APPENDIX F

DAKOTA COUNTY/HASTINGS FORECAST MODELING

A. MODEL USED

The Twin Cities Regional Model was used. The model is year 2030. The demographics, metropolitan highway system, and metropolitan transit system are consistent with current Regional Transportation Policy Plan adopted by the Metropolitan Council

B. MODEL METHODOLOGY

The general approach to forecasting the traffic volumes consisted of the following:

- Use of the Twin Cities regional travel demand model and model parameters, maintained by Metropolitan Council, as the primary instrument for determining the change in volumes.

- Addition of the arterial roadway connections for each alternative as a separate model.

- Analysis of the traffic patterns and forecasted volumes on the existing and proposed roadway connections.

C. DETAILS

Additional details concerning the methodology follow

REGIONAL MODEL

The regional model provides a systematic procedure for forecasting volumes, taking into account the projected changes in regional land use/socioeconomic data and the regional transportation network. The regional model was obtained from Metropolitan Council for the 2030 conditions.

CURRENT ROADWAY ATTRIBUTE INFORMATION

The regional model highway network was reviewed in detail for conformity to current conditions. A thorough check of roadway functional classification, speed, number of through lanes, and roadway capacity was completed for the area surrounding the City of Hastings. Some roadways were added to the network to assist in the future network analysis. These roadways were populated with the appropriate attributes based on regional model documentation, so as to be consistent with the regional model parameters.

Traffic Analysis Zones (TAZs)

The TAZs in the Regional Model were maintained. The zones included both traffic productions and attractions.

Socioeconomic Data

The socioeconomic data for year 2030 was received from the Metropolitan Council in the Traffic Model. No adjustments were made.

Future Model Forecasts

The 2030 model was updated to include the future alternative arterial roadway connections. Centroid connectors were adjusted as required to connect with the newly proposed roadways. Additionally, functional classifications, speed, and capacities were determined for the new roadways based on the expected future roadway attributes.

Review of Forecasts

The traffic forecasts were reviewed for reasonableness.

Post Processing

The post-processing of the projected volumes follow some of the procedures as outlined in the Mn/DOT Metro: Model Output Checks for Reasonableness and Post Processing Adjustments (Revised 5 January, 2006). The post processing includes:

- Traffic forecast volumes were rounded to the closest 10 if less than 1,000 or to the nearest 100 if more than 1,000.

- The traffic forecasts from the model were used as a basis to determine the percentage of regional traffic that would likely use the new roadway connections and to determine by how much the existing roadway volumes would decrease or possibly increase under the different Alternatives.