

Remember, these were some of the first standards that were developed. It was recognized that not all of the knowledge was in, but their basic philosophy in the developing standards was to get a consensus of what the standards should be based on medical knowledge extant, to amend them as new knowledge became available, and also to pinpoint that or those areas where there hadn't been enough research done.

Mr. CARPENTER. And the Federal Government then has followed the California emission restrictions without particular regard to whether the rollback theory, or a stringent health criterion was the source of those standards?

Dr. MIDDLETON. This is what is being refined now for the purpose of producing the criteria that will be published in the next fiscal year.

Mr. CARPENTER. For hydrocarbons and for carbon monoxide?

Dr. MIDDLETON. Carbon monoxide will come sooner.

We have learned enough about what carbon monoxide does to people to be much more concerned with the health effect than just the rollback. We understand that the smoker is much more prone to the adverse health effects of carbon monoxide because he has already laden himself with carbon monoxide. So the smoking population is a more vulnerable population.

We also have learned more not only about the carboxyhemoglobins, but also about motor effects.

Perhaps, Dr. Landau could elaborate just a bit on this.

Dr. LANDAU. There is increasing evidence now becoming available about the effects of relatively low levels of carbon monoxide. They have an effect on psychomotor performance. They have an effect on people's ability to discriminate time and visual stimuli effectively.

These are things which are very important from the standpoint of driver efficiency. That is, if carbon monoxide at the levels which people are being exposed to in cars is that level which in our laboratory experience indicates that people do have deficiencies in judgment, that they do make mistakes in judgment much more often, that they have much more difficulty in reaction times, in terms of what we call intelligence perception—this, then, clearly is of significance to us.

Mr. CARPENTER. Would you infer from that, that cigarette smoking should be considered in issuing drivers' licenses?

Dr. LANDAU. Realistically, I don't see how you can. I think in principle that probably would be a good point.

(A short recess was taken.)

Mr. FELTON. Dick, there are still a lot of questions here. Take the ones that you really want.

Dr. LANDAU. We will have to get you some data on New York City's measurements of carbon monoxide particularly during the 1966 Thanksgiving Day episode, when the levels were relatively high.

(The data referred to follows:)

At the Central Laboratory Station, located on East 121 Street in Manhattan, hourly carbon monoxide values on November 24, 1966, were as much as $7\frac{1}{2}$ times the hourly average value for corresponding time periods during the rest of the month.

Mr. CARPENTER. Let's get to this one, then—I will have just two more.