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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE WASHINGTON 25, D. C.

BUREAU OF STATE SERVICES Refer to:

APR 5 1962

Honorable John E. Fogarty
House of Representatives
Washington 25, D. C.

Dear Mr. Fogarty:

This is in reply to Miss Beirne's letter of March 5, 1962, enclosing copy of a public release describing a "road emission project" for appraisal of air pollutant emissions from automobiles.

This project is being undertaken to refine our status of knowledge concerning air pollutant emissions from motor vehicles pursuant to the provisions of P.L. 86-493, directing us to make comprehensive studies of the emissions from motor vehicles to human health. Only limited data relating to the variations in emissions from automobiles under various conditions have been available up to now. The principal information available has been based on three limited surveys that have been made, principally in Los Angeles, Detroit, and Cincinnati. Variables between cars, such as weight, horse power, speed, and maintenance naturally have an important bearing on the amounts of pollutants which are discharged. Of perhaps greater importance, however, is the driving pattern under normal car use. The rate of exhaust discharge can and does vary from five or six cubic feet per minute up to as much as 200 cubic feet per minute, depending on whether the car is idling, accelerating, decelerating, or cruising. The proportions of the various exhaust pollutants such as carbon monoxide, nitrogens of oxide, and hydrocarbons also undergo considerable change in magnitude. From one city to another, these changes are affected by variations in topography, traffic congestion, and similar factors. Consequently, two identical cars can produce quite different kinds and amounts of pollution even though they consume the same amount of fuel or travel the same distance, depending upon the driving pattern as related to the factors mentioned above.

Engineers of the Division of Air Pollution have succeeded in developing a proportional sampler which can be installed in an automobile with relative ease. This device automatically collects an accurate sample in proportion to the rate of discharge of exhaust gases, instantaneously changing its collection rate as the car goes through its constantly varying pattern of speeding up, slowing down, cruising, or

standing still. This sampler now makes it possible to obtain an accurate sample under actual road conditions. Collection of samples will be made from a sufficient number of vehicles in various communities offering different driving conditions. The number of cars to be studied and the number of different communities to be included will depend on the degree of variation found as the study progresses. If considerable variability appears in the findings, the testing will be continued to the point where a statistically valid sample has been obtained.

The study has been started in Cincinnati where the device was developed and where the Division of Air Pollution laboratories are located at the Taft Sanitary Engineering Center. This will permit collection of the first data with maximum efficiency and at minimum cost. Other cities where sampling will be done, as necessary, will be selected from a group where continuous air monitoring stations are in operation, so that correlations can be made between emissions and ambient air sampling data. In addition to Cincinnati, such stations are located in Chicago, Detroit, Los Angeles, New Orleans, Philadelphia, San Francisco, and Washington, D. C.

In Cincinnati cars being tested are from two sources. Recent or current model cars of the most widely sold makes are obtained from car rental companies. Older vehicles and those of other makes are being furnished by employees of the Sanitary Engineering Center. In other cities, while newer vehicles can also be obtained from rental agencies, other arrangements will have to be made for older cars. This will be done when necessary as the study progresses.

If I can be of any further service, please let me know.

Sincerely yours,

R J Anderson

Robert J. Anderson
Assistant Surgeon General
Deputy Chief
Bureau of State Services