

## **RESEARCH PROBLEM STATEMENT #TS-502**

### **I – Problem Title**

Validate Percent Wet Time Statewide (2004SAF.2)

### **II – Research Problem Statement**

The wet pavement factors currently being used in TASAS to identify high collision concentration locations during wet conditions are over 30 years old. The countywide average wet pavement factors are not representative of the current conditions for specific locations in larger counties that have large variations in rainfall. Consequently, locations are identified for safety investigation, which may not have a wet collision problem and other locations having problems may not be identified.

### **III – Objective**

To improve wet pavement factors used in TASAS to identify high concentration collision locations during wet conditions that have a higher potential for safety improvements.

### **IV – Background**

Wet pavement factors, developed over 30 years ago, were based on rainfall data from 1957-1969. The wet pavement factors are used in a statistical analysis program ran annually to identify high collision concentration locations during wet conditions on the state highway system. These identified locations initiate a traffic safety investigation to determine if a safety improvement, such as grooving or overlay, would remedy the collision experience. Validation of the wet pavement factors would ensure the locations being identified reflect existing conditions.

### **V – Statement of Urgency and Benefits**

This research is urgent because using incorrect factors could result in locations not being identified for safety investigations. In 2001 there were over 23,000 wet pavement collisions on the California state highway system. The cost of these collisions is estimated to be about \$1,382,300,000 (based on an average cost of \$60,100 per collision). Benefits of this research include better identification of wet pavement collision concentration locations for investigation, resulting in appropriate countermeasures to reduce future wet pavement collisions from occurring. A 1% reduction in wet pavement collisions would yield a savings benefit of \$13,823,000.

### **VI –Related Research**

- \* A Method to Determine the Exposure of Vehicles to Wet Pavements, January 1972
- \* Evaluation of Minor Improvements, Part 8, December 1972
- \* Evaluation of Minor Improvements,(supplemental report) Part 8, September 1975
- \* Wet-Pavement Safety Programs, July 1990

### **VII – Deployment Potential**

Validation/Update of percent wet time factors would immediately be implemented into the TASAS database for use in identifying high collision concentration locations during wet conditions. This will insure no problem locations are missed. Validate/Update of

factors will also be incorporated into the Traffic Safety Index to determine funding eligibility for wet pavement safety improvements.