

I assume that you are inferring that all of this variation is due to meteorology and that there is a long-term increase in the local concentration of carbon monoxide?

Dr. MIDDLETON. That's correct.

Mr. CARPENTER. And you have—

Dr. MIDDLETON. You perhaps have a better expression of the meteorological effect in figure 12 on nitrogen oxides, in the fact that you see shifts in its sources. Now let's be certain we also understand that changes in levels, even though they are moving averages, are often due to the change in location of the monitoring station, so that when one looks at the data one must not make the immediate assumption that the change is real in the sense of the ambient air level concentration in the region.

Dr. STEIGERWALD. The other point is that carbon monoxide, coming from the automobile almost exclusively and coming at high concentrations at the exhaust pipe, with a great decrease in concentration as you move away, is very sensitive to many things. And if in 1965 they happened to open a new freeway that took a good share of the traffic off the street in front of that sampling station, you would see drastic differences.

Mr. CARPENTER. Yes.

Dr. STEIGERWALD. At that one sampling spot.

Mr. CARPENTER. My question then would be: Does the national center have data that rigorously affirm that local concentrations of carbon monoxide are, in fact, increasing, and that there is not a saturation of automobiles per city block, and so on, which prevents any increase?

Do you have such data and could you guide us to it?

Dr. LANDAU. If you are thinking in terms of a specific street, it is very likely that there are certain streets that can take no more traffic. On the other hand, if you think in terms of the background levels of carbon monoxide, this means that people who live adjacent or fairly close to the freeways will be subjected to values which will be lower than those on the freeways. But they also will be getting background values from the areas right around the congested streets.

So the background levels are tending to build up even though the levels of carbon monoxide directly adjacent to the freeways just can't increase any more because you have a very restricted area, unless you have a highly unusual meteorological condition.

So, it is true, I suspect, that given areas can't handle any more cars and that the level of carbon monoxide really has kind of a ceiling, unless you have an unusual meteorologic condition. But the background values can increase.

Mr. FELTON. This is the same as the comments regarding the suburban level?

Dr. LANDAU. That's right. It is going from the city and spreads out. So you have much more of an equalization, I would say. So the higher values tend to spread out even though there may not be any real increase in the carbon monoxide in a given block just off the freeway.

Dr. STEIGERWALD. We now have done this in a random model, and have underway more sophisticated models that try to take meteorology and figures of traffic density in each square mile of the city in attempts to relate these two into ground-level concentrations at different points