffic volumes and transit ridership for transportation plan development

Model Developer:OKI/consultants

Mod. Software Used:TRANPLAN/OKI Programs

Date Model Work Began: 2000

Date Finished:2004

Model Years:	Base Yr:	Fut. Yr:	Interim Years:
	2000	2030	2010, 2020

Technical Specifications

TAZs / # links: 2,425 / 19,132

Trip Rates:9.3 person trip per household

Trip Generation Equations:

Household classified trip production rates and regression equations for trip attractions

EE Methodology:

Derived from traffic counts and growth factors

BPR Equations Used:

1 + 0.2 * (V/C)8 for group 1 (freeways, ramps controlled expressways)

1 + 0.195 * (V/C)8.16 for group 2 (expressways, freeway-to-freeway ramps, on-ramps, rural arterials)

1 + 0.198 * (V/C)4.67 for group 3 (arterials with four-way stop)

1 + 0.196 * (V/C)7.18 for group 4 (urban major roads, off-ramps)

1 + 0.259 * (V/C)6.12 for group 5 (minor roads)

Assignment Methodology:

Equilibium Assignment algorithm

Truck Model:

Synthesized trip tables and growth factors

Mode Choice:

Nested logit model

Time of Day Modeling:	Model Running Time:	Air Quality Component:
Yes	2 hours on Pentium 4	Yes

Script / Batch File Description (How Developed?)

Use script and batch files. Create with a screen editor program

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Calibration/Validation

RMSE: Screenline Summary - Y/N: Y How Many: 120 cutlines

Methods Used for Calibration:

Comapre to 1995 survey data, national /other methopolitan statistics

Urban / Rural Comparison:

Not Available

Unusual Calibration Measures Taken (K-Factors; Matrix Estimation):

K factors are used for home-based work, home-based other and non-home based trips.

Matrix estimation technique is used to develop base year truck trip tables.

VMT Model / VMT KYTC Comparison:

Not Available

VMT Increase In Future Year:

65,742,472 (for 2000) 89,422,280 (for 2030 E+C)

Data Collection/Network Development

Special Counts - Y/N: N How Many? Where?

SE Data: Base Data Source: 2000 census data and ES202 data

Population/Employment Ratio:1.84 (for 2000)

Future Estimate Source: County totals from State Data Center

Base Network Developed From?: From OKI / MVRPC street center line files

Other Data (e.g. Origin-Destination):

1995 household trip survey, 1995-1996 external station trip survey, 1995 transit on-board survey, 1995 CVG airport trip survey and 1995 Kings Island Amusement Park trip survey.

Other Networks: Scenarios / Alternative Networks:

E + C: Based on FY2005 Transportation Improvement Program