

# H

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Safety  
Plan

Fiscal Year 1990



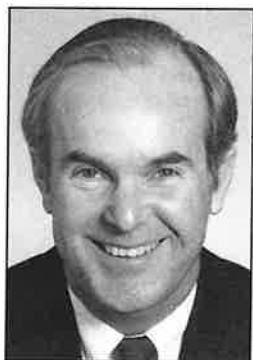
Washington Traffic Safety  
Commission

Gov. Booth Gardner, Chairman  
Gene Peterson, Director  
Superintendent of Public Instruction  
Department of Licensing  
Department of Transportation  
Washington State Patrol  
Department of Social and Health  
Services  
Washington State Association of  
Counties  
Association of Washington Cities  
The Judiciary

**Highway Safety Plan**  
**Fiscal Year 1990**

August 1989  
Washington Traffic Safety Commission  
Governor Booth Gardner, Chairman

# The Washington Traffic Safety Commission



**Gov. Booth Gardner**  
Chairman



**Eugene Peterson**  
Director



**Dr. Judith Billings**  
Superintendent of  
Public Instruction



**Mary Faulk**  
Director, Department  
of Licensing



**Duane Berentson**  
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of Transportation



**George Tellevik**  
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State Patrol



**Carole Washburn**  
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Health, DSHS



**Ruth Wylie**  
Representative,  
Washington State  
Association of  
Counties



**Bob Overstreet**  
Representative,  
Association of  
Washington Cities



**Judge R.E. Graham**  
Representative,  
Judiciary

**Washington Traffic Safety Commission  
Highway Safety Plan  
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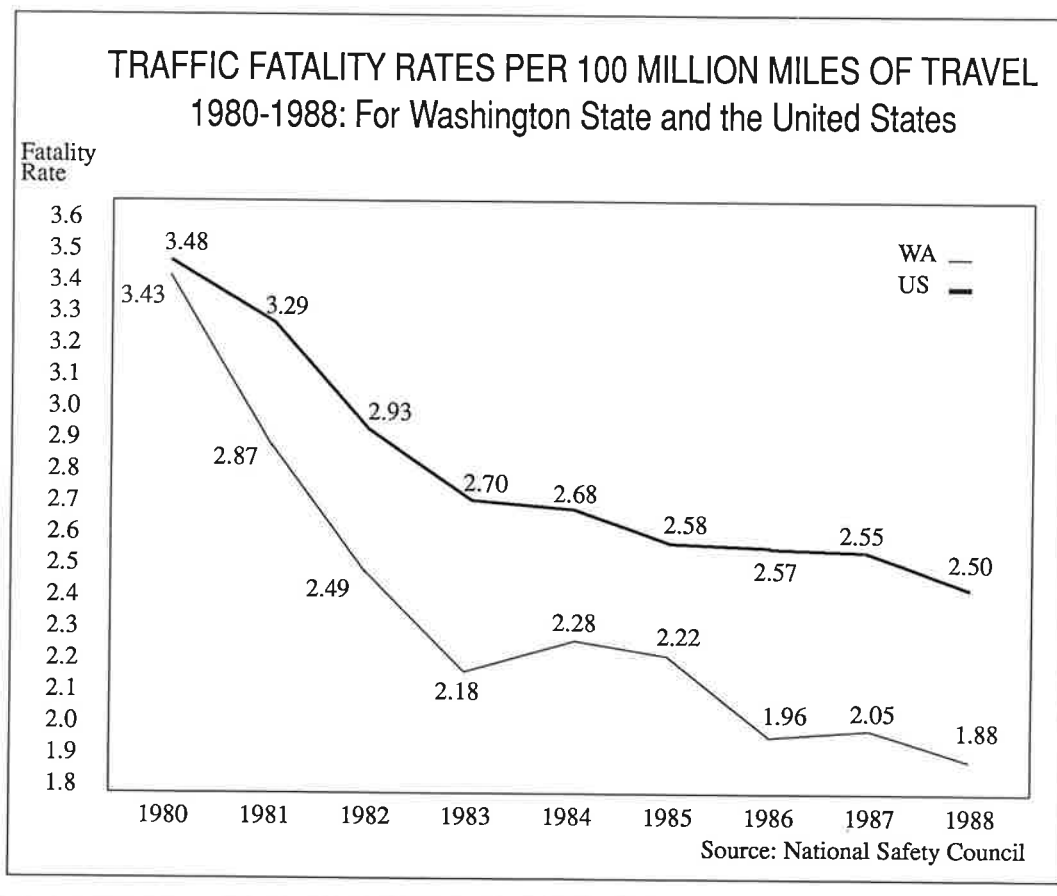
**Part I**

**Highway Safety Plan Summary**

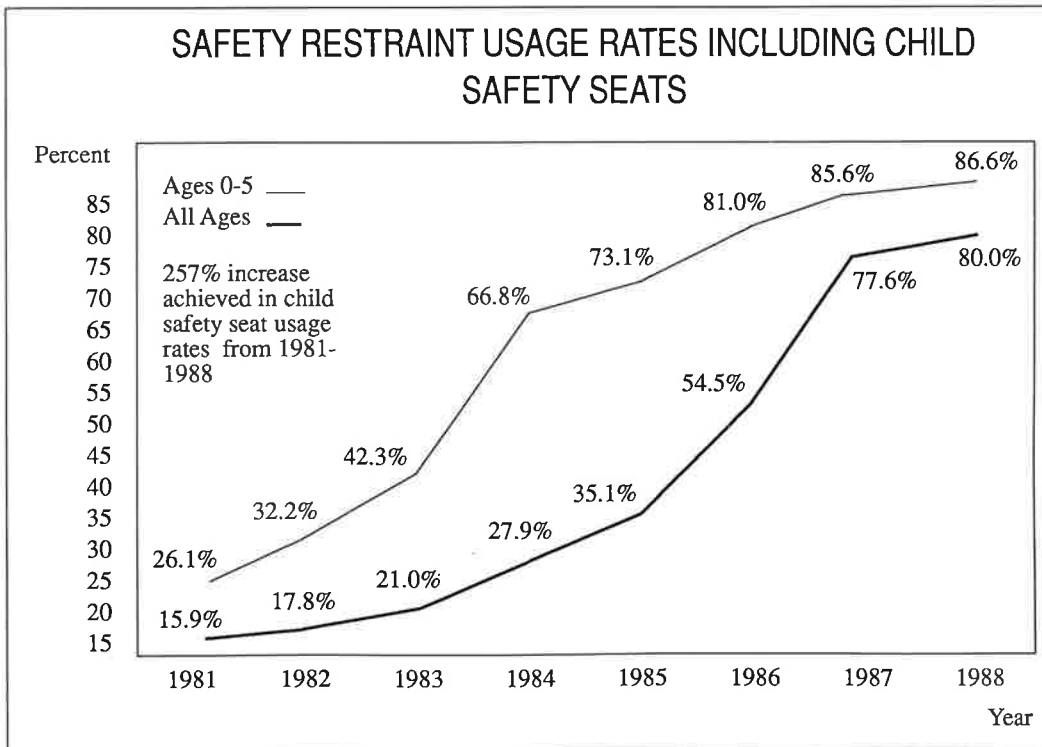
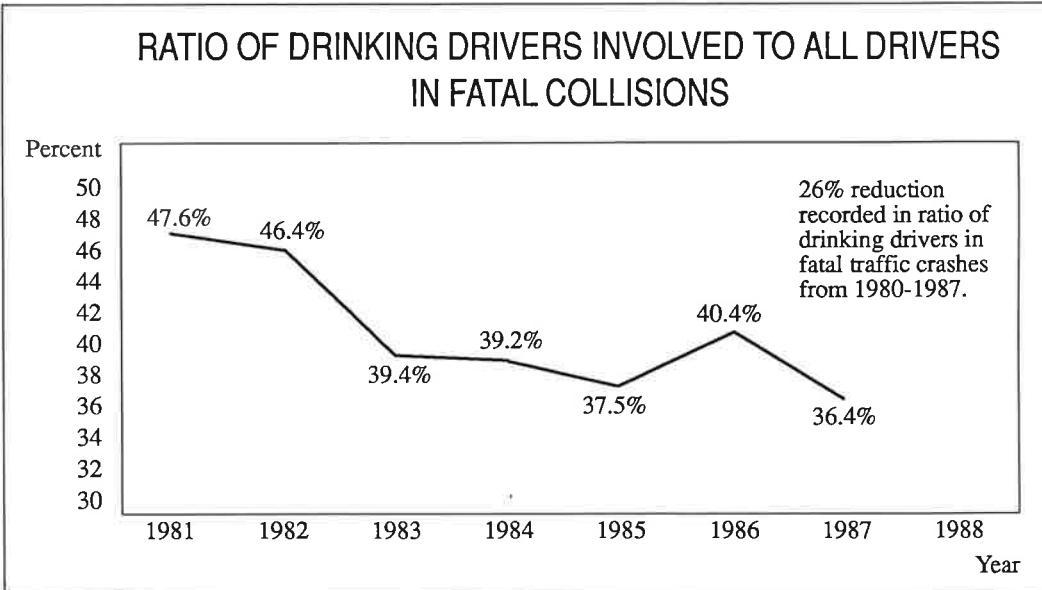
# Executive Summary - FY 1990

## I. Overview

The Highway Safety Plan (HSP) represents an interdisciplinary, long-range approach to addressing those priority program areas deemed most effective in reducing the frequency and severity of traffic collisions on Washington state's highways. The HSP is developed under the direction of the Washington Traffic Safety Commission (WTSC), a creature of Chapter 43.59 RCW. The WTSC, chaired by the governor, is composed of representatives from the Departments of Licensing, Transportation, and Social and Health Services as well as the office of the Superintendent of Public Instruction, the Washington State Patrol, the Washington State Association of Counties, the Association of Washington Cities and the Judiciary. During Fiscal Year 1990 (October 1 - September 30), continued emphasis will be placed on Alcohol and Other Drug Countermeasures, Occupant Protection, Police Traffic Services, Emergency Medical Services, Traffic Records, Motorcycle Safety and Roadway Safety.



In 1937, the state's traffic death rate per 100 million vehicle miles of travel stood at 12.9. At the end of 1988, this death rate had fallen more than 85 percent to a state record low of 1.88.



Continued heavy emphasis on Alcohol and Other Drug Countermeasures together with strong enforcement and complementary programs aimed at increasing the use of safety restraints appears to have played a role in the falling death rate. The ratios of drinking and drunk drivers involved in total traffic collisions in 1988 fell for the third straight year to the lowest points in decades, 11.6 and 6.1 percent, respectively. At the same time, safety restraint usage rates, including that for child safety seats, climbed to record highs in Washington state last year. The overall safety restraint usage rate of 80 percent placed the state among the highest in the nation in this category in 1988. The rate for the 0-5 age group was even higher, 86.6 percent.

The 1990 Highway Safety Plan includes the following programs directed at further reductions in the frequency and severity of traffic collisions in the state:

1. Planning and Administration
2. Technical Coordination/Support
3. Comprehensive Community Traffic Safety Programs
4. Safety Information and Education
5. Records Analysis and Evaluation
6. Police Traffic Services
7. Emergency Medical Services
8. Traffic Engineering Services

## **II. Strategies Employed**

Following is a summary of program highlights contained in the 1990 Highway Safety Plan:

### **Planning and Administration**

The WTSC provides for the planning and administration necessary to allocate resources in an orderly manner and focus the efforts of personnel on the HSP's programs. The WTSC thus becomes the center of authority for development, implementation, management, monitoring and evaluation of the overall plan and operations. To accomplish this mission, expenditures are anticipated for salaries, travel, equipment, materials and space for Planning and Administration staff personnel.

### **Technical Coordination and Support**

The WTSC has effected a major change in organizational structure for FY 1990. The staff has been restructured into a programmatic scheme that will require personnel to exhibit a high degree of cooperative teamwork, information sharing, and broader program responsibility. Also, the programs themselves have shifted from specific emphasis areas to a broader overall focus on traffic safety. A total of 10 FTEs have been assigned to eight program areas under the Technical Coordination and Support Problem Solution Plan (PSP).

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## **Comprehensive Community Traffic Safety Programs**

In the early 1980's, the WTSC established a number of DWI community task forces to develop countermeasures in response to the drinking-driver problem. Safety-belt task forces also were established separately to address the issue of occupant protection. The WTSC is now looking beyond these areas as separate problems and instead is building one comprehensive traffic safety program in each community. This new effort has been renamed "Comprehensive Community Traffic Safety Programs" (CCTSPs). Their focus will remain on occupant restraints and alcohol/other drug countermeasures while allowing each community to identify and resolve other problem areas as well. The existing 16 CCTSPs will continue to be supported, and in addition, the WTSC staff will select two additional jurisdictions in FY 1990 to carry out CCTSP activities.

The WTSC will continue to support alcohol and other drug countermeasures for the CCTSPs with limited federal funding. In addition, a DWI Victims Panel will be designed and piloted in a CCTSP jurisdiction. The WTSC also will offer limited financial assistance to maintain constituent support. It likewise will contract with an individual or agency for the development and implementation of a vehicle dealership training program in order to achieve cooperation with new car dealerships to inform the buying public about occupant protection issues.

A part-time coordinator will be engaged to provide coordination and instructional support to senior centers that have implemented an ongoing traffic safety program in support of the senior driving population.

## **Safety Information and Education**

A three-year public information and education plan designed to address problem drivers primarily in the young male motoring population will focus on DWI, safety restraint usage and speed limit compliance. In addition, the WTSC will continue to support the Stop Auto Fatalities Through Youth Efforts (SAFTYE) program. College and university activities will focus on those aged 18-24. The objective here is to increase the awareness of post-secondary education's administration and faculty concerning drug/alcohol use by college students. The WTSC also will continue to support the "Road to Winning" program, a traffic safety presentation featuring respected athletes and designed for school assemblies. Finally, since unskilled workers have been shown to use safety restraints at lesser rates than the overall driving population, a work place project has been constructed to provide these employees with information and materials aimed at increasing their safety belt usage rates.

## **Records Analysis and Evaluation**

Funds will be provided to continue development of the WTSC's Safety Program Management Information System (SPMIS) and the Comprehensive Computerized Safety Recordkeeping System (CCSRS) project. The SPMIS provides a single point of contact for WTSC employees to obtain information or services related to business automation, data, and technical support. The CCSRS is designed to access production and other traffic safety-related databases at

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various custodial agencies such as the Department of Licensing, Washington State Patrol, and the Department of Transportation. By late 1989, the CCSRS is scheduled to become operational and capable of furnishing data to a wide variety of end users. The WTSC's program evaluation will depend on CCSRS data to a great extent. A case study impact evaluation of a selected CCTSP will be undertaken to examine the effects of the actions or inactions of decision-makers at this level.

### **Police Traffic Services**

The objective of this problem solution plan is to obtain and maintain a 50 percent or better compliance rate with the maximum speed limit on the state's interstate highways, as measured by Department of Transportation speed check stations. The Washington State Patrol (WSP) will continue the use of an enforcement team consisting of one sergeant and six troopers on the interstate highways with speed limits of 55 and 65 mph. This team will work during daylight hours, and the majority of the sergeant's time will be spent on the road with the troopers. The WSP will continue to adapt its public information program on speeding to the new direction endorsed by the federal government. This new approach is designed to meet the challenge of re-awakening public acceptance for widespread voluntary compliance with speed laws.

Three WSP troopers have presented multi-image programs featuring youthful victims of traffic crashes at high schools, junior high/middle schools, and community groups throughout the state in recent years. The WTSC will continue to support these efforts with the goal of presenting one of the multi-image programs to at least 250 school assemblies each year. The WTSC also will support enforcement training projects in order to increase safety restraint usage and implement a drug evaluation and classification program. Support will be continued for the Fatal Collision Review Team, whose activities are aimed at improving the quality of traffic collision investigations. The WTSC in addition will propose a Engineering/Enforcement team committed to assisting local jurisdictions in correcting identified traffic safety problems in their areas.

The Department of Licensing (DOL) intends to propose legislation during the 1990 legislative session to allow DOL to track alcohol-related citations from time of arrest until final disposition.

### **Emergency Medical Services**

It is proposed that the WTSC continue efforts to assist the Emergency Medical Services (EMS) community to establish a collision injury data tracking system. However, the state EMS will discuss their needs with WTSC before any projects are initiated.

### **Traffic Engineering Services**

The WTSC is committed to becoming more involved in the area of identification and surveillance of collision locations and to assisting the smaller local agencies in solving these problems. To continue these activities, the WTSC proposes further support for a Department of Transportation employee to provide traffic

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engineering expertise to local jurisdictions. The WTSC also proposes to fund a part-time consultant to continue assisting local traffic engineers participating in a pilot project in which multi-year collision data maintained at the state level are made available on a regular basis to the locals.

### **III. Unsatisfied Needs**

While developing this HSP, several system/program deficiencies were uncovered that might be addressed by other agencies or the legislature for resolution. The resources available to the WTSC from the U.S. Department of Transportation are not sufficient to resolve all the state's problems.

The Washington State Patrol (WSP) needs to enhance their datamaster breath test instrument maintenance and repair program by acquiring additional personnel, equipment, and parts. Likewise, there is a need to improve the WSP information data services to handle BAC verifier discovery requests and off-site datamaster certifications, as dictated by courts and other law enforcement agencies. Additional resources are needed to form specialized DWI enforcement teams to work the state's "hot spots." Finally, the WSP safety education officer program should be expanded to include a traffic safety and substance abuse awareness program for the middle school age group.

The Criminal Justice Training Commission identified the following training programs that are needed, but not funded: one 120-hour technical and one 120-hour reconstruction traffic accident investigation courses, two 40-hour emergency vehicle operation instructor courses and two 24-hour instructor refresher courses.

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NHTSA/FHWA

HIGHWAY SAFETY PROGRAM COST SUMMARY

State of Washington - FY 1990  
Spreadsheet: costsum

INSTRUCTION ON REVERSE		This report is authorized by 23 USC, Chapter 4. Failure to use this form could result in a delay of obtaining grant funds.			
PROGRAM AREA	ACCOUNTING CODE	PROGRAMMED AMOUNT	OBLIGATED AMOUNT	STATE COST	FEDERAL SHARE TO LOCAL
PLANNING & ADMINISTRATION	90PAA1 NHTSA	157,875		(1) 157,875	
	90PAN1 FHWA	18,000		(1) 18,000	
TECHNICAL COORD & SUPPORT	90TCJ1	250,000			
	90TCE4	145,000			
	90TCL1	125,000			
	90TCR1	61,000			
	90TCN1	14,000			
COMMUNITY PROGRAMS	90CPJ1	180,000		600,000	180,000
	90CPE4	137,000			137,000
INFORMATION & EDUCATION	90IEJ1	310,000			310,000
	90IEE4	219,000			219,000
	90IEE4L	43,000			43,000
RECORD ANALYSIS & EVALUATION	90TRL1	224,500			
	90TRE4	7,500			
	90TRJ1	25,000			
POLICE TRAFFIC SERVICES	90PTR5B	362,000	(2)	1,000,000	
	90PTJ1	125,000			120,000
	90PTE4	40,000			
	90PTR1	10,000			
EMERGENCY MEDICAL SERVICE	90EMM1	0			
TRAFFIC ENG SERVICES	90HDN1	180,000			180,000
	TOTAL NHTSA	<u>2,435,875</u>			
	TOTAL FHWA	<u>198,000</u>			
	GRAND TOTAL	2,633,875			
Program Match (1) P&A match of \$175,875 (50% match) (2) Program match of \$1,000,000 (approx. soft match of 25%)					
HS Form 217 (Rev. 7/89)					



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

Federal Highway Administration

FEDERAL-AID AGREEMENT

O.M.B. No. 2127-0003  
Approval Expires 12-31-85

This report is authorized by 23 U.S.C., Chapter 4. Failure to use this form could result in a delay of obtaining grant funds.

The State, through its Governor, having complied, or hereby agreeing to comply with the terms and conditions set forth in Chapter 4 of Title 23, United States Code, the provisions of Office of Management and Budget (OMB) Circular No. A-87, and Office of Management and Budget (OMB) Circular No. A-95, and the regulations, rules, policies and procedures issued pursuant thereto or Executive Order 12372 and any regulations, rules, policies and procedures issued pursuant thereto as well as all other applicable Federal laws and requirements, and the National Highway Traffic Safety Administration and the Federal Highway Administration, as applicable, having approved the current fiscal year's portion of the Plan attached hereto with an estimated total cost as set forth below and having authorized certain work to proceed as evidenced by the date entered opposite the specific part of the program,

Federal funds are obligated not to exceed the amounts applicable to the National Highway Traffic Safety Administration part of the program and the Federal Highway Administration part of the program shown herein, the balance of the estimated total cost of the obligated program shown herein being an obligation of the State. Such obligation of Federal funds extends only to those costs incurred by the State after authorization has been given to proceed with the particular part of the program involving such costs. The Federal funds obligated shall be subject to availability of Federal obligational authority and any other limitations as may be prescribed by statute, administrative action, or conditions of approval.

APPROVED PROGRAM

PROGRAM	ESTIMATED TOTAL COST	STATE AND LOCAL FUNDS	FEDERAL FUNDS	EFFECTIVE DATE OF APPROVAL
NHTSA	4,193,750	1,757,875	2,435,875	10-1-89
FHWA	216,000	18,000	198,000	10-1-89
TOTAL	4,409,750	1,775,875	2,633,875	10-1-89

OBLIGATED PROGRAM

PROGRAM	ESTIMATED TOTAL COST	STATE AND LOCAL FUNDS	FEDERAL FUNDS	EFFECTIVE DATE OF APPROVAL
NHTSA				
FHWA				
TOTAL				

The State further stipulates that pursuant to said Title 23, regulations, and policies and procedures, and as a condition to payment of the Federal funds obligated, it accepts and will comply with the provisions set forth on the reverse side hereof.

STATE OF <b>Washington</b>	NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
BY <b>Eugene Peterson</b>	BY
TITLE <b>Governor's Representative</b>	TITLE
DATE <b>July 24, 1989</b>	DATE
	FEDERAL HIGHWAY ADMINISTRATION
	BY
	TITLE
	DATE

## AGREEMENT PROVISIONS

**RESPONSIBILITY FOR WORK.** The State, through its Governor, will implement the attached annual portion of the attached Plan and will perform, or by formal agreement with appropriate officials of a political subdivision or State agency, cause to be performed under its supervision the work covered by such Plan in accordance with the detailed plans and specifications annexed thereto and made a part hereof by reference.

**ENERGY CONSERVATION.** The efficient use of energy and other conservation of energy resources have been considered in planning the State Highway Safety Program.

**MAINTENANCE.** Facilities and equipment acquired under this agreement for use in highway safety program areas shall be used and kept in operation for highway safety purposes by the State, or the State, by formal agreement with appropriate officials of a political subdivision or State agency, shall cause such facilities and equipment to be used and kept in operation for highway safety purposes. Costs incurred under the terms of this agreement for necessary maintenance, repair, or upkeep of the facilities and equipment which neither add to the permanent value of the facility or equipment nor appreciably

prolong its intended life, shall be eligible for reimbursement of the Federal share payable. Provided, however, that costs incurred under this agreement for necessary maintenance, repair, or upkeep of regulatory and warning signs on non-Federal-Aid highways and field reference markers designed specifically to meet highway safety program area requirements shall not be eligible for reimbursement of the Federal share payable. Where facilities or equipment acquired in connection with a task subject to this agreement are not used and kept in operation for highway safety purposes, the Secretary shall withhold further reimbursement under 23 U.S.C. 116(c). It is understood that the sanctions prescribed in 23 U.S.C. 116(c) shall apply separately to each program area covered by the agreement. When a task is subject to an agreement between the State and a political subdivision, or a State agency, the sanction shall apply only to such political subdivision or State agency.

**NONDISCRIMINATION PROVISION.** The Civil Rights Assurances submitted by the State, and entitled "Civil Rights Assurances with Regard to the State's Highway Safety Program," are incorporated herein by reference.

## ADDITIONAL PROVISIONS

1. **Audit Responsibility:** The State Highway Safety Agency (SHSA) is responsible for ensuring that its audits and those of subrecipients are performed on an organization-wide basis, except where it would be more economical to conduct individual project audits or forego a formal audit. (NHTSA Policy Memo 3-29-83.)
2. **Implementation of Executive Order 12372:** The Highway Safety Plan under this agreement has been submitted for review by the Single Point of Contact, as designated by the Governor to review Federal programs. The date of this submission was July 1, 1986.



## **Part II**

# **Overall Statewide Problem Analysis**



# Statewide Summary

## I. Explanation of Problem Analysis Process

In developing the problem identification section for the 1990 Highway Safety Plan (HSP), problem areas were classified into two basic types: impact problems and system support problems.

Impact problems consist of factors that contribute directly to the occurrence of collisions, fatalities, and/or injuries and may be corrected through the implementation of countermeasures designed to reduce the effects of these factors.

System support problems are those deficiencies within vital traffic safety programs that when corrected may not directly reflect a reduction of traffic collisions, injuries, or fatalities.

There are two bases for impact and system support problem identification, analysis, and selection for inclusion into the HSP.

1. Impact problem areas were selected based on appropriate statewide experience of impact areas (where information was available) as outlined in the federal safety standards. Various statewide automated and manual traffic information systems were inventoried and analyzed. The data sources included: Traffic Accident Records, Fatal Accident Reporting System, Driver's Licensing Records, Vehicle Registration Records, and Highway/Roadway Information. In most instances, data from four years were gathered as a baseline to serve as a point of comparison to the current year's activity level.
2. The second source for problem identification inclusion in the HSP consisted of data analyzed by and for various state and local agencies with an interest in highway safety. The WTSC made it known that the two main emphasis areas in FY 1990 were the non-use of occupant-restraint systems, and alcohol-related collisions.

## II. Data Analyses and Statistical Techniques

Data analysis was a key factor in the identification and selection of the traffic safety problem areas included in this plan. The analyses were performed to ensure that the conclusions drawn from the data were valid and credible.

The most common data sources in the HSP were the statewide traffic collision records, which were used for identifying the specific traffic problem areas. Four continuous years (1984-1987) of collision experience were used to serve as a baseline in analyzing the traffic collision data. This baseline was used to obtain a

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better perspective to assess the current year's (1988) experience with traffic problem areas. The baseline also serves to negate short-term changes in collision patterns.

The development of over/under-representation ratios were the most frequently used methods of analysis. Where relevant exposure data were available, the generation of over-representation ratios allow for the comparisons of different subgroups relative to the percentage of the population they comprise. Additionally, counties and cities were ranked by different problem areas to compare geographical and political subdivisions.

### **Analysis of Selected Traffic Problems**

The following areas were included for analyses of selected traffic safety problems:

- Alcohol Involvement
  - Youth Involvement
  - Safety-Restraint Usage
  - Motorcycle Collisions
  - Pedalcycles
  - Pedestrians
  - Heavy Trucks
  - Pupil Transportation
  - Senior Driver Involvement
-

## Statewide Overview

The number of persons killed on Washington's highways in 1988 totaled 785, a 4.2% increase from the 1985-1987 three-year baseline average of 753. The total number of fatal collisions increased 5.2% in 1988 compared to the average for 1985-1987. Total collisions, injury collisions, and total number of persons injured also increased in 1988 over the three-year averages in these categories (Table 1-1).

Table 1-1

SEVERITY OF COLLISIONS Four-Year Comparison						
Impact	Years				Previous 3 Year Average (85-87)	% of Change 88 - 3 Year Average
	1988	1987	1986	1985		
Total Collisions	125,920	126,807	122,918	120,056	123,260	2.2%
Fatal Collisions	706	699	658	656	671	5.2%
Total Killed	785	790	714	756	753	4.2%
Injury Collisions	49,482	46,968	46,090	44,373	45,810	8.0%
Total Injured	72,449	67,665	66,707	63,806	66,059	9.7%
Property Damage Only Collisions*	75,732	79,140	76,170	75,027	76,779	-1.4%
Total	325,074	322,069	313,257	304,674	313,333	

\* Oct. 1, 1987 the reporting level for motor vehicle traffic collisions increased from \$300 to \$500. Fatal and injury collisions were not affected by this change in the law, but property damage only collisions were reduced by 4.3% in 1988.

### A. Exposure

Vehicle drivers traveled 14.9% more motor vehicle miles in 1988 than the 1985-1987 baseline average. Motor vehicle registration also jumped 6.0% over the baseline while the number of licensed drivers increased 6.8%. In 1988, the state's population increased 3.1% over the 1985-87 average to a total of 4,565,000 persons (Table 1-2).

Table 1-2

VEHICLES AND DRIVERS Four-Year Comparison						
Exposure	Years				Previous 3 Year Average (85-87)	% of Change 88 - 3 Year Average
	1988	1987	1986	1985		
Motor Vehicle Travel*	41,698	38,520	36,416	33,980	36,305	14.9%
Motor Vehicle Registration	3,896,828	3,833,058	3,651,102	3,546,152	3,676,771	6.0%
Licensed Drivers	3,264,065	3,156,600	3,029,375	2,980,717	3,055,564	6.8%
State's Population	4,565,000	4,481,100	4,419,700	4,384,100	4,428,300	3.1%

\*In Millions

## B. Rates

The 1988 motor vehicle traffic death rate was the lowest in the state's history: down 9.6% from the previous three-year average and down 4.1% from the 1986 rate of 1.96, the previous record low. The rate of 1.74 injuries per one million vehicle miles in 1988 was down slightly from the 1.76 rate for 1987 (Table 1-3).

Table 1-3

DEATH AND INJURY RATES Four-Year Comparison						
Rates	Years				Previous 3 Year Average (85-87)	% of Change 88 - 3 Year Average
	1988	1987	1986	1985		
Death Rate (Deaths per 100M vehicle miles)	1.88	2.05	1.96	2.22	2.08	-9.4%
Injury Rate (Injuries per 1M vehicle miles)	1.74	1.76	1.83	1.88	1.82	-4.6%

## C. Fatalities by Status

Drivers continued to be the most common status of those killed in 1988 as a result of motor vehicle collisions. Fatalities in this classification increased from 386 in 1987 to 394 in 1988. The 1988 figure increased 7.4% from the average of the three previous years. The 206 passengers reported killed in 1988 increased by 2 or 1.0% over 1987 and 9 or 4.7% over the three-year baseline period. The number of motorcycle drivers fatally injured in collisions decreased from 86 in 1987 to 66 last year. Last year's deaths were down 11 from the three-year baseline (Table 1-4).

Table 1-4

PERSONS KILLED BY STATUS Four-Year Comparison						
Status	Years				Previous 3 Year Average (85-87)	% of Change 88 - 3 Year Average
	1988	1987	1986	1985		
Drivers (no motorcyclists)	394	386	353	362	367	7.4%
Passengers	206	204	175	211	197	4.7%
Pedestrians	97	93	94	89	92	5.4%
Pedalcyclists	12	18	12	12	14	-14.3%
Motorcycle Drivers	66	86	71	75	77	-14.7%
Motorcycle Passengers	10	3	9	7	6	57.9%
TOTAL	785	790	714	756	753	4.2%

## D. Traffic Collisions, Deaths, Injuries, Travel, and Death Rate

The 785 traffic fatalities recorded in 1988 reversed last year's increase and reverts to an earlier downward trend experienced in 1985 and 1986. Figure 1-1 indicates that traffic deaths have leveled off during the past four years in the 700 range, reaching a low of 714 in 1986 and a high of 790 in 1987. This differs from the two extremes in recent history of traffic deaths with a high of 1,034 deaths recorded in 1979 and the record low in 1983 with 705 traffic fatalities. Motor

vehicle travel in 1988 increased by 8.3% over 1987 to reach an all-time high of 41.698 billion miles (Figure 1-2).

Figure 1-1

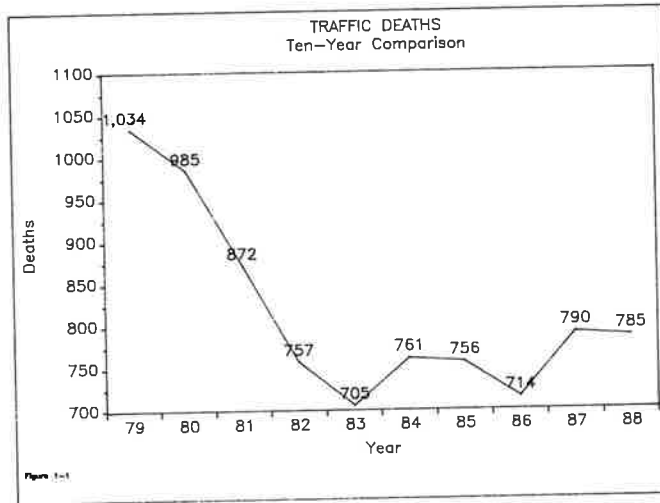
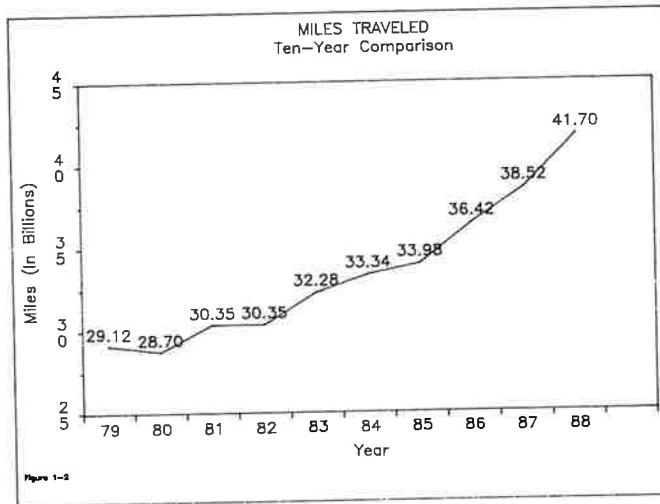


Figure 1-2



The state's 1988 traffic fatality rate of 1.88 deaths per 100 million vehicle miles of travel continues to be well below the national rate of 2.50 for the year. The 1.88 rate is the lowest point in Washington's history and fell from the 2.05 rate recorded in 1987. Total reported motor vehicle traffic collisions and injuries increased over the three-year average. Compared to 1987, total collisions were down slightly while the number of persons injured was up by 7.1% (Figure 1-4).

Figure 1-3

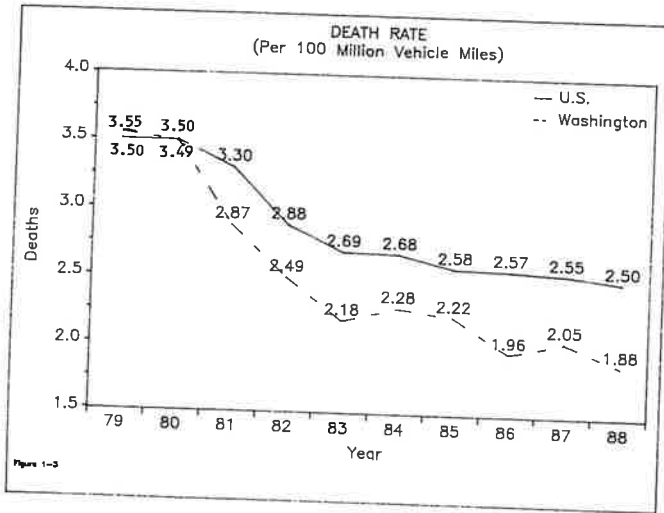
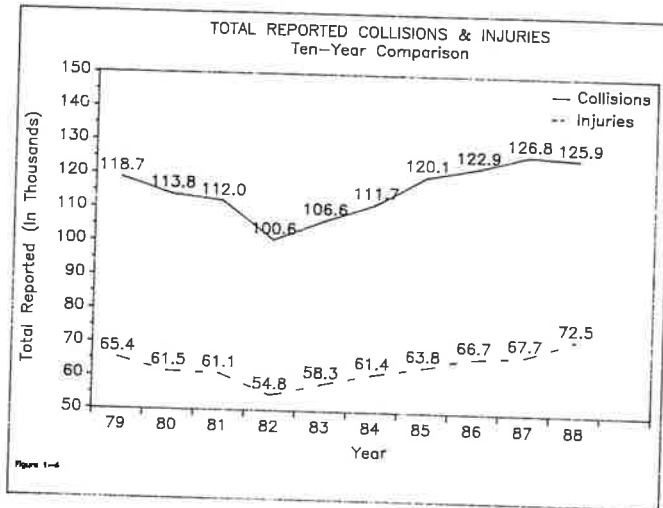


Figure 1-4



### E. Highways, Travel, and Fatalities

The U.S. and state numbered system (other than the interstate system) was the most-traveled road system in the state with an estimated record of 12.084 billion miles. The interstate system continued to have the lowest death rate per 100 million vehicle miles of all the state systems at 0.98 rate recorded in 1988: an increase of 0.30 from 1987. Estimated travel on city streets increased to 10.619 billion miles in 1988 and resulted in a death rate of 1.17, which is down slightly from 1.20 in 1987. County roads were traveled an estimated 8.869 billion miles and recorded a death rate of 2.85 in 1988; a decrease from the previous year's 3.36 rate. Total motor vehicle travel in the state increased from 38.520 billion miles to 41.698 billion in 1988 (Table 1-5).

Table 1-5

HIGHWAYS, TRAVEL, AND COLLISIONS By Type of Highway							
Type of Highways	Highways		Vehicle Miles Traveled+		Collisions		
	Miles	% of Total	Miles (Millions)	% of Total	Total Collisions	Total Fatalities	Death Rate for CMVM*
Interstate System**	762	0.93%	10,028	24.05%	12,814	98	0.98
All Other State Highways	6,220	7.63%	12,084	28.98%	28,817	294	2.43
County Roads	41,748	51.20%	8,869	21.27%	27,777	253	2.85
City Streets	11,382	13.96%	10,619	25.47%	55,573	124	1.17
All Other Traffic Ways***	21,433	26.28%	98	0.24%	939	16	16.33
<b>TOTAL</b>	<b>81,545</b>	<b>100.00%</b>	<b>41,698</b>	<b>100.00%</b>	<b>125,920</b>	<b>785</b>	<b>1.88</b>

+Preliminary Estimates

\*Fatalities per hundred million vehicle miles, based on roadway travel as reported by the Dept. of Transportation.

\*\*Does not include traveled way.

\*\*\*Does not include (all terrain vehicle) trails.

Table 1-6

PERSONS KILLED AND INJURED By Age By Status								
Age	Total		Occupants		Pedestrians		Pedalcyclists	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
0 - 4	20	1,292	10	1,172	10	97	0	0
5 - 9	17	1,990	8	1,545	4	234	5	4
10 - 14	14	2,291	9	1,706	3	197	2	1
15 - 19	113	12,175	103	11,732	10	190	0	0
20 - 24	117	11,477	114	12,169	3	149	0	0
25 - 34	192	17,031	175	16,577	15	295	2	2
35 - 44	120	11,124	106	10,831	12	210	2	2
45 - 54	45	5,257	38	5,122	7	95	0	0
55 - 64	48	3,554	41	3,436	7	96	0	0
65 - 74	40	2,432	31	2,348	8	74	1	1
75/Older	50	1,445	35	1,349	15	91	0	0
Not Stated	9	2,381	6	2,230	3	92	0	0
<b>TOTAL*</b>	<b>785</b>	<b>72,449</b>	<b>676</b>	<b>70,217</b>	<b>97</b>	<b>1,820</b>	<b>12</b>	<b>10</b>

\*Total Injured includes 402 injured where the status of the injured was unknown.

Table 1-7

COMPARISON OF TRAFFIC DEATHS BY MONTH Three-Year Comparison								
Month	1988		1987		1986		% Change 87 to 88	
	Month Total	Year To Date	Month Total	Year To Date	Month Total	Year To Date	Month Total	Year To Date
January	40	40	54	54	42	42	-25.9%	-25.9%
February	42	82	52	106	28	70	-19.2%	-22.6%
March	70	152	62	168	56	126	12.9%	-9.5%
April	55	207	55	223	60	186	0.0%	-7.2%
May	69	276	50	273	73	259	38.0%	1.1%
June	82	358	77	350	73	332	6.5%	2.3%
July	86	444	73	423	70	402	17.8%	5.0%
August	79	523	84	507	69	471	-6.0%	3.2%
September	70	593	90	597	51	522	-22.2%	-0.7%
October	66	659	69	666	67	589	-4.3%	-1.1%
November	66	725	73	739	64	653	-9.6%	-1.9%
December	60	785	51	790	61	714	17.6%	-0.6%

Table 1-8

Time Hour Reporting	COLLISIONS By Time								
	Total			Monday - Thursday			Friday - Sunday		
	All	Injury	Fatal	All	Injury	Fatal	All	Injury	Fatal
Midnight	3,039	1,236	45	1,079	425	21	1,960	811	24
1:00	2,995	1,270	43	968	393	14	2,027	877	29
2:00	2,842	1,254	50	892	367	18	1,950	887	32
3:00	1,415	559	24	430	158	8	985	401	16
4:00	1,011	392	13	385	131	1	626	261	12
5:00	1,262	468	10	625	229	3	637	239	7
6:00	2,769	1,065	13	1,816	699	6	953	366	7
7:00	5,460	2,103	15	3,942	1,536	9	1,518	567	6
8:00	4,689	1,698	13	3,075	1,141	8	1,614	557	5
9:00	4,177	1,503	19	2,515	912	10	1,662	591	9
10:00	4,846	1,725	13	2,854	999	7	1,992	726	6
11:00	6,300	2,293	21	3,673	1,309	11	2,627	984	10
Noon	7,264	2,786	22	4,024	1,494	13	3,240	1,292	9
1:00	7,247	2,767	23	4,094	1,550	16	3,153	1,217	7
2:00	8,486	3,242	27	4,885	1,863	10	3,601	1,379	17
3:00	10,078	3,941	43	5,962	2,292	24	4,116	1,649	19
4:00	10,932	4,400	36	6,615	2,659	20	4,317	1,741	16
5:00	10,803	4,445	45	6,568	2,681	17	4,235	1,764	28
6:00	7,578	3,113	45	4,265	1,727	23	3,313	1,386	22
7:00	5,895	2,422	38	3,090	1,245	16	2,805	1,177	22
8:00	4,577	1,842	33	2,338	938	17	2,239	904	16
9:00	4,428	1,781	39	2,198	883	22	2,230	898	17
10:00	3,976	1,603	30	1,848	748	14	2,128	855	16
11:00	3,851	1,574	46	1,560	655	15	2,291	919	31
TOTAL	125,920	49,482	706	69,701	27,034	323	56,219	22,448	383

Table 1-9

COMPARISON OF DRIVERS INVOLVED TO NUMBER LICENSED Driver Age Distribution					
Driver Age	Involved in Collisions		Licensed Drivers	% of Licensed Drivers	Over/Under Ratio
	Number	% of Total			
Under 16	585	0.30%	0	0.00%	---
16	4,725	2.41%	26,719	0.82%	2.94
17-18	16,164	8.23%	102,486	3.14%	2.62
19-20	14,927	7.60%	117,835	3.61%	2.11
21-22	12,779	6.51%	117,533	3.60%	1.81
23-24	12,100	6.16%	132,954	4.07%	1.51
25-29	28,546	14.54%	387,057	11.86%	1.23
30-34	24,743	12.60%	418,138	12.81%	0.98
35-39	20,747	10.57%	398,802	12.22%	0.86
40-44	15,917	8.11%	344,830	10.56%	0.77
45-49	10,634	5.42%	256,806	7.87%	0.69
50-54	7,912	4.03%	197,826	6.06%	0.66
55-59	6,805	3.47%	176,368	5.40%	0.64
60-64	5,982	3.05%	172,487	5.28%	0.58
65-69	5,097	2.60%	159,989	4.90%	0.53
70 & Over	8,700	4.43%	254,235	7.79%	0.57

**F. Traffic Deaths and Vehicle Registration Death Rates by County**

In 1988, fatalities ranged from a high of 174 in King County, with a death rate of 1.42 (traffic deaths per 10,000 registered vehicles), to a low of zero deaths in Wahkiakum county. Ferry county recorded the highest death rate at 18.97 computed from 7 fatalities, followed by Adams county that recorded a 8.00 death rate based on 11 traffic deaths, and Kittitas county that experienced 17 traffic deaths for a registration death rate of 7.77 (Figure 1-5).



**E. Comparison of Drivers Involved to Number of Licensed Drivers.**

Drivers 20 years old and under comprised 7.6% of all licensed drivers in the state last year, yet this age group was involved in 18.2% of the total 1988 collisions. This was a collision over-representation rate 2.41 times higher than the percentage of licensed drivers comprising this group. The 21-24 age group was involved in 12.7% of the total collisions while comprising 7.7% of all licensed drivers, producing an over-representation factor of 1.65. The 25-29 age group, comprising 14.5% of all licensed drivers, was involved in 11.9% of all collisions for an over-representation ratio of 1.23. All other age groups were under-represented when their percentages of collision involvement were compared to their percentages of total licensed drivers (Table 1-9).

**Figure 1-5**

Traffic Deaths and Vehicle Registration Death Rate  
by County

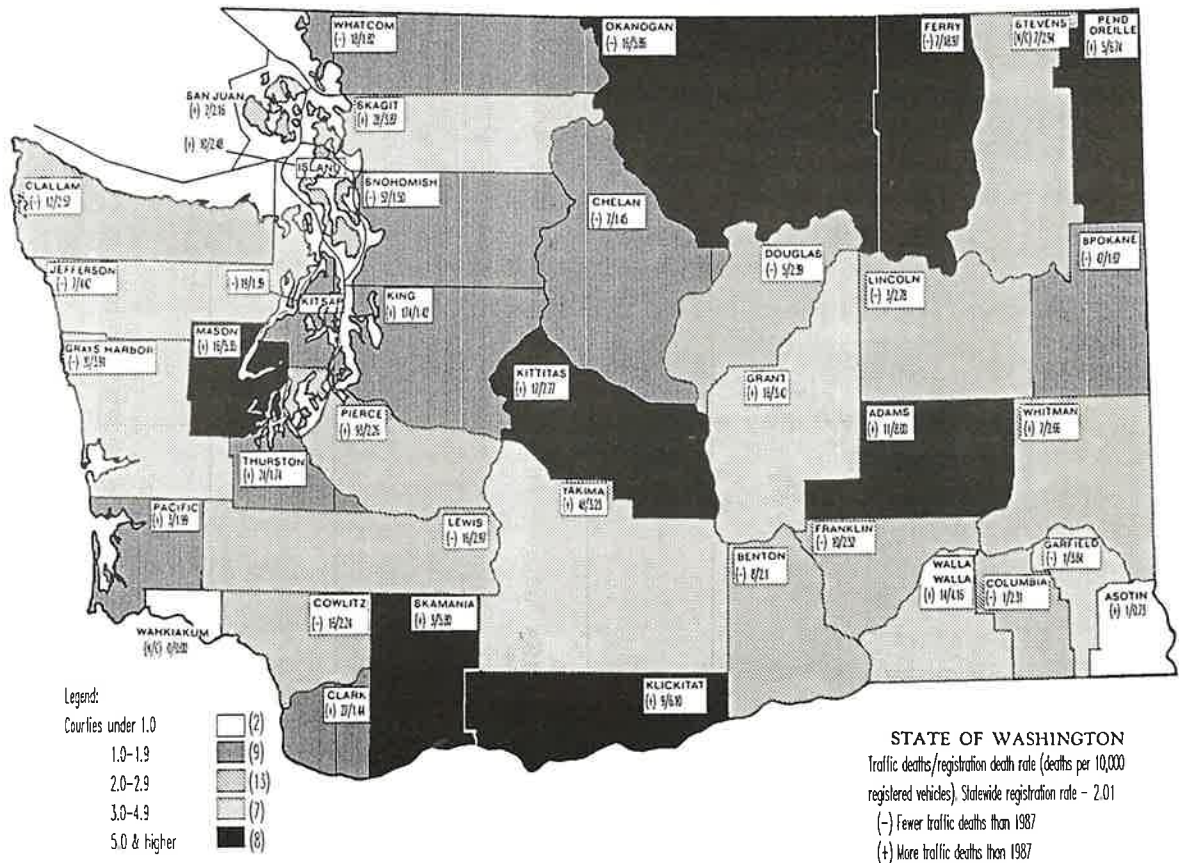


Figure 1-6

### Traffic Fatalities

In 1988 and Percent of Change from 1987

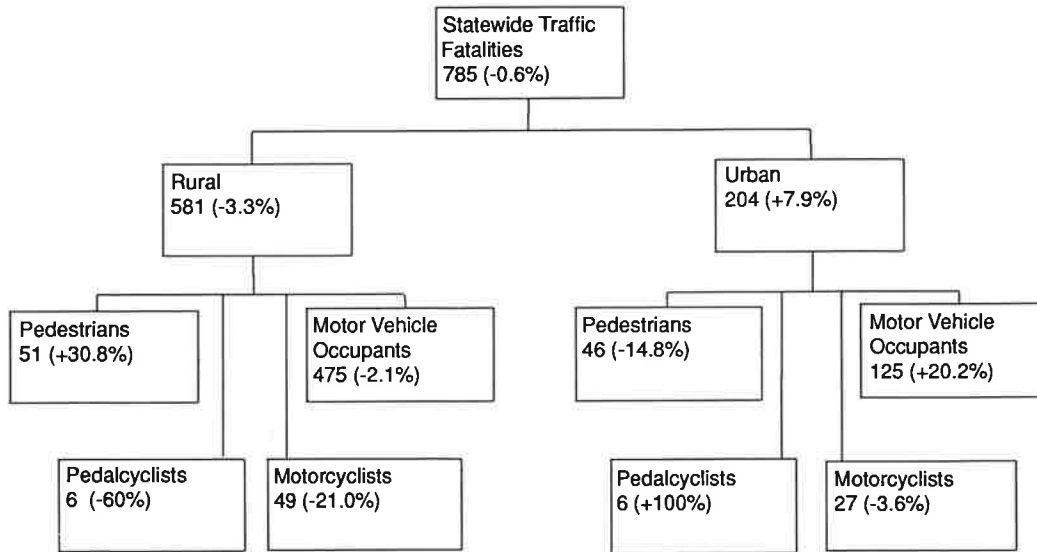


Figure 1-7

### Traffic Fatalities by Age and Sex

1988

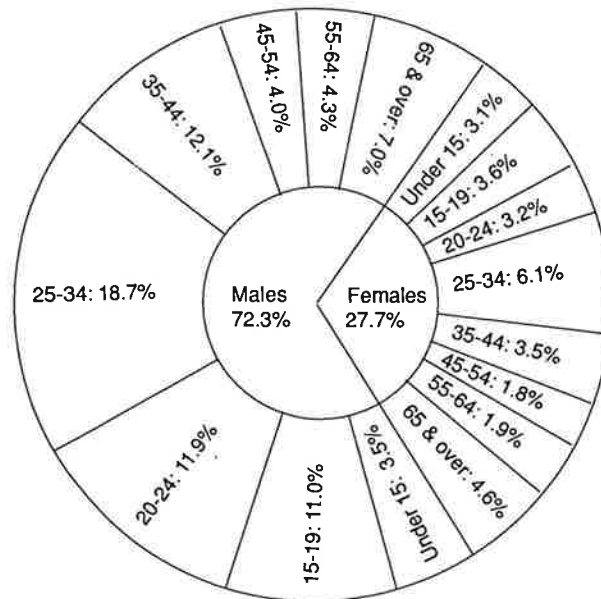


Table 1-10

COLLISION RATES BY COUNTY POPULATION 1988							
County	1988 Population	Traffic Deaths		Traffic Injuries		Total Collisions	
		Number	Rate*	Number	Rate**	Number	Rate*
Over 1,000,000							
1. King	1,413,900	174	12.31	26,255	18.57	47,484	33.58
250,000 to 750,000							
1. Pierce	547,700	93	16.98	10,585	19.33	16,149	29.49
2. Snohomish	409,500	57	13.92	6,494	15.86	10,813	26.41
3. Spokane	354,100	47	13.27	5,354	15.12	8,969	25.33
100,000 to 250,000							
1. Clark	214,500	27	12.59	2,925	13.64	4,882	22.76
2. Yakima	186,300	48	25.76	2,098	11.26	4,253	22.83
3. Kitsap	177,300	19	10.72	2,259	12.74	3,614	20.38
4. Thurston	149,300	24	16.08	2,087	13.98	3,857	25.83
5. Whatcom	119,100	18	15.11	1,720	14.44	3,003	25.21
6. Benton	104,100	8	7.68	987	9.48	2,049	19.68
50,000 to 100,000							
1. Cowlitz	80,500	16	19.88	1,083	13.45	1,958	24.32
2. Skagit	70,800	28	39.55	1,097	15.49	1,893	26.74
3. Grays Harbor	63,400	20	31.55	951	15.00	1,838	28.99
4. Lewis	57,400	16	27.87	909	15.84	1,540	26.83
5. Clallam	54,400	12	22.06	574	10.55	1,165	21.42
6. Island	53,400	10	18.73	459	8.60	823	15.41
7. Grant	52,600	16	30.42	567	10.78	995	18.92
25,000 to 50,000							
1. Chelan	49,700	7	14.08	689	13.86	1,404	28.25
2. Walla Walla	48,300	14	28.99	493	10.21	937	19.40
3. Whitman	39,000	7	17.95	378	9.69	668	17.13
4. Mason	36,800	16	43.48	518	14.08	884	24.02
5. Franklin	35,500	10	28.17	446	12.56	863	24.31
6. Okanogan	31,700	16	50.47	419	13.22	708	22.33
7. Stevens	30,200	7	23.18	326	10.79	473	15.66
8. Kittitas	25,000	17	68.00	679	27.16	1,323	52.92
10,000 to 25,000							
1. Douglas	24,100	5	20.75	264	10.95	464	19.25
2. Jefferson	18,600	7	37.63	263	14.14	442	23.76
3. Pacific	17,600	3	17.05	274	15.57	427	24.26
4. Asotin	17,400	1	5.75	113	6.49	231	13.28
5. Klickitat	16,600	9	54.22	198	11.93	331	19.94
6. Adams	14,000	11	78.57	211	15.07	346	24.71
Under 10,000							
1. Lincoln	9,700	3	30.93	130	13.40	176	18.14
2. San Juan	9,600	2	20.83	88	9.17	136	14.17
3. Pend Oreille	8,800	5	56.82	140	15.91	201	22.84
4. Skamania	8,000	3	37.50	150	18.75	209	26.13
5. Ferry	6,100	7	114.75	97	15.90	151	24.75
6. Columbia	4,100	1	24.39	49	11.95	103	25.12
7. Wahkiakum	3,500	0	0.00	83	23.71	103	29.43
8. Garfield	2,400	1	41.67	37	15.42	55	22.92
TOTAL	4,565,000	785	17.20	72,449	15.87	125,920	27.58

\*Frequency per 100,000 population

\*\*Frequency per 1,000 population

Table 1-11

COLLISION RATES BY CITY POPULATION 1988							
City	1988 Population	Traffic Deaths*		Traffic Injuries*		Total Collisions*	
		Number	Rate**	Number	Rate***	Number	Rate**
250,000 and Over							
1. Seattle	495,900	46	9.28	9,285	18.72	18,511	37.33
100,000 to 250,000							
1. Spokane	170,200	14	8.23	3,166	18.60	5,716	33.58
2. Tacoma	161,400	23	14.25	3,765	23.33	6,176	38.27
50,000 to 100,000							
1. Bellevue	85,180	4	4.70	1,045	12.27	2,223	26.10
2. Everett	60,920	2	3.28	1,199	19.68	2,156	35.39
25,000 to 50,000							
1. Yakima	49,470	5	10.11	748	15.12	1,797	36.33
2. Bellingham	46,610	0	0.00	617	13.24	1,323	28.38
3. Vancouver	43,290	4	9.24	730	16.86	1,578	36.45
4. Kennewick	37,180	2	5.38	363	9.76	837	22.51
5. Bremerton	37,050	1	2.70	563	15.20	1,064	28.72
6. Renton	36,940	3	8.12	716	19.38	1,590	43.04
7. Kirkland	35,820	1	2.79	424	11.84	927	25.88
8. Kent	32,350	5	15.46	940	29.06	1,584	48.96
9. Redmond	31,710	1	3.15	469	14.79	889	28.04
10. Auburn	30,790	4	12.99	629	20.43	1,114	36.18
11. Olympia	30,270	5	16.52	570	18.83	1,266	41.82
12. Richland	30,140	1	3.32	278	9.22	571	18.94
13. Longview	29,560	2	6.77	511	17.29	880	29.77
14. Edmonds	28,500	0	0.00	311	10.91	540	18.95
15. Walla Walla	25,440	3	11.79	241	9.47	550	21.62
15,000 to 25,000							
1. Pullman	23,579	1	4.24	111	4.71	277	11.75
2. Lynnwood	22,641	0	0.00	693	30.61	1,319	58.26
3. Puyallup	20,840	1	4.80	350	16.79	698	33.49
4. Mercer Island	20,690	0	0.00	85	4.11	214	10.34
5. Wenatchee	18,860	1	5.30	254	13.47	574	30.43
6. Pasco	18,430	1	5.43	240	13.02	560	30.39
7. Port Angeles	17,350	3	17.29	190	10.95	450	25.94
8. Aberdeen	17,130	3	17.51	217	12.67	654	38.18
9. Lacey	16,380	0	0.00	234	12.45	483	23.87
10. Mountlake Terrace	16,290	0	0.00	124	7.61	254	15.59
10,000 to 15,000							
1. Mount Vernon	14,590	0	0.00	204	11.65	391	23.17
2. Oak Harbor	14,410	0	0.00	84	12.42	218	26.51
3. Des Moines	14,120	0	0.00	170	5.95	338	15.44
4. Centralia	11,850	1	8.44	179	5.57	382	14.68
5. Ellensburg	11,500	0	0.00	66	14.61	174	31.22
6. Kelso	10,880	0	0.00	168	11.40	359	25.64
7. Moses Lake	10,650	1	9.39	124	11.64	279	26.20
8. Anacortes	10,320	0	0.00	53	5.14	141	13.66
9. Bothell	10,205	0	0.00	94	9.21	215	21.07
TOTAL	1,799,435	138	7.67	30,210	16.79	59,272	32.94

\*Does not include collisions on limited access roads or freeways

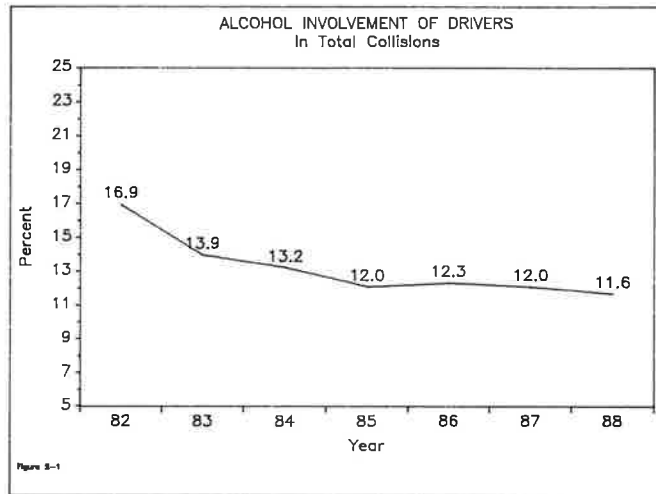
\*\*Frequency per 100,000 population

\*\*\*Frequency per 1,000 population

## I. Alcohol Involvement

In 1988, 11.6% of all drivers involved in traffic collisions had been drinking alcohol. This is a 1.3% decrease from 1987 and continues a downward trend (Figure 2-1).

Figure 2-1



### A. Drivers Involved In Fatal Collisions

In 1988, 40.6% of the drivers involved in statewide fatal collisions had been drinking intoxicants. This increased from the 36.4% involvement recorded in 1987 and from the 38.4% baseline period (Table 2-1).

Table 2-1

Condition of Driver (Sobriety)	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Had been drinking - ability impaired	340	296	306	292	307	300	13.24%
Had been drinking - ability not impaired	45	40	51	43	52	47	-3.23%
Had been drinking - sobriety unknown	15	24	13	11	11	15	1.69%
Had not been drinking	586	630	546	577	574	582	0.73%
Not stated	41	46	35	45	41	42	-1.80%
<b>Total drivers drinking</b>	<b>400</b>	<b>360</b>	<b>370</b>	<b>346</b>	<b>370</b>	<b>362</b>	<b>10.65%</b>
Total drivers - excluding not stated	986	990	916	923	944	943	4.53%
Total drivers	1,027	1,036	951	968	985	985	4.26%
No. drinking drivers per 100 involved	40.6	36.4	40.4	37.5	39.2	38.4	5.76%
No. drunk drivers per 100 involved	34.5	29.9	33.4	31.6	32.5	31.9	8.21%

### B. Alcohol Involvement By Age Group

Drivers under 30 years of age continue to be over-represented in alcohol-related collision. The 16 to 20-year-old group composed 7.6% of all licensed drivers in the state in 1988 but were involved in 14.7% of all alcohol-related collisions. This age group was involved in nearly two times more alcohol-related collisions than the percentage of licensed drivers it represented

by a ratio of 1.94 (Figure 2-2). The over-involvement ratio for drivers aged 21-24 was 2.46 in 1988. This continues a steady increase over the past several years (Figure 2-3). Last year, the 25 to 29-year-age group was involved in 1.74 times more alcohol-related collisions than the percentage of licensed drivers the group represented (Figure 2-4). The age group 30-54 was under represented by a ratio of .76 (Figure 2-5), as were the age groups 55-64 by a ratio of .33 (Figure 2-6), and 65 years and older by a ratio of .17 (Figure 2-7).

Figure 2-2

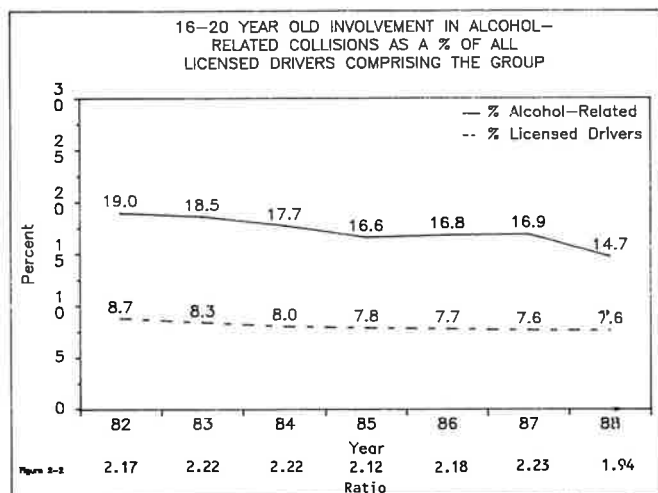


Figure 2-3

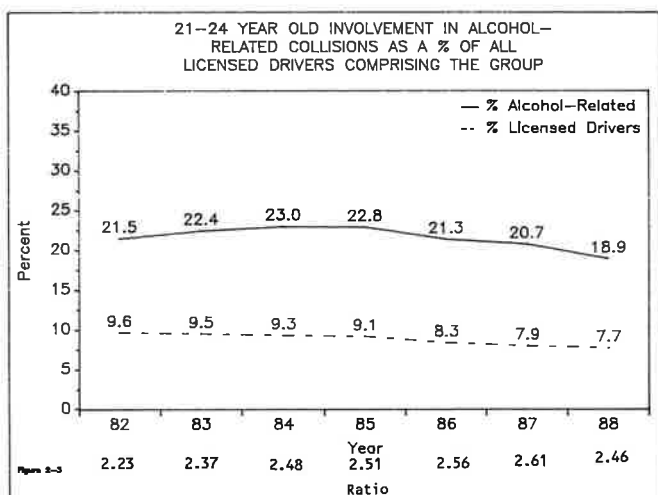


Figure 2-4

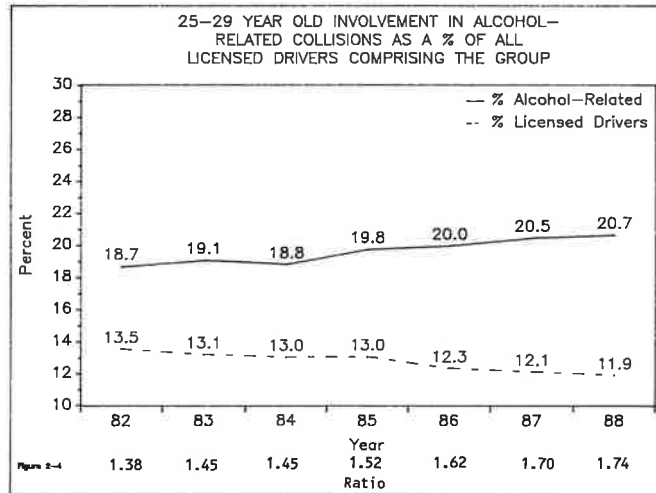


Figure 2-5

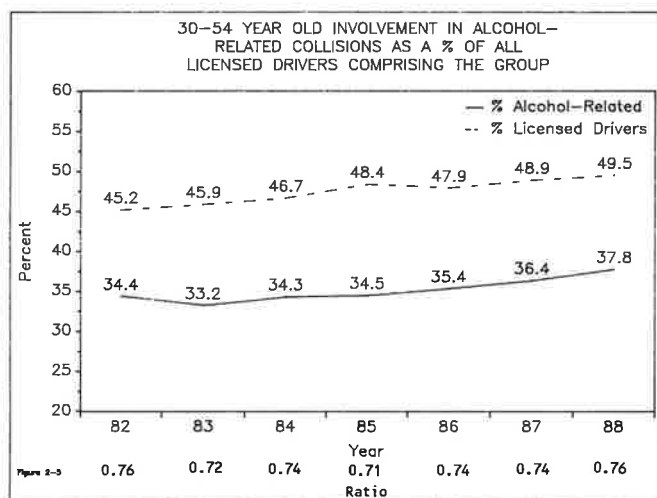


Figure 2-6

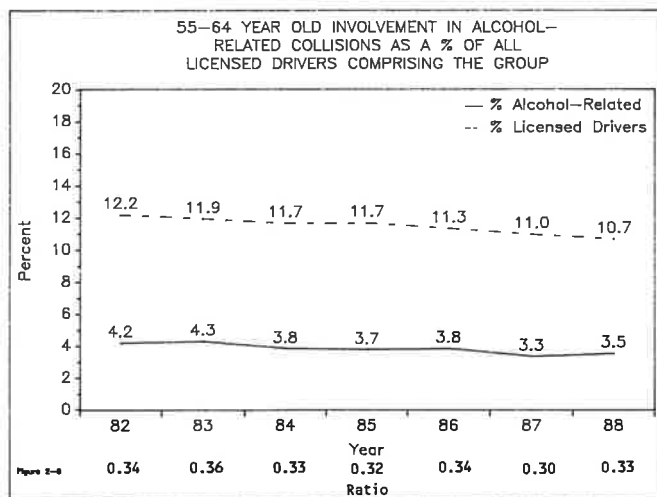
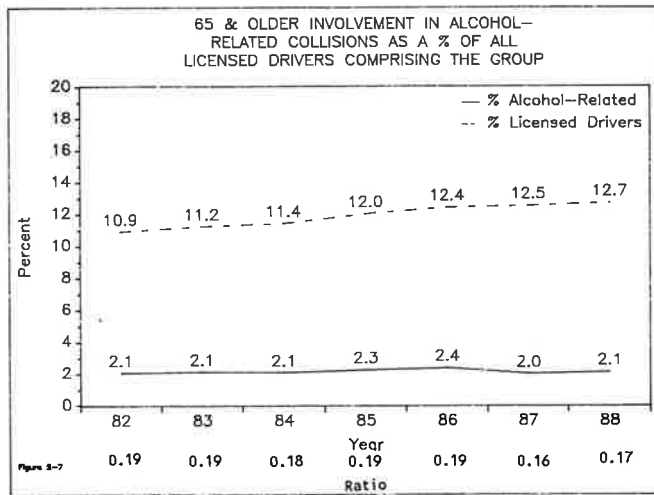


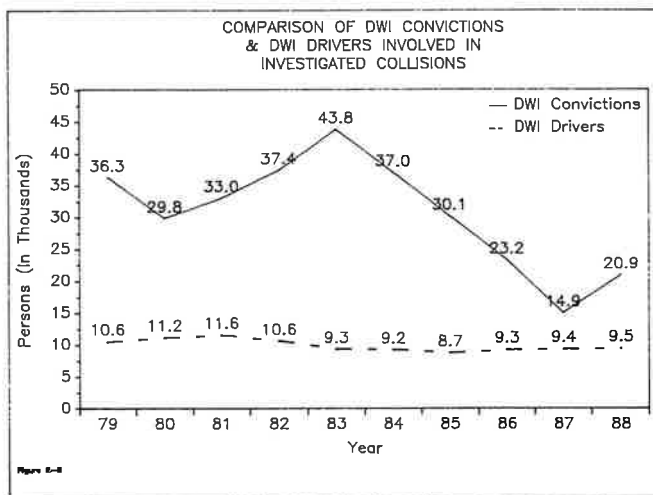
Figure 2-7



**C. Ratio of Drinking and Drunk Drivers by Age and Severity**

In 1988, the number of convictions for alcohol-related traffic offenses reversed a four-year downward trend starting in 1984. The 20,897 convictions in 1988 for DWI/Physical Control violations represented a drop of 52.3% from the 43,835 convictions recorded for the year of 1983. The number of DWI drivers involved in investigated collisions last year increased to 9,532, the highest number recorded since 1982 when 10,609 drivers were involved (Figure 2-8).

Figure 2-8



Data for all collision involvement by driver's age and percent of vehicle miles traveled for each age group reveal that the 16-17 year olds have the greatest over-representation in all reported collisions at 4.34. The 18-20 year olds were the second most over-represented group. The age group with the greatest under-representation based on miles traveled was the 55-64 category. Those in the 16 to 17-year-old bracket also displayed the greatest over-representation in alcohol-related collisions based on miles traveled. Second in this ranking was



again the 18 to 20-year-old group. The age group 55-64 recorded the greatest under-representation in alcohol-involved collisions with a 0.31 ratio (Table 2-2).

Table 2-2

ALL REPORTED COLLISIONS & ALCOHOL-RELATED COLLISIONS Comparison of Miles Traveled					
Driver Age	% of Vehicle Miles Traveled*	Drivers in All Collisions		Alcohol-Related Collisions	
		%	Over/Under Ratio	%	Over/Under Ratio
16-17	1.44	6.25%	4.34	3.40%	2.36
18-20	5.55	12.04%	2.17	11.65%	2.10
21-24	12.58	12.71%	1.01	19.32%	1.54
25-34	29.24	27.22%	0.93	36.92%	1.26
35-44	21.18	18.73%	0.88	16.72%	0.79
45-54	12.97	9.47%	0.73	6.19%	0.48
55-64	11.58	6.53%	0.56	3.63%	0.31
65 & Over	5.34	7.05%	1.32	2.17%	0.41

Table 2-3 presents a summary of the number of persons killed and injured, number of property damage collisions, and total investigated collisions for drivers under the influence (legally drunk), all drinking drivers (had been drinking but not legally drunk), and non-drinking drivers. Of the non-drinking driver collisions, there were 10.7% fewer persons killed and 2.2% fewer received disabling injuries. Property-damage-only collisions also decreased, while persons with non-disabling and possible injuries increased in 1988. Of the drivers under the influence, persons killed and all levels of injury severity increased over last year. Property-damage-only collisions recorded a 4.3% increase, most likely due to the change in the reporting level. Total "DUI" collisions increased 0.4% overall. Alcohol-related (drivers who had been drinking) collisions showed a similar increase when compared to the previous year.

Table 2-3

SUMMARY OF PERSONS KILLED & INJURED IN ALCOHOL-RELATED COLLISIONS Two-Year Comparison									
Status	Drivers Under the Influence			Drivers Who Had Been Drinking*			Non-Drinking Driver Collisions		
	1988	1987	% of Change	1988	1987	% of Change	1988	1987	% of Change
Persons Killed	376	337	11.6%	433	396	9.3%	352	394	-10.7%
Persons Injured	8,359	7,970	4.9%	13,724	13,539	1.4%	49,348	45,600	8.2%
Disabling	1,832	1,788	2.5%	2,665	2,665	0.0%	5,470	5,595	-2.2%
Non-Disabling	3,986	3,897	2.3%	6,418	6,573	-2.4%	17,835	17,288	3.2%
Possible Injury	2,541	2,285	11.2%	4,641	4,301	7.9%	26,043	22,717	14.6%
Property Damage Collisions**	3,867	4,040	-4.3%	8,129	8,496	-4.3%	48,517	50,078	-3.1%
TOTAL COLLISIONS**	9,436	9,398	0.4%	17,299	17,590	-1.7%	81,789	81,676	0.1%

\*Including Drivers Under the Influence

\*\*Minimum damage for a reportable collision was increased from \$300 to \$500 on 10-1-87.

\*\*\*Investigated Collisions Only

## II. Youth Involvement

Youthful drivers 24 years and younger were involved in 60,695 reported collisions, of which 290 were fatal collisions, and 25,809 were injury collisions during 1988. This was a 0.4% increase in reported collisions and an 8.1% increase in injury collisions, but a 4.1% decrease in fatal collisions compared to the four-year baseline. There were 497,527 licensed drivers 24 years old and younger in 1988: down slightly from the baseline period. The total collision rate (total collisions per 1,000 licensed drivers) of 12.20 for 1988 was up slightly from the 12.16 rate for the baseline average (Table 3-1).

Table 3-1

YOUTHFUL DRIVERS (24 YEARS & YOUNGER) INVOLVED IN COLLISIONS Five-Year Comparison							
Collisions & Rates	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Youthful drivers involved in							
Total Collisions	60,695	63,531	61,568	59,465	57,361	60,481	0.4%
Fatal Collisions	290	286	283	316	324	302	-4.1%
Injury Collisions	25,809	22,834	25,462	23,951	23,242	23,872	8.1%
Licensed Drivers	497,527	490,144	485,889	504,107	512,407	498,137	-0.1%
Fatal Collision Ratio*	4.78	4.50	4.60	5.31	5.65	5.02	-4.7%
Fatal Rate**	0.58	0.58	0.58	0.63	0.63	0.61	-3.9%
Total Collision Rate***	12.20	12.96	12.67	11.80	11.19	12.16	0.4%

\* Fatal Collisions per 1,000 total collisions

\*\* Fatal Collisions per 1,000 licensed drivers

\*\*\* Youthful drivers involved per 100 licensed

## III. Safety-Restraint Usage

Out of a total of 202,054 occupants involved in total investigated collisions, 161,667 were using safety restraints. This is a usage rate of 80.0% and marks the fourth consecutive year of increases in safety-restraint usage since 1984 (Table 4-1).

Table 4-1

RESTRAINT USAGE RATE Five-Year Comparison										
Status	1988 %		1987 %		1986 %		1985 %		1984 %	
Restraints Used	161,667	80.0%	152,413	77.6%	102,751	54.5%	60,392	35.1%	45,214	28.0%
No Restraints Used	40,387	20.0%	44,081	22.4%	85,669	45.5%	111,885	64.9%	116,299	72.0%
TOTAL	202,054	100.0%	196,494	100.0%	188,420	100.0%	172,277	100.0%	161,513	100.0%

Note: Usage rate is the percent of occupants using the restraints among all occupants involved in collisions for whom the usage is known.

Last year, 398 occupants who were not using any type of restraint died and 2,866 non-restrained occupants were seriously injured. Based on 1988 collision data, it is estimated that an occupant who does not "buckle up" is nine times as likely to be killed and over four times as likely to be seriously injured than one who does "buckle up" (Table 4-2).

Table 4-2

RESTRAINT USAGE & INJURIES SUSTAINED* By Type								
Type	Restraints Used		Child Restraints**		No Restraints		Total Occupants	
	Number	%	Number	%	Number	%	Number	%
Deaths	152	0.1%	4	0.1%	405	1.0%	557	0.3%
Disabling Injuries	2,698	1.7%	22	0.8%	2,866	7.1%	5,564	2.8%
Evident Injuries	11,630	7.2%	147	5.4%	7,608	18.8%	19,238	9.5%
Possible Injuries	21,316	13.2%	172	6.3%	5,766	14.3%	27,082	13.4%
No Injuries	125,820	77.9%	2,375	87.3%	23,720	58.8%	149,540	74.0%
<b>TOTAL</b>	<b>161,616</b>	<b>100.0%</b>	<b>2,720</b>	<b>100.0%</b>	<b>40,365</b>	<b>100.0%</b>	<b>201,981</b>	<b>100.0%</b>

\*Excludes cases where injury severity was not stated or where restraint use was unknown.

\*\*Included with Restraints Used Category.

### A. Restraint Usage by Sex and Age

In 1988 collisions, 85.5% of the female drivers used their restraints, while 80.3% of the male drivers used theirs. Female passengers used restraints at a rate of 78.5% compared to 70.9% for male passengers. The 0-5 age group had the highest restraint usage of any age group at 86.6%. The age group with the lowest usage rate was the 6-15 year olds at 74.2% (Table 4-3 and 4-4).

Table 4-3

USAGE RATES BY SEX* Five-Year Comparison					
Occupant	Percent Used Restraints				
	1988	1987	1986	1985	1984
Male Driver	80.3	77.8	54.0	34.3	27.3
Female Driver	85.5	83.3	59.6	38.8	31.4
Male Passenger	70.9	69.0	46.7	29.4	26.4
Female Passenger	78.5	75.9	55.0	36.0	28.4

\*Excludes occupants where restraint use was unknown

Table 4-4

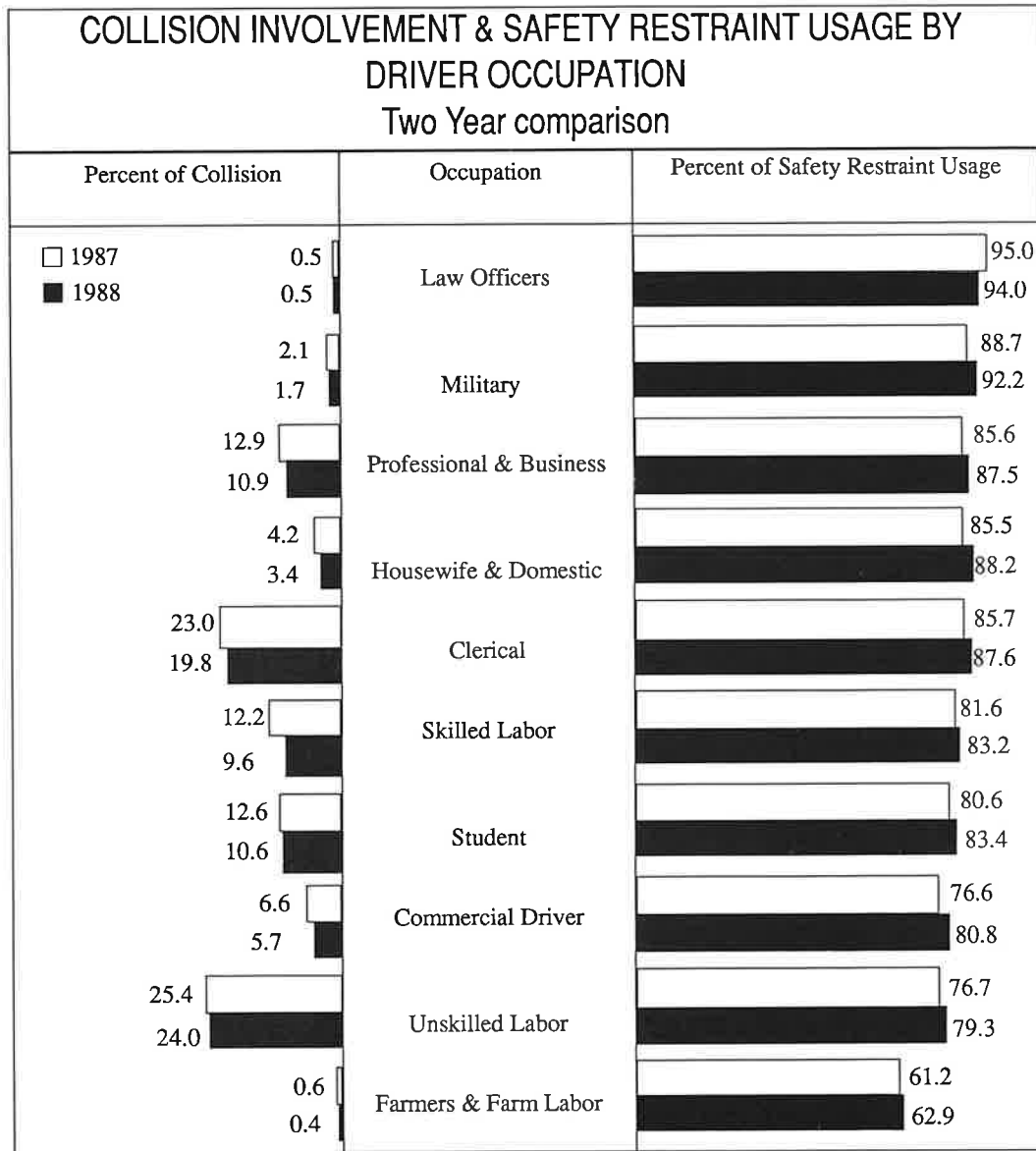
USAGE RATES BY AGE* Five-Year Comparison					
Occupant	Percent Used Restraints				
	1988	1987	1986	1985	1984
Age 0-5	86.6	85.6	81.0	73.1	66.8
Age 6-15	74.2	72.5	51.5	31.3	24.9
Age 16-19	74.5	71.6	44.2	25.4	19.6
Age 20-24	75.8	72.7	47.5	28.5	22.0
Age 25-34	79.5	77.4	55.3	36.6	29.5
Age 35-64	85.0	82.9	60.6	39.7	32.0
Age 65 & Up	84.5	82.6	58.2	34.7	27.6

\*Excludes occupants where restraint use was unknown

**B. Restraint Usage by Driver Occupation**

The usage rate of safety restraints by occupation of driver ranges from a high of 94.3% for law officers to a low of 62.9% for farmers and farm laborers. Usage rates for all occupations with the exception of law officers showed modest increases for 1988 (Figure 4-1).

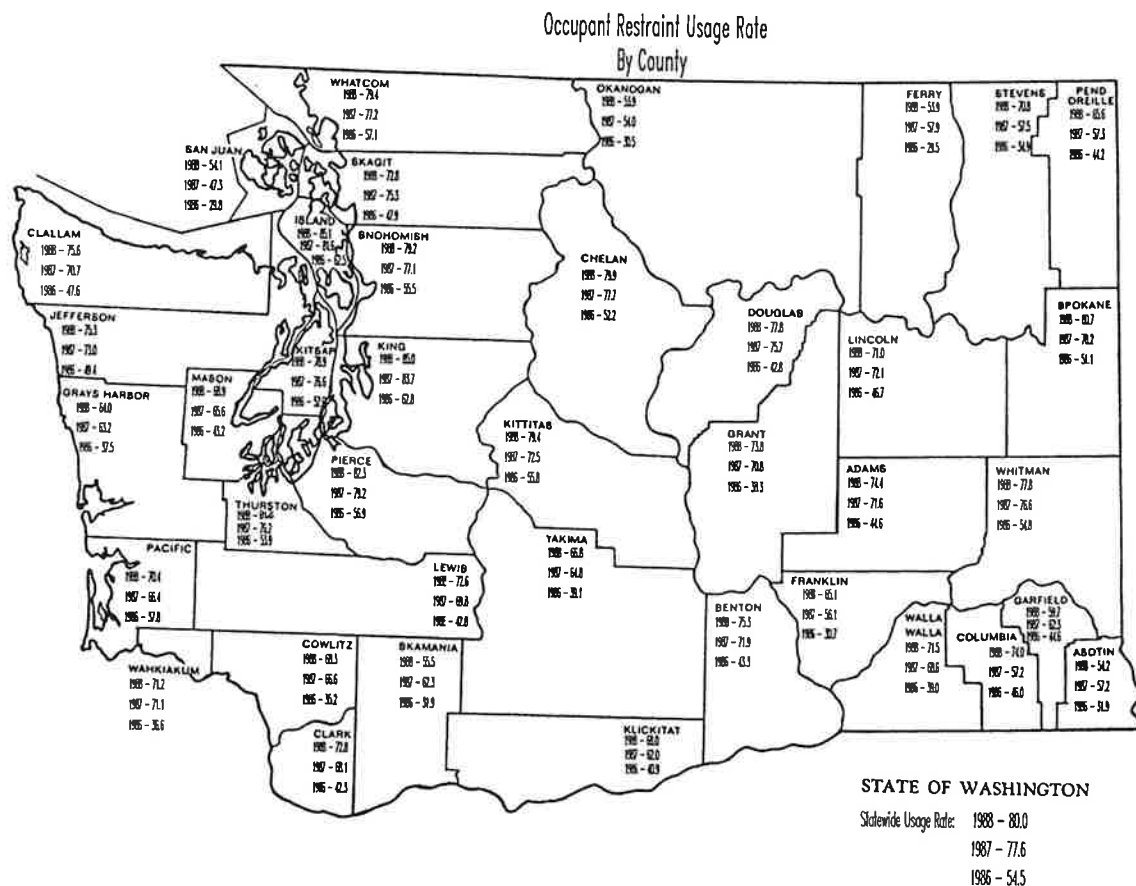
Figure 4-1



### C. Restraint Use by County

A graphic depiction of restraint use by county is presented in Figure 4-2. Island County, at 85.1%, had the highest usage rate of all counties in the state in 1988. King County had the next highest usage rate at 85.0%. The two counties with the lowest usage rate was Ferry County and Okanogan County, each recording a usage rate of 53.9%: both down from the previous year.

Figure 4-2



### IV. Motorcycle Collisions

Motorcycle fatal collisions decreased 10.0% in 1988, when compared to the previous four-year baseline average and 18.2% from the previous year. Total reported collisions decreased at even a greater rate, recording a 21.1% decrease from the baseline average. Injury collisions decreased 19.7% from the baseline average. 1988 registration totaled 117,155 motorcycles, a decrease of 6.1% from the baseline period. The motorcycle collision rate of 2.37 for 1988 was down 16.0% from the baseline rate of 2.82 motorcycle collisions per every 100 registered (Table 5-1).

Table 5-1

MOTORCYCLE COLLISIONS SUMMARY Five-Year Comparison							
Collision Severity/Exposure & Rates	Year					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Total Collisions	2,773	3,379	3,508	3,699	3,477	3,516	-21.13%
Fatal Collisions	72	88	80	82	69	80	-9.72%
Injury Collisions	2,393	2,816	3,003	3,139	2,965	2,981	-19.72%
Motorcycle Registration	117,155	124,215	122,751	125,224	126,703	124,723	-6.07%
Fatal Collision Ratio*	26.0	26.0	22.8	22.2	19.8	22.7	14.30%
Fatal Registration Rate**	0.615	0.708	0.652	0.655	0.545	0.640	-3.96%
Total Collision Registration Rate***	2.37	2.72	2.86	2.95	2.74	2.82	-16.04%

\* Fatal Collisions per 1,000 motorcycle collisions

\*\* Fatal Collisions per 1,000 motorcycles registered

\*\*\* Motorcycle involved per 100 registered

### A. Motorcycle Collisions By Age Group

The 16- 29-year-old motorcycle rider continues to be over-represented in the accident population compared to the percentage of licensed motorcycle drivers comprising that age group. The 16-18 year olds were involved in 10.6% of the total collisions, but comprise less than 1% of the motorcycle-endorsed drivers. The 25- 29-year-old motorcycle riders were involved in the largest percentage of fatal, injury, and total reported collisions (22.2%, 16.6%, and 16.8% respectively). However, they made up 14.7% of the licensed operators with motorcycle endorsements. From age 30 on up, motorcycle riders are under-represented (Table 5-2).

Table 5-2

MOTORCYCLE DRIVERS Comparison of Collisions to Licensed Drivers								
Age	Fatal Collisions		Injury Collisions		Total Collisions		% of Endorsed Drivers	Over/Under Ratio in Total Collisions
	Number	%	Number	%	Number	%		
Under 16	0	0.0%	51	2.2%	55	2.1%	0.00	---
16	1	1.4%	31	1.3%	37	1.4%	0.04	35.14
17-18	9	12.5%	218	9.3%	243	9.2%	0.55	16.79
19-20	7	9.7%	354	15.1%	400	15.2%	1.77	8.59
21-22	2	2.8%	282	12.0%	303	11.5%	2.83	4.07
23-24	6	8.3%	219	9.3%	250	9.5%	3.87	2.45
25-29	16	22.2%	390	16.6%	441	16.8%	14.68	1.14
30-34	11	15.3%	268	11.4%	307	11.7%	20.69	0.56
35-39	6	8.3%	223	9.5%	241	9.2%	18.80	0.49
40-44	8	11.1%	152	6.5%	174	6.6%	13.44	0.49
45-54	4	5.6%	100	4.3%	115	4.4%	13.57	0.32
55-64	2	2.8%	44	1.9%	48	1.8%	6.55	0.28
65 & over	0	0.0%	18	0.8%	18	0.7%	3.20	0.21

## V. Pedalcycles

In 1988 total pedalcycle accidents decreased 3.4% over the previous four-year average. The number of pedalcyclists killed decreased from 18 deaths in 1987 to 12 in 1988 and was also down 9.4% from the baseline period. The number of

persons injured also recorded a decrease from the previous year and from the previous four-year average (Table 6-1).

Table 6-1

PEDALCYCLE TRAFFIC COLLISIONS Five-Year Comparison							
Severity	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Total Collisions	1,348	1,575	1,507	1,325	1,174	1,395	-3.39%
Persons Killed	12	18	12	12	11	13	-9.43%
Persons Injured	1,375	1,584	1,538	1,354	1,204	1,420	-3.17%

### A. Pedalcyclists Killed And Injured - By Age

In 1988, 41.7% of the pedalcyclists killed were in the 5-9 age bracket. This was up two from the previous four-year average and up one from the previous year (Table 6-2).

Table 6-2

PEDALCYCLISTS KILLED BY AGE Five-Year Comparison							
Age	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
0-4	0	0	2	0	0	1	-100.00%
5-9	5	4	2	3	1	3	100.00%
10-14	2	3	3	2	2	3	-20.00%
15-19	0	2	1	2	1	2	-100.00%
20-24	0	2	1	0	0	1	-100.00%
25-34	2	3	3	1	0	2	14.29%
35-44	2	1	0	1	3	1	60.00%
45-54	0	2	0	2	0	1	-100.00%
55-64	0	1	0	1	1	1	-100.00%
65-74	1	0	0	0	2	1	100.00%
75 & Older	0	0	0	0	1	0	-100.00%
Not Stated	0	0	0	0	0	0	---
TOTAL	12	18	12	12	11	13	-9.43%

### B. Persons Killed and Injured in Pedalcycle Collisions - By Month

The months of May through September accounted for 61.9% of the persons killed and injured in pedalcycle-related collisions for 1988. (Figure 6-1).

The city of Walla Walla experienced the highest pedalcycle collision rate in the state during 1988 with 98.27 collisions per 100,000 population. Bellingham recorded the second highest collision rate in the state at 77.24 collisions per 100,000 population, followed by Olympia with 75.98 and Longview with a 71.04 pedalcycle collision rate (Table 6-3).

Figure 6-1

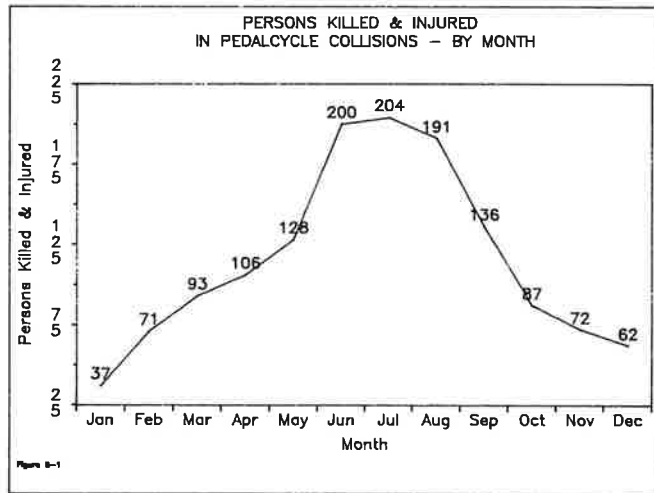


Table 6-3

City	1988 Population	Pedalcycle Deaths		Pedalcycle Injuries		Total Ped Collision	
		Number	Rate*	Number	Rate*	Number	Rate*
250,000 and Over							
1. Seattle	495,900	1	0.20	215	43.36	220	44.36
100,000 to 250,000							
1. Spokane	170,200	0	0.00	100	58.75	96	56.40
2. Tacoma	161,400	0	0.00	85	52.66	82	50.81
50,000 to 100,000							
1. Bellevue	85,180	0	0.00	33	38.74	32	37.57
2. Everett	60,920	0	0.00	33	54.17	32	52.53
25,000 to 50,000							
1. Yakima	49,470	0	0.00	14	28.30	14	28.30
2. Bellingham	46,610	0	0.00	36	77.24	36	77.24
3. Vancouver	43,290	2	4.62	26	60.06	25	57.75
4. Kennewick	37,180	0	0.00	11	29.59	11	29.59
5. Bremerton	37,050	0	0.00	17	45.88	17	45.88
6. Renton	36,940	0	0.00	7	18.95	7	18.95
7. Kirkland	35,820	0	0.00	9	25.13	8	11.17
8. Kent	32,350	0	0.00	17	52.55	14	43.28
9. Redmond	31,710	0	0.00	15	47.30	15	47.30
10. Auburn	30,790	0	0.00	16	51.96	16	51.96
11. Olympia	30,270	0	0.00	22	72.68	23	75.98
12. Richland	30,140	0	0.00	3	9.95	3	9.95
13. Longview	29,560	1	3.38	20	67.66	21	71.04
14. Edmonds	28,500	0	0.00	9	31.58	9	31.58
15. Walla Walla	25,440	1	3.93	26	102.20	25	98.27
15,000 to 25,000							
1. Pullman	23,579	0	0.00	7	29.69	7	33.93
2. Lynnwood	22,641	0	0.00	10	44.17	10	22.08
3. Puyallup	20,840	0	0.00	13	62.38	10	33.59
4. Mercer Island	20,690	0	0.00	5	24.17	5	48.33
5. Wenatchee	18,860	0	0.00	7	37.12	7	21.21
6. Pasco	18,430	0	0.00	4	21.70	4	48.83
7. Port Angeles	17,350	1	5.76	8	46.11	9	34.58
8. Aberdeen	17,130	0	0.00	4	23.35	4	46.70
9. Lacey	16,380	0	0.00	8	48.84	8	48.84
10. Mountlake Terrace	16,290	0	0.00	6	36.83	6	36.83

\*Frequency per 100,000 population



## VI. Pedestrians

The 97 pedestrians killed in 1988 were up 5.4% over the four-year average. The 1,820 pedestrians injured were 3.2% above the four-year baseline (Table 7-1).

Table 7-1

PEDESTRIANS KILLED AND INJURED STATEWIDE - URBAN & RURAL Five-Year Comparison							
Severity	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Pedestrians Killed	97	93	89	89	97	92	5.43%
Pedestrians Injured	1,820	1,830	1,752	1,763	1,710	1,764	3.19%

### A. Pedestrians Killed And Injured - By Age

In 1988, the overall number of pedestrians killed increased by 4 from the 93 killed in 1987 and was up 5 from the four-year baseline average. The number of younger pedestrians ages 9 years and younger who were killed increased from 10 in 1987 to 14 in 1988 and was up two when compared to the previous four-year average. The number of older (75 & older) pedestrians injured was up 2 from the previous four-year average. The largest percentage increases in pedestrians injured during 1988 was in the 35-44 year age bracket and the 0-4 year age bracket, the former recording a 25.9% increase and the latter an 18.7% increase respectively when compared to the baseline average (Tables 7-2 and 7-3).

Table 7-2

PEDESTRIANS KILLED BY AGE Five-Year Comparison							
Age	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
0-4	10	5	2	3	8	5	122.22%
5-9	4	5	4	11	6	7	-38.46%
10-14	3	6	2	3	8	5	-36.84%
15-19	10	7	10	3	6	7	53.85%
20-24	3	2	7	5	9	6	-47.83%
25-34	15	14	12	11	18	14	9.09%
35-44	12	11	13	9	8	10	17.07%
45-54	7	11	7	7	4	7	-3.45%
55-64	7	11	10	9	11	10	-31.71%
65-74	8	7	8	7	6	7	14.29%
75 & Older	15	14	14	21	13	16	-3.23%
Not Stated	3	0	0	0	0	0	0.00%
TOTAL	97	93	89	89	97	92	5.43%

Table 7-3

PEDESTRIANS INJURED* BY AGE Five-Year Comparison							
Age	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
0-4	97	92	77	83	75	82	18.65%
5-9	234	251	231	203	215	225	4.00%
10-14	197	196	198	195	194	196	0.64%
15-19	190	206	206	208	215	209	-8.98%
20-24	149	166	151	181	167	166	-10.38%
25-34	295	289	290	285	255	280	5.45%
35-44	210	196	176	169	126	167	25.94%
45-54	95	108	111	99	121	110	-13.44%
55-64	96	84	76	90	89	85	13.27%
65-74	74	83	72	92	89	84	-11.90%
75 & Older	91	76	98	82	80	84	8.33%
Not Stated	92	83	66	76	84	77	19.09%
<b>TOTAL</b>	<b>1,820</b>	<b>1,830</b>	<b>1,752</b>	<b>1,763</b>	<b>1,710</b>	<b>1,764</b>	<b>3.19%</b>

\* In all traffic collisions.

### B. Pedestrian Collisions By Day Of Week and Hour Of Day

Table 7-4 presents the 1988 number and rates for pedestrian traffic deaths, injuries, and total collisions for cities of 15,000 population or more in Washington. Seattle had the greatest number of fatalities, but Kent had the greatest rate of pedestrian fatalities at 6.18 per 100,000 population based on two pedestrian deaths. Seattle had the greatest number of pedestrian injuries and pedestrian collisions but had the second highest rate for pedestrian injuries (95.38 per 100,000 population) and pedestrian collisions (94.17 per 100,000). Aberdeen had the highest pedestrian injury and collision rate with 99.24 and 105.08 per 100,000 population, respectively.

Table 7-4

PEDESTRIAN COLLISION RATE BY POPULATION Cities 15,000 Population & Greater							
City	1988 Population	Pedestrian Deaths		Pedestrian Injuries		Total Ped Collision	
		Number	Rate*	Number	Rate*	Number	Rate*
250,000 and Over							
1. Seattle	495,900	16	3.23	473	95.38	467	94.17
100,000 to 250,000							
1. Spokane	170,200	4	2.35	113	66.39	115	67.57
2. Tacoma	161,400	7	4.34	140	86.74	137	84.88
50,000 to 100,000							
1. Bellevue	85,180	0	0.00	24	28.18	24	28.18
2. Everett	60,920	0	0.00	47	77.15	41	67.30
25,000 to 50,000							
1. Yakima	49,470	2	4.04	26	52.56	26	52.56
2. Bellingham	46,610	0	0.00	34	72.95	30	64.36
3. Vancouver	43,290	1	2.31	27	62.37	26	60.06
4. Kennewick	37,180	0	0.00	7	18.83	7	18.83
5. Bremerton	37,050	0	0.00	25	67.48	25	67.48
6. Renton	36,940	0	0.00	14	37.90	12	32.49
7. Kirkland	35,820	0	0.00	8	22.33	7	19.54
8. Kent	32,350	2	6.18	20	61.82	19	58.73
9. Redmond	31,710	0	0.00	10	31.54	9	28.38
10. Auburn	30,790	1	3.25	18	58.46	20	64.96
11. Olympia	30,270	1	3.30	16	52.86	16	52.86
12. Richland	30,140	0	0.00	5	16.59	5	16.59
13. Longview	29,560	0	0.00	16	54.13	15	50.74
14. Edmonds	28,500	0	0.00	11	38.60	11	38.60
15. Walla Walla	25,440	0	0.00	8	31.45	6	23.58
15,000 to 25,000							
1. Pullman	23,579	0	0.00	2	8.48	2	8.48
2. Lynnwood	22,641	0	0.00	14	61.83	13	57.42
3. Puyallup	20,840	1	4.80	13	62.38	13	62.38
4. Mercer Island	20,690	0	0.00	1	4.83	1	4.83
5. Wenatchee	18,860	0	0.00	12	63.63	12	63.63
6. Pasco	18,430	1	5.43	10	54.26	11	59.69
7. Port Angeles	17,350	0	0.00	11	63.40	11	63.40
8. Aberdeen	17,130	1	5.84	17	99.24	18	105.08
9. Lacey	16,380	0	0.00	9	54.95	9	54.95
10. Mountlake Terrace	16,290	0	0.00	3	18.42	3	18.42

\*Frequency per 100,000 population

## VII. Heavy Trucks

In 1988 6,149 heavy trucks were involved in collisions, for an 18.8% decrease over the four-year baseline. Registrations in 1988 totaled an estimated 172,000 vehicles, a 7.8% increase over the four-year average. Based on this registration figure, the 1988 collision rate was 357.5 collisions per 10,000 registered trucks, a decrease of 25.1% over the previous four-year average.

There were 79 heavy trucks involved in fatal collisions during 1988. This was a 2.3% increase compared to the baseline average. While the fatal collision rate was up slightly from the previous year, it was down 5.8% from the previous four-year average rate of 4.9 deaths per 10,000 registered trucks (Table 8-1).

Table 8-1

SUMMARY OF HEAVY TRUCKS Heavy Trucks Involved in Traffic Collisions							
Collision Severity/Exposure & Rates	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Total Trucks Involved in Collisions	6,149	6,243	7,983	8,605	7,472	7,576	-18.8%
Trucks Involved in Fatal Collisions	79	71	66	85	87	77	2.3%
Registration of Heavy Trucks*	172,000	168,600	164,000	155,000	150,661	159,565	7.8%
Total Collision Rate**	357.5	370.3	486.8	555.2	495.9	477.0	-25.1%
Fatal Collision Rate**	4.6	4.2	4.0	5.5	5.8	4.9	-5.8%

\* Estimated

\*\*Collisions per 10,000 registered trucks

### A. Age of Drivers Involved in Heavy Truck Collisions

The 39-year-old and younger drivers were over-represented in heavy truck collisions in 1988 compared to the percentage of licensed drivers each group comprised. The 19 and under group comprised 0.2% of all licensed heavy truck operators. Yet this group was involved in 1.8% of all heavy truck collisions, 1.3% of the heavy truck fatal crashes and 2.4% of the heavy truck injury collisions. The ratio for percent of collision involvement compared to percent of licensed drivers comprised by the 19 and under age group resulted in an over-representation ratio of 9.05 for this group. The 20-29 year old age group was involved in 26.2% of the total collisions, 20.2% of the fatal collision and 27.2% of the injury collisions. This group comprised 14.2% of all drivers having a classified endorsement on their licenses. Based on the percent of licensed drivers and collision involvement, this group was over-represented in collisions by a ratio of 1.84. The 30-39 year old age group was involved in 32.2% of the total reported collisions and made up 29.7% of the drivers having a classified endorsement on their license. The representation for this group was nearly equal. The rest of the driver age groups were under-represented in total collisions (Table 8-2).

Table 8-2

DRIVERS INVOLVED IN HEAVY TRUCK COLLISIONS By Age								
Age	All Collisions		Fatal Collisions		Injury Collisions		% of Classified Drivers*	Over/Under Ratio**
	Number	%	Number	%	Number	%		
19 & Under	99	1.8%	1	1.3%	45	2.4%	0.2%	9.05
20-29	1,419	26.2%	15	20.0%	504	27.2%	14.2%	1.84
30-39	1,746	32.2%	28	37.3%	595	32.1%	29.7%	1.08
40-49	1,239	22.9%	22	29.3%	418	22.6%	26.2%	0.87
50-59	674	12.4%	5	6.7%	202	10.9%	16.7%	0.75
60 & Over	244	4.5%	4	5.3%	88	4.8%	13.0%	0.35

\* Classified Endorsement is only required for operators of the larger trucks and truck combinations

\*\* Percent of collision involvement to percent of licensed drivers

### B. Heavy Truck Defects

In 1988 defective brakes accounted for 40.4% of the defects detected in heavy trucks involved in collisions. Other defects and the percentages were worn or smooth tires, 12.7%; defective rear lights, 6.3%; defective steering, 5.5%; and all other defects, 35.1% (Table 8-3).

Table 8-3

DEFECTS OF HEAVY TRUCKS INVOLVED IN COLLISIONS Four-Year Comparison								
Condition of Vehicle	1988		1987		1986		1985	
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total
Defective Brakes	236	40.4%	254	39.6%	329	42.1%	325	41.1%
Defective Headlights	6	1.0%	6	0.9%	4	0.5%	7	0.9%
Defective Rear Lights	37	6.3%	27	4.2%	48	6.1%	49	6.2%
Defective Steering Mechanism	32	5.5%	30	4.7%	33	4.2%	37	4.7%
Puncture or Blowout	24	4.1%	23	3.6%	21	2.7%	29	3.7%
Worn or Smooth Tires	74	12.7%	79	12.3%	87	11.1%	101	12.8%
Other Defects	175	30.0%	222	34.6%	259	33.2%	243	30.7%

### VIII. Pupil Transportation

In the 1987-88 school year there were 311 reported school bus collisions in which 268 persons were injured and 1 pedestrian was killed. This represented a 14.6% increase over the previous three-year average in total school bus collisions, a 79.5% increase in the number of persons injured and a decrease of 4 in the number killed. Injuries to pupils riding in the school buses totaled 116 for the 1987/88 school year; up from the 59 reported for the 1986/87 school year and from the average of 45 pupils injured in the three-year baseline period. There were 6,427 registered school buses in the 1987-88 school year. This marked a 4.8% decrease in registrations from the baseline period. School bus travel increased 18.98% during the 1987/88 school year compared to the previous three-year baseline period (Table 9-1).

Table 9-1

COLLISIONS INVOLVING SCHOOL BUSES Four-Year Comparison						
Severity, Exposure & Rates	Years				Previous 3 Year Average	% of Change 88 - 3 Year Average
	87-88	86-87	85-86	84-85		
Total Collisions	311	310	338	310	271	14.62%
Fatal Collisions	1	5	0	2	1	-25.00%
Injury Collisions	115	92	95	91	84	37.45%
Property Damage Collisions	195	213	243	217	186	4.65%
Number Killed	1	5	0	2	1	0.00%
Persons Injured						
Pupils	116	59	29	28	45	157.78%
School Bus Drivers	28	9	19	23	15	82.61%
Other Occupants of School Bus	0	1	2	0	2	-100.00%
Pedestrian/Bicyclist	7	7	5	4	4	75.00%
Occupants/Other Vehicles Involved	117	93	92	85	83	40.40%
Total Injured	268	169	147	140	149	79.46%
School Bus Registration	6,427	6,185	6,121	6,107	6,133	4.80%
Registration Collision Rate*	48.4	50.1	55.2	50.8	44.3	9.33%
Miles Traveled (in thousands)	72,816.2	68,658.8	66,586.6	57,849.3	61,201.7	18.98%
Mileage Collision Rate**	0.43	0.45	0.51	0.54	0.446	-4.22%

\* Collisions per 1,000 registered vehicles  
 \*\* Collisions per 100,000 miles traveled

In the 1987/88 school year, the school bus mileage collision rate was .43 collisions per 100,000 miles of travel. This rate was down from the 0.45 rate experienced in the 1986/87 school year and the rate of the previous three-year baseline.

## IX. Senior Driver Involvement

There were 26,584 senior drivers, 55 years old and older, who were involved in 24,540 reported collisions in 1988. There were 137 fatal collisions involving 148 senior drivers and 9,385 injury collisions involving 10,197 senior drivers. This was a 5.4% increase of seniors involved in reported collisions, a 0.3% increase of the number involved in fatal crashes, and a 9.3% increase of those involved in injury collisions compared to the previous four-year baseline period. There were 763,079 licensed drivers 55 years old and older in 1988, up 6.9% from the baseline period. The fatal collision rate (total collisions per 1,000 licensed drivers) of 0.19 for 1988 was down 5.7% from the baseline period (Table 11-1).

Table 11-1

SENIOR DRIVERS (55 YEARS & OLDER) INVOLVED IN COLLISIONS+ Five-Year Comparison							
Collisions & Rates	Years					Previous 4 Year Average	% of Change 88 - 4 Year Average
	1988	1987	1986	1985	1984		
Senior drivers involved in							
Total Collisions	26,584	26,482	25,842	24,978	23,630	25,233	5.4%
Fatal Collisions	148	157	140	144	149	148	0.3%
Injury Collisions	10,197	9,634	9,560	9,264	8,855	9,328	9.3%
Licensed Drivers	763,079	741,653	719,784	706,719	686,985	713,785	6.9%
Fatal Collision Ratio*	5.57	5.93	5.42	5.77	6.31	5.85	-4.9%
Fatal Rate**	0.19	0.21	0.19	0.20	0.22	0.21	-5.7%
Total Collision Rate***	3.48	3.57	3.59	3.53	3.44	3.53	-1.4%

+ The number of senior drivers involved

\* Fatal Collisions per 1,000 total collisions

\*\* Fatal Collisions per 1,000 licensed drivers

\*\*\* Senior drivers involved per 100 licensed

**Part III**

**Problem Solution Plans**

# **Planning and Administration**

## **Problem Solution Plan**

### **Program 90-01**

#### **I. Problem Statement**

Washington state's long-range planning for traffic safety is embodied in its annual Highway Safety Plan (HSP). This document represents a comprehensive, multi-year plan developed by representatives from many public agencies together with the staff of the Washington Traffic Safety Commission (WTSC), chaired by the governor. The governor, by statute, is responsible for administering the state's highway safety programs in accordance with federal-level state law. The HSP is presented for approval each year to the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA).

In order to allocate resources in an orderly manner and focus the efforts of personnel on the HSP's programs, the WTSC provides for planning and administration necessary to reach these goals. The WTSC, as a result, becomes the center of authority for the development, implementation, management, monitoring, and evaluation of the overall plan and operations.

#### **II. Problem Solutions**

Expenditures in the following areas are anticipated in order to provide the resources for the WTSC's administrative support functions during FY 1990:

1. Salaries, travel monies, equipment, materials, and space for P & A staff personnel.
2. Research, reports, and communications.
3. Coordination with other agencies and groups in preparing and submitting appropriate traffic safety legislation.
4. Administering the FY 1990 HSP and preparing the FY 1991 HSP.
5. Fiscal accounting related to traffic safety programs.

#### **III. Evaluation of Program Area**

The 1990 Planning and Administration problem solution plan (PSP) will be evaluated administratively. Budgets and goals as set forth in the overall plan

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addressed by this PSP in particular and the HSP in general will be reviewed to determine if they have been met by the WTSC management.

### FY 1990 Planning & Administration Costs

#### Cost Detail

Personnel Cost (6 FTEs) .....	\$221,000
Travel Expenses .....	12,000
Contractual .....	0
Equipment .....	0
Goods & Services .....	68,750
Indirect/Direct Cost .....	50,000
<b>Total P &amp; A Budget .....</b>	<b>\$351,750</b>
State Share .....	175,875
Federal Share .....	175,875
<hr/>	
<b>Total Federal Share of P &amp; A .....</b>	<b>175,875</b>
NHTSA Share .....	157,875
FHWA Share .....	18,000

HS-57-01                      P R O B L E M   S O L U T I O N   P L A N						
PSP TITLE		Planning and Administration		PSP NO.	STATE	PAGE
				90-01	WA	1 OF 1
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
WTSC	II Planning and Administration					
INPUT						
Six full-time employees: agency director, deputy director, two fiscal staff persons, one secretarial support FTE, and one stock clerk.						
OUTPUT						
Management of the Washington Traffic Safety Commission administrative operations.						
TARGET POPULATION SERVED/TOTAL						
Staff employees, traffic safety commissioners, governor, and all cities and counties.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II NHTSA FHWA		157,875 18,000	157,875 18,000		315,750 36,000	
		175,875	175,875		351,750	



# **Technical Coordination and Support Problem Solution Plan Program 90-02**

## **I. Problem Statement**

The problem solution plans contained in the 1990 HSP consist of numerous projects directed at resolving the traffic safety problems experienced in Washington state. Some problems are merely shortages of sufficient resources needed to accelerate safety improvements at the state or local level of government, while others exist due to a lack of sufficient central leadership, advocacy, or direction in the seven nationally approved highway traffic safety program areas. The WTSC staff performs most of the specific technical functions as they relate to NHTSA's national program priorities. In order to successfully execute the programs in the remaining PSPs, WTSC must address the need for knowledgeable program managers, support services, and direction.

## **II. Problem Solution**

A multitude of projects have been developed that will have a beneficial impact on the identified national highway safety program areas (alcohol, occupant protection, traffic records, traffic engineering services, comprehensive community traffic safety programs, police traffic services, motorcycle safety, and emergency medical services) requiring a well coordinated effort by the WTSC members and the agencies or organizations they represent.

The WTSC has made a major shift in organization for FY 1990. The staff has been restructured into a programmatic scheme that will require them to exhibit a high degree of cooperative teamwork, information sharing, and broader program responsibility. Likewise, the programs have shifted from specific emphasis areas to a broader overall traffic safety scope to allow for a higher level of coordination of a more comprehensive nature. The emphasis areas are addressed within the programs, and the WTSC will continue to stress the national priorities, in alignment with the federal programs. However, programs will be open to further explore other problem areas such as motorcycle, pedestrian, and bicycle safety, as well.

This problem solution plan identifies the WTSC's program and project manpower and financial resources by allocating positions to specific program areas in which they will have responsibilities.

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**Manpower Allocation:**

Program Area	FTE
Alcohol	1.75
Safety Restraint	1.75
Community Programs*	1.00
Police Traffic Services	0.75
Traffic Records	1.75
Traffic Engineering Services	0.50
Emergency Medical Services	0.25
Safety Information and Education	2.25
Total FTEs	10.00

\* Predominantly an alcohol program area.

**III. Evaluation**

These programs will be evaluated administratively. One or more projects or PSPs will be scheduled for an "impact" evaluation to be done under the Records Analysis and Evaluation program.

### FY 1990 Technical Coordination and Support Costs

**Cost Detail**

Personnel costs (10 FTEs) .....	\$418,000
Travel Expenses .....	24,500
Contractual .....	0
Equipment .....	0
Goods and Services .....	28,500
Indirect/Direct Costs .....	124,000
<b>Total Costs .....</b>	<b>595,000</b>

HS-57-02		<u>P R O B L E M   S O L U T I O N   P L A N</u>				
PSP TITLE		PSP NO.	STATE	PAGE		
Technical Coordination and Support		90-02	WA	1 OF 1		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
WTSC	II Technical Coordination and Support					
INPUT						
10 full-time equivalent employees's salaries, equipment, travel and subsistence, contractual services, and goods and services.						
OUTPUT						
Technical and managerial support to Washington traffic safety programs.						
TARGET POPULATION SERVED/TOTAL						
WTSC agency, state, local, and nonprofit organizations.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II		595,000			595,000	



# **Comprehensive Community Traffic Safety Programs**

## **Problem Solution Plan**

### **Program 90-03**

#### **I. Problem Statement**

While drinking drivers and occupant protection remain the major issues in the communities, the WTSC is recognizing the need to broaden its scope to an overall programmatic traffic safety approach. In the early 1980's, the WTSC established 16 DWI community task forces that proved effective in developing countermeasures in response to the drinking-driver problem. Also, safety-belt task forces were established separately to address the issue of occupant protection including safety-restraint laws. The WTSC is now looking beyond these issues as separate problems and building them along with other community traffic safety problems as one comprehensive program. This new community effort has consequently been renamed as "Comprehensive Community Traffic Safety Programs" (CCTSPs). They will build upon the past successes of the task forces and sustain efforts at the community level involving public and private sectors. WTSC will continue to work with other state and local agencies to design, pilot, implement, and evaluate innovative community traffic safety efforts.

The CCTSPs around the state have been dealing with and will continue to focus on the issues of drinking drivers, occupant protection, and senior drivers. In 1988, 55.2 percent of the total fatalities were due to drinking drivers, an increase from the previous year. Though safety-restraint use has increased, it still remains a problem with youth, young adults, and transitory laborers. There has also been a noticed increase in safety-restraint misuse. The older driving population also experiences these and other driving problems. They are a rapidly growing segment of Washington's population. Since 1978, drivers aged 65 and older have increased 28.2 percent and are involved in 7 percent of traffic collisions while travelling only 5.3 percent of the total mileage.

#### **II. Problem Solutions**

##### **A. CCTSP Development and Expansion**

A primary responsibility of the WTSC is to coordinate statewide traffic safety projects at the local level. These projects may encompass alcohol and other drug

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countermeasures, occupant protection, bicycle and pedestrian safety, driver refresher courses, motorcycle safety, police traffic services, and traffic engineering services. In the past two years, the CCTSPs have begun approaching these issues and will continue to support national priorities.

The CCTSPs exist in Benton/Franklin, Clark, Clallam, East King, Lewis, Mason, Okanogan, Pierce, Skagit, Snohomish, Spokane, Thurston, Whatcom, and Yakima counties, and the cities of Kent and Seattle, as well as safety-belt community leaders in other jurisdictions. As a result of state funding, the existing CCTSPs will continue to be supported and remain members of the Alliance for Safe and Sober Driving.

The WTSC will help the CCTSPs meet their objectives by providing assistance, training, and materials to all existing CCTSPs. The objectives of the CCTSPs are as follows.

1. Increase safety belt and child safety seat use by three to five percent in at least 50 percent of the communities served by a community task force.
2. Promote the use of anti-drinking driving countermeasures, safety restraints, and other traffic safety programs by business and industry, schools and civic clubs.
3. Direct public information and education programs at the local level which will keep residents informed of the area's traffic safety problems and offer information or materials which may help in the solution.

Specific activities for the CCTSPs are as follows.

1. Based on a thorough analysis of traffic collision data, the WTSC staff will select two additional jurisdictions in FY 1990 to serve as CCTSPs.
2. The WTSC will continue to support alcohol and other drug countermeasures for the CCTSPs with limited federal funding. This will cover program costs for coordinator committee meetings, coordinator meetings, registration and training fees, printing and supplies, and mini-grants. State funding has replaced federal funds, thereby allowing the CCTSPs to remain intact through the next biennium.
3. A model DWI Victims Panel will be designed and piloted in a CCTSP jurisdiction during FY 1990. It may be proposed to all CCTSPs the following year if funds allow.
4. The WTSC will continue to support safety-restraint issues in the communities by providing two workshops: one for proposed programming and the other for a minimum of 100 persons to learn about and discuss safety-restraint "Issues." The CCTSPs will also be eligible for a minimum of 20 restraint specific mini-grants.

## **B. Constituent Support**

Implementation of programs on the state and local levels requires extensive networking, training, and education. Many traffic safety issues overlap and affect one another. It has become essential that the WTSC encourage its community volunteers and local contacts to market highway safety issues outside of the tradi-

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tional networks. In addition to promoting networking, the WTSC encourages developing and designing innovative traffic safety projects.

1. In order to further promote the programs and facilitate networking among volunteers, the WTSC will offer limited financial assistance to ensure that volunteers and professionals will be able to attend national and statewide training sessions on traffic safety issues and provide materials to support these ends.
2. The WTSC will contract with an individual or agency for the development and implementation of a vehicle dealership training program. The intent of this program is to achieve cooperation with new car dealerships to inform the buying public about occupant protection issues including automatic protection options on new cars.
3. An occupant protection curriculum will be developed and implemented with Department of Licensing to increase safety-belt use among identified high-risk drivers.

### **C. Senior Driver Refresher Program (Getting There Safely)**

The WTSC recognizes the need for a support system to help the senior driving population deal with the changing driving environment and retain safety skills needed to reduce the odds of these individuals being involved in traffic collisions. Many of the CCTSPs have become involved in this program as well as volunteers throughout the state.

A part-time program coordinator will be contracted to provide coordination, information, and instructional support with minimal supervision to senior centers and other outlets that have implemented an ongoing traffic safety program including safety-belt usage, alcohol and drug awareness, sharing the roads with big trucks, motorcycle safety, and pedestrian safety in addition to the basic "Getting There Safely" driver refresher course. Each session will be planned to accommodate and attract the largest number of participants as possible.

The coordinator will continue recruiting, training, and updating volunteer instructors on a statewide basis to promote a driving proficiency level among the aging population that will increase public and personal safety in the use of motor vehicles on private property, public parking lots, city streets, county roads, and state and interstate highways.

Potential training sites will be reviewed according to the availability of facilities, community support, projected volume of prospective participants, logistical problems, and need for such a countermeasure program in the geographical area.

## **III. Evaluation of Program Area**

The evaluation of the community programs will be administrative. In addition an impact evaluation of alcohol countermeasures and occupant protection measures will be undertaken by the WTSC program evaluator. This evaluation will take the form of a case study on the impact of a specific CCTSP jurisdiction.

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HS-57-03 PROBLEM SOLUTION PLAN						
PSP TITLE		PSP NO.	STATE	PAGE		
Comprehensive Community Traffic Safety Programs		90-03	WA	1 OF 1		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
Local/WTSC	II-A CCTSP Development and Expansion					
Local/WTSC	II-B Constituent Support					
Local/WTSC	II-C Senior Driver Refresher Course					
INPUT						
(A) Travel, subsistence, goods and services support, and mailings for the CCTSPs. Value of community support. (B) Travel, goods and services, conference costs, and mailings to support local level programs. (C) One part-time contractual project coordinator and managerial and support services.						
OUTPUT						
(A) Workshops, conferences, and meetings for local coordinators and volunteers. Continued support and expansion of local efforts. (B) One statewide conference on traffic safety issues. Limited assistance for local level coordinators to attend training sessions. (C) Provide liaison, consultation, coordination, and technical project/activity assistance. Specialized training as needed.						
TARGET POPULATION SERVED/TOTAL						
(A) Communities served by CCTSPs and other local areas. (B) 250 traffic safety professionals and volunteers and two nonprofit organizations. New car buyers and identified high-risk drivers. (C) Estimated 7,500 out of 763,000 licensed drivers over age 55.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II	90,000	227,000	600,000	300,000	917,000	317,000

Note: The Washington state legislature provides \$600,000 annually to the existing CCTSPs.

# Safety Information and Education

## Problem Solution Plan

### Program 90-04

#### I. Problem Statement

Increases in driver exposure on Washington's roadways also increase the threat to safety of all occupants and persons using the streets and highways. During 1988, there were 6.8 percent more licensed drivers in Washington. They also travelled 10.8 percent more miles in 6.0 percent more licensed vehicles.

Although alcohol involvement in all traffic collisions decreased 31.4 percent since 1982, the past several years have not witnessed the dramatic decline experienced in 1983-1985. The 25 to 29 and 30 to 54 year age groups recorded an increase in alcohol-related collisions (10.7 percent and 9.5 percent respectively) during the last seven years.

Though younger drivers are showing a decrease in alcohol-related collisions, they are still over represented compared to the number of miles they travel. Drivers under 25 years of age drive 19.57 percent of the total miles travelled but make up 30.99 percent of all reported collisions and 34.37 percent of investigated alcohol-related collisions (an over-representation rate of over 1.5 in both cases).

Most occupants are "buckling up" 80 percent of the time, however, some areas of the state have a much lower usage rate. The rural areas of Okanogan and Ferry counties show a 53.9 percent usage rate; both are lower than the previous year. Farmers, farm laborers, and unskilled workers continue to buckle up less frequently than the statewide average as well as heavy truckers, who use at a rate of 71.7 percent.

While use of safety belts and child safety seats continues to increase, so does the misuse of these protection devices. Research done at the national level indicates the misuse of infant and child safety seats may be as high as 90 percent. Local observations made at Child Safety Seat Inspection Clinics in five Washington cities indicate that approximately nine out of ten child safety seats were incorrectly used in some way.

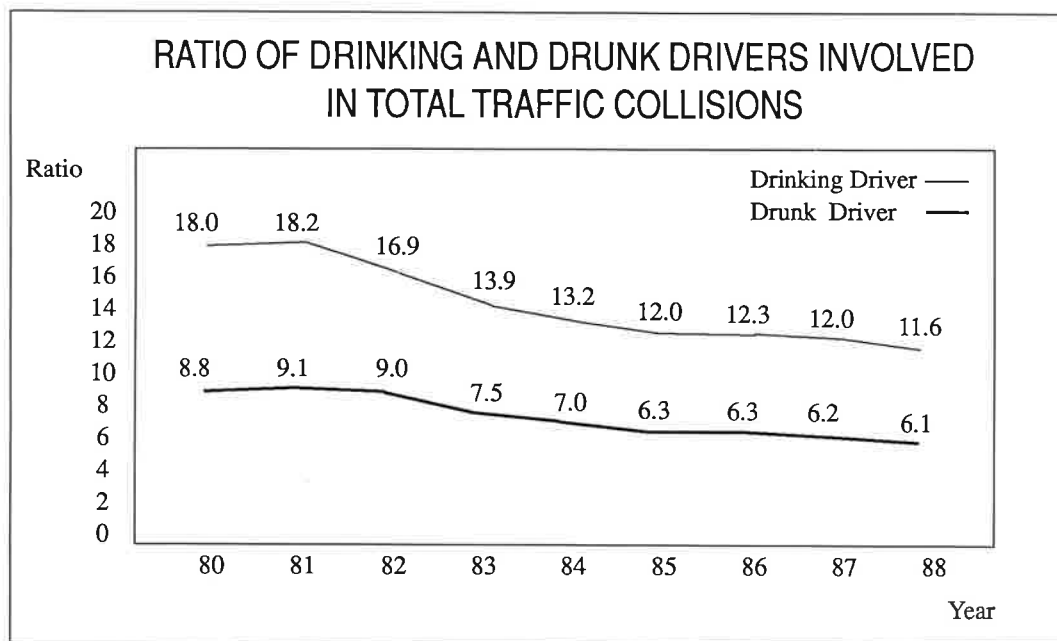
In addition to these areas, public awareness and perception problems have surfaced in other areas including speed limit compliance with the public somewhat confused about the two freeway speed limits.

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## II. Problem Solution Plan

### A. Public Affairs

The overall goal of the WTSC's public information and education program is to contribute to a reduction in traffic collisions that result in deaths, nonfatal injuries, and property damage by increasing public awareness of the issues involved in traffic safety. Such issues may include but not be limited to issues covered in this highway safety plan plus pupil transportation; pedestrian, bicycle, and motorcycle safety; and emergency medical systems. The public information plan is assisted by the CCTSPs in distributing materials and serving as an advising committee.



An advertising\public relations firm was hired in FY 1989 to develop a plan to reach the difficult young male driving audience. The plan was completed in early May and will be funded partially with federal 408 funds. The plan is based on several pieces of research, including focus group testing of messages, and offers a ground-breaking approach to this tough issue. The three-year plan will promote the three issues of DWI, safety belts, and speed limit compliance.

Specific objectives are as follows:

1. Provide promotional, educational, and awareness materials to ensure effective, cost-efficient, and timely completion of traffic safety activities through local and statewide networks.
2. Incorporate most traffic safety issues into combined campaigns/materials, when appropriate.
3. Maintain credibility and contact with the media.
4. Implement a public information materials quality control program.

The information and education program may consist of, but not be limited to, the following activities:

1. Implementing a three-year traffic safety campaign targeted at young male drivers. Campaign will not be seasonal, but will be year round.
2. Combining safety belt and DWI messages whenever possible and appropriate.
3. Providing information and education traffic safety materials not included in other WTSC projects and activities.
4. Reviewing all WTSC publications and collateral materials prior to printing.
5. Assuring promotion of conferences, emphasis periods and events in which the WTSC is involved.
6. Providing news releases, when appropriate.
7. Ensuring that the WTSC staff participate in public appearances.
8. Publishing a newsletter, issued at least 10 times per year.
9. Continuing development of methods to reach minority audiences with traffic safety messages.
10. Sponsoring the WTSC and Traffic Safety Representatives' "Awards for Excellence" in traffic safety issues.
11. Ensuring production of quality, eye-appealing print materials.

*Note that most alcohol specific materials will be covered by federal 408 funding.*

## **B. Occupant Protection Emphasis**

The marked increase of the use of safety restraints indicates that a strong informational/educational program promoting awareness of the use of safety restraints correctly is effective; along with these messages are the implementation and enforcement of legislative mandates. The CCTSPs and community safety-restraint leaders help to distribute program materials and inform the communities about issues.

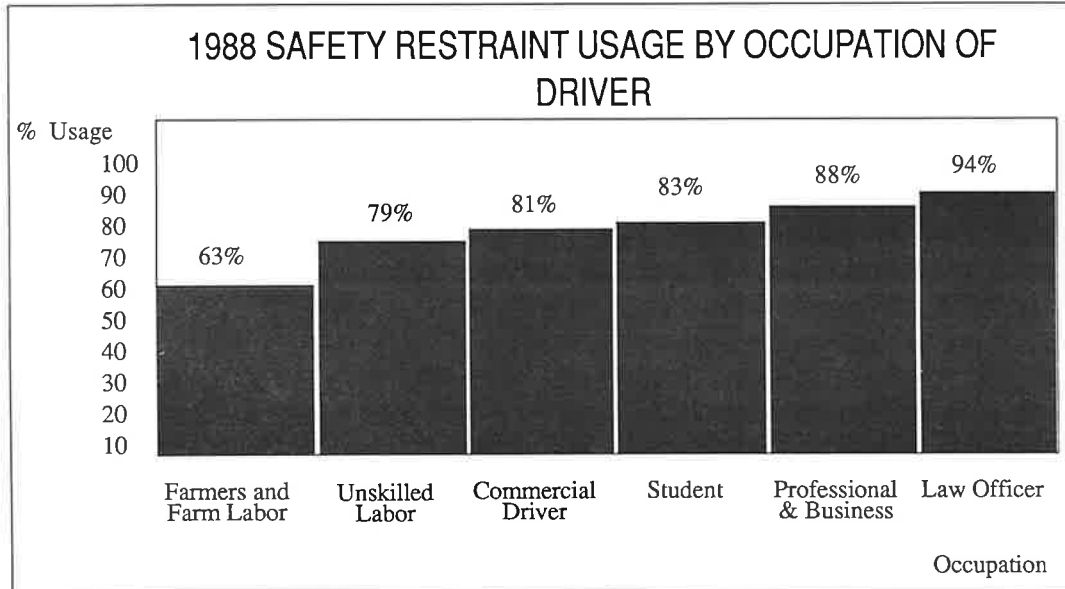
Objectives:

1. Increase the use of safety belts and child safety seats by five percent during FY 1990.
2. Provide identified occupant protection networks materials necessary to increase the use of safety belts and child safety seats.
3. Increase the use of safety belts by identified high-risk audiences by five percent.
4. Increase public knowledge and correct use of passive restraints.

Activities will provide all identified occupant protection network programs with assistance, coordination, and materials necessary to promote the use of safety-restraint devices at the state and local level and will include the following.

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1. Provide a minimum of 500 identified agencies and organizations with materials promoting the use of safety belts and child safety seats.
2. Create and distribute materials for two nationally celebrated occupant protection campaigns: "Buckle Up America! Week" and "National Child Passenger Safety Awareness Week."
3. Recognize a minimum of 200 newly identified Safety-Belt Survivors.
4. Develop, implement and distribute programs, materials and displays for educating the public about passive restraints and other occupant protection "new car" technologies.
5. Contract with an agency or individual to develop and implement a program for increasing the correct use of child safety seats and safety belts with infants and children.
6. Create a "Buckle Up Helper" mailing list and provide all "Buckle Up Helpers" with a minimum of two mailings during FY 1990.
7. Produce and distribute a minimum of 2,000 Early Childhood Education Curriculum Packets.
8. Contract with an agency or individual for the development and implementation of an occupant protection program and materials designed to increase safety-restraint use among young adults aged 18-25.



### C. Youth Involvement

Youth involvement in traffic safety programs will be encouraged through the following programs:

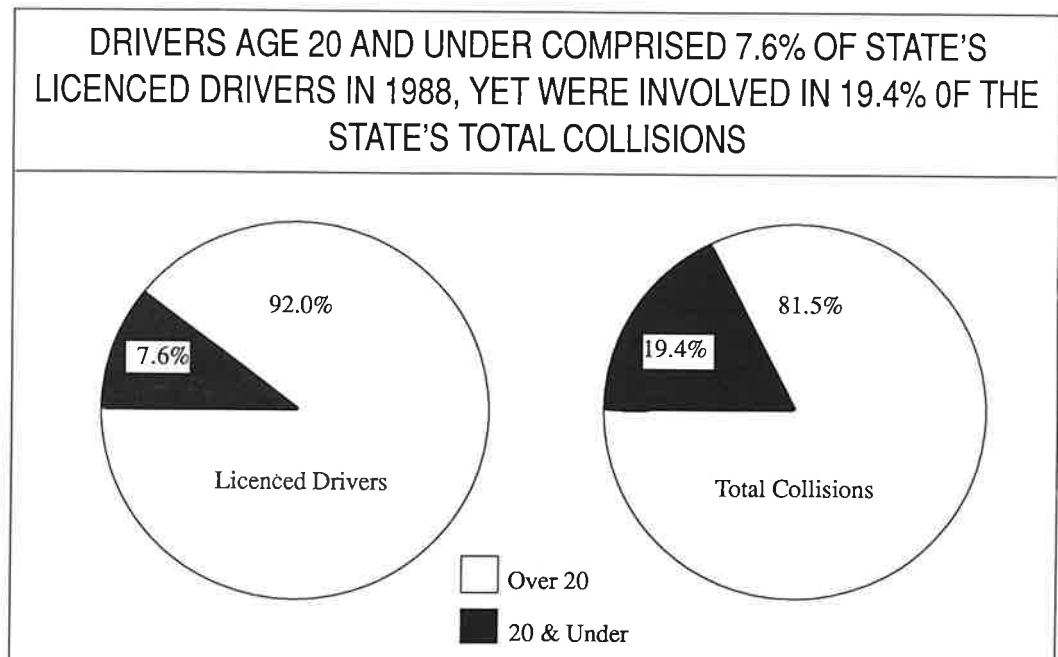
#### Objectives:

1. Reduce the incidence of highway teenage injury collisions in Washington due to the use of alcohol and other drugs from 10 to 9 percent.

2. Increase participation in the SAFTYE program from 180 to 200 clubs.
3. Increase safety belt use among teenagers from 71.6 to 74 percent.

Activities:

1. Stop Auto Fatalities Through Youth Efforts (SAFTYE) in 1988/89 saw an increase in the involvement of young people in activities aimed at reducing the numbers of teenagers in traffic crashes. Primary emphasis will be placed upon encouraging projects in the community and school levels that deal with alcohol and drug abuse by youthful drivers. Many of the CCTSPs work with the youth in their regions.
  - Technical and administrative support will be provided to the SAFTYE Student Advisory Board (SAB), composed of 24 youths elected by delegates at an annual youth conference, to assist in the promotion of the SAFTYE program in regions throughout the state.
  - A statewide youth conference will be held to unite younger people in efforts to curtail the incidence of drinking and driving among their peers. Conference expenses will be covered by the WTSC.
  - Promotional materials and other informational aids supporting traffic safety and other health issues will be developed. These materials may include handouts, brochures, posters and displays.
  - A SAFTYE newsletter will be published in conjunction with the WTSC's Centerline, providing a forum for youths to exchange project ideas.
  - The SAFTYE Links concept will be expanded through increased contact with youth groups and other local, state, and national associations.





2. College and university programs focus on the young people aged 18 to 24. Though many in this age group are independent individuals within our communities, a large number of them are involved, either part-time or full-time, as students in our colleges and universities.

The objective is to increase post-secondary institution administration and faculty's awareness of drug/alcohol use by college students through contacts made by the contractor and distribution of college handbooks. Implementation of the WTSC College manual to all colleges, universities and trade schools will be accomplished through an inter-agency agreement with the Washington Bureau of Substance Abuse.

3. The "Road to Winning" is a presentation by professional and college athletes to high school students designed to promote the awareness of the dangers of alcohol and other drugs, especially as they affect an individual's ability to drive safely. It also stresses the importance of safety belts in protecting individuals from impaired drivers.

The WTSC will support this program in conjunction with Oregon and Idaho within Region X. The Road to Winning is a school assembly program designed to be conducted during a 45 or 50 minute school period. It consists of a program introduction, a film, a presentation by a respected athlete, and a question-and-answer session. Evaluations will be distributed afterwards to ascertain the success of the program.

Program activities are as follows:

- Provide a forum for students to obtain accurate information about alcohol/drugs and highway safety.
- Provide students with practical solutions to peer-related problems involving alcohol/drug use.
- Combat negative peer pressure to use drugs and alcohol and to drive impaired by providing positive role models who will promote healthy life-styles.
- Encourage the formation of local student-based programs that will provide positive peer pressure to encourage students to use safety belts and not to use alcohol and other drugs.
- Inform all citizens that the highway safety community is concerned about the effects that alcohol and other drugs are having on young people.

#### **D. Work Place Project**

Collision data indicate unskilled workers are low users of safety restraints. The WTSC therefore is interested in a work place project that would provide workers with information and materials to increase their use of safety devices. The WTSC would work in conjunction with the Safety Restraint Coalition, who is currently working on such a project.

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### **III. Evaluation**

Evaluation of these projects will be administrative based on implementation and acceptance of campaigns and other support materials.

HS-57-04 <u>PROBLEM SOLUTION PLAN</u>						
PSP TITLE		PSP NO.	STATE	PAGE		
Safety Information and Education		90-04	WA	1 OF 1		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
WTSC	II-A Public Affairs					
WTSC	II-B Occupant Protection Emphasis					
WTSC	II-C Youth Involvement					
WTSC	II-D Work Place Project					
INPUT						
(A) Goods and services, equipment, and contractual services.						
(B) Goods and services and contractual services.						
(C) Managerial support, travel and subsistence for youth.						
(D) Contractual service.						
OUTPUT						
(A) A year-round traffic safety campaign, news releases, newsletter, events and conferences, and research and development of materials.						
(B) Occupant protection materials, networks, and information.						
(C) Materials, training, skill development, programs, and networks.						
(D) Safety-restraint information.						
TARGET POPULATION SERVED/TOTAL						
(A) CCTSPs, young males under age 30, news media and publics they serve, and general public.						
(B) CCTSPs, senior drivers, SAFTYE Clubs and Links, public officials, children, and general public.						
(C) 242,803 high school students and 378,258 college students.						
(D) 1,000 skilled laborers and 25 work places.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II	290,000	282,000			572,000	572,000

# **Records Analysis and Evaluation**

## **Problem Solution Plan**

### **Program 90-05**

#### **I. Problem Statement**

In order to identify traffic safety problem areas, allocate resources, develop countermeasures and monitor as well as evaluate those countermeasures, the WTSC must have access to a wide spectrum of highway-related data bases. The WTSC therefore commenced work in 1987 to create two mechanisms to provide the desired access.

First, with the increasing level of design sophistication in the various highway-related data bases, and continuous change in technology employed to access data base information, the WTSC's Safety Program Management Information System (SPMIS) provides a single point of contact for the WTSC staff to obtain information or services relating to business automation, data, and technical support. The second mechanism is the Comprehensive Computerized Safety Recordkeeping System (CCSRS), which is designed to access production and other traffic safety-related data bases at various custodial agencies such as the Department of Licensing, the Washington State Patrol and the Department of Transportation. Data so accessed are then stored in a common format at the Traffic Records Data Center (TRDC), the core of the CCSRS. Development of the CCSRS has now progressed from the conceptual and design phase to the implementation phase. By late 1989, the CCSRS is scheduled to become operational and capable of furnishing summary data to a wide variety of end users, such as the legislature; federal, state and local agencies; SPMIS; university and other researchers; the news media, and the public at large. The required hardware, software and peripherals together with the programming and other technical expertise needed to complete the CCSRS project must be acquired.

#### **II. Problem Solutions**

##### **A. Comprehensive Computerized Safety Recordkeeping System (CCSRS)**

Funds will be provided to support the activities of (1) a consultant serving as acting traffic records coordinator, (2) an applications programmer to serve the needs of end users and (3) a research analyst to aggregate, organize and interpret data upon user request. Funding also will be provided for continued develop-

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ment of the CCSRS, to include added software and hardware, data processing, telecommunications, etc.

The acting traffic records coordinator will continue to work toward full development of the CCSRS by:

1. Overseeing completion of the Traffic Records Data Center (TRDC) data base development;
2. Supervising operations of the TRDC, including hardware and software upgrades;
3. Creating a data security system for the TRDC;
4. Establishing a system of reporting and information-sharing with TRDC users, including SPMIS and the Fatal Accident Reporting System (FARS).
5. Overseeing programming assistance to TRDC researchers using Statistical Analysis System or Statistical Package for Social Sciences languages;
6. Documenting TRDC operations;
7. Maintaining a CCSRS user schema, including a catalogue of electronically available traffic safety information, both within and outside the TRDC;
8. Assisting CCSRS users in locating traffic safety information not available through the TRDC;
9. Establishing institutionalized data exchange practices between state custodians of traffic safety information and the TRDC; and
10. Assisting CCSRS users in the field with direct electronic linkages to the TRDC or disk and tape exchange with the TRDC.

The applications programmer will assist end users to access data in customized tables, graphs and other formats. The research analyst will assist end users in identifying appropriate data to be used in studies and reports as well as assisting in organizing and presenting the data.

## **B. Data Analysis and Evaluation**

1. An impact evaluation of a selected Comprehensive Community Traffic Safety Program (CCTSP) will be undertaken using a case study format. Utilizing this research methodology, evaluators will assemble raw case data, construct a case record and then write a case study narrative. This narrative will be descriptive, analytic, interpretive and evaluative of the more comprehensive information contained in the case record. By examining the effects of the actions or inactions of the decision-makers, evaluators may extrapolate from this particular CCTSP's experience to produce findings, develop recommendations for other CCTSP activities, and provide a valuable resource for future WTSC policy decisions vis-a-vis the CCTSPs.
  2. The WTSC will conduct one safety-belt observational study during FY 1990. The observational survey will be conducted in pre-selected locations in 18 counties utilizing methodology developed under contract to the
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NHTSA by a private consulting firm. The survey will be conducted by observers trained in this methodology and the results of these observations will be forwarded to the NHTSA for evaluation. In the event the NHTSA no longer has a contract for this evaluation, the data will be evaluated utilizing tapes the NHTSA developed to analyze this data.

3. The goal of the driver improvement program at the Department of Licensing is to determine and implement the most effective and efficient method of addressing problem driver behavior. Since this relates to traffic safety, the WTSC has a vested interest in the project. It will include the following:
  - Adoption of procedural revisions resulting from interim study results. Initial procedural changes will be the mailing of a warning letter after the driving record indicates that the driver has received two citations in a one-year period or five citations in a two-year period.
  - Final research study results will be evaluated, and possible procedural revisions will result upon completion of the study.
  - The driver improvement task force will continue to meet and prepare recommendations regarding coordination of traffic safety efforts.
  - Task force recommendations and activities will be evaluated and adopted into driver improvement procedures where appropriate.

### **C. Safety Program Management Information System (SPMIS)**

SPMIS as a developed, operating management information reporting system will provide services in response to the various data processing needs of the WTSC by concentrating solely on enhancing the WTSC's capability to aggregate, organize, and systematize data required to identify traffic safety problem areas and to develop, monitor, and evaluate subsequent countermeasure programs.

SPMIS will provide for the operation and maintenance of the hardware and software environment necessary to support the WTSC's network. It will provide protection for microcomputers' computing architecture, file access, and overall network management. This function also provides for purchases, inventory, installation, and arrangement for maintenance services; consultative services on application concepts, planning and design; and implementation, testing, diagnosis, and correction. SPMIS will thereby will provide the WTSC the mechanism to organize and systemize data required to identify traffic safety problem areas and to develop, monitor, and evaluate subsequent countermeasure programs.

## **III. Evaluation of the Program Area**

The evaluation of the Records Analysis and Evaluation program will be administrative. The evaluation will record and explain with specificity the success or failure of those activities undertaken by TRDC personnel.

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HS-57-05 <u>PROBLEM SOLUTION PLAN</u>						
PSP TITLE Records Analysis and Evaluation		PSP NO. 90-05	STATE WA	PAGE 1 OF 1		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
WTSC	II-A Comprehensive Computerized Safety Recordkeeping System (CCSRS)					
WTSC	II-B Data Analysis and Evaluation					
WTSC	II-C Safety Program Management Information System					
INPUT						
(A) One consultant acting as traffic records coordinator, one part-time programming consultant, one part-time research analyst, and software, data processing, telecommunications, etc..						
(B) One outside university researcher, proposals, and evaluation.						
(C) Customer relations, data reporting, information analysis, operation, and planning.						
OUTPUT						
(A) Supervision of CCSRS development, completion of TRDC database design/programming, research assistance to end users, and data processing.						
(B) Impact evaluation case study of a CCTSP, observational seat-belt study, and driver improvement procedure changes.						
(C) Improve service delivery, transform data into information to meet program needs, identify trends, cost-effective performance gains, and transform information technology into program results.						
TARGET POPULATION SERVED/TOTAL						
(A) Governmental agencies, legislators, news media, general public, and university researchers.						
(B) CCTSPs, legislators, executive branch governmental agencies, traffic safety community statewide, news media, and general public.						
(C) WTSC staff.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II	7,500	249,500			257,000	

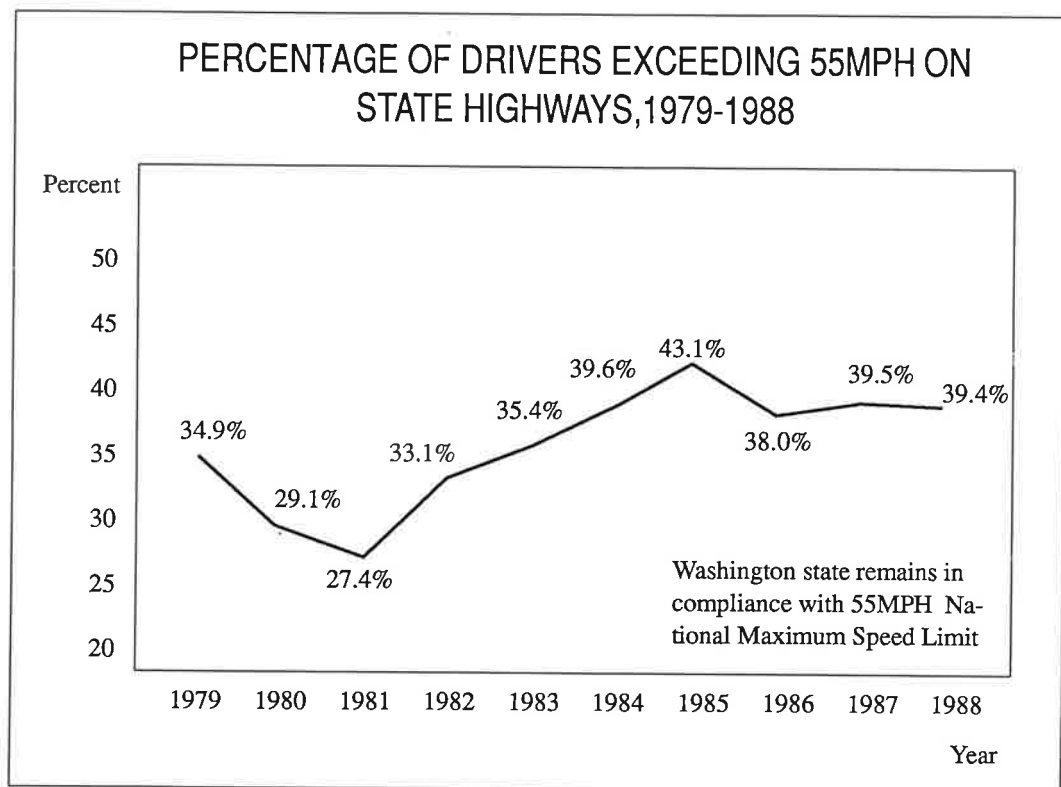
# Police Traffic Services

## Problem Solution Plan

### Program 90-06

#### I. Problem Statement

U.S. Congress mandates 50 percent compliance with the national maximum speed limit on all urban interstate highways. Washington state's noncompliance level is determined to be 39.4 percent. While this is below the congressional mandate, speeding over the legal limit and exceeding safe speed were the main causes for all collisions and the second cause for fatal collisions. April 1987, Washington state's Secretary of Transportation raised the speed limit on rural interstates from 55 mph for all vehicles to 65 mph for passenger vehicles and 60 mph for trucks over 10,000 GVW or any combination of vehicles, in compliance with the U.S. 1987 legislation. During the fiscal year ending September 30, 1988, the average speed on the urban interstate system was 55.7 mph. The accident ratio on the 65 mph designated routes increased from 0.64 collisions per million vehicle miles to 0.68 in 1988. The collision ratio on the 55 mph designated routes also increased in 1988 over 1987 to 1.36 collisions per million miles of travel (compared to 1.28 in 1987).





Collision statistics continue to indicate Washington state is experiencing an extremely high increase in the number of collisions in which an occupant expires while utilizing a safety restraint device. National statistics and information furnished by NHTSA indicate all states who enact safety-restraint usage legislation experience this, also. What little information is available blames this increase on improper usage, however, there have been no comprehensive studies to support these statements.

Washington state is also experiencing a marked increase in illegal drug usage. Therefore, it is logical to believe there is an increase in individuals using illegal drugs becoming involved in traffic collisions.

It is further believed that the nonexistence of a reliable tracking system in this state prevents enforcement officers from properly analyzing the DWI problem. A preliminary study by an individual consultant determined the feasibility and requirements of an automated system and is scheduled for completion in early June 1989. The data appears to suggest implementation of such a system is recommended.

Other hazardous situations in many jurisdictions (cities and counties) are due to a lack of qualified personnel able to identify and analyze these locations. The hazards may be due to road construction, lack of signs, or noncompliance with uniform traffic control devices.

## **II. Problem Solutions**

### **A. National Maximum Speed Limit Enforcement**

The objective is to obtain and maintain a 50 percent or better compliance rate with the maximum speed limit on Washington's interstate highways, as measured by Department of Transportation speed check stations.

WSP will continue the use of an enforcement team on Washington's interstate highways with speed limits of 55 and 65 mph. The team members will make maximum use of radar units and will coordinate their efforts with the federally-funded enforcement aircraft. In addition to the team effort, additional moving radars will be utilized by regular troopers in the enforcement of the 55 and 65 mph speed limit on interstate highways.

The project will provide funding for additional speed-monitoring equipment, six troopers, one public information officer, and one clerk typist. The WSP will provide patrol cars, fuel, maintenance, compensation for overtime accumulated, supervisory sergeants, work report system, and other indirect costs.

In addition, this project will continue to use the three fixed-wing aircraft purchased under previous enforcement programs. The aircraft will be assigned to the enforcement team.

The WSP will continue to adapt its public information program on speeding to the new direction endorsed by the NHTSA: that is, to meet the challenge of re-awakening public acceptance for widespread voluntary compliance with speed laws in general and 55 and 65 mph limits in particular.

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The WSP public information plan for speed compliance in FY 1990 will be designed to complement five continuous years of consistent efforts to affect public opinion and effect improved compliance.

The FY 1990 campaign will have several goals.

1. To develop additional materials to reinforce the FY 1988 and FY 1989 messages, based on research in hand.
2. To fully explore alternative methods of media message placement to ensure targeting the high-risk audiences and obtaining maximum "impressions."
  - Expand FY 1989 "test market" of prime-time air space paid by local service clubs and companies to the entire state, focusing on cable and radio.
  - Develop, in conjunction with the WTSC, a comprehensive direct mail approach to actual speed violators.
3. To dovetail all campaign materials with the WTSC campaigns on DWI and seat belts, so all safety messages will reinforce an overall image to the driving public that all these are elements of safe driving, not discrete and unrelated issues.

## **B. Multi-Image Programs**

Three multi-image programs featuring youthful victims of traffic crashes have been shown in high schools, junior high/middle schools, and community groups throughout the state in recent years. The first program, "A Matter of Time," stresses the need for safety-belt use; the second, "Friday Night Live," portrays adverse effects of alcohol consumption and driving, and the third program, "Soul Survivor," addresses the problem of drug use and driving. These programs are being offered to the schools/groups indicated above on an annual basis as time and resources permit. The WTSC's intent is to present one of the multi-image programs to at least 250 school assemblies each school year.

Presentations are made by three troopers from the Washington State Patrol. In 1990, the WTSC will provide travel and per diem expenses, equipment maintenance, vehicle lease/purchase and operating costs, and other applicable goods and services to support their efforts at the viewing locations.

## **C. Enforcement Training Projects**

1. Law Enforcement and Mandatory Usage Law (MUL) Programs

The objectives for this program are to increase the observed use of safety belts by three percent during FY 1990, and to increase law enforcement's participation in occupant protection education/awareness programs and MUL enforcement efforts.

Activities:

- Develop and distribute MUL and other law enforcement posters to all Washington state law enforcement agencies.
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- Provide a minimum of 25 law enforcement agencies with occupant protection training by WSP officers.
  - Develop and implement at least one local innovative MUL enforcement program.
  - Develop, produce, and distribute a brochure which describes both of Washington's occupant protection laws.
2. Drug Recognition and Evaluation Program

The WTSC recognizes this potential traffic problem and has decided to become actively involved in the Drug Recognition and Evaluation (DRE) Program developed by the NHTSA in conjunction with the International Association of Chiefs of Police, and the Los Angeles Police Department. This program is a standardized, systematic method of examining individuals suspected of impaired driving and has been designed to improve the ability of traffic law enforcement officers to apprehend and convict individuals operating motor vehicles while under the influence of drugs other than alcohol.

Successful passage of drug screening legislation will lay the groundwork for the establishment of a DRE site in the Seattle/Tacoma area from which training and operating procedures for implementation of the new law can be developed.

The WTSC staff will work closely with other interested agencies to obtain implied consent legislation explicitly allowing multiple chemical tests to determine the presence and/or concentration of drugs other than alcohol as multiple testing is essential since both a breath test and urinalysis test are needed as part of the drug recognition process.

Upon passage of such legislation the WTSC staff would work closely with the NHTSA to establish a DRE site in the Seattle/Tacoma area. The WTSC would also provide funding to train two law enforcement officers (one from WSP and one from Seattle Police Department) as instructors in modified Field Sobriety Testing training involving drug usage identification.

#### **D. Fatal Collision Review Team**

The WTSC determined a comprehensive review was necessary to identify the causes of, find solutions for, and reduce the incidence of occupants expiring while utilizing safety restraints. The Fatal Collision Review Team was established to evaluate and, when necessary, reconstruct these types of collisions. Since this process was initiated, continued improvement has been noted in collision investigations as agencies and investigators become aware of the data needed and the proper way to investigate collisions. This has in turn contributed to the professional growth of the investigators and has improved the validity of the crash reconstruction program.

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The Fatal Collision Review Team will continue to meet on a monthly basis to review data developed through Police Collision Reports, investigative reports and medical or autopsy reports. Reports of this activity will be reported to the WTSC for further dissemination.

#### **E. Traffic Management Team (Officer)**

A Tri-State Engineering/Law Enforcement Information Sharing Conference will be held in November 1989. The Washington DOT plans to follow up with a similar conference in early 1990 for local traffic engineers and law enforcement. The goal of the state conference is to improve coordination and communication between the local engineers and officers. With this accomplished they will improve the traffic safety environment and each other's responsibilities to create a more efficient traffic management program. This conference and the subsequent action or inaction will also determine the need of a state level advisory team to provide expert, professional review of the local traffic safety management programs. This project will fund the participation of the local enforcement officers. Their team counterparts are addressed in the Traffic Engineering Services PSP.

#### **F. Citation Tracking System**

Successful implementation of the Automated DWI Tracking System will lay the groundwork for a more advanced complete citation tracking system. It will also pave the way for implementing a citation tracking system for all law enforcement agencies.

The Department of Licensing's (DOL) goal is to have administrative per se legislation adopted by the 1990 legislature. Included in this legislation would be a provision allowing the department to track alcohol-related citations from time of arrest until final disposition. The statewide Automated Citation Tracking System will be housed in the DOL in conjunction with the local courts, local law enforcement agencies, and WSP. This legislation would also allow the DOL to suspend or revoke the driver's license upon receipt of the officer's report of a breath test indicating alcohol concentration at or above a .10 percent.

The WTSC will assist DOL's activities in this area:

1. Continued meeting with interest groups to revise and review proposed legislation and formulate strategy to gain legislative support.
  2. Contact association of defense attorneys and other possible groups opposed to the administrative per se concept for purposes of conflict resolution.
  3. Finalization of proposed legislation.
  4. Obtain concurrence of necessary state agencies.
  5. Introduction of proposed legislation to the 1990 legislature.
  6. Review the WSP Automated Citation Tracking System prior to statewide adaptation by providing information from this system to all members of the Washington Association of Sheriffs and Police Chiefs as potential participating agencies.
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### III. Evaluation of Program Area

1. The national maximum speed limit enforcement project will be evaluated with data from DOT's quarterly speed-monitoring report from 1988 that will include: actual miles traveled, hours of patrol (including radar and aircraft), total number of violators, total number of infractions, total number of speed violators stopped, total number of speeding infractions, and the number of other hazardous violations for the teams. The change in the overall percentage of vehicles in violation will be compared with the same period last year, as will the number of speed violators contacted and speeding citations issued.

Aircraft evaluation will include the following information for all existing enforcement aircraft: the number of flight hours flown by all aircraft during speed enforcement and the number of flights flown; the number of federal speed enforcement program flight hours flown and the number of flights; and the number of violators contacted who are drivers of (a) automobiles, (b) trucks, and (c) buses, and the number of radar detectors.

2. The multi-image project will be evaluated by the number of presentations and the number of students who view the program.
  3. The enforcement training will be evaluated from an analysis of the completed program and will provide information on establishment of the Drug Recognition and Evaluation site, training of instructors, and the implementation process; and the restraint usage rate by enforcement officers, participation in awareness programs, and efforts toward MUL enforcement.
  4. The Fatal Collision Review Team analysis of the completed review data will provide an in depth insight into collision causes, survivability, roadway problems, vehicle construction problems and possibly some new areas not yet determined as problems.
  5. Evaluation of the Traffic Management Team (TMT) concept will be determined by the success of the conference and the subsequent follow-up of the number of TMTs established.
  6. The Citation Tracking System will be evaluated with an analysis of the completed project will provide the length of time required to adjudicate an offender in individual courts throughout Washington, the accuracy of reporting from courts to DOL, the average statewide deferred prosecution, the average sentence for various infractions and sentencing rates.
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HS-57-06a <b>PROBLEM SOLUTION PLAN</b>						
PSP TITLE Police Traffic Services			PSP NO. 90-06	STATE WA	PAGE 1 OF 2	
<b>SUBGRANTEES</b>		<b>DESCRIPTIVE PROJECT TITLES</b>				
WSP		II-A National Maximum Speed Limit Enforcement Program State Match				
WTSC		II-B Multi-Image				
WTSC		II-C Enforcement Training				
WTSC		II-D Fatal Collision Review Team				
<b>INPUT</b>						
(A) Six WSP troopers and a public information officer with supporting clerical assistance and equipment.						
(B) Three WSP troopers, programs, equipment, travel and subsistence, van costs, program maintenance and updating, and goods and services.						
(C) Informational workshop, mandatory use law training, and curriculum, drug recognition and evaluation training for selected site.						
(D) Review and if necessary reconstruction of all collisions in which an occupant expires while reportedly wearing a safety restraint device.						
<b>OUTPUT</b>						
(A) Minimum 50 percent statewide compliance with national maximum speed.						
(B) Presentations at 250 school assemblies, interested organizations, and military groups.						
(C) Enforcement information and education programs for officers and judicial personnel.						
(D) Engineering and enforcement information which will result in a marked reduction in the severity of collisions.						
<b>TARGET POPULATION SERVED/TOTAL</b>						
(A) Violators (approximately 30,000) of the national maximum speed law.						
(B) Students at 250 junior high/middle and high schools and military.						
(C) 3,000 law enforcement officers, 50 judicial personnel, 100,000 vehicle occupants, and approximately 35,200 drivers cited for DUI.						
(D) The total motoring public in the state of Washington (approximately 3,265,000 licensed drivers and 1,300,000 passengers)						
<b>PROJECT IDENTIF</b>	<b>(1) PRIOR YEAR 402</b>	<b>(2) CURRENT YEAR 402</b>	<b>(3) STATE SHARE</b>	<b>(4) LOCAL SHARE</b>	<b>TOTAL 1-4</b>	<b>402 TO LOCAL</b>
see pg. 2						

HS-57-06b      P R O B L E M   S O L U T I O N   P L A N						
PSP TITLE		PSP NO.	STATE	PAGE		
Police Traffic Services		90-06	WA	2 OF 2		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
DOT	II-E Traffic Management Team (Officer)					
WTSC	II-F Citation Tracking System					
INPUT						
(E) Conference costs and costs to determine feasibility of developing a statewide traffic management team.						
(F) Refinement of citation tracking system being developed by WSP and further development of a statewide system for all police agencies.						
OUTPUT						
(E) Reduction in high collision locations in small jurisdictions.						
(F) Establishment of a statewide citation tracking system.						
TARGET POPULATION SERVED/TOTAL						
(E) Local law enforcement, EMS, and other local traffic safety personnel.						
(F) All police agencies on a statewide basis.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE MATCH	(4) LOCAL MATCH	TOTAL 1-4	402 TO LOCAL
II (BH)	71,375	362,000 103,625	1,000,000		1,362,000 175,000	120,000
	71,375	465,625	1,000,000		1,537,000	120,000

# **Emergency Medical Services**

## **Problem Solution Plan**

### **Program 90-07**

#### **I. Problem Statement**

The WTSC has major gaps in retrieval of alcohol related-collision injury data. All current data is based on collision reports with little, if any, input from the Emergency Medical Services (EMS) community. Information contained on police collision reports in many instances is inaccurate, because on scene assessments are not always correct: some victims develop major medical complications and in some instances expire later. This also highlights a problem of lack of communication between medical facilities and the law enforcement community. On several occasions during 1988 the Fatal Accident Review System (FARS) analyst found death certificates for victims who had not been listed as fatalities on police collision reports; all these individuals expired at a later date while being treated in a hospital. According to Harborview Medical Center, many injuries to walk-in victims are the result of alcohol-related collisions.

The EMS community is in the process of updating and improving their data retrieval system in conjunction with the new trauma evaluation study being conducted to track collision victims through the medical system from on scene treatment, through transportation, emergency room treatment, in hospital treatment to discharge or release of body. This process would complete a major section of the Comprehensive Computerized Safety Recordkeeping System (CCSRS) project, fill many gaps on alcohol-related collisions and greatly benefit local jurisdictions who are extremely interested in retrieval of EMS collision injury data on a timely basis. To date there is no method for furnishing a quick data response to the field.

#### **II. Problem Solutions**

Combining the efforts of the WTSC and the state EMS data committee would help the EMS community establish a collision injury data tracking system. This joint project could provide vital data for the WTSC CCSRS project, also. A computer link with EMS data collection would require a computer system with sufficient memory to record collision injury data on a daily basis. WTSC may be able to access and track all motor vehicle trauma cases through EMS. The state EMS will discuss their needs further in conjunction with the WTSC and how the program could help the traffic safety community before any projects are initiated.

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Objectives of the collision injury data project will be:

1. Establish a two-way computer link between the EMS Community and CCSRS for collection of collision injury data.
2. Monitor collision trauma cases from scene to final disposition.
3. Provide FARS accurate response times and responding agencies.
4. Provide information upon request to local communities, agencies, and groups on a timely basis.
5. Provide more accurate collision injury data for compilation of the WTSC reports.

### **III. Evaluation of Program Areas**

Evaluation of the EMS collision injury data collection program will be administrative in nature. Performance indicators will be:

1. Review of effectiveness of reporting system established between EMS and CCSRS.
  2. Review trauma tracking system for number of cases followed from scene to disposition.
  3. Review benefits provided to FARS from EMS reports.
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HS-57-07		<u>P R O B L E M   S O L U T I O N   P L A N</u>				
PSP TITLE Emergency Medical Services		PSP NO. 90-07	STATE WA	PAGE 1 OF 1		
SUBGRANTEES	DESCRIPTIVE PROJECT TITLES					
WTSC	II Emergency Medical Services					
INPUT						
Establish a viable computer link between EMS community and WTSC. Monitor collision trauma cases. Monitor EMS collision reports.						
OUTPUT						
Collection of motor vehicle collision injury data. Trauma data from scene to final disposition. Safety-belt, alcohol and drug usage data. Provide FARS accurate response times and responding agencies. Information to local communities, agencies and groups on a timely basis. Provide more accurate collision data for compilation of reports.						
TARGET POPULATION SERVED/TOTAL						
All potential users of state roadways.						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II		00			00	



# Traffic Engineering Services

## Problem Solution Plan

### Program 90-08

#### **I. Problem Statement**

Traffic congestion and hazardous traffic locations is becoming a major concern to many city, county and state authorities in Washington state. Many jurisdictions (cities and counties) lack trained personnel with the expertise to identify and analyze hazardous traffic locations.

Traffic records in several jurisdictions are not adequate to determine many problem areas, i.e., sign inventory, traffic collision data, high hazard rates (intersections), and roadway inventory to name but a few. Microcomputers are becoming more and more prominent in aiding engineering staff to solve problems relating to traffic safety engineering. Software programs have been written utilizing a standard developed by the Washington Urban Traffic Engineers Council (UTECH) as well as other programs available nationally to assist engineers in these areas. Although the UTECH has worked to establish a standard for hardware and software, the utilization of these programs is still limited due to the lack of a standard for equipment, systems, and language needed to run programs especially with the non-participating agencies.

It is further believed that certain impediments exist in the identification and surveillance of accident locations as well as the evaluation of the effectiveness of FHWA financed projects in reducing the frequency and severity of traffic collisions. Many of the local highway engineering, traffic engineering, emergency medical services and enforcement agencies are not coordinated to work together and do not have current access to multi-year traffic accident records nor do they have the capability to manipulate data from such records should they be made available. These local agencies share a common interest in thorough evaluations of problem locations where high accident frequencies and severities occur. The state should provide guidance and assistance to local agencies, including summary data, as needed to carry out local programs.

#### **II. Problem Solutions**

The WTSC is committed to becoming more involved in the area of identification and surveillance of accident locations and to assist the smaller local agencies in solving these problems. As concrete evidence of this commitment, we presently are sponsoring traffic engineering services and the UTECH through the State

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Aid Engineer's office. This has improved the coordination between local agency departments and with standard automated equipment has helped greatly to further the implementation of this commitment.

## A. Traffic Engineering Services

### 1. Microcomputer Services

To continue these activities, the WTSC proposes continuation of a Washington state DOT employee to provide traffic engineering expertise to local jurisdictions. This activity will provide project management committed to completing all aspects of work within budget and on a timely basis, continue to coordinate the procedural guidelines to be followed in contacting and working with local municipalities and counties statewide to provide appropriate services, establish initial contact and plan and schedule subsequent field contacts, and provide inter-agency coordination as set forth in procedural guidelines. The engineer will also provide direct traffic engineering and microcomputer program application expertise to all jurisdictions by assisting and advising:

- Agencies in identifying safety problems including, but not limited to, high hazard locations, roadside obstacles, etc.;
  - Agencies in developing a more efficient traffic flow and control system;
  - Agencies in the analysis and, on a priority basis, identification of traffic control and warning devices not in conformity with the Manual on Uniform Traffic Control Devices for potential replacement;
  - Local agencies in procedures for obtaining safety funds from the Washington state DOT, WTSC, FHWA, and other possible funding sources;
  - The establishment a traffic data collection and accident record system to identify hazardous locations;
  - Local agencies in training and use of microcomputer software application programs available for analyzing traffic engineering and traffic safety problems;
  - Agencies in exchanging traffic engineering and traffic safety software applications through the Washington state DOT sponsored microcomputer information center for software applications;
  - Agencies on the standard for purchasing microcomputer hardware, operating systems, and software packages to achieve software compatibility among Washington state agencies;
  - The Urban Traffic Engineers Council (UTEC) committee on microcomputers in establishing priorities for assisting local jurisdictions in developing software applications, and for the purchase of appropriate software and the acquisition of public domain software for distribution with funds provided by the WTSC;
-

- Local agencies in the development or modification of microcomputer software application programs using established standards and utilities available for the development and documentation of software applications; and
  - Selected small agencies in performing a complete physical inventory and evaluation of their traffic control devices for compliance with the MUTCD. Program intent is to financially assist small agencies in accomplishing such an inventory and for the agency to establish a policy for regular inventory upgrading and replacement of traffic signs.
2. Traffic Management Team (Engineer)

A Tri-State Engineering/Law Enforcement Information Sharing Conference will be held in November 1989. The Washington DOT plans to follow up with a similar conference in early 1990 for local traffic engineers and law enforcement. The goal of the state conference is to improve coordination and communication between the local engineers and officers. With this accomplished they will improve the traffic safety environment and each other's responsibilities to create a more efficient traffic management program. This conference and the subsequent action or inaction will also determine the need of a state level advisory team to provide expert, professional review of the local traffic safety management programs. This project will fund the participation of the local traffic engineers. Their team counterparts are addressed in the Police Traffic Services PSP.

3. Local Agency Traffic Manual

Most small agencies, not having expertise in traffic engineering, have difficulty in interpreting and applying the MUTCD. It may be helpful to those agencies to have a manual which would contain excerpts from the MUTCD which pertain to small agencies as well as containing other application information for traffic engineering. This manual would be used by the small agency as a guide to traffic engineering.

After exploring the interest and feasibility of such a manual, development could proceed to provide that information which would be of value to small local agencies. This manual would be a guide for assisting agencies and not a regulatory document.

## **B. Hazard Elimination Program**

In FY 1990, the WTSC proposes to fund a part-time consultant, who is a licensed engineer, to continue monitoring and assisting local traffic engineers participating in the pilot project. The consultant will provide collision data monthly on diskette to the locals and assist them in evaluating the effectiveness of FHWA construction projects aimed at eliminating high hazard traffic collision locations. Additional local agencies wishing to participate in the pilot project may also be included in this program.

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By providing multi-year collision and other types of data to the locals, the Traffic Records Data Center, an integral part of the state's Comprehensive Computerized Safety Recordkeeping System, also will assist the local agencies in prioritizing projects submitted for FHWA funding.

### III. Evaluation of Program Area

1. The evaluation of the Traffic Engineering Services will consist of keeping a record of:
    - Those jurisdictions requesting assistance.
    - The type of assistance requested, or the problems dealt with.
    - Whether the recommendations were accepted and carried out (i.e., was the problem corrected?).
    - Number of agencies participating in the program.
    - Number of successful software programs developed.
    - Success of the conference and subsequent follow-up would be in the number of Traffic Management Teams, which were organized on a statewide basis.
    - The evaluation of this program shall be the number of agencies expressing interest in the manual and the composition of the document.
  2. The Hazard Elimination Program evaluation of the proposed linkage between the Traffic Records Data Center in Olympia and the various locals will be narrative in form and provide quantitative data concerning the volume of information provided the locals and the number of users of such information as well as comment from a representative number of users as to the usefulness or nonusefulness of the service.
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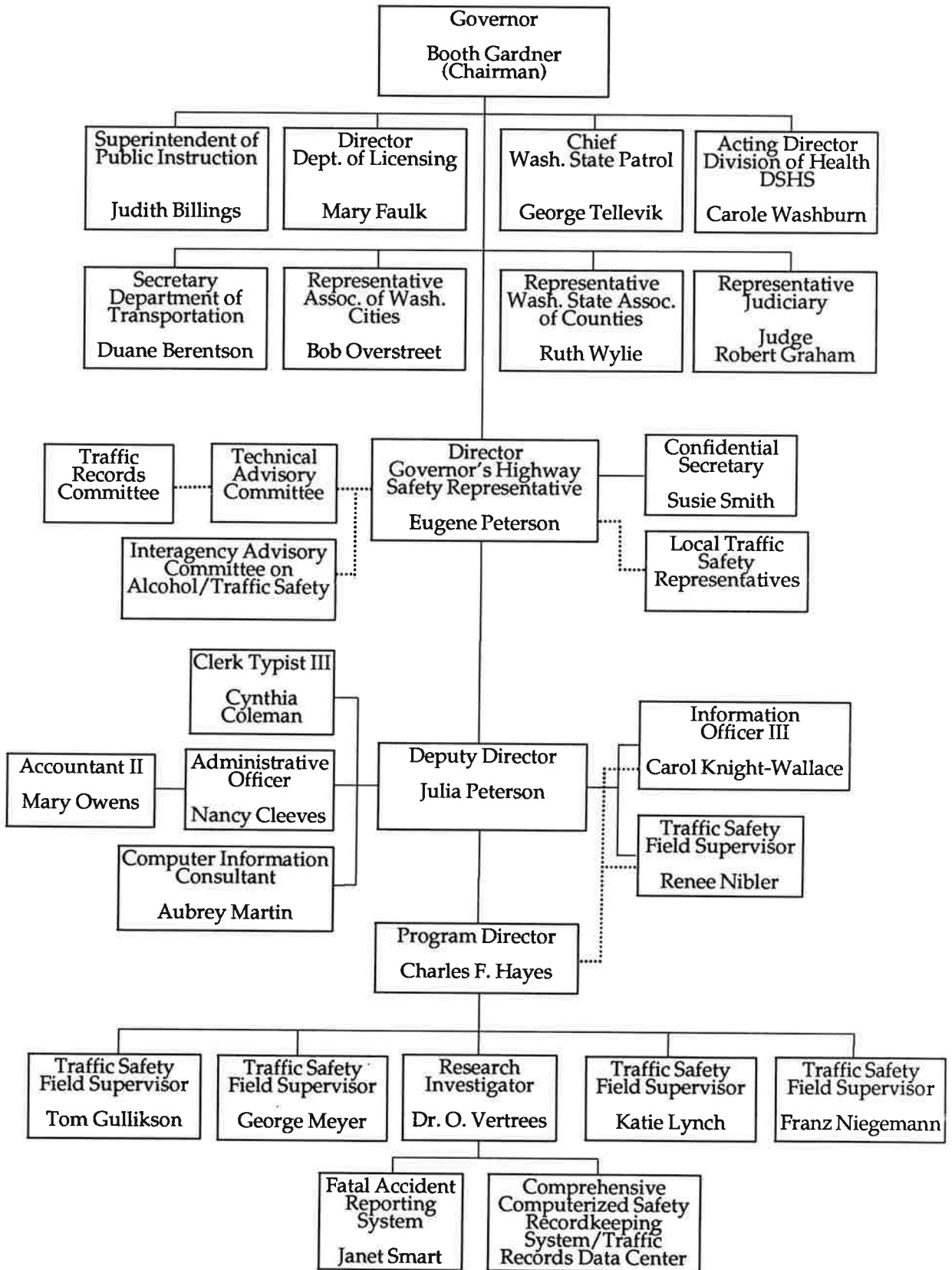
HS-57-08		<b>P R O B L E M   S O L U T I O N   P L A N</b>				
PSP TITLE Traffic Engineering Services		PSP NO. 90-08	STATE WA	PAGE 1 OF 1		
SUBGRANTEES		DESCRIPTIVE PROJECT TITLES				
WSDOT		II-A Traffic Engineering Services				
WTSC		II-B Hazard Elimination				
INPUT						
<p>(A) Salary/wages, benefits, travel and subsistence for one DOT transportation engineer and administrative assistant. Equipment, goods and services, and grants for sign inventory programs. Conference costs and costs to determine feasibility of developing a local agency traffic manual for small agencies.</p> <p>(B) One part-time consultant, one part-time programmer, and telecommunications, software, and computing time.</p>						
OUTPUT						
<p>(A) Support and assist local traffic engineering agencies with traffic safety issues and problems including microcomputer systems and sign inventory. Establish traffic management teams, training, organizing, and conference. Develop and publish traffic manual.</p> <p>(B) Assemble data for locals, perform programming tasks, transmit data to locals.</p>						
TARGET POPULATION SERVED/TOTAL						
<p>(A) Any statewide traffic engineering agency with limited resources and interest.</p> <p>(B) Local law enforcement, traffic engineering, EMS, and other traffic safety personnel.</p>						
PROJECT IDENTIF	(1) PRIOR YEAR 402	(2) CURRENT YEAR 402	(3) STATE SHARE	(4) LOCAL SHARE	TOTAL 1-4	402 TO LOCAL
II	30,000	150,000			180,000	180,000





# Appendix

## Washington Traffic Safety Commission



# Washington Traffic Safety Organizations

## Washington Traffic Safety Commission

### Chairman

The Honorable Booth Gardner  
Governor, State of Washington

Eugene Peterson, Director  
Washington Traffic Safety Commission  
Governor's Highway Safety Representative

Carole Washburn, Acting Director  
Division of Health  
Department of Social and Health Services

Dr. Judith Billings  
Superintendent of Public Instruction

Mary Faulk, Director  
Department of Licensing

Judge Robert E. Graham  
Chelan County District Court  
Judiciary Representative

Ruth Wylie  
Skagit County Commissioner  
Washington State Association of Counties

Duane Berentson, Secretary  
Department of Transportation

Bob Overstreet  
Everett City Councilmember  
Association of Washington Cities

Chief George B. Tellevik  
Washington State Patrol

## Technical Advisory Committee

### Chairman

Howard Farley  
Emergency Medical Services  
Department of Social and Health Services

Don Carnahan, Supervisor  
Pupil Transportation Program  
Superintendent of Public Instruction

Susan Curtright  
Judicial Services and Activities

Dave Gans  
Bellevue Police Department  
Association of Washington Cities

Murl Jones  
Traffic County Representative  
Clark Co. Public Works Department

Wes Hamilton  
Bureau of Alcohol and Substance Abuse  
Department of Social and Health Services

Wayne Gruen  
Assistant State Aid Engineer  
Department of Transportation

Deputy Chief Norman Ericksen  
Field Operations Bureau  
Washington State Patrol

Don Younghans  
Coordinator Lewis County DWI Task Force

Elaine Hagseth  
Driver Services  
Department of Licensing

Ross E. Kelley  
Spokane County Engineer's Office  
Washington State Association of Counties

David Peach  
State Traffic Engineer  
Department of Transportation

## **Interagency Advisory Committee on Alcohol/Traffic Safety**

### **Chairman**

Charles F. Hayes, Program Director  
Washington Traffic Safety Commission

A. Lamont Carstens  
Division of Health  
Department of Social and Health Services

David E. Goyette  
Liquor Control Board

Michael C. Redman  
Washington Association of Prosecuting  
Attorneys

Elaine Hagseth  
Driver Services  
Department of Licensing

Deputy Chief Norman Ericksen  
Field Operations Bureau  
Washington State Patrol

Judge John D. Lawson  
Northeast District Court

Kurt Sharar  
Assistant to Executive Secretary  
Washington State Association of Counties

Jeff Carpenter  
Alcohol/Drug Program  
Superintendent of Public Instruction

Dave Gans  
Bellevue Police Department  
Association of Washington Cities

Wes Hamilton  
Bureau of Alcohol and Substance Abuse  
Department of Social and Health Services

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## Washington State Association of Traffic Safety Representatives

### Executive Board

Murl Jones, President  
Clark County Public Works

William L. Pugh, Vice President  
Tacoma Traffic Engineer

Fred French, Secretary  
Kirkland City Engineer

Lt. J.C. Sewell, Treasurer  
Kelso Police Department

### Members

Les Pope  
Pierce County Safety Council

Ross Kelley  
Spokane County Engineers

Kathleen D. Seeley  
Olympia Police Department

Merle McNeil  
Department of Emergency Services

William J. Nims  
City of Issaquah

Bill Strong  
Everett City Safety Manager

Cheif William "Ted" Weatherly Jr.  
Pullman Police Department

## Comprehensive Community Traffic Safety Programs

### Benton-Franklin County

Sherrie Lennox  
P.O. Box 217  
Richland, WA 99352  
(509) 943-9185; SCAN 526-2288

### Clallam County

Jim Borte  
Clallam Co. Sheriff's Dept.  
223 East 4th  
Port Angeles, WA 98362  
(206) 452-7831; SCAN 575-1835

### Clark County

Donna Boyer  
Human Resources  
P.O. Box 5000  
Vancouver, WA 98668  
(206) 699-2434; SCAN 525-2434

### King County

City of Kent  
Kathleen Groshong  
Kent Police Department  
525 N. 4th Avenue  
Kent, WA 98032  
(206) 859-4011; SCAN 527-4011

City of Seattle  
Anna McNally  
Seattle/King Co. Dept. of Public Health  
1012 Smith Tower  
Seattle, WA 98104  
(206) 296-7615; SCAN 667-7615

### East King County

Mary Maxcy  
P.O. Box 90012  
Bellevue, WA 98009-9013  
(206) 462-6043

**Lewis County**  
Don Younghans  
345 W. Main  
P.O. Box 899  
Chehalis, WA 98532  
(206) 748-9121, ext. 284; SCAN 621-1284

**Mason County**  
Carolyn Olsen  
Mason County Courthouse  
P.O. Box 368  
Shelton, WA 98584  
(206) 427-9670, ext. 333

**Okanogan County**  
Scott Waller  
DWI Traffic Safety Awareness Program  
P.O. Box 3208  
Omak, WA 98841  
(509) 826-5600; SCAN 336-1274

**Pierce County**  
Penni Newman  
930 Tacoma Avenue South, Rm. 1133  
Tacoma, WA 98402  
(206) 591-7792; SCAN 236-7792

**Skagit County**  
Don McKeehen  
Skagit County Public Works Co.  
Administration Bldg., Rm. 203  
2nd & Kincaid Streets  
Mount Vernon, WA 98273  
(206) 336-9400; SCAN 554-9400

**Snohomish County**  
Robin Paster  
1316 Wall Street  
Everett, WA 98201  
(206) 339-9200

**Spokane County**  
Peggy Hodges  
CARTA for Sober and Safe Driving  
N. 811 Jefferson St.  
Spokane, WA 99260  
(509) 456-3600; SCAN 272-2342

**Thurston County**  
Jim Grant  
City of Olympia  
P.O. Box 1967  
Olympia, WA 98507  
(206) 753-8284; SCAN 234-8284

**Whatcom County**  
Rachel Grossman  
2111 King Street  
Bellingham, WA 98225  
(206) 733-3290

**Yakima County**  
David Schneider  
Yakima Valley Conference of Govts.  
104 N. First Street, Rm. 24  
Yakima, WA 98901  
(509) 575-4372; SCAN 665-4372

## **City Traffic Safety Representatives**

**Aberdeen**  
Walt Mierzwa  
Traffic Safety Representative

**Anacortes**  
Jim Pemberton  
Traffic Facility Coordinator

**Auburn**  
Marv Seabrands  
Public Works Department

**Bellevue**  
Mary Maxcy  
Eastside Task Force DWI Program

**Dave Gans**  
Bellevue Police Department

**Bellingham**  
Ken Carlson  
Public Works Department

**Bremerton**  
Tom Pratt  
Bremerton Police Department

**Camas**  
Mel Avery, Director  
Public Works Department

**Centralia**

Peter Corevin  
Public Works Commission

**Chehalis**

Chief Randy Hamilton  
Chehalis Police Department

**Cheney**

Chief Jerome Gardner  
Cheney Police Department

**Des Moines**

Dale Schroeder  
City Engineer

**Edmonds**

Chief Dan Prinz  
Edmonds Police Department

**Ellensburg**

Thomas J. Chini  
Director of Public Works

**Everett**

Bill Strong  
City Safety Manager

**Goldendale**

Chief Gregory Thorton  
Goldendale Police Department

**Grandview**

Chief David R. Charvet  
Grandview Police Department

**Hoquiam**

Orlando Howell  
Hoquiam Police Department

**Issaquah**

William J. Nims  
Project Manager

**Kelso**

Chief Tony Stoutt  
Kelso Police Department

**Kennewick**

Ken Hohenberg  
Kennewick Police Department

**Kent**

Chief Rod Frederiksen  
Kent Police Department

**Marty Mizlek**

Traffic Engineering

**Kirkland**

Fred French  
Principal Engineer

**Lacey**

Bob Cecil  
Lacey Police Department

**Longview**

S. Von Yu  
City Traffic Engineer

**Lynnwood**

Grant A. Silvey  
Traffic Engineer

**Mercer Island**

Philip Keightley  
Engineering Director

**Moses Lake**

Rita Perstac  
Municipal Services Director

**Mount Vernon**

John Wiseman  
City Engineer

**Mountlake Terrace**

Carl Rautenberg, Director  
Public Works Department

**Normandy Park**

Chief Lockheed Reader  
Normandy Park Police Department

**Oak Harbor**

John Fakkema  
Oak Harbor School District

**Olympia**

Kathleen D. Seeley  
Olympia Police Department

Dave Riker, Assoc. Member  
Traffic Engineering



**Pasco**  
Captain Dennis Kasperek  
Pasco Police Department

**Port Angeles**  
Chief Mike Cleland  
Port Angeles Police Department

**Pullman**  
Chief Wm. "Ted" Weatherly  
Pullman Police Department

**Puyallup**  
Marvin Cox  
City Engineer

**Redmond**  
Richard Barthol  
Assistant City Engineer

**Renton**  
Gary Norris  
Public Works Department

Sgt. Jerry Ritchie, Assoc. Member  
Renton Police Department

**Richland**  
William Gilbert  
Public Works Director

**Seattle**  
Jesse A. Krail  
City Traffic Engineer

Mary Delaney, Alternate  
KPLZ Radio

Bruce Olson  
AAA of Washington

Liz Whitney  
Engineering Department

**Shelton**  
Chief S.R. "Jonny" Johnston  
Shelton Police Department

**Sunnyside**  
Chief A.M. Tebaldi  
Sunnyside Police Department

**Tacoma**  
William L. Pugh  
Public Works/Traffic Engineering

**Tumwater**  
Douglas Johnston  
Acting City Engineer

**Vancouver**  
Thayer Rorabaugh  
Transportation Manager

**Walla Walla**  
Lt. Gary Bainter  
Walla Walla Police Department

**Wenatchee**  
Buzz Parkhill  
Public Works Department

**Yakima**  
Shelley Harlington  
Traffic Technician

## **County Traffic Safety Representatives**

**Adams**  
Roy Klein  
Public Works Department  
Ritzville

**Asotin**  
Robert Jones  
Assistant County Engineer  
Asotin

**Benton**  
Norman W. Childress  
Benton County Engineering  
Prosser

**Chelan**  
Lloyd Berry  
County Engineer  
Wenatchee

---

**Clallam**

David Hanna, Assistant Engineer  
Public Works Department  
Port Angeles

**Clark**

Murl Jones  
Public Works Department  
Vancouver

**Columbia**

Gary Gasaway  
County Engineer  
Dayton

**Cowlitz**

Bill Strange  
Traffic Safety Coordinator  
Kelso

**Douglas**

James R. Barker  
Assistant Director  
Waterville

**Ferry**

Ben Butler, Director  
Public Works Department  
Republic

**Franklin**

Bruce Gilkeson  
County Engineer  
Pasco

**Garfield**

Donald Jack Lyman Jr.  
County Engineering Department  
Pomeroy

**Grant**

Michael A. Murray  
Public Works Department  
Ephrata

**Grays Harbor**

Dave Whitcher  
Public Works Deputy Director  
Montesano

**Island**

Michael Lutzan  
Island County Road Department  
Coupeville

**Jefferson**

Gary Rowe  
Public Works Department  
Port Townsend

**King**

Joan Erb  
Traffic Safety Coordinator  
Seattle

**Terry Compton, Assoc. Member**

Metro Transit  
Seattle

**John L. Logan**

Public Works Department  
Seattle

**Tillie Porter, Assoc. Member**

King ELEC  
Seattle

**Terry Duncan, Assoc. Member**

Duncan Industries  
Renton

**Kitsap**

Robert Alire  
Department of Community Development  
Port Orchard

**Kittitas**

Alden Barton  
Kittitas County Engineering Department  
Ellensburg

**Klickitat**

Robert Niemela, Office Manager  
Engineering Department  
Goldendale

**Lewis**

Grant Kidrick  
Lewis County Commissioners  
Chehalis

---

**Lincoln**  
Terry Goodman, Director  
Lincoln County Planning Department  
Davenport

**Mason**  
Merle McNeil  
Department of Emergency Services  
Shelton

Carolyn Olsen  
DWI Task Force Coordinator  
Shelton

**Okanogan**  
Richard Sele  
Public Works Director  
Okanogan

**Pacific**  
Sheriff Jerry Benning  
Pacific County Sheriff's Office  
South Bend

**Pend O'Reille**  
Herbert Pease  
County Engineer  
Newport

**Pierce**  
Les Pope  
Executive Director  
Pierce Co. Safety Co.  
Tacoma

Pam Hughley, Assoc. Member  
Pierce Co. Transit  
Tacoma

**San Juan**  
Janis DeBardi  
Engineering Technician  
Friday Harbor

**Skagit**  
Jeffrey M. Monsen  
Public Works Department  
Mount Vernon

**Skamania**  
Curtis Skaar  
County Engineer  
Stevenson

**Snohomish**  
Lloyd E. Neal  
Public Works Department  
Everett

**Spokane**  
Ross Kelley  
County Engineer  
Spokane

**Stevens**  
Jan Steinbach  
Public Health Nurse  
Collville

**Thurston**  
Chief Tom Fitzsimmons  
Traffic Engineer  
Olympia

**Wahkiakum**  
Wayne L. Rickert Jr.  
County Engineer  
Cathlamet

**Walla Walla**  
Bernard Lang Jr.  
Walla Walla High School  
Walla Walla

**Whatcom**  
Carl Parker  
Traffic Development Engineer  
Bellingham

**Whitman**  
William Elkins  
Whitman County Courthouse  
Colfax

**Yakima**  
Daniel L. Hesse  
Department of Public Works  
Yakima

David Schneider, Assoc. Member  
Yakima Valley Conference of Gov'ts  
Yakima

Ronald Jacobson, Assoc. Member  
District Commander, WSP  
Union Gap

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## Indian Tribes and Bands

### Nespelem

Chief Harry Smiskin

Colville Tribal Police Department

Nespelem

### Toppenish

Darrel Johann

Yakima Tribal Police Department

Toppenish

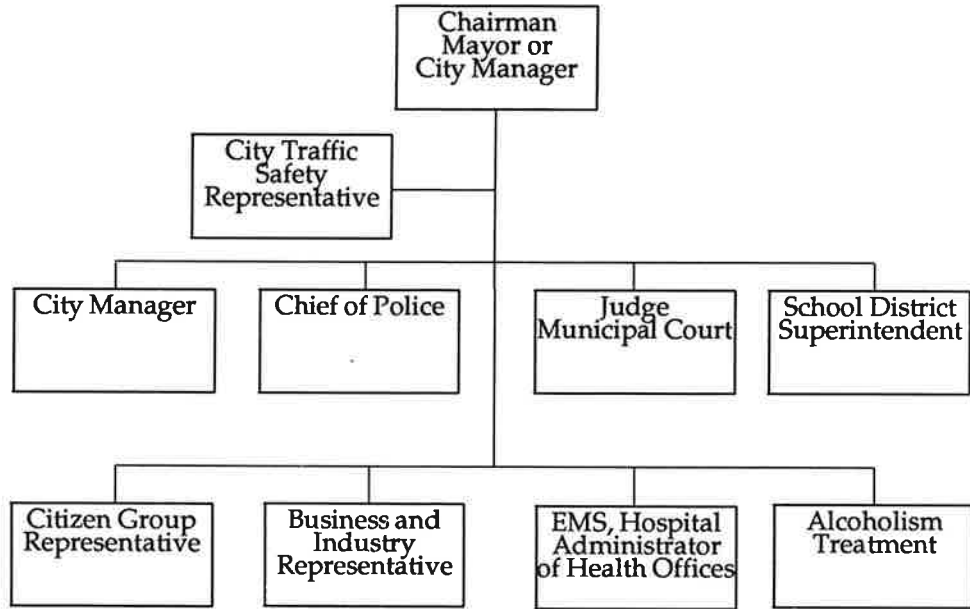
## Local Traffic Safety Commissions

46.90.275 Traffic safety commission — Powers and duties. (1) There is established a traffic safety commission to serve without compensation, consisting of the traffic engineer, the chief of police, or in his discretion as his representative, the chief of the traffic division or other cognizant member of the police department, one representative each from the engineer's office and the attorney's office, and such number of other officers of the local authority and representation of unofficial bodies as may be determined and appointed by the appointing authority of the local authority. The chairman of the commission shall be appointed by such

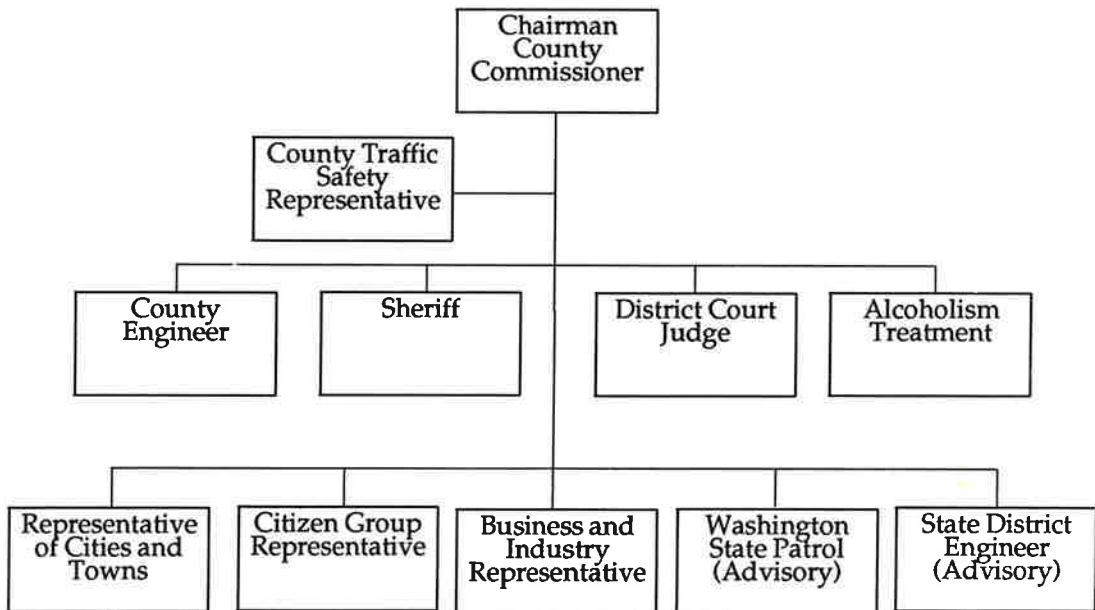
appointing authority and may be removed by such authority.

(2) It shall be the duty of the traffic safety commission, and to this end it shall have authority within the limits of the funds at its disposal, to coordinate traffic activities, to supervise the preparation and publication of traffic reports, to receive complaints having to do with traffic matters, and to recommend to the legislative body of the local authority and to the traffic engineer, the chief of the traffic division, and other officials, ways and means for improving traffic conditions and the administration and enforcement of traffic regulations. [1975 1st ex.s. c 54 § 49]

### Suggested City Traffic Safety Committee



### Suggested County Traffic Safety Commission



## Glossary of Terms

**Administrative Evaluation** - Administrative evaluation addresses task activities and efficiency. It is concerned with monitoring and assessing the quantity and efficiency of task operations. By "operations," we mean those traffic safety activities, services or procedures which were implemented and which are usually expected to support or contribute to the accomplishment of an ultimate objective of some type of collision reduction. Administrative level evaluation describes these project operations. It measures actual project activities and compares them to: (a) the baseline or pre-project levels of the same activities; (b) the desired or targeted levels of activity established for the task; and (c) the funding input to the task.

**Countermeasure** - A specific activity, or related activities, designed to contribute to the solution of an identified problem.

**Effectiveness (Impact) Evaluation** - A determination of the extent to which task operations and activity have contributed to the achievement of an objective related to collisions involvement.

Three aspects of an impact evaluation are:

1. Determination of impact.
2. Determination of the relationship of task activities to achieving impact.
3. Determination of the relationship of costs to impact or benefits from the task activities and accomplishments.

**Goal** - A long term collision/fatality/injury reduction achievement target which may state incrementally the principal changes or outcomes planned. A goal usually requires more than one type of program or effort to attain. It relates to, and expresses in clearly quantified, time-framed, and measurable terms one or more of the purposes of a program module. For example, a goal could be briefly stated as:

"To reduce the number of alcohol-related traffic deaths from 1,400 to 1,200 by 1980 and to 900 by 1983."

**Highway Safety Plan** - This plan is the Governor's combined multi-year legislative, organizational, operational, and financial plan, in accordance with uniform standards promulgated by the Secretary, submitted by the State and approved by the Secretary under 23 U.S.C. 402, designed to reduce traffic collisions, deaths, injuries, and property damage. The plan, at the option of the state, covers not only the 402 and matching activities but also the state's own operations and those of its political subdivisions.

**Highway Safety Program Structure** - A framework for assembling activities into a total systems-oriented program for the purpose of analyzing interrelationships among highway safety activities and identifying coordinational requirements.

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**Impact Problems** - Are those problems that can be related to collision/fatality/injury reduction through the application of countermeasures.

**Milestone** - A major identifiable and recognizable event in a program which can be measured in time. Milestones are essential characteristics of any scheduled activity that denote advancement toward the goals and objectives.

**Objectives** - A shorter term safety target than a goal, expressing in clearly quantified, time-framed, and measurable terms the planned levels of program performance to be achieved. The objective thus supports a goal and relates to a problem solution. An objective supporting the goal of reducing the rate of alcohol-related traffic deaths might be: "To increase DWI arrests from 1,500 to 2,500 (in a given region or area) during the current fiscal year."

**Performance Indicators** - Performance indicators are quantifiable measures of the planned results, or outputs, of program projects or activity inputs (i.e., training, equipment, manpower, and facilities), expressed in terms of a change in a level of activity. They provide the base for determining the degree of achievement of established objectives, e.g., through the purchase of eight breathalyzers and training/certifying 25 operators, it is planned to increase the level of BAL testing from 750/year to 2,500/year, which will represent an increase of BAL testing of those arrested for DWI from 30% to 90% by the end of the fiscal year.

**Problem Area** - A population of collisions/injuries/fatalities identified through data analysis and possessing common characteristics.

**Problem Identification** - A process of analyzing traffic records and other informational resources to isolate impact and systems support problems which indicate the need for countermeasure activities.

**Problem Solution Plan** - A planning/programming unit defining an identified problem area, proposed countermeasures and the program details for implementation of corrective action.

**Systems Support Problem** - Is a deficiency in a vital traffic safety program function, the correction of which cannot be directly related to collision/fatality/injury reduction.

**Project** - An activity or activities representing a readily identifiable basic unit of work identified with only one standard area and capable of being scheduled and costed.

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## Highway Safety Plan Abbreviations

CARTA	Citizens Against Alcohol-Related Traffic Accidents
CCTSP	Comprehensive Community Traffic Safety Program
CCSRS	Comprehensive Computerized Safety Recordkeeping System
DOL	Department of Licensing
DOT	Department of Transportation
DRE	Drug Recognition and Evaluation Program
DSHS	Department of Social and Health Services
DUI	Driving Under the Influence
DWI	Driving While Intoxicated
EMS	Emergency Medical Services
FHWA	Federal Highway Administration
FTE	Full-Time Employee
FUNDS - 402	Federal Funds Allocated Under Section 402, Title 23, U.S. Code
FY	Fiscal Year — October 1 to September 31
HSP	Highway Safety Plan
IAC	Interagency Advisory Committee on Alcohol and Traffic Safety
MADD	Mothers Against Drinking Drivers
MUL	Mandatory [Safety Belt] Usage Law
MUTCD	Manual for Uniform Traffic Control Devices
NHTSA	National Highway Traffic Safety Administration
P & A	Planning and Administration
PSP	Problem Solution Plan
SAB	Student Advisory Board (SAFTYE)
SADD	Students Against Drinking Drivers
SAFTYE	Stop Auto Fatalities Through Youth Efforts
SPMIS	Safety Program Management Information System
SPI	Superintendent of Public Instruction
TAC	Technical Advisory Committee (State)
TRDC	Traffic Records Data Center
TSE	Traffic Safety Education
UTEC	Urban Traffic Engineers Council
UVC	Uniform Vehicle Code
WAPA	Washington Association of Prosecuting Attorneys
WASPC	Washington Association of Sheriffs & Police Chiefs
WATSR	Washington Association of Traffic Safety Representatives
WAWHSL	Washington Association of Women Highway Safety Leaders
WSP	Washington State Patrol
WTSC	Washington Traffic Safety Commission

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