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Final Report

Marijuana and Actual Driving Performance

CONCLUSIONS

The major conclusions from the present program are summarized as follows:

- Current users of marijuana prefer THC doses of about 300 $\mu\text{g}/\text{kg}$ to achieve their desired "high".
- It is possible to safely study the effects of marijuana on driving on highways or city streets in the presence of other traffic.
- Marijuana smoking impairs fundamental road tracking ability with the degree of impairment increasing as a function of the consumed THC dose.
- Marijuana smoking which delivers THC up to a 300 $\mu\text{g}/\text{kg}$ dose slightly impairs the ability to maintain a constant headway while following another car.
- A low THC dose (100 $\mu\text{g}/\text{kg}$) does not impair driving ability in urban traffic to the same extent as a blood alcohol concentration (BAC) of 0.04 g%.
- Drivers under the influence of marijuana tend to over-estimate the adverse effects of the drug on their driving quality and compensate when they can; e.g. by increasing effort to accomplish the task, increasing headway or slowing down, or a combination of these.
- Drivers under the influence of alcohol tend to under-estimate the adverse effects of the drug on their driving quality and do not invest compensatory effort.
- The maximum road tracking impairment after the highest THC dose (300 $\mu\text{g}/\text{kg}$) was within a range of effects produced by many commonly used medicinal drugs and less than that associated with a blood alcohol concentration (BAC) of 0.08 g% in previous studies employing the same test.
- It is not possible to conclude anything about a driver's impairment on the basis of his/her plasma concentrations of THC and THC-COOH determined in-a single sample.

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