

Automobile emissions are major contributors to air pollution, primarily in urban area where automobile exhaust is a principal source of carbon monoxide, hydrocarbons, and nitrogen oxides. Other forms of pollution noise, water pollution, soil contamination, and solid waste — are problems generated by automobile usage, but not to the same degree. For this reason, the OTA study concentrated on automobile air pollution.

“Like the ‘energy crisis,’ air pollution also has an identity problem,” explained a southwestern health department official. There is confusion about its existence because it is not a tangible substance that has precise parameters. “People generally don’t believe there is a pollution problem because they can’t see it,” he claimed, “so they don’t pay attention to air pollution alerts or other bad air warnings.

On the contrary, most of the people we talked to seemed to believe the existence of air pollution. They were, however, leery of the scanty facts to which they had access. Here, again, they asked for more information. They wanted definitive “proof” that air pollution was harmful to human health and welfare, and that pollution was indeed extensive. Here, again, they were critical of what they termed “mixed messages” from the Federal Government.

A State government representative told us that “the Feds need to put teeth into their regulations if they expect us to believe that they and the problems are serious.” A labor union man who was unhappy about industry moving from his State to the south where environmental requirements are less stringent wanted to know, “Why is it OK to pollute in the south, but not in the midwest? If air pollution is bad for us, the Government shouldn’t be allowing it to increase anywhere.”

With the exception of some rural small town respondents, most of the people we heard from felt that environmental problems were nationwide in scope. Therefore, Federal Government involvement in helping reduce these problems was justified, they said. They stated that the

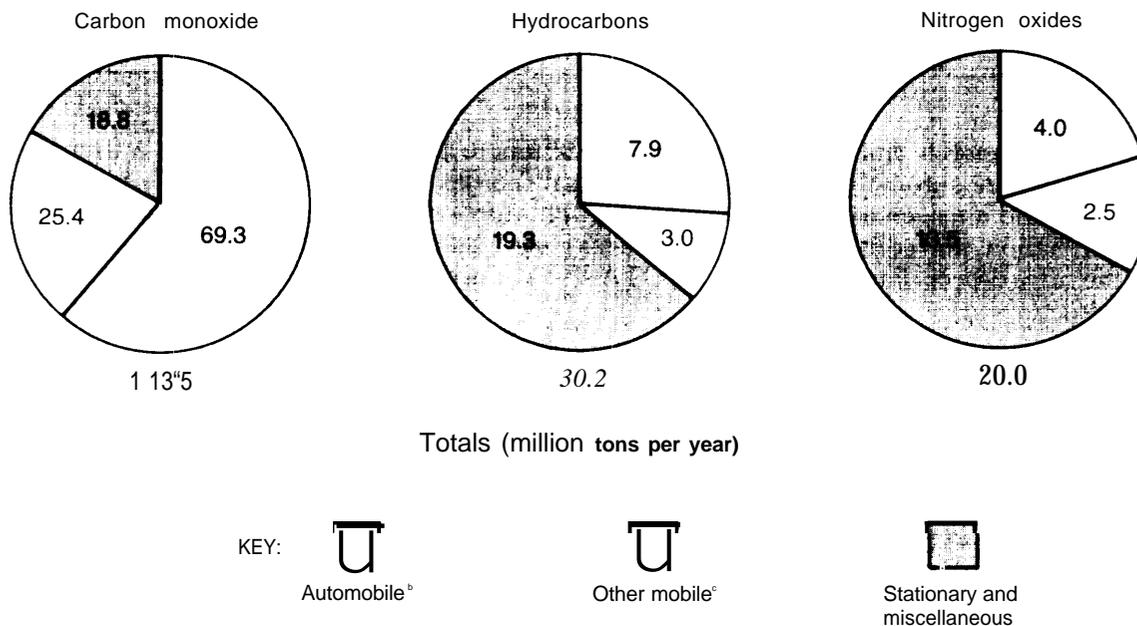


Photo credit U.S. Department of Transportation

Federal Government should provide uniform guidance in this matter, and local and State authorities should be responsible primarily for program design and implementation. “Moral” and financial support should come from the national level. Federal environmental guidelines and/or regulations should leave ample room for “local initiative.”

“Concord, New Hampshire, is not New York City.” “Akron, Ohio, is not Washington, D. C.” “Albuquerque, New Mexico, is not Los Angeles.” “Iowa cars shouldn’t have to meet stringent California emissions standards.” “Don’t legislate rules for big cities and force them on small towns and rural areas. We’re not the same,” was usually the initial response. Yet, in reflecting further on the environmental situation in their areas, residents frequently expressed the same concerns as big city inhabitants—how to

Figure 4.—Sources of Air Pollution^a



^a1975 Data

^bPassenger cars only.

^cLight-duty trucks, heavy-duty trucks (gasoline and diesel), buses, motorcycles, aircraft, pipeline, marine craft and military vehicles.

SOURCES EEA Gasoline Consumption Model,

TRC and Argonne National Laboratory, *Priorities and Procedures for the Development of Standards of Performance for New Stationary Sources of Atmospheric Pollutants*, 1976

cope with automobile pollution, oxidant transport, noise from increasing traffic, and sprawling development (with subsequent loss of farmland) encouraged by road construction. The message they wanted to convey was: Don't tell us what to do; help us to learn what the problems and potential solutions are, then encourage us by incentive to help alleviate these problems.

They criticized the industry for "dragging its feet" on automobile emission controls and suggested that the Federal Government prod the industry with stronger incentives. The Federal Government, on the other hand, was criticized for the "conflicts among safety, pollution, and fuel economy goals." Although concern about air pollution was expressed mostly by urban residents, both urban and rural people complained about increasing traffic noise and its undesirability. A Californian chided Government officials and others for concern about traffic noise "when viewed in light of half our population's penchant for high wattage stereo systems."

Respondents were distressed, too, by what they deemed "excessive space demands" of the automobile system. Roads, accommodating cars mostly, comprise a large part of the space taken in cities and suburbs. A frequent criticism of highway construction was that it "encouraged waste, poor development, and poor transportation." More thought should be given to land use development and the compatibility of a variety of transportation modes, from the automobile to mass transit, they said. There should be changes in development patterns that would encourage more efficient use of natural resources, such as energy and land. A related suggestion was that the Federal Government should be considering "the global impact of our waste" of diminishing resources.

As expected, cost received a great deal of attention in the discussions about the environment. Typically, we heard: "We're not sure we can afford small increases in air quality and high-cost technology." "The Government must look closely at the cost-benefit tradeoff between

emissions and the economy." "The cost and complexity of automobiles are due to emission and safety device legislation." "The societal impact of pollution should be a major factor in any cost analysis performed by the Government."

Essentially, the respondents felt that the burden of pollution control should be on the automobile manufacturers. The Federal Government should encourage the development and purchase of nonpolluting vehicles, more efficient use of available transportation facilities (such as carpooling and priority bus lanes), and improved land use planning, they said. The OTA analysis showed that the introduction of new technology for automobile propulsion systems and synthetic fuels may create new adverse impacts on the environment. Particulate emissions from diesel engines are of special concern because of their possible carcinogenic properties.

Based on the OTA analysis, it appears that additional measures to control automobile emissions will be necessary to meet air quality standards in urban areas. The data showed that further tightening of new-car emission standards, particularly for nitrogen oxides, would be only marginally helpful, and the cost of achieving this benefit would be high.

The OTA study also found that a nationwide program of inspection and maintenance of vehicles in use could produce substantial reductions in automobile emissions and consequent improvement in air quality. The analysis showed, too, that control of automobile use would be effective as a supplementary measure in specific locations. However, as a general nationwide strategy, automobile use controls appear to be of limited value.

Respondents rarely mentioned inspection and maintenance, and when they did, the response

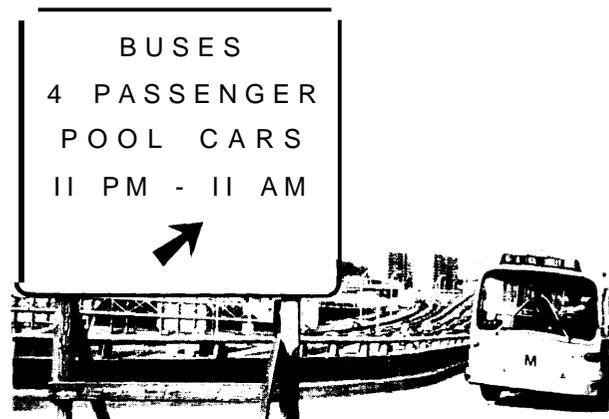


Photo Credit: Steve Johnson 1979

Carpooling and busing help reduce pollution and congestion

was mixed. Restricted automobility was not popular among the respondents because they viewed it as an intrusion on their present freedom of movement. It should be remembered, though, that decreased automobility was a factor in the majority of the respondents' designs for a future personal transportation system.

Present policies, according to the OTA analysis, appear to be adequate to minimize other environmental impacts of all automobiles, such as noise, community disruption by road construction, disposal of scrap vehicles and parts, water and soil contamination. Respondents were concerned that present environmental laws are not well understood, nor adequately enforced. They tended to support strengthening and expanding programs to improve environmental quality, particularly in the areas of air and noise.