Sources of Emission - Emission of asbestos from friction materials results from normal day-to-day usage. An idea of the scope of this source can be gained from the estimation that the average automobile wears out 3 to 4 sets of brake linings, and 1 to 2 sets of clutch facings during its lifetime and that commercial public transport vehicles wear out many more sets. Data concerning motor vehicle brake linings for the whole of the United States are given in the following:

Vehicle miles during 1968	1,010,000,000,000
Mileage life of brake linings	27,500
Brake lining sets on new vehicles	10,718,000
Pounds of asbestos per set of brake linings	3

Tests performed on brake linings have indicated that under conditions of normal usage, considerable alteration of the asbestos occurs. It is reported that most of the dust collected from brake drums appears non-fibrous and is similar in appearance to thermally degraded asbestos. The suggestion is that high temperatures at the brake lining/drum contact points actually reach degradation levels.

Tests on brake linings, brake discs and clutches have demonstrated that the quantity of fiber emitted is some function of the severity of the braking conditions (see Table 3). However, even at the level of 1%, the total emissions must be considerable when the total tonnage in use is considered. Further, the emissions are likely to occur at places of high density population and restricted ventilation. That is, in busy main streets of towns surrounded by large buildings.

The effect of different braking conditions and different types of friction materials on asbestos emissions is the subject of a study being sponsored by the Environmental Protection Agency. Other studies are being conducted in California and some work on roadsides has been done at Mt. Sinai, New York. The EPA study will establish the extent and nature of the asbestos