ODOT used permanent and portable vehicle classification equipment to develop the vehicle mix by functional classification of highway. Traficomp III vehicle classification equipment are used to support the HPMS data collection effort. A software program called OHIO CONVERT formats vehicle classification data into the FHWA Vehicle Classification categories.

*Cincinnati-Hamilton Area:* For the Cincinnati-Hamilton area, the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) was responsible for the development of the mobile source emissions inventory. OKI developed this inventory for the Ohio and Kentucky portions of the interstate nonattainment area. OKI utilized the OKI Travel Demand Model to estimate the traffic volume on each roadway segment and an OKI utility program to which calculates the loaded speed, VMT and emissions for each roadway segment.

The OKI travel demand model is a computerized travel demand forecasting model for the entire interstate nonattainment area. The model uses a four phase sequential travel demand forecasting process of trip generation, distribution modal choice and assignment. The OKI Travel Demand Model is composed of TRANPLAN programs and Fortran programs written by OKI.

The model takes zonal demographic data and the transportation network as inputs and produces estimated traffic volumes on each roadway segment in the network. Traffic zones are the analysis units in the model. The OKI region is divided into 909 zones. The output of the model is a loaded highway network which contains information for each link such as initial speed, capacity, distance, functional class district number area type and forecasted traffic.

## Off-Road Mobile Source Emissions Inventory

Canton, Cincinnati-Hamilton and Youngstown-Warren-Sharon Areas: The State developed emissions estimates for the following off-road categories according to USEPA guidance: Aircraft, railroad locomotives, recreational boating, off road motorcycles, agricultural equipment, construction equipment, industrial equipment, and lawn and garden equipment. Documentation was provided as to the sources of emissions factors utilized and were submitted in the area source emissions inventory portion of the submittal.

Cleveland-Akron-Lorain Area: The State utilized emissions estimates for non-road emissions developed by the Office of Mobile Sources (OMS -USEPA) in October 1992, in accordance with USEPA requirements for the Cleveland-Akron-Lorain off-road mobile source emissions inventory. These OMS emissions estimates are provided for offroad diesel engines, as well as twostroke and four-stroke gasoline engines, including off-road motorcycles, construction equipment, farm equipment, lawn and garden equipment, industrial equipment, and recreational vessels. In addition, the State included in the off-road mobile source inventory emissions from aircraft, railroads, and commercial vessels, which are not included in the OMS data. These estimates were developed using emissions factors from AP-42 and activity factors gathered from various sources

The off-road mobile source inventory was reviewed utilizing the Level I and II checklists and USEPA's guidance documents to ensure that all source categories and their related emissions factors were included in the off-road mobile source emissions inventory.

## Biogenic Emissions Inventory

The State of Ohio developed the naturally occurring (biogenic) emissions for the Canton, Cincinnati-Hamilton, Cleveland-Akron-Lorain and Youngstown-Warren-Sharon areas according to a USEPA's guidance document entitled "User's Guide to the Personal Computer Version of the **Biogenic Emissions Inventory System** (PC-BEIS)," (EPA-450/4-91-017) dated July 1991. Meteorological data utilized in PC-BEIS was collected in accordance with USEPA guidance. The ten warmest days from the period between 1988 to 1990 with the highest hourly peak ozone concentrations in each ozone nonattainment areas was collected and reviewed. As required by USEPA guidance, the corresponding ozone concentration to the fourth highest daily maximum temperature for each nonattainment area was selected and utilized in the model. The State provided hard copy documentation as to the meteorological inputs utilized and PC-BEIS output files for the biogenic emissions inventory for the Canton,

Cincinnati-Hamilton, Cleveland-Akron-Lorain and Youngstown-Warren-Sharon nonattainment areas.

IV. Approval of the Emissions Inventories

In a letter addressed to Robert Hodanbosi, Chief, Division of Air Pollution Control, OEPA, dated March 23, 1995, USEPA provided comments on the 1990 base-year ozone emissions inventories submitted for the Canton, Cincinnati-Hamilton, Cleveland-Akron-Lorain and Youngstown-Warren-Sharon areas. These comments addressed corrections that would be needed before the inventories could be finally approved.

In a letter dated June 8, 1995, the State of Ohio provided a response to comments on the area, on-road and offroad mobile, and biogenic source emissions. The USEPA has reviewed these responses and finds that the State has satisfied the Agency's comments and that the emissions inventory for the area, on-road mobile, non-road mobile, and biogenic sources is approvable.

At the time of the proposed rulemaking, the State had not responded to the point source emissions inventory comments that were stated in the March 23, 1995, letter (these comments addressed possible facilities that may be required to be included in the point source emissions inventory). The USEPA proposed to approve the State's point source emissions inventory contingent upon the State's response (and completion of USEPA's review) to the point source emissions comments.

In a letter dated August 18, 1995, the State of Ohio provided a response to comments on the point source emissions inventory. The USEPA has reviewed these responses and finds that the State has satisfied the Agency's comments and that the emissions inventory for point sources is approvable.

## V. Summary of Ozone Emissions Inventory

The following summary indicates the emissions inventories for an average ozone summer weekday for the Canton, Cincinnati-Hamilton, Cleveland-Akron-Lorain and Youngstown-Warren-Sharon ozone nonattainment areas. The emissions are stated in tons per ozone season weekday: