With respect to average $NO_2$, the Bureau of Mines study indicates that hydrocarbon reductions would tend to increase $NO_2$ dosage. This result is consistent with the theoretical argument of Stephens,[40] who hypothesized that hydrocarbon reduction would increase average $NO_2$ because these reductions would delay and suppress the chemical reactions that consume $NO_2$ after it reaches a peak. However, the General Motors chamber study and the two HEW studies indicate that hydrocarbons produce no consistent effects on average $NO_2$ concentrations. The UNC experiments imply that a 50 percent reduction in hydrocarbons produces about a 20 percent decrease in average $NO_2$. There is some question about the UNC conclusion, however, because the UNC chamber runs were of a 10-hour duration and the $NO_2$ levels at the end of the experiments were greater when hydrocarbons were reduced. The extra $NO_2$ remaining after the 10-hour period could cause an increase in 24-hour average $NO_2$, even though average $NO_2$ was reduced during the first 10 hours.

Considering the results of all the chamber studies, Trijonis suggested a consensus based on existing chamber results which would appear to be as follows: fifty percent hydrocarbon reduction would have little effect on average $NO_2$ concentrations (a change of $\pm$ 10 percent) but would yield moderate decreases in maximal $NO_2$ (a reduction of about 10 to 20 percent). It should be noted that these conclusions are meant to apply to one basic type of ambient situation -- the situation of well-mixed urban air.