

## Chapter 4

### SOURCE REGION AND SENSITIVE AREA DEVELOPMENT AND TRANSFER

#### MATRIX OPERATION

The application of LRT models to the development of quantitative relationships between pollution source areas and sensitive receptor areas in the form of transfer matrices requires the identification of appropriate geographical groupings of sources and the identification of sensitive receptor areas.

The transfer matrix application is immediately amenable to control strategy development in that manipulation of source contributions to sensitive areas is easily carried out. Because control strategies (i.e., emission limitations or reductions) would most likely be implemented on a state or sub-state basis in the U.S., and on a province or sub-province basis in Canada, a thoughtful geographical aggregation of sources or grid elements on such a basis is required for model calculations.

This need was recognized early in the EPA/DOE Acid Rain Mitigation Study (ARMS) when areas from the 80 km x 80 km SURE emission grid were aggregated into 60 larger areas which approximated state and provincial areas or represented selected areas thought to be sensitive to acid deposition. These 60 areas were constructed to reproduce total state