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PROGRESS REPORT ON MAINTENANCE AND OPERATIONS PERSONNEL

mode

1 highway transportation

subject areas

11 administration
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The Transportation Research Board is a unit of the National Research Council, which serves as an independent advisor to the federal government on scientific and technical questions of national importance. The Research Council, jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, brings the resources of the entire scientific and technical community to bear on national problems through its volunteer advisory committees.

This report was prepared by the Transportation Research Board Committee on Maintenance and Operations Personnel with the cooperation of AASHTO Subcommittee on Maintenance. This report is the 42nd in a series which began in 1944.

The general format of the report has been retained since its inception in 1944. The Policy Questionnaire and Survey has been revised from time to time to keep it current with changing times. An addition to this year's report is the inclusion of data relating to use of contract maintenance by individual states.

As with last year's report, the year of 1977 is used as the base year for the comparison of salaries. The advantage of using 1977 base index insures a reasonable approximation of the current structures of the economy and facilitates a visual comparison of wage rates of change from a base period of less than 10 years.

Survey data was collected from all the states except Rhode Island and Delaware. In order to maintain the continuity of the report, information from last year's report was used for these two states.

For comparative purposes, portions of this report have been broken down into four regions as follows:

1. The North Atlantic States (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont).

2. The Southeastern States (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia).

3. The Mississippi Valley States (Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota and Wisconsin).

4. The Western States (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington and Wyoming).

SALARY COMPARISONS

The monthly salary statistics for this report indicate a rather mild advance in 1977/1986 and 1985/1986 percentage increases. After a banner year in 1985, which indicated an average one-year increase of 8.3 percent, this year's average increase for all positions showed a modest growth of 3.8 percent. A random appraisal of this year's salary index and last year's report indicated that there were no increases in several States' payrolls.

In order to give a further breakdown of average monthly salaries, the chart below gives a reasonable cross section of 8 random positions in the four regions of the United States. It can be readily seen that the Western States command the highest salaries while the North Atlantic States have the lowest salary structure.

	AVERAGE MAXIMUM SALARY ($MO.)				
JOB TITLE	North Atlantic States	South Eastern States	Mississippi Valley States	Western States	All States
State Maintenance Engineer	4452	4519	4340	4722	4506
District Engineer	4165	4526	4294	4911	4501
Area Supervisor	2343	2369	2588	3050	2611
Laborer	1298	1179	1481	1737	1440
Mechanic	1707	1770	1905	2232	1924
Equipment Operator II	1465	1531	1703	1831	1643
Traffic Signal & Light Frm	2037	2242	2486	2702	2374
Traffic Signal & Light Tech	1910	2054	2034	2360	2094

PERSONNEL POLICIES

Based on an analysis of data complied from all the states, the following determinations can be made of personnel policies. It must be noted, however, that all the states did not clearly indicate their data in various categories.

Civil Service or Merit System

Except for 6 states, all states have a civil service, merit system or other comparable plan for all or part of their employees. Pennsylvania was the latest state to adopt a merit system. The remaining 3 regions each have 2 states that have no merit system in effect.

Retirement Plan

All states indicate their employees are protected by a state-sponsored retirement plan. In 43 of those states, all or part of the employees are also covered by Federal Social Security.

Three additional states do not have a compulsory retirement age. This reduces to 23 the total number of states that have a compulsory retirement age. The compulsory retirement age is 70 in 22 states, and 72 in one state. The retirement age is established by statute in 19 states and by policy in 5 states.

Forty-nine of the states indicate voluntary retirement is possible at an earlier age after a prescribed number of years. Seventeen states reported a minimum of 10 years of service for voluntary retirement. Thirteen states reported a 5-year minimum and 9 states reported a 30-year minimum. Twenty-six states had a minimum retirement age of 55, while 6 states had a minimum retirement age of 50.

Vacation and Sick Leave

All states reported that permanent employees are granted vacation and sick leave. The minimum or starting basis on vacations ranges from 39 to 240 hours per year. Vacation time is cumulative in all states, and the maximum time that may be carried over into a new year varies from 40 hours to 720 hours, with two states reporting no limit on the amount of vacation that may be accumulated.

Insurance

All states have a partially or wholly state-financed hospitalization plan for their permanent employees. Twenty-five of these plans are wholly state-financed. The plan is mandatory in 10 states.

Forty-three states have a partially or wholly state-financed life insurance plan for their permanent employees, with 25 of these wholly state financed. The plan is mandatory in 19 states.

In 29 states, all or part of the maintenance and operations personnel are proteced against lawsuits by a state-financed liability plan.

Unionization

As per last year, there remain only 16 states where supervisory employees have collective bargaining rights, and the collective bargaining rights for nonsupervisory employees remain at 28 states.

Thirty-three states report voluntary or mandatory organization of their supervisory personnel in a local or national union. Forty-six states report mandatory or voluntary organization of their nonsupervisory maintenance and operations employees in either a national, local or employee association.

Service Awards

Within the last year, 2 additional states have ceased presenting any awards for years of service. This reduces the total to 45 states that give any type of recognition to employees serving a certain length of time with the department.

Working Hours and Conditions

Thirteen states pay all their employees on an hourly basis, while 11 states pay everyone a salary rate. A further breakdown indicates that nonsupervisory personnel in 29 states are paid at a salary rate, and in 21 states they are paid at an hourly rate. Supervisory personnel on the other hand are paid an hourly rate in 12 states and a salary rate in 38 states. Temporary employees are predominately paid on an hourly basis.

Forty-six states have an 8 or 10-hour workday, with 40 hours per week as the standard workweek. Four states have 7.5-hour workday and a 37.5-hour workweek.

All states allow either compensatory time, straight time, time-and-a-half or double time for overtime worked by their permanent field employees. Forty-eight of the 50 states reported that their nonsupervisory employees receive at least time-and-a-half for their overtime hours. In direct comparison, only 18 states report that their supervisory personnel receive time-and-a-half for overtime hours. Nine states report that their supervisory employees do not receive any allowance for overtime work.

Only one state reports that it does not require their employees to report to an assembly point preparatory to their day's work. Of the 49 states requiring the central meeting point, 47 states pay employees from the time they leave this assembly point until they return at the close of the day's work.

All states furnish hard hats and safety vests to their employees. Where needed, all states provide welding goggles and helmets also. Forty-two states provide protective clothing for specialized operations, while only 25 states provide normal operations clothing such as rain outfits.

Thirty-three states have automatic or automatically recommended salary advances.

All states reported that they have a formalized job classification plan.

Twenty-eight states now report the use of convict labor in some of their maintenance operations.

Only 3 states do not allow expenses to employees when they are away from their home station. Twenty-one states pay actual cost with a maximum coverage, while 22 states pay a standard per diem. Lodging costs for employees spending the night away from home are divided into 3 forms of payment: 19 states pay actual costs with a fixed maximum; 14 states pay the actual costs; and 14 states pay a standard per diem rate.

When an employee is required to change his residence, only 43 states provide either total or partial reimbursements for the moving expenses. Twelve of the 43 states will pay for the total move.

Maintenance Responsibility

State maintenance operations are responsible for all or part of the original placement of highway signs in 21 states. In 44 of the states, the maintenance and replacement of all signs is under the jurisdiction of the highway departments. In 41 of the states, pavement marking is also done by the highway forces.

In 48 states, garage or shop operations for vehicle maintenance are under the jurisdiction of the respective highway departments. In 32 states, this is limited to highway department vehicles only, while in 13 states, servicing is performed for other state agencies, and for all state agencies in 3 states.

Number of Employees

The results of this year's questionnaire indicate that the states are at a status quo in staff sizes. Twenty states reported a decrease in their permanent and temporary employees, and 18 states showed an increase in their total employees. Last year 24 states increased in size and 12 states decreased in staff size.

Basis of Crew Operations

The average number of lane miles handled by a general maintenance crew working out of one location varies from 31 to 693.

Thirteen states report that the same crew handles traffic signs and striping with the lane miles handled by each crew varying from 270 to 8,000.

Thirty-seven states have special crews for striping, with the lane miles covered by each crew varying from 556 to 8,928 miles.

Equipment Management System

Thirty states reported they have implemented an equipment management system. An additional 15 states indicated they intend to implement such a system in the future.

Maintenance Work Done By Contract

This is a new category added to the report. It covers the performance of maintenance work by outside or department contracted forces. Thirty-eight of the reporting states indicate a portion of their work is done by contracted forces. The percentage of work varies from 4 percent to 73 percent of the maintenance budget.

TRB COMMITTEE A3C03

TRB-AASHTO JOINT COMMITTEE ON MAINTENANCE AND OPERATIONS PERSONNEL

DEFINITIONS OF MAINTENANCE AND OPERATIONS PERSONNEL TITLES

Note: In the following definitions of titles of maintenance personnel, the first subdivision in the state for supervision purposes is called a "district" or "division." The first subdivision in a district or division is called a "residency."

MAINTENANCE PERSONNEL TITLES

Title No.	Title and Description
1.	State Maintenance Engineer - One in an executive capacity who supervises all activities of maintenance for the State Highway and Transportation Department.
2.	Assistant State Maintenance Engineer - One who assists the State Maintenance Engineer in the work of supervising the activities of maintenance.
3.	District Engineer - (In some states, called Division Engineer or Regional Engineer) - One in an executive capacity who supervises highway activities within a district.
4.	District Maintenance Engineer - One in an executive capacity who supervises maintenance activities of highways within a district.
5.	Assistant District Maintenance Engineer - One who assists the District Engineer and/or the District Maintenance Engineer in supervising maintenance within a district.
6.	Resident Maintenance Engineer - One who directs the activities of all maintenance employees and equipment and oversees the maintenance of highways within a residency.
7.	Area Supervisor - (In some states, called Superintendent) - One who directs the activities of all maintenance employees and equipment and oversees the maintenance of highways within a residency, excluding engineering requirements.
8.	Gang Foreman - One who directs the activities of a group of men engaged in maintenance and betterment work such as a grading crew, bituminous repair crew, concrete pavement patching crew, bridge repair crew, roadside maintenance crew, etc.
9.	Sectionman - One who in reality is a working foreman, or who can and does perform any of the work necessary to properly maintain the highways within a specified territory; in addition, supervises the work of operators and laborers when necessary. A highly skilled and trained man.
10.	Laborer - One who performs manual labor.

Title No.	Title and Description

11. Skilled Craftsman - One who through special training or experience, has become proficient in a trade such as a carpenter, painter, mason, plumber, etc.

12. Shop Superintendent - One who is responsible for the operation of a central garage and the supervision of major overhaul and repair of equipment.

13. Garage or Shop Foreman - One who is responsible for the operation of a garage and the supervision of the maintenance and repair of equipment.

14. Mechanic - One who under direct supervision, maintains and repairs all types of automotive equipment.

15. Mechanic Helper - One who assists the mechanic in the maintenance and repair of all automotive equipment.

16. Equipment Operator I - Operator of light trucks, mowers, patching rollers etc.

17. Equipment Operator II - Operator of heavy trucks, light graders, and rollers used on resurfacing projects.

18. Equipment Operator III - Operator of specialized equipment such as cranes, shovels, heavy graders, paving machines, etc.

19. Timekeeper or Clerk - One who keeps the time records of employees, hours of equipment usage, quantities of materials received, used, and on hand; maintenance cost records, etc.

TRAFFIC OPERATIONS PERSONNEL TITLES

20. State Traffic Engineer - One in an executive capacity who supervises all activities related to traffic operations of the State Highway and Transportation Department.

21. Assistant State Traffic Engineer - One who assists the State Traffic Engineer in the work of supervising traffic operations.

22. State Traffic Maintenance Engineer - One in an administrative capacity who programs and implements all phases of maintenance of traffic control activities under the supervision of the State Maintenance Engineer.

23. District Traffic Engineer - One in an executive capacity who supervises traffic operations within a district. May in some cases be two positions: one for design and one for maintenance.

24. Assistant District Traffic Engineer - One who assists the District Traffic Engineer in the work of supervising traffic operations within a district.

25. Traffic Supervisor - One who directs the activities of all employees and equipment related to traffic operations within a district.

26. Sign Supervisor - One who directs the activities of all signing, both fabrication and erection.

27. Sign Shop Foreman - One who directs a crew of men in the activity of fabricating traffic signs.

28. Traffic Signal & Lighting Foreman - One who directs a crew of men in activities related to the operations and maintenance of traffic signals and lighting.

29. Striper Foreman - One who directs a crew of men in activities related to pavement markings.

30. Sign Erection Foremen - One who directs a crew of men in activities related to the erection and maintenance of all traffic signs.

31. Sign Fabricator - One who specializes in the fabrication of traffic signs.

32. Sign Technician - One who operates equipment and supervises laborers for all activities associated with signing, both fabrication and erection.

33. Traffic Signal & Lighting Technician - one who works in a technical capacity for operating and maintaining traffic signal equipment and highway lighting.

34. Striper Technician - One who operates equipment and supervises laborers regarding all activities of pavement markings.

OTHER RELATED PERSONNEL TITLES

35. Chief Engineer - One in an executive capacity who supervises all engineering activities of a State Highway Department.

36. Project Engineer - One who has charge in the field of one or more highway construction projects under the general supervision of a Division Construction Engineer or a Division Engineer.

GENERAL DEFINITIONS

Maintenance - The preservation and upkeep of a highway, including all of its elements, in as nearly as practicable its originally constructed condition or its subsequently improved condition.

Traffic Operations - The operation of a highway facility and services incidental thereto to provide safe, convenient, and economical highway transportation.

NOTE: The word "Operations" in the Committee's title indicates "Traffic Operations".

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MAINTENANCE AND TRAFFIC OPERATIONS PERSONNEL TITLES
USED BY STATE HIGHWAY DEPARTMENTS (as of July 1, 1986)

MAINTENANCE PERSONNEL:

State	(1) State :Maintenance Engineer	(2) Assistant State :Maintenance Engineer	(3) :District Engineer	(4) District :Maintenance Engineer
Alabama	:State Mtce Engineer	:	:Division Engineer	:Division Mtce Engr
Alaska	:Trans Mtce&Oper Engr	:Asst Dpty Comm	:Reg Dpty Comm	:Reg Mtce Director
Arizona	:State Mtce Engineer	:Mtce Opers Engineer	:District Engineer	:Dept Dist Engr CE IV
Arkansas	:State Mtce Engineer	:Asst State Mtce Engr	:District Engineer	:Dist Mtce Supt
California	:Chief, Div of Mtce	:Chief, Office of	:Dist Dir of Transp	:Dist Mtce Engineer
Colorado	:Staff Mtce Supt	:Asst Staff Mtce Supt	:District Engineer	:Highway Mtce Supt
Connecticut	:Director of Mtce	:Mtce Opers&Plan Mgr	:	:Dist Mtce Manager
	:	:	:	:
Delaware	:Asst Dir Field Serv	:	:Civil Engr VI	:Civil Engr V & IV
Florida	:State Mtce Engineer	:Engr of Mtce Opers	:Dpty Asst. Secretary	:Dist Mtce Engr
Georgia	:State Mtce Engineer	:Asst St Mtce Engr&Chf	:District Engineer	:Dist Mtce Engr
Hawaii	:Chief, Hwys Div	:Asst Chf Const & Mtce	:District Engineer	:Maintenance Engr
Idaho	:State Mtce Engineer	:Asst Mtce Engr	:District Engineer	:Dist Mtce Engr/Supv
Illinois	:State Mtce Engineer	:Section Chief	:District Engineer	:Dist Mtce Engr
Indiana	:Chief, Div of Mtce	:	:District Engineer	:Dist Mtce Engr
Iowa	:Maintenance Engineer	:Asst Mtce Engineer	:District Engineer	:Dist Mtce Engr
Kansas	:Chief,Bur Const/Mtce	:A-Chf,Bur Const/Mtce	:District Engineer	:Dist Mtce Engr
Kentucky	:Dir, Div of Mtce	:Asst Dir,Div of Mtce	:Chf District Engineer	:Dist Opers Engr
Louisiana	:Dir,Mtce&Field Opers	:Chief Mtce&Opers Engr	:District Admin	:Dist Mtce Engr
	:	:Mtce Sys Engr et al	:	:
Maine	:Dir,Bur Mtce & Opers	:Hwy Mtce Engineer	:Division Engineer	:
Maryland	:Asst Dpty Chief Engr	:	:District Engineer	:
Massachusetts	:Maintenance Engineer	:Asst Mtce Engineer	:Dist Hwy Engineer	:Dist Mtce Engr
Michigan	:Engineer of Mtce	:Asst Engr of Mtce	:District Engineer	:Dist Mtce Engr
Minnesota	:Asst Dir,Contr Admin	:Asst State Mtce Engr	:District Engineer	:Dist/Area Mtce Engr
Mississippi	:Maintenance Engineer	:Asst Mtce Engineer	:District Engineer	:Dist Mtce Engineer
Missouri	:Div Engr Mtce & Traf	:Asst Div Engr, Mtce	:District Engineer	:Dist Mtce & Traf Engr
Montana	:Admin Mtce&Equip Div	:Asst Admin Mtce&Equip	:District Engineer	:Maintenance Chief
Nebraska	:Maintenance Engineer	:Mtce Opers Manager	:Hwy Dist Engineer	:Hwy Mtce Dist Supt
Nevada	:Chief Mtce Engineer	:Asst Chief Mtce Engr	:District Engineer	:Asst District Engr
New Hampshire	:State Mtce Engineer	:Asst Mtce Engineer	:Highway Dist Engr	:
New Jersey	:Chief Bur of Mtce	:Project Engr,Mtce	:Regional Engr Transp	:Regional Mtce Engr
New Mexico	:Director of Opers	:Chief Mtce Support	:District Engineer	:Dist Mtce Engineer
	:	:Bureau	:	:
New York	:Dir Highway Mtce	:Asst Dir Hwy Mtce	:Reg Dir of Transp	:Reg Hwy Mtce Engr
North Carolina	:St Hwy Engr Mtce&Equip	:State Road Mtce Engr	:Division Engineer	:Div Mtce Engineer
North Dakota	:State Mtce Engineer	:Asst State Mtce Engr	:District Engineer	:Dist Mtce Engr
Ohio	:Engineer of Mtce	:	:Dist Deputy Dir	:Dist Opers Engineer
Oklahoma	:State Mtce Engineer	:Asst State Mtce Engr	:Division Engineer	:Div Mtce Engineer
Oregon	:Maintenance Engineer	:Mtce Oper Engineer	:Region Engineer	:Region Mtce Engineer
Pennsylvania	:Hwy Engr Mgr	:Civil Engineer 5	:Hwy Dist Engr 3	:Asst Hwy Dist Engr
Rhode Island	:Asst Dir Div of Mtce	:Dpty Asst Dir of Mtce	:Sr Civil Engineer	:
South Carolina	:Dir Maintenance	:Asst Dir Maintenance	:District Engineer	:Dist Mtce Engineer
South Dakota	:Maintenance Engineer	:Mtce Opers Engineer	:Regional Manager	:
Tennessee	:Civil Engr Dir	:Civil Engr Mgr 2	:Civil Engr Dir	:Civil Engr Mgr 2
Texas	:Chief Engr Safety &	:Engineer Safety&Opers	:District Engineer	:Dist Mtce Engr
	:Mtce Operations	:	:	:
Utah	:Engineer of Mtce	:	:Dist Director	:Dist Mtce Engineer
Vermont	:Dir of Maintenance	:Chief/Mtce Support	:	:Dist Transp. Admin
	:	:Chief/Tech Services	:	:
Virginia	:Hwy Div Admin	:Hwy Div Asst Admin	:Hwy Div Admin	:Div Asst Admin
Washington	:State Mtce Engineer	:Hwy Mtce Engineer	:Dist Administrator	:Dist Mtce Engineer
West Virginia	:Director of Mtce	:Regional Engineer	:District Engineer	:Asst Dist Engr Mtce
Wisconsin	:Chief Mtce Engr	:Asst Chief Mtce Engr	:District Director	:Dist Chief Mtce Engr
Wyoming	:St Const & Mtce Engr	:	:District Engineer	:Dist Mtce Engineer

(5) Asst. Dist Maintenance Engr	(6) Resident Maintenance Engr	(7) Area Supervisor	(8) Gang Foreman	State
Div Mtce Engr	District Engineer	Highway Supt	Inc. 16, 17, 18	Alabama
Mtce Mgr III	Mtce Mgr II	Mtce Supt I & II	Mtce Leader III	Alaska
Area Engr		Area Supervisor	Hwy Mtce Supv	Arizona
Ast Dist Mtce Supt		Area Foreman	Mtce Job Supt	Arkansas
Ast Dist Mtce Engr	Region Supt	Area Supt	Supervisor	California
Asst Hwy Mtce Supt		Senior Foreman	Foreman	Colorado
Mtce Opers Supt		Mtce Gen Supv		Connecticut
Hwy Mtce Opers Mgr		Mtce Tech V &IV	Mech Tech	
		Equip Oper IV		Delaware
Asst Dist Mtce Engr	Mtce Engr	Incl in #6	Hwy Mtce Tech Supv	Florida
Asst Dist Mtce Engr	Area Engr	Mtce Area Mgr	Hwy Mtce Foreman II	Georgia
		Const&Mtce Supt VI	Hwy Const&Mtce Supv	Hawaii
		Transp Mtce Foreman		Idaho
	Dist Field Engr		Hwy Mtce Lead Wkr	Illinois
Dist Mtce Op Engr	Subdistrict Supt	General Foreman	Unit Foreman	Indiana
	Resident Mtce Engr	Hwy Mtce Supt 1,2,3	Hwy Mtce Supt 2&3	Iowa
	Area Engineer	Dist & Area Supv	Dist & Area Supv	Kansas
Dist Mtce Engr			Hwy County Foreman	Kentucky
Asst Mtce Engr		Hwy Mtce Supt	Foreman I,II,III	Louisiana
		Hwy Dist Supv	Highway Foreman	Maine
Asst Dist Engr,Mtce	Resident Mtce Engr	Hwy Mtce Supv	Supv Road Mtce	Maryland
Asst Dist Mtce Engr		Hwy Mtce Foreman	Hwy Repair Foreman	Massachusetts
Asst Dist Mtce Engr		Area Supt	Garage Foreman	Michigan
Mtce Opers Engr	Incl 4 & 5	Bridge Supv	Bridge & Mtce Supv	Minnesota
		Hwy Mtce Supt II	Hwy Mtce Supv II	Mississippi
Maintenance Supt		Mtce Area Supv	Special Mtce Frm	Missouri
		Mtce Supt		Montana
		Hwy Mtce Supt	Hwy Mtce Supv	Nebraska
Dist Mtce Supt	Dist Mtce Engr	Mtce Supv 3	Mtce Supv 2	Nevada
Asst Dist Engineer	Mtce Supervisor	Mtce Supt	Const Foreman	New Hampshire
Proj Engr, Mtce	Reg Mtce Supv	Area Supervisor	Crew Supervisor	New Jersey
Dist Tech Sup Engr		Asst Mtce Supt	Hwy Mtce SupvI,II,III	New Mexico
Ast Rg Hwy Mtce Engr	Resident Engineer	Hwy Mtce Supv II	Bridge Rpr Supv II	New York
District Engineer	Hwy Mtce Engr	Rd Mtce&Landscape Supv	Mtce Crew Ldr II	North Carolina
		Hwy Mtce Supt	Hwy Mtce Foreman	North Dakota
Dist Mtce Engr		County Supv	Hwy Wkr Supv	Ohio
Field Mtce Engr		Transp Mtce Supt	Transp Mtce Supv	Oklahoma
Region 1 Oper Engr	District Mtce Supv	Inc in Title 6	Maintenance Supv	Oregon
C E 4,Hwy Mtce Mgr 4		Hwy Mtce Mgr 2,3,4	Hwy Foreman 1,2,3	Pennsylvania
	Chief Hwy Mtce Supv	Hwy Mtce Supv	Road Mtce Supv	Rhode Island
	Resident Mtce Engr	Res Mtce Frm	Sr Hwy Mtce Frm	South Carolina
	Oper Engr, Area Engr	Mtce Coordinator		South Dakota
Civil Engr Supv II	Hwy Mtce Supv II	Hwy Mtce Supv I	Hwy Mtce Wkr III	Tennessee
Asst Dist Mtce Engr		Section Foreman	Asst Foreman	Texas
Dist Mtce Supv		Station Supv	Hwy Opers Supv	Utah
Trans Tech D		Trans Mtce Gen Supv	Trans Area Mtce Supv	Vermont
Hwy Regional Engr	Hwy Reg Mtce Supv	Hwy Mtce Supt B	Highway Foreman	Virginia
Asst Dist Mtce Engr		Highway Supt	Mtce Supervisor	Washington
Mtce Assts	Area Engineer	County Mtce Supt	Mtce Crew Supv	West Virginia
Area Mtce Supv		Asst Area Supv	(County)	Wisconsin
		Hwy Mtce Area Supv	Area Crew Leader	Wyoming

MAINTENANCE AND TRAFFIC OPERATIONS PERSONNEL TITLES
USED BY STATE HIGHWAY DEPARTMENTS (as of July 1, 1986)

MAINTENANCE PERSONNEL (Cont'd):

State	(9) :Sectionman	(10) :Laborer	(11) :Skilled Craftsman	(12) :Shop Superintendent
Alabama	:Incl 16, 17, 18	:Laborer	:Skilled Craftsman	:Equip Mtce Supv
Alaska	:Mtce Leader I&II	:Laborer	:Carp Elect Painter	:Dist Equip Mgr/Supt
Arizona	:Hwy Mtce Wkr III	:Groundskeeper I&II	:Carp&Sign Fabricator	:Equip Shop Supv II
Arkansas	:Crew Leader	:General Laborer	:Welder	:Equip Mtce Supv
	:	:	:	:
California	:Leadworker	:Mtce Worker	:Carp/Struc Steel	:Equip Supt I-III
	:	:	:Painter	:
Colorado	:Sr Mtce Man	:Hwy Maintenance Man	:	:Sr Auto Shop Frm
Connecticut	:Mtce Crew Ldr	:DOT Mtce II	:Qual Craft Wrk	:Equip Gen Supv
Delaware	:Equip Oper II,III	:	:	:Hwy Equip Supt
Florida	:Hwy Mtce Supv	:Laborer,Mtce Tech	:Carp,Welder,Elect	:Auto Eq Mtce Supt
	:	:	:	:
Georgia	:Mtce Frm I	:Mtce Worker	:Skilled Laborer	:Mtce Shop Manger
	:Hwy Labor Supv	:	:	:
Hawaii	:Hwy Mtce Supv	:Gen Laborers &	:Bridge Mtce Wkrs	:Auto Mech Supv
	:	:Trade Helper	:Carpenters etal	:
Idaho	:Hwy Mtce Oper Leadwrk	:Laborer	:Utility Craftsman	:Shop Superintendent
Illinois	:Hwy Maintainer	:	:	:
Indiana	:Mtce Wkr III,Wk Leader	:Mtce Worker III	:	:
Iowa	:	:Mtce Worker I	:	:
Kansas	:Sub-Area Supv	:	:	:Shop Superintendent
Kentucky	:Hwy Crew Foreman	:Mtce Laborer	:Carp,Bridgemen Wldrs	:Garage Supv
Louisiana	:	:Labor Utility	:Mtce Repairman	:Auto Shop Suv
	:	:Bridge Tender	:Painter Carp et al	:Equip Specialist
Maine	:Crew Leader	:Hwy Worker I	:Mach Elec Carp	:Equip Supt
	:	:	:& Other Trades	:
Maryland	:	:Highway Worker	:	:
Massachusetts	:Hwy Repir Wkr Frm	:Laborer	:Br Painter Welder	:Supt of Shop &
	:	:	:Carpenter	:Equip
Michigan	:Asst Garage Frm	:Laborer IB	:Bridge Wrk IIIB,IV,V	:Equip Supt
Minnesota	:Hwy Mtce Wkr	:Laborer I,II et al	:Bridge Worker	:Equip Fabric Supt
	:Hwy Mtce Wkr Sr	:	:	:Hwy Equip Supv
Mississippi	:Hwy Mtce Supv I	:Gen Serv Emp II	:	:Equip Mtce Supt
Missouri	:Mtce Supt	:	:	:Dist Equip Supv
Montana	:Field Mtce Supv A&B	:Laborer	:Carpenter	:Div Shop Supt
Nebraska	:	:	:	:Hwy Mech Supt
Nevada	:	:Hwy Maintainer	:Gen Bldg Tradesman	:Supv Equip,Mech 2
New Hampshire	:Hwy Patrol Frm	:Hwy Maintainer I	:Asst Hwy Pat Frm	:Supt Equip
New Jersey	:Asst Crew Supv	:Mtce Worker	:Bridge&Const Repr	:Reg Equip Supv
New Mexico	:Hwy Supv Mtce, Ld Wkr	:Utility I&II,	:Carp Painter Welder	:Equip Manager
	:	:Mtce Worker I&II	:	:
New York	:Hwy Mtce Supv I	:Laborer	:Sign Shop Painter	:Regional Equip Mgr
	:	:	:Sign Shop Metal Wkr	:
North Carolina	:Incl 8	:Hwy Mtce Worker	:Mtce Mech I,II	:Equip Supt
North Dakota	:Equip Oper III	:Mtce Worker I	:	:Mtr Veh Shop Frm II
Ohio	:Hwy Worker 3	:Hwy Worker 2	:Painter Welder et al	:Equip Mtce Supt 3
Oklahoma	:	:	:Mtce Repair Tech	:Auto Shop Supt
Oregon	:Hwy Mtce Frm I	:Laborer	:Elect or Carpenter	:Equip Rpr Shop Supv
Pennsylvania	:	:Hwy Mtce Wkr	:Welder Carpenter	:
	:	:Semi-Skld Laborer	:Mason & Painter	:
Rhode Island	:Labor Supv	:Labor Supv	:Semi-Skld Laborer	:Auto Serv Spec
South Carolina	:Hwy Mtce Frm	:Hwy Mtce Wkr I	:	:
South Dakota	:Hwy Mtce Frm	:	:	:
Tennessee	:Hwy Mtce Wkr II	:Hwy Mtce Wkr I	:Elect I Carp I&II	:Equip Mtce Supv II
Texas	:Crew Chief	:Mtce Tech I&II	:Maintenance Tech	:Shop Supervisor
Utah	:	:Gen Mtce Worker	:Auto Painter	:Shop Manager
	:	:	:	:
Vermont	:Trans Mtce Wkr B	:Trans Mtce Wrk A	:Bridge Mtce Mech	:Supt Central Garage
Virginia	:	:Hwy Mtce Helper	:Carp Painter Plumber	:Hwy Equip Supv B
Washington	:Mtce Lead Tech	:Laborer	:Mtce Specialist	:Equip Supt
West Virginia	:Mtce Crew Leader	:Laborer	:Craftsman I,II&III	:Equip Supv III
Wisconsin	:(County)	:(County)	:(County)	:(County)
Wyoming	:	:Hwy Mtce Wkr I	:	:Dist Equip Supv

(13) Garage/Shop Foreman	(14) :Mechanic	(15) :Mechanic Helper	(16) :Equipment Operator I	:State
Equip Repair Supv	:Welder,Auto,Body&Hwy	:Asst&Serviceman	:Hwy Mtce Tech I	:Alabama
Shop Foreman	:Hwy Duty/Lt Duty Mech	:Equip Serviceman	:Equip Oper-WG54	:Alaska
Eq Shop Supv I et al	:Equip Mech I&II	:Auto Serv Atnd I	:Equip Oper I	:Arizona
Shop Foreman	:Mechanic	:	:Single Axle Truck	:Arkansas
	:	:	:Mower Operator	:
Mech Supv I,II	:Hwy Equip Mech	:Mechanic Helper	:Mtce Worker	:California
	:	:	:	:
Shop Foreman	:Auto&Equip Mech	:Auto Mechanic	:	:Colorado
Repair Garage Supv	:Auto & Equp Mech	:	:Maintainer III	:Connecticut
Auto Supv	:Auto Mech I&II	:Auto Mech I/Servman	:	:Delaware
Auto/Marine Equip	:Auto Servman,	:Auto Equip Mech I	:Maint Tech I	:Florida
Repair Supv	:Equip Mech II	:	:	:
Mech Shop Supv	:Mechanic Frm/Sr.	:Mech/Auto Mech Helpr	:Equip Oper II	:Georgia
	:	:	:	:
Auto Mech II	:Auto Mech I	:Auto Mech Helper	:Tractor Oper et al	:Hawaii
	:	:	:	:
Shop Foreman	:Mechanic	:Mechanic Assistant	:Trans Tech Apprentice	:Idaho
	:Automotive Mech	:	:Hwy Mtce Equip Oper	:Illinois
Hwy Mechanic Supv IV	:Mechanic III	:Mechanic IV	:	:Indiana
	:Auto Mechanic	:Auto Mech Helper	:Equip Operator I	:Iowa
Equip Mech III	:Equip Mech I&II	:Auto Mech Helper	:Equip Operator I	:Kansas
Auto Mechanic Chief	:Auto&Diesel Mechanic	:Mechanic Trainee	:Light Equip Oper	:Kentucky
	:Auto Mech Equip Spec	:Trades Helper	:Equip Operator I	:Louisiana
	:	:	:	:
Auto Mech Foreman	:Auto Mechanic	:Laborer I & II	:Highway Worker II	:Maine
	:	:	:	:
Auto Serv Supv II	:Auto Serv Spec	:Auto Serv Mech/Helper	:Equip Operator I	:Maryland
Supv Motor Equip &	:Motor Equip Repairman	:	:	:Massachusetts
Mechanic	:	:	:	:
Equip Foreman	:Auto Mech IVB	:Trades Helper IIB	:Mtce Worker II	:Michigan
Shop Supv	:Mechanic	:Mech Appretice	:Incl Title 9	:Minnesota
	:Hwy Equip Mech	:	:	:
Equip Repair Supv	:Equip Mech Master	:Equip Mechanic	:Equip Oper Lt Veh	:Mississippi
Chief Shop Mech	:Shop Mechanic	:	:Mtce Crew Member	:Missouri
Working Shop Foreman	:Mech/Mach	:Stockman/Serv CombA&B	:Tk Driver Under 5 Ton	:Montana
Hwy Mech Supv	:Auto/Diesel Mech	:Auto Mech II	:Hwy Mtce Worker	:Nebraska
Supv Garage Servman	:Equip Mech 2&3	:Equip Mech I	:Mtce Tech I	:Nevada
Garage/Shop Foreman	:Hwy Equip/Auto Mech	:Trades Hlpr/Auto Serv	:Hwy Maintainer II	:New Hampshire
Mech Crew Supv	:Auto Mechanic	:Mechanic Helper	:Truck Driver	:New Jersey
Vehicle Center Supv	:Vehicle Mech I,II,III	:	:Equip Oper I	:New Mexico
	:Veh Mech I II III	:	:Hwy Maintenance	:
Motor/Equip Mtce	:Motor Equip Mech	:Mtce Asst Mech	:Hwy Equip Operater	:New York
Supv III	:	:	:	:
Mech Supv I&II	:Mechanic I&II	:Incl Title 14	:Machine Oper I	:North Carolina
Motor Veh Shop Frm	:Mechanic I&II	:	:Equip Operator I	:North Dakota
Equip Mtce Supt 2	:Auto Mechanic	:Asst Auto Mech	:Equip Operator I	:Ohio
Auto Shop Supv	:Auto Mechanic	:Auto Mtce Wkr	:Transp Mtce Wkr I	:Oklahoma
Equip/Repair ShopFrm	:Heavy Equip Mech	:Mech Trades Hlpr	:Hwy Mtce Wkr 2	:Oregon
Hwy Equip Mgr 1,2,3	:Auto/Diesel Mech&Supv	:Tradesman Hlpr	:Equip Oper 1&2	:Pennsylvania
	:	:	:	:
Auto Serv Supv	:Auto Mechanic	:Auto Mech Hlpr	:Motor Equip Oper	:Rhode Island
Auto Mtce Tech III	:Auto Mtce Tech II	:Auto Mtce Tech I	:Hwy Mtce Wkr II	:South Carolina
Equip Shop Foreman	:Mechanic I&II	:Equip Srv Wkr I&II	:	:South Dakota
Equip Mech II	:Equip Mech I	:	:Incl in Title 10	:Tennessee
Shop Supervisor	:Mechanic	:Mechanic Helper	:Equip Operator	:Texas
Shop Supv	:Journey Mech-Wldr	:Apprentice Mech	:Hwy Oper Spec 15	:Utah
	:	:Auto Serv Wkr	:	:
Motor Shop Supv	:Motor Equip Mech B	:	:Incl Title 10	:Vermont
Hwy Equip Supv A	:Equip Mech A	:Hwy Equip Mtce Appren	:Hwy Equip Oper A	:Virginia
Equip Supv	:Equip Mech	:Shop Assistant	:Mtce Tech I	:Washington
Mechanic III	:Mechanic II	:Mechanic I	:Equip Operator I	:West Virginia
(county)	:(county)	:(county)	:(county)	:Wisconsin
Shop Foreman I&II	:Mechanic II	:Mechanic I	:Hwy Mtce Wkr II	:Wyoming

MAINTENANCE AND TRAFFIC OPERATIONS PERSONNEL TITLES
USED BY STATE HIGHWAY DEPARTMENT (as of July 1, 1986)

MAINTENANCE PERSONNEL (cont'd):				TRAFFIC OPERATIONS PERSONNEL
	(17)	(18)	(19)	(20)
State	Equip Operator II	Equip Operator III	Timekeeper or Clerk	State Traffic Engr
Alabama	Hwy Mtce Tech II	Hwy Tech III	Clerk I & Eng Asst II	Traff Engr,Design
Alaska		Equip Oper WG 53	Clerk Typist III	
Arizona	Equip Operator II	Equip Operator III	Secretary	State Traffic Eng
Arkansas	Motor Patrol Oper	Crame Oper	Area Hdqts Atend	Div Head, Traffic
California	Equip Operator	Heavy Equip Oper	Mtce Off Syst Tech	Chief,Div Traf Engineer & Oper
Colorado		Heavy Equip Oper		Staff Traf Engr
Connecticut	Maintainer IV	Maintainer V		Manager of Traffic
Delaware			Area Clerk	Chief Traffic Engr
Florida	Mtce Tech II	Sr. Hvy Equip Oper	Clerk II,IV, V	Chief Traffic Opers
Georgia	Equip Operator	Mtce Equip Oper & Equip Oper IV	Clerk Sr. of Mtce Mtce Clerk	St Traf&Sfty Engr
Hawaii	Truck Driver et al	Grader Oper et al	Account Clerk IV	Traffic Engineer
Idaho		Transp Technician	Clerical Specialist	Traffic Supv
Illinois	Hwy Const Equip Oper	Power Shovel Oper		Engineer of Traffic
Indiana		Hwy Mtce Worker II	Subdistrict Clerk IV	Chief, Div. of Traf
Iowa	Equip Operator 2	Equip Operator 3		State Traffic Engr
Kansas	Equip Operator II	Equip Operator III	Area Office Manager	Hwy Marking Engr
Kentucky	Hvy Equip Oper	Specialist Equip Oper	Timekeeper	Dir Div of Traffic
Louisiana	Equip Operator II	Equip Operator III	Clerk II,III,IV	Dir of Traf & Plan
Maine	Highway Worker III	Highway Worker IV		Traffic Engineer
Maryland	Equip Operator II	Equip Operator III	Office Clerk I&II	Dep Chief Engr,Traf
Massachusetts		Mtce Equip Oper		State Traffic Engr
Michigan	Mtce Worker III	Mtce Worker IV	Clerk	Engr of Traf&Safety
Minnesota	Hvy Equip Oper	Incl Title 9	Incl Title 8	Traffic Engineer
Mississippi	Equip Operator/Mtrls	Equip Oper/Hvy Mach		Traf Cont&Safety Engineer
Missouri	Mtce Crew Leader	Dragline Operator	Dist Stock Clerk	
Montana	Equip Operator I	Equip Operator II	Dist Cent Serv Supv	Manager, Traf Unit
Nebraska		Hwy Mtce Wkr/Senior	Office Clerk II	Traffic Engineer
Nevada	Mtce Tech II	Mtce Tech III		Ch Traf Design Engr
New Hampshire	Hwy Maintainer IIIA	Hwy Maintainer IIIB	Acct Clerk III/ClerkIV	Traffic Engineer
New Jersey	Equip Oper	Hvy Equip Oper		Ch,Bur of Traf Engr
New Mexico	Equip Oper&Hwy MtceII	Equip Oper/Hwy MtceIII	Timekeeper or Clerk	Traffic Serv Engr
New York	Const Equip Oper	Crane & Shovel Oper	Transp Office Asst	Dir,Traffic&Safety
North Carolina	Machine Oper II&III	Machine Oper IV&V	Clerk III	State Traff Engr
North Dakota	Equip Oper II	Incl in Title 9	Clerk III&IV	Planning Engr
Ohio	Equip Oper 2	Equip Oper 3	Clerical Specialist	Engr of Traffic
Oklahoma	Transp Mtce Wkr II	Sr Transp Mtce Wkr	Transp Field Clerk	Division Engr
Oregon	Hwy Mtce Wkr 3	Hwy Mtce Wkr 4	Hwy Mtce Office Mgr	St Traffic Engr
Pennsylvania	Equip Oper 3	Equip Oper 4	Clerk 2	Civil Engr 5
Rhode Island	Utility Motor Eq Oper	Hvy Motor Equip Oper	Clerk Dispatcher	
South Carolina	Hwy Mtce Wkr III	Hwy Mtce Wkr IV	Clerk Spec C/Clerk/ Clerk Typist II	Dir/Traff Engrg
South Dakota	Hwy Mtce Wkr II	Senior Hwy Mtce Wkr	Adm Service Asst Office Supervisor	Traf Opers Engr Traf Design Engr
Tennessee	Incl in Title 9	Hwy Mtce Wkr III	Account Clerk	Civil Engr Mgr II
Texas	Equip Operator	Equip Operator		
Utah	Hwy Oper Spec 17	Hwy Oper Spec 19	Clerk II	Engineer of Safety
Vermont	Incl Title 9	Sr Mtce Worker	Storekeeper	
Virginia	Hwy Equip Oper B	Hwy Equip Oper C	Office Service Asst	Hwy Division Admin
Washington	Mtce Tech II	Mtce Tech III	Office Assistant	St Traffic Engineer
West Virginia	Equip Oper II	Equip Oper III	Clerk I,II,III	Dir, Traf Engr Div
Wisconsin	(County)	(County)	(County)	Chief Traffic Engr
Wyoming	Hwy Mtce Equip Oper	Hwy Mtce Hvy Eq Oper		St Traf Engr,Oper

(21) Asst State Traf Engr	(22) St Traf Mtce Engr	(23) Dist Traf Engr	(24) Asst Dist Traf Engr	State
	Traffic Engr (Oper)	Div. Traf Engineer		Alabama
		Reg Traffic Engr	Engr Asst III	Alaska
Traffic Engr Manager	Signing&Striping Engr	Dist Traf Engr		Arizona
Asst Div Head, Traf				Arkansas
Chief, Traffic Engr		Dist Traffic Engr	Asst Dist Traf Engr	California
Chief, Transp Oper				
Asst State Traf Engr		Sr Hwy Engineer		Colorado
Chief of Traf Engr	Operations Supt	Transp Asst Engr	Dist Serv Agent II	Connecticut
		Civil Engr IV	Civil Engr III	Delaware
Dpty Traf Opers Engr	Ast St Traf Opers Engr	Dist Traf Oper Engr	Asst Dist Traf Op Engr	Florida
Asst State Traf &		Dist Traff & Safety	Transp Engr I	Georgia
Safety Engr		Engineer		
Asst Traffic Engr				Hawaii
Asst Traf Engr		Dist Traffic Engr/Ch		Idaho
Traffic Oper Engr		Dist Traffic Engineer	Dist Oper&Plan Engr,	Illinois
			Design	
Engr of Traf Dev	Engr of Traf Oper	Dist Traf Engr	Asst Dist Traf Engr	Indiana
				Iowa
				Kansas
Asst Dir, Div of Traf		Dist Traffic Engr	Asst Traffic Engineer	Kentucky
Asst Traf&Pln Engr	Traf Serv&Oper Engr	Dist Traf Oper Engr	Asst Traffic Engineer	Louisiana
Traf Oper Engr et al				
Asst Traffic Engr				Maine
	Ch, Bur of Traf Oper	Dist Traffic Engr	Asst Dist Traf Engr	Maryland
Asst St Traf Engr	Traf Mtce Engineer	Dist Traffic Engr	Asst Dist Traf Engr	Massachusetts
Asst Engr,Traf&Safety	Field Admn Engineer	Dist Traffic Engr	Asst Dist Traf Engr	Michigan
Asst Traffic Engr	Incl Title 20	Dist Traffic Engineer	Asst Dist Traf Engr	Minnesota
Asst Traf Control &				Mississippi
Safety Engineer				
Asst Div. Engr,Traf		Traffic Engineer	Dist Traf Studies Engr	Missouri
Asst Mgr, Traf Unit		Engr Traffic II		Montana
				Nebraska
		Dist Traf Engr		Nevada
Asst Traffic Engr	Traffic Oper Engr			New Hampshire
		Profect Engr, Traffic	Prinicpal Engr, Traf	New Jersey
Asst Traf Serv Engr		Dist Traffic Engr		New Mexico
Dir-Operations		Reg Traf&Safety Engr	Asst Reg Traf Engr	New York
Asst Traffic Engr	Asst Traffic Engr	Division Traf Engr		North Carolina
Tech Oper	Field Oper			
Asst Plan Engineer				North Dakota
Asst Traffic Engr		Dist Traffic Engr		Ohio
Asst Division Engr		Engineering Mgr	Transp Spec III	Oklahoma
Traf Control Engr	Incl in Title 2	Incl in Title 3	Reg Traf Oper Supv	Oregon
Civil Engr 4		Civil Engr 4 or 5	Civil Engineer 3	Pennsylvania
		Traf Control Spec Mgr	Traf Control Spec Supt	
	Chief Trav Mtce			Rhode Island
Asst State Traf Engr		Dist Traf Engr		South Carolina
		Reg Traffic Engr		South Dakota
	Civil Engr Spec II	Civil Engr Spec II	Civil Engr Spec I	Tennessee
		Dist Traf Engr		Texas
	Safety Oper Engr	Dist Traffic Engr		Utah
	Incl Title 2			Vermont
Hwy Div Asst Admin		Hwy Engr Prog Suve		Virginia
Asst St Traf Engr		Dist Traffic Engr	Asst Dist Traf Engr	Washington
Asst Dir, Traf Engr				West Virginia
Division				
Traf Cntl Oper Engr		Dist Chief Traf Engr		Wisconsin
Traf Staff Engr		Dist Traffic Engr		Wyoming

MAINTENANCE AND TRAFFIC OPERATIONS PERSONNEL TITLES
USED BY STATE HIGHWAY DEPARTMENTS

TRAFFIC OPERATION PERSONNEL (con't.)

State	(25) Traffic Supv	(26) Sign Supervisor	(27) Sign Shop Foreman	(28) Traf Signal&Ltg Frm
Alabama			Traf Sign Shop Supv	
Alaska	Traffic Control Mgr			
Arizona	Hwy Marking Crew Supv	Hwy Mtce Crew Supv	Hwy Mtce Tech II/III	Traf Signal&Light Crew Supv
Arkansas		Sec Head Traf Serv	Sign Shop Supv	
California		Supervisor	Supervisor	Hwy Elec Supr
Colorado	Asst Staff	Sign&Strip Foreman	Signing&Marking Frm	Sr. Traf Sig Frm
Connecticut		Sign&Mark Coord	Supt Portland Plant	Dist Elec Supv
Delaware	Hwy Mtce Opers Mgr			Hwy Mtce Supt
Florida	Traffic Opers Engr		Sign Shop Supv	Trades Supv
Georgia		Chief of Sign Shop	Sign Shop Printer Sr	Traf Sig Tech Supv
Hawaii		Traf Signs&Mark Supv		Traf Sig&Ltg Supv
Idaho			Sign Shop Supt	Traf Signal Supt
Illinois	Fld Engr or Tech	Incl Title 25	Sign Shop Supv&Frm	
Indiana		Sign Supv	Sign Shop Crew Ldr	Elect Tech Supv III
Iowa	Dist Traf Tech		Sign Shop Supt	Lighting Mtce Supt
Kansas			Sign Shop Wkr Supv	
Kentucky	Hwy Dist Frm	Hwy Dist Crew Frm		Hwy Sig Crew Frm
Louisiana	Sign&Traf Supv	Hwy Sign&Striper Supv	Sign Shop Foreman	Elec Foreman
Maine			Sign Shop Foreman	Elec Foreman
Maryland		Supv Road Maintenance	Sign Shop Supv	Signal Shop Supv
Massachusetts	Hwy Traf Mtce Frm	Supv of Traf Equip Traf Section Frm	Sign Shop Frm	Traf Elec Frm
Michigan	Sign Supv VIII	Sign Supv VII	Sign Shop Foreman	Dist Electrician
Minnesota	Traf Control Supv	Sign Supv	Incl Title 8	Elc Traf Mtce Supv
Mississippi				
Missouri			Sign Shop Supv	Signal&Light Supv
Montana			Painter Foreman	
Nebraska		Sign Shop Supt	Sign Shop Supv	Hwy Elect Mgr
Nevada	Mtce Supv 3		Sign Shop Supv	
New Hampshire	Traf Mtce Supv	Traf Oper Tech	Sign Shop Foreman	Traf Signal Tech
New Jersey		Supv of Hwy Mark	Crew Supv-Signs	Crew Supv-Elect
New Mexico	Incl Title 8		Sign Shop Foreman	Traf Elec Supv
New York		Sign Shop Supv II	Sign Shop Supv I	Traf Sig Supv Mech
North Carolina	Traf Serv Supv	Traf Serv Crew Ldr		Traf Cnt Tech Supv
North Dakota			Sign Shop Foreman	
Ohio	Traf Control Supv	Traf Mtce Shop Admin	Sign Supt	Signal Elec Supv
Oklahoma		Trans Mtce Supt	Sign Shop Supv	
Oregon	Incl in Title 24		Sign Shop Supt	Signal Tech Mgr
Pennsylvania		Traf Control Tech 3	Sign Shop Foreman	CE 2,Traf Cntl Spec
Rhode Island	Hwy Mtce Supv Line Striping	Hwy Mtce Supv Sign	Commercial Artist	Electrician Supv
South Carolina			Master Craftsman	Electronics Tech II
South Dakota			Hwy Mtce Frm	
Tennessee	Civil Engr Spec 3	Sign&Marking Supv 2	Sign&Marking Supv 1	
Texas				
Utah	Signal Supv	Sign Supv	Sign Shop Foreman	Electrician Supv
Vermont	Traffic Shop Supv			Trans Elec Mtce Spec
Virginia	Hwy Engr A	Hwy Engr A	Sign Fab Frm	Equp Elect Frm A&B
Washington	Mtce Supv		Sign Shop Mgr	Traf Sig Supv Elec Supv
West Virginia	Traf Sign Supv	Mtce Crew Supv	Crew Leader I,II	Elec Tech 4
Wisconsin	Dist Traf Supv	Marking&Sign Shop Supv	Mark/Sign Coord	Electrical Supv
Wyoming	Dist Traf Tech		Sign Shop Supv	Sign & Elec Foreman

(29) Striper Foreman	(30) Sign Erection Foreman	(31) Sign Fabricator	(32) Sign Technican	State
		Traf Sign Painter II	Traf Sign Painter I	Alabama
				Alaska
Hwy Mtce Tech II/III	Hwy Mtce Tech III	Hwy Sign Fabricator	Hwy Sign Installer	Arizona
Striping Supervisor	Signing Supervisor	Sign Maker I&II	Sign Layout Spec	Arkansas
Supervisor	Supervisor	Supervisor		California
Traf Signal Tech	Traf Shop Foreman	Sign Fabricator	Traf Signal Tech	Colorado
General Supervisor	Sign & Marking Supv	Maintainer V		Connecticut
	Hwy Mtce Supv	Traf Sign Fab I,II		Delaware
Mtce Supv II,III	Mtce Supv I	Mtce Support Tech		Florida
		Sign Tech		
Hwy Mtce Foreman II	Hwy Mtce Foreman II	Sign Shop Printer		Georgia
Traf Marking Supv		Sign Painter&Painter		Hawaii
Transp Mtce Frm	Transp Mtce Foreman	Hwy Sign Fabricator		Idaho
Lead Wkr, Pavement	Incl Title 29	Silk Screen Oper	Incl in #25	Illinois
Marking Foremen		Sign Painter		
Pavement Mark Supv	Sign Crew Leader	Sign Fabricator	Sign Supervisor	Indiana
Dist. Paint Supt		Sign Shop Worker		Iowa
Mtce Supervisor		Sign Shop Worker		Kansas
Incl Title 26	Incl Title 26	Sign Painter	Incl Title 26	Kentucky
Striper Gang Foreman	Statewide Sign Frm	Bldg. Mtce Supt I	Statewide Sign Trdsm	Louisiana
		Carpenter, Welder		
Highway Foreman	Hwy Mtce Man IV	Sign Painter	Sign Shop Tech	Maine
Supv Road Mtce		Sign Fab I, II, III		Maryland
Spray Paint Work Frm	Traf Section Foreman	Sign Painter & Letter		Massachusetts
Paint Foreman	Sign Foreman	Sign Mech II & III	Sign Mechanic IIIB	Michigan
Incl Title 25	Incl Title 8	Incl Title 9	Incl Title 26	Minnesota
		Silk Screen Printer	Traf Signal Tech	Mississippi
		Silk Screen Operator	Sign Painter	Missouri
Painter Foreman		Painter		Montana
Incl Title 8		Sign Painter II	Incl Title 27	Nebraska
Mtce Supv I	Mtce Supv I	Sign Painter	Mtce Spec (Sign&Strip	Nevada
Pavement Mark Frm	Dist Sign Supv	Sign Fabricator	Traf Sig Repairman	New Hampshire
	Hwy Sign Mtce Frm	Sign Letterer		
Crew Supv Marking	Incl Title 29	Sign Fabricator	Painter,Signs	New Jersey
Incl Title 8	Incl Title 8	Sign Tech I,II		New Mexico
Pavement Mark Supv	Sign Crew Supv	Sign Shop Worker		New York
Traf Serv Crew Ldr	Traf Sign Erector	Traf Sign Painter		North Carolina
		Sign Fabricator I&II		North Dakota
Traf Control Supt	Traf Control Supt	Sign Worker I	Sign Supv 2	Ohio
Transp Mtce Supv	Transp Mtce Supv	Sign Shop Worker		Oklahoma
Reg Traf Line Cr Supv	Sign Cre Supv	Sign Tech		Oregon
Highway Foreman 2	Hwy Frm 2&3	Sign Tech 2	Sign Tech 1 & 2	Pennsylvania
Traf Line Paint Frm		Sign Painter		Rhode Island
Sr Hwy Mtce Frm	Incl Titles 8 & 9	Sign Fabricator		South Carolina
Hwy Mtce Frm	Incl Title 29	Sign Producer		South Dakota
Mtce Worker 2	Mtce Worker 1	Mtce Worker 1	Maintenance Worker	Tennessee
				Texas
Hwy Oper Supv		Jrnman Hwy Sign Spec		Utah
Marking Crew Ldr B	Sign Crew Leader	Sign Painter		Vermont
		Hwy Sign Fabricator		Virginia
Mtce Supv			Sign Installation Tech	Washington
Crew Leader I,II		Craftsman I,II		West Virginia
Pav't Mark Crew Chief	Signing Crew Chief	Various Titles	Various Titles	Wisconsin
Hwy Striping Frm	Hwy Traf Sign Tech II	Sign Fabricator	Hwy Traf Signal Tech I	Wyoming

MAINTENANCE AND TRAFFIC OPERATION PERSONNEL TITLES
USED BY STATE HIGHWAY DEPARTMENTS

TRAFFIC OPERATION PERSONNEL (Con't)

State	(33) Traf Signal&Light Tech	(34) Striper Technician	(35) Chief Engineer	(36) Project Engineer
Alabama	Traf Sign TechI,II,III:	:	Chief Engineer	Civil EngrI,II,III
Alaska	:	:	:	Civil Engr IorII
Arizona	Traf Signal Light Tech	Hwy Mtce Tech I	State Engineer	Trans Engr,Team Ldr
Arkansas	:	Striping Mach Driver	Chief Engineer	Resident Engineer
California	Hwy Electrician IorII	Leadworker Hvy Eq Oper	Deputy Director	Resident Engineer
Colorado	Traf Sig Electrician	:	Chief Engineer	Project Engiher
Connecticut	Electrical Tech II	Maintainers III,IV,V	Chief Engineer	Transp Sr. Engrs
Delaware	Traf Engr Tech I, II, III, IV	:	Civil Engineer VII	:
Florida	Electrician	Sr Hvy Eq Oper	Secretary of Dept.	Project Engineer
Georgia	Traf Signal Tech	Mtce Equipment Oper	State Hwy Engr	Transp Engr I or II
Hawaii	Hwy Ltg Wkr & Elec	Traf Strip Mach Oper	Incl title #1	Area Engineer
Idaho	Traf Sig Tech & Elec	Digital Equip Spec	State Hwy Admin	Proj Engr/Chief
Illinois	Traf Signal Engr&Tech	Incl Title 29	Dir of Highways	Proj&Resident Engr
Indiana	Electronics Tech II	Markings Crew Chief	:	:
Iowa	Ltg Mtce Elect&Tech	Equip Oper 2 & 3	Dir of Hwys Ch Engr	Resident Const Engr
Kansas	:	:	State Transp Engr	Const Engineer
Kentucky	Hwy Signal Installer	Hvy Equip Oper	State Hwy Engr	Resident Const Engr
Louisiana	Statewide Elect	Equip Oper I,II,III	Chief Engineer	Project Engr
Maine	Traf Signal&Light Tech	:	Dir Proj Development	
Maryland	Traf Cont Tech I,II,III	:	Chief Engineer	Engr Tech V,VI
Massachusetts	Traf Electrician	:	Chief Enginer	Resident Engineer
Michigan	Elec III,IV,V	Sign Mechanic IIIB	Deputy Dir Highways	Project Engr
Minnesota	Hwy Signal Tech Electronic Tech et al	Incl Title 9	Deputy Commissioner :	Project Engr Resident Engr etal
Mississippi	:	:	Chief Engineer	Project Engr
Missouri	Signal Electrician	:	Chief Engineer	Resident Engineer
Montana	Engr Traffic III	Striping Mach Oper	Director of Hwys	Field Proj Mgr
Nebraska	Electronics Tech II	Incl in Title 18	Dir-State Engr	Hwy Project Mgr II
Nevada	:	Mtce Spec,Strip&Sign	Deputy Director	Hwy Resident Engr
New Hampshire	Carriage Oper, Hwy Mtce II	:	Deputy Comm,Ch Engr	Civil Engr I-IV
New Jersey	Electrical Mech I	Highway Marker	Chief Engr Const&Mtce	:
New Mexico	Traf Elec TechI,II,III	Incl Titles 17&18	Chief Hwy Admin	Hwy Const Proj Mgr I, II, III
New York	Traf Signal Mech	:	Chief Engr	:
North Carolina	Traf Control Tech	Machine Oper III	Chief Engr, Oper	Resident Engr
North Dakota	:	Equip Oper III	Chief Engineer	Project Coordinator
Ohio	Signal Electrician 2	Traf Control Supt	Asst Director	Project Engineer 2
Oklahoma	:	Trans Mtce Worker	Chief Engineer	Engr Mgr, Res Engr
Oregon	Signal Tech	Incl Titles 16 & 17	State Hwy Engr	Project Manager
Pennsylvania	Civil Engr 2, Traf Control Spec	Equip Oper 1,2,or3	Chief Engineer	Civil Engr 2 or 3
Rhode Island	Elect Tech	Traffic Line Painter	:	:
South Carolina	Elect&Traf Signal Tech	Incl Title 18	State Hwy Engineer	Project Engr
South Dakota	:	:	Dir of Engineering	Project Engineer
Tennessee	: :	Mtce Worker I :	Dep Comm II,St Trans Engineer	Civil Engr II Engineering Tech 2
Texas	:	:	Engineer/Director	Engineer IV
Utah	Elect Spec Tech	:	Director	Proj/Res Engr
Vermont	Mtce Mech B	Marking Crew Ldr A	Dir of Engr & Const	Resident Engr
Virginia	Equip Elect&Leader	:	Chief Engineer	Const Project Engr
Washington	Sig&Elec TechI,II,III	Mtce Tech III	Dep Sec of Transp	Project Engineer
West Virginia	Electronic Tech	Center Line Mach Oper	Chief Engr Mtce	:
Wisconsin	Traf Signal Tech	Marking Tech	:	Project Engineer
Wyoming	Hwy Traf Signal Tech	Hwy Painting Tech I&II:		Resident Engineer

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

MAINTENANCE PERSONNEL

STATE	(1) State Maint. Engineer			(2) Asst. State Maint. Engineer			(3) District Engineer			(4) District Maint. Engineer		
	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.
Alabama	1	4730	4730	3	3430	3884	9	4283	4730	9	3261	3884
Alaska	1	4663	6409	–	–	–	3	5568	8900	3	5209	8277
Arizona	1	3077	4456	1	2807	4065	4	3077	4456	4	2807	4065
Arkansas	1	4385	4385	1	3410	4002	10	4242	4242	10	3179	3913
California	1	4899	5391	4	4154	5019	11	4054	5653	13	3420	5019
Colorado	1	3557	4767	1	3227	4324	11	3557	4767	8	3227	4324
Connecticut	1	3910	4799	2	3615	4437	–	–	–	4	3342	4102
Delaware	1	2393	4330	–	–	–	3	2393	4329	2	2165	3774
Florida	1	2917	5000	4	2612	4484	6	3333	5667	6	2612	4484
Georgia	1	2942	4750	2	2481	3985	7	2942	4968	7	2276	3985
Hawaii	1	3048	4799	1	2910	4593	4	2910	4593	2	2216	3778
Idaho	1	3014	4454	1	2361	3489	6	3014	4454	6	2361	3489
Illinois	1	3275	4550	3	3035	4325	9	3275	4550	9	2820	4100
Indiana	1	2544	3940	–	–	–	6	2208	3440	6	2048	3120
Iowa	1	2963	3749	1	2701	3415	6	2963	3749	6	2460	3110
Kansas	1	3420	4582	1	2813	3770	6	3101	4156	6	2813	3770
Kentucky	1	2488	3984	2	2256	3614	12	2743	4166	12	2256	3614
Louisiana	1	3254	4540	14	1885	4145	9	2859	4145	9	2586	3528
Maine	1	2750	3851	1	2252	3142	7	2504	3506	–	–	–
Maryland	1	3197	4199	1	2175	2857	7	2960	4199	–	–	–
Massachusetts	1	3538	4432	2	3025	3886	8	3538	4432	8	2793	3589
Michigan	1	3823	5112	1	3529	4728	9	3529	4728	9	2958	4051
Minnesota	1	3671	4903	4	2814	4270	9	3423	4583	15	3177	4270
Mississippi	1	2601	3896	1	2389	3579	6	2734	4096	6	2389	3579
Missouri	1	3798	4554	1	2744	3623	10	3438	4320	10	2457	3365
Montana	1	2677	3601	1	2328	3215	5	2677	3601	11	2328	3215
Nebraska	1	2889	4045	1	2326	3256	8	2889	4045	8	2163	3029
Nevada	1	2794	3841	1	2556	3504	3	2794	3841	3	2556	3504
New Hampshire	1	2714	3506	1	2380	3068	6	2227	2888	–	–	–
New Jersey	1	3165	4430	7	2603	3645	4	3489	4884	4	3165	4430
New Mexico	1	4081	–	1	2810	4566	6	2810	4566	6	2551	4350
New York	1	5455	6765	1	4015	5077	11	5455	6075	11	4015	5077
North Carolina	1	3238	5064	1	2955	4606	14	2955	4606	14	2574	4000
North Dakota	1	2546	3793	1	2200	3285	8	2546	3793	8	2200	3285
Ohio	1	2792	3731	–	–	–	12	2808	4146	12	2536	3386
Oklahoma	1	3519	4699	1	3273	4369	8	3692	4931	8	2702	3604
Oregon	1	3381	4318	2	3068	3914	5	3068	4318	5	2646	3381
Pennsylvania	1	3382	4558	1	2727	3680	11	3532	4753	11	2984	4005
Rhode Island	1	3040	3518	1	2493	2837	1	2070	2330	–	–	–
South Carolina	1	3175	4538	2	2714	3848	7	2936	4194	7	2413	3421
South Dakota	1	2766	4150	1	2312	3467	4	3026	4541	–	–	–
Tennessee	1	2720	4042	1	2384	3542	4	2720	4042	4	2384	3542
Texas	1	4661	4661	1	4420	4420	24	4420	4661	21	3019	4240
Utah	1	3042	4442	–	–	–	6	3042	4442	6	1994	3586
Vermont	1	2842	4583	2	2255	3620	–	–	–	9	2265	3620
Virginia	1	3114	4253	3	2605	3558	9	3114	4253	9	2605	3558
Washington	1	3830	4902	1	3143	4024	6	3830	5151	6	3143	4029
West Virginia	1	2695	4507	4	2463	4206	10	2827	4846	10	2463	4206
Wisconsin	1	3570	4962	4	3006	4180	8	3570	4962	8	3006	4180
Wyoming	1	3345	5347	–	–	–	5	3345	5347	5	2882	4610
1986 Average			4506			3898			4501			3943
1977 Average			2624			2556			2564			2175
% Increase 1977-1986			71.7%			52.5%			75.5%			81.3%
% Increase 1985-1986			3.9%			3.7%			3.9%			2.0%

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

MAINTENANCE PERSONNEL

(5) Asst. District Maint. Engineer			(6) Resident Maint. Engineer			(7) Area Supervisor			(8) Gang Foreman			STATE
#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	
9	1600	2485	41	2677	3027	41	1900	1995	–	–	–	Alabama
4	4101	7369	2	3590	5764	15	3140	5561	14	3070	4341	Alaska
10	2561	3709	–	–	–	10	2133	3089	52	1711	2478	Arizona
10	2498	3376	–	–	–	83	2158	2981	33	2158	2981	Arkansas
17	3420	4564	42	3114	3760	149	2465	3420	511	2147	2584	California
5	2788	3735	–	–	–	36	2409	3227	43	2081	2788	Colorado
13	3090	3792	–	–	–	61	2124	2519	–	–	–	Connecticut
4	1827	3201	–	–	–	22	1543	2666	23	1117	1902	Delaware
6	2018	3412	25	2018	3412	–	–	–	23	946	1526	Florida
7	2094	3344	38	2094	3344	44	1925	3070	240	1394	2183	Georgia
–	–	–	–	–	–	3	2088	3442	20	1773	2254	Hawaii
–	–	–	–	–	–	49	1678	2479	–	–	–	Idaho
–	–	–	36	2600	3830	–	–	–	272	2173	2252	Illinois
6	1892	2840	37	1688	2498	37	1396	1814	150	1184	1540	Indiana
–	–	–	22	2345	2966	134	1771	2460	10	1856	2460	Iowa
–	–	–	26	2430	3257	35	1727	2314	36	1567	2099	Kansas
35	2046	3278	–	–	–	–	–	–	134	1384	2216	Kentucky
5	2171	3134	–	–	–	84	972	2004	214	874	1909	Louisiana
–	–	–	–	–	–	28	1672	2288	98	1410	1875	Maine
7	2537	3333	23	2175	2857	30	1740	2285	163	1209	1582	Maryland
8	2478	3159	–	–	–	43	1602	2095	103	1446	1862	Massachusetts
4	2767	3744	–	–	–	13	2201	2918	34	2065	2699	Michigan
30	1933	3298	–	–	–	29	2114	3330	94	2041	2871	Minnesota
–	–	–	–	–	–	28	1612	2414	84	1320	1977	Mississippi
20	2174	2986	–	–	–	104	1826	2488	39	1567	2124	Missouri
–	–	–	–	–	–	22	1647	2286	–	–	–	Montana
–	–	–	–	–	–	30	1872	2621	84	1402	1963	Nebraska
6	1968	2673	3	2340	3199	10	1807	2446	58	1662	2239	Nevada
7	1979	2545	10	1725	2217	11	1558	1996	19	1356	1722	New Hampshire
4	2603	3645	4	2040	2855	23	1762	2467	114	1598	2237	New Jersey
5	2206	3760	–	–	–	18	1429	2431	138	1238	2316	New Mexico
11	2866	3519	68	3264	4593	227	1846	2243	25	1951	2345	New York
36	2455	3818	86	2050	3167	210	1725	2635	492	1342	2008	North Carolina
–	–	–	–	–	–	8	1641	2476	6	1350	2041	North Dakota
12	2305	3076	–	–	–	103	1742	2198	47	1389	1664	Ohio
8	2334	3120	–	–	–	25	2066	2768	107	1742	2334	Oklahoma
1	3068	3914	16	2412	3076	–	–	–	138	1622	2073	Oregon
22	2287	3113	–	–	–	52	2005	3382	716	1214	1899	Pennsylvania
–	–	–	1	1520	1725	9	1403	1559	27	1275	1360	Rhode Island
–	–	–	47	2145	3041	18	1507	2136	195	1340	1899	South Carolina
–	–	–	16	2527	3793	5	2068	3101	–	–	–	South Dakota
12	2183	3244	22	1752	2603	44	1232	1831	109	1079	1604	Tennessee
12	2648	3931	–	–	–	-	2102	3120	-	1759	1943	Texas
6	1797	2622	–	–	–	68	1590	2326	13	1590	2326	Utah
9	1707	2704	–	–	–	9	1449	2268	48	1224	1898	Vermont
46	2180	2978	52	1824	2491	289	1526	2086	659	1277	1744	Virginia
6	2848	3645	–	–	–	31	2455	3143	72	1918	2455	Washington
10	2146	3663	26	2146	3653	55	1316	2534	28	1255	1568	West Virginia
30	2519	3327	–	–	–	32	1950	2565	–	–	–	Wisconsin
–	–	–	–	–	–	29	1672	2674	35	1515	2421	Wyoming
		3459			3233			2611			2149	1986 Average
		1931			1700			1412			1211	1977 Average
		79.1%			90.2%			84.9%			77.5%	% Inc. 1977-1986
		1.8%			2.8%			4.4%			0.5%	% Inc. 1985-1986

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

MAINTENANCE PERSONNEL (Cont'd)

STATE	(9) Sectionman			(10) Laborer			(11) Skilled Craftsman			(12) Shop Superintendent		
	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.
Alabama	–	–	–	635	822	1105	10	1311	1722	6	2310	3516
Alaska	70	2258	4151	10	1937	2913	15	2420	3961	8	3140	6425
Arizona	45	1510	2188	66	1194	1632	2	1459	2089	4	2133	3089
Arkansas	120	1697	2425	52	823	1361	17	1428	2082	11	3179	3913
California	685	2051	2355	1228	1723	2429	113	1792	2926	22	2768	4037
Colorado	360	1798	2409	815	1630	2185	–	–	–	8	2344	3141
Connecticut	123	1599	1935	485	1275	1481	44	1461	1776	4	2124	2519
Delaware	60	966	1620	25	846	1163	16	1031	1759	4	1377	2436
Florida	138	1113	1815	1356	709	1115	131	1054	1712	4	1317	2173
Georgia	30	1202	1847	206	973	1471	98	1056	1571	7	1847	2942
Hawaii	18	1326	1786	99	1211	1336	28	1561	1761	4	1948	2166
Idaho	53	1380	2038	0	808	1193	16	1314	1941	7	1678	2479
Illinois	1663	2123	2123	–	–	–	–	–	–	–	–	–
Indiana	354	1045	1359	1156	1000	1300	–	–	–	–	–	–
Iowa	–	–	–	2	1002	1203	–	–	–	–	–	–
Kansas	115	1567	2099	–	–	–	–	–	–	6	1727	2314
Kentucky	200	1139	1826	334	700	1120	106	937	1502	18	1384	2216
Louisiana	–	–	–	442	653	1358	145	836	1731	19	1117	1909
Maine	1	1083	1405	115	951	1221	18	1192	1557	7	1814	2400
Maryland	–	–	–	645	833	1166	–	–	–	–	–	–
Massachusetts	142	1311	1645	850	1160	1442	230	1385	1740	1	3255	4064
Michigan	34	1813	2232	28	1395	1796	37	1583	2232	1	2201	2918
Minnesota	1344	1792	1951	91	1371	1951	105	2128	2393	2	2276	3330
Mississippi	46	1194	1789	330	603	904	–	–	–	7	1459	2184
Missouri	345	1423	1922	–	–	–	–	–	–	9	1826	2488
Montana	129	1892	2061	6	1497	1576	10	1826	1922	12	1641	2485
Nebraska	–	–	–	–	–	–	–	–	–	1	1872	2621
Nevada	–	–	–	142	1303	1733	11	1531	2054	6	1968	2673
New Hampshire	93	1356	1722	198	938	1128	100	1196	1500	1	1558	1996
New Jersey	106	1449	2030	711	889	1372	169	1080	1930	4	1762	2856
New Mexico	11	929	2004	53	666	1431	17	974	1910	5	1652	2811
New York	625	1465	1804	1550	1104	1374	130	1551	1902	10	2939	3725
North Carolina	–	–	–	1384	935	1371	296	1139	2295	14	2050	3167
North Dakota	86	1285	1945	4	918	1612	–	–	–	8	1482	2171
Ohio	302	1353	1645	1087	1174	1384	44	1353	1696	1	1902	2536
Oklahoma	–	–	–	–	–	–	5	1179	1580	7	1968	2637
Oregon	82	1622	1782	24	1089	1758	24	1844	2125	4	1842	2354
Pennsylvania	–	–	–	390	978	1382	124	1294	1679	–	–	–
Rhode Island	3	1220	1328	179	1118	1193	10	1153	1239	1	1367	1515
South Carolina	91	1145	1623	431	580	1054	–	–	–	–	–	–
South Dakota	75	1459	2191	–	–	–	–	–	–	–	–	–
Tennessee	412	987	1469	1324	779	1179	12	987	1604	4	1406	2089
Texas	–	1395	1817	–	697	1498	–	1395	1817	–	1334	2478
Utah	–	–	–	30	917	1502	2	1516	2238	1	1797	2622
Vermont	220	958	1486	120	882	1351	18	1061	1652	1	1315	3226
Virginia	–	–	–	48	748	1022	39	1168	1595	11	1526	2086
Washington	165	1918	2225	5	1292	1499	25	1826	2117	6	2455	3143
West Virginia	191	1109	1470	164	926	1033	399	972	1130	14	1264	3033
Wisconsin	–	–	–	–	–	–	–	–	–	–	–	–
Wyoming	–	–	–	22	1021	1631	–	–	–	6	2362	3783
1986 Average			1933			1440			1901			2825
1977 Average			1074			774			1001			1550
% Increase 1977-1986			80.0%			86.0%			89.9%			82.3%
% Increase 1985-1986			1.7%			5.7%			3.9%			6.2%

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

MAINTENANCE PERSONNEL

(13) Garage or Shop Foreman			(14) Mechanic			(15) Mechanic Helper			(16) Equipment Operator I			STATE
#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	
7	1449	2097	86	1560	1809	13	1280	1484	440	1001	1414	Alabama
12	2758	4161	103	2420	3764	5	2051	3061	65	2420	3574	Alaska
14	1838	2662	88	1520	2176	9	1131	1523	387	1220	1682	Arizona
11	1996	2789	97	1103	2082	–	–	–	628	906	1491	Arkansas
54	2407	2903	332	2196	2407	34	1613	1758	–	–	–	California
10	2025	2713	89	2025	2344	23	1372	1837	–	–	–	Colorado
14	1930	2306	130	1461	1776	–	–	–	664	1348	1587	Connecticut
4	1202	2045	60	1044	1736	19	862	1361	166	849	1303	Delaware
6	1173	1924	163	742	1173	25	946	1526	707	777	1230	Florida
8	1636	2589	121	1394	2376	62	1295	2007	440	1001	1630	Georgia
2	1708	1708	16	1561	1611	7	1336	1336	66	1251	1336	Hawaii
6	1522	2248	48	1314	1941	4	1030	1380	33	1030	1380	Idaho
–	–	–	30	1925	2098	–	–	–	382	2123	2123	Illinois
40	1396	1814	170	1000	1300	40	846	1100	–	–	–	Indiana
–	–	–	134	1479	1615	10	1423	1550	757	1113	1359	Iowa
7	1645	2204	111	1354	1999	38	915	1229	518	1010	1354	Kansas
3	1256	2012	178	937	2012	25	700	1120	1470	772	1236	Kentucky
–	–	–	156	919	1731	12	800	1293	830	800	1293	Louisiana
14	1396	1857	119	1192	1557	10	1035	1333	361	989	1274	Maine
28	1297	1699	89	1134	1582	14	938	1208	94	938	1208	Maryland
1	2792	3481	90	1385	1740	–	–	–	–	–	–	Massachusetts
7	2065	2699	77	1813	2232	31	1455	1876	40	1455	1876	Michigan
16	2192	3094	147	2191	2319	30	1300	2086	–	–	–	Minnesota
12	1320	1977	57	1255	1881	22	1076	1612	440	813	1219	Mississippi
9	1567	2124	50	1399	1825	–	–	–	1715	1156	1501	Missouri
10	1892	1992	57	1826	1922	39	1497	1714	191	1629	1714	Montana
3	1507	2110	65	1402	1963	50	1213	1698	152	976	1367	Nebraska
2	1303	1733	41	1595	2239	3	1411	1886	67	1303	1733	Nevada
10	1400	1776	27	1196	1567	5	966	1305	138	1007	1231	New Hampshire
16	1598	2237	128	1378	1930	50	933	1307	355	1029	1440	New Jersey
11	1180	2316	67	698	2004	–	–	–	139	732	1575	New Mexico
10	2304	2786	304	1551	2125	15	1235	1529	1657	1167	1450	New York
101	1516	2515	420	1139	2096	–	–	–	711	971	1428	North Carolina
8	1350	2354	33	1002	1622	–	–	–	19	918	1405	North Dakota
12	1742	2198	349	1353	1855	18	1230	1384	362	1230	1384	Ohio
3	1742	2334	44	1659	2223	1	1096	1469	742	1018	1365	Oklahoma
7	1669	2135	106	1597	2027	3	1294	1622	673	1407	1543	Oregon
62	1685	2727	476	1294	1751	117	1110	1382	1661	1110	1487	Pennsylvania
2	1367	1515	2	1246	1360	1	1118	1193	112	1172	1268	Rhode Island
54	1449	2054	138	1288	1822	72	1018	1443	932	837	1186	South Carolina
6	1459	2191	31	1024	1699	13	861	1277	–	–	–	South Dakota
26	1179	1752	142	1032	1535	–	–	–	–	–	–	Tennessee
–	1334	2478	–	1035	1817	–	697	1120	–	1395	1817	Texas
12	1187	2469	78	1615	2238	13	976	2031	75	1159	1688	Utah
1	1160	1810	43	1061	1652	–	–	–	–	–	–	Vermont
80	1396	1907	352	1168	1744	40	894	1221	2801	978	1335	Virginia
7	2117	2710	121	1918	2337	28	1574	1826	78	1499	1738	Washington
184	1156	1328	99	1064	1225	17	972	1130	119	972	1130	West Virginia
–	–	–	–	–	–	–	–	–	–	–	–	Wisconsin
24	1591	2811	51	1442	2421	11	1244	1988	56	1127	1800	Wyoming
		2290			1924			1544			1516	1986 Average
		1287			1077			863			832	1977 Average
		77.9%			78.6%			78.9%			82.2%	% Inc. 1977-1986
		2.5%			2.0%			1.4%			2.9%	% Inc. 1985-1986

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

MAINTENANCE PERSONNEL Cont'd)

TRAFFIC OPERATIONS PERSONNEL

STATE	(17) Equipment Operator II			(18) Equipment Operator III			(19) Timekeeper or Clerk			(20) State Traffic Engineer		
	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.
Alabama	173	1160	1640	140	1312	1765	102	864	1562	1	3885	3885
Alaska	–	–	–	220	2577	3089	7	1631	2135	–	–	–
Arizona	65	1378	1924	1	1631	2361	33	1099	1515	1	3077	4456
Arkansas	449	1003	1627	133	1428	2082	82	1103	1772	1	4242	4242
California	1166	1959	2147	789	2051	2465	43	1687	2082	2	4565	5019
Colorado	–	–	–	37	2081	2409	–	–	–	1	3298	4419
Connecticut	240	1388	1641	99	1461	1776	–	–	–	1	3615	4437
Delaware	49	902	1480	59	1031	1759	14	849	1308	1	2393	4329
Florida	558	858	1721	152	946	1526	95	679	1446	1	2917	5000
Georgia	225	1202	1847	12	1295	2007	64	1000	1451	1	2942	4750
Hawaii	60	1381	1561	12	1611	1661	4	1187	1821	1	2419	3778
Idaho	–	–	–	295	1193	1761	4	1030	1380	1	2063	3848
Illinois	59	2222	2222	17	2121	2121	–	–	–	1	3275	4550
Indiana	–	–	–	97	1184	1540	38	884	1238	1	2544	3940
Iowa	244	1203	1479	138	1303	1615	–	–	–	1	2640	3110
Kansas	448	1112	1492	180	1229	1645	29	1229	1645	1	2430	3257
Kentucky	621	937	1502	80	1034	1655	119	937	1502	1	2488	3984
Louisiana	394	874	1425	152	964	1571	123	713	1286	1	2859	4145
Maine	200	1083	1405	165	1139	1487	–	–	–	1	2203	3075
Maryland	433	997	1293	62	1065	1385	33	998	1385	1	3197	4199
Massachusetts	–	–	–	109	1385	1740	–	–	–	1	3021	3767
Michigan	270	1583	1994	57	1813	2232	30	1547	1909	1	3823	5112
Minnesota	5	2128	2191	–	–	–	–	–	–	1	3423	4583
Mississippi	166	944	1415	55	1043	1563	–	–	–	1	2601	3896
Missouri	1044	1266	1648	6	1399	1825	12	1337	1740	–	–	–
Montana	48	1695	1784	123	1760	1853	5	1792	2485	1	2132	2948
Nebraska	–	–	–	602	1128	1580	28	845	1183	1	2688	3763
Nevada	87	1410	1886	44	1530	2054	–	–	–	1	2556	3504
New Hampshire	12	1075	1305	40	1114	1338	13	975	1332	1	2532	3254
New Jersey	141	1134	1587	47	1378	1930	–	–	–	1	3165	4430
New Mexico	463	1021	1820	217	1124	2004	13	845	1431	1	2551	4350
New York	520	1235	1529	112	1551	1902	69	1306	1636	1	5455	6765
North Carolina	498	1054	1618	866	1187	1842	139	1096	1618	1	2955	4606
North Dakota	219	1168	1775	–	–	–	33	798	1332	1	2546	3793
Ohio	238	1290	1446	87	1353	1567	150	1193	1384	1	2792	3371
Oklahoma	262	1179	1580	117	1269	1700	102	1123	1504	1	3692	4931
Oregon	292	1476	1622	49	1543	1701	16	1476	1880	1	3381	4318
Pennsylvania	2086	1255	1610	209	1335	1751	60	1110	1382	1	2727	3680
Rhode Island	13	1195	1332	17	1246	1360	18	1118	1193	–	–	–
South Carolina	433	941	1334	273	1018	1443	79	870	1561	1	3175	4638
South Dakota	293	934	1402	111	1134	1699	5	1024	1974	2	2312	3467
Tennessee	–	–	–	61	1079	1604	28	904	1345	1	2384	3542
Texas	–	1035	1498	–	1395	1817	–	–	–	–	–	–
Utah	218	1296	1890	117	1430	2090	5	1028	1502	1	2875	4195
Vermont	–	–	–	37	1061	1652	12	1016	1579	–	–	–
Virginia	971	1069	1460	82	1168	1595	215	978	1335	1	3114	4253
Washington	449	1654	1918	98	1826	2117	41	1171	1499	1	3143	4024
West Virginia	968	1064	1225	323	1156	1328	268	691	1261	1	2827	4846
Wisconsin	–	–	–	–	–	–	–	–	–	1	3570	4962
Wyoming	225	1307	2089	87	1442	2305	–	–	–	1	2882	4610
1986 Average			1643			1814			1557			4176
1977 Average			937			1031			879			2439
% Increase 1977-1986			75.3%			75.9%			77.1%			71.2%
% Increase 1985-1986			2.2%			2.8%			4.6%			3.5%

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

(21) Asst State Traffic Engineer			(22) State Traffic Maint. Engineer			(23) District Traffic Engineer			(24) Asst District Traffic Engineer			STATE
#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	
–	–	–	1	3430	3430	9	1764	3026	–	–	–	Alabama
–	–	–	–	–	–	3	3363	4858	3	3113	4224	Alaska
2	2807	4065	1	2344	3395	4	2561	3709	–	–	–	Arizona
1	3410	4002	–	–	–	–	–	–	–	–	–	Arkansas
6	4154	5019	–	–	–	17	3420	4564	48	2972	4135	California
1	3636	4372	–	–	–	8	2991	4009	–	–	–	Colorado
1	3476	4266	1	3090	3792	4	2200	2683	4	2141	2548	Connecticut
–	–	–	–	–	–	2	2092	3602	2	1827	3201	Delaware
1	2612	4484	8	2447	4185	6	2612	4484	9	2018	3412	Florida
2	2481	3985	–	–	–	7	2276	3648	18	1702	2701	Georgia
1	2216	3442	–	–	–	–	–	–	–	–	–	Hawaii
1	2361	3489	–	–	–	6	2141	3165	–	–	–	Idaho
1	3035	4325	–	–	–	9	2820	4100	12	2600	3830	Illinois
1	2392	3727	1	2392	3727	6	1892	2840	6	1758	2586	Indiana
–	–	–	–	–	–	–	–	–	–	–	–	Iowa
–	–	–	–	–	–	–	–	–	–	–	–	Kansas
2	2256	3614	–	–	–	12	2256	3614	6	2046	3278	Kentucky
13	1768	3659	1	2586	3528	8	2454	3397	4	1885	3003	Louisiana
1	2031	2839	–	–	–	7	1912	2622	–	–	–	Maine
–	–	–	1	2175	2857	–	–	–	7	2349	3086	Maryland
1	2793	3589	1	2793	3589	8	2254	2874	8	2051	2609	Massachusetts
1	3529	4728	1	3172	4376		2958	4051	5	2767	3744	Michigan
5	2814	4270	–	–	–	9	2814	3798	5	2166	3395	Minnesota
1	2389	3579	–	–	–	–	–	–	–	–	–	Mississippi
1	2744	3623	–	–	–	3	2315	3180	17	2032	2783	Missouri
1	1956	2708	–	–	–	5	1647	2286	–	–	–	Montana
–	–	–	–	–	–	–	–	–	–	–	–	Nebraska
–	–	–	–	–	–	2	1968	2673	–	–	–	Nevada
1	2165	2798	1	1929	2556	–	–	–	–	–	–	New Hampshire
–	–	–	–	–	–	6	2603	3645	7	2249	3149	New Jersey
1	2206	3760	–	–	–	6	2431	4144	–	–	–	New Mexico
1	4462	5648	–	–	–	11	3264	5077	11	3362	4108	New York
1	2574	4000	1	2574	4000	14	2241	3478	–	–	–	North Carolina
1	2200	3285	–	–	–	–	–	–	–	–	–	North Dakota
1	2536	3386	–	–	–	12	2305	3076	–	–	–	Ohio
1	3273	4369	–	–	–	8	2834	3781	8	2334	3120	Oklahoma
1	2646	3381	–	–	–	–	–	–	5	2293	2927	Oregon
4	2163	3113	–	–	–	11	2163	3680	44	1917	2727	Pennsylvania
–	–	–	1	1403	1559	–	–	–	–	–	–	Rhode Island
1	2714	3848	–	–	–	4	2413	3421	–	–	–	South Carolina
–	–	–	–	–	–	4	2312	3467	–	–	–	South Dakota
–	–	–	2	2089	3104	4	2089	3104	4	1914	2843	Tennessee
–	–	–	–	–	–	14	2648	3804	–	–	–	Texas
–	–	–	1	1994	2909	3	1994	3236	–	–	–	Utah
–	–	–	–	–	–	–	–	–	–	–	–	Vermont
3	2605	3558	–	–	–	9	2180	2978	–	–	–	Virginia
1	2848	3645	–	–	–	6	2455	3645	6	2225	3143	Washington
1	2463	4206	–	–	–	–	–	–	–	–	–	West Virginia
2	3006	4180	–	–	–	8	2122	4180	–	–	–	Wisconsin
2	2608	4281	–	–	–	5	2608	4281	–	–	–	Wyoming
		3864			3358			3572			3207	1986 Average
		2125			1972			1973			1765	1977 Average
		81.8%			70.3%			81.0%			81.7%	% Inc. 1977-1986
		3.3%			4.7%			5.8%			3.9%	% Inc. 1985-1986

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

TRAFFIC OPERATIONS PERSONNEL (Cont'd)

STATE	(25) Traffic Supervisor			(26) Sign Supervisor			(27) Sign Shop Foreman			(28) Traffic Signal & Lighting Foreman		
	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.
Alabama	–	–	–	–	–	–	1	1414	1414	–	–	–
Alaska	2	3590	4858	–	–	–	–	–	–	–	–	–
Arizona	5	1631	2361	1	1631	2361	5	1459	2089	17	1860	2693
Arkansas	–	–	–	1	2869	3783	1	2158	2981	–	–	–
California	–	–	–	–	–	–	–	–	–	54	2522	3040
Colorado	–	–	–	9	2409	3227	1	2025	2713	7	2655	3557
Connecticut	–	–	–	1	2304	2808	1	1842	2207	–	–	–
Delaware	1	1709	2895	–	–	–	–	–	–	1	1377	2436
Florida	64	1482	2462	–	–	–	4	1115	2307	29	1173	1924
Georgia	–	–	–	1	1925	3070	1	1248	1925	6	1513	2276
Hawaii	–	–	–	3	1888	2008	–	–	–	1	2161	2315
Idaho	–	–	–	–	–	–	1	1449	2141	1	1598	2361
Illinois	28	2025	3470	–	–	–	10	1752	2718	–	–	–
Indiana	–	–	–	6	1164	1758	6	1184	1540	6	1630	2120
Iowa	6	1756	2189	–	–	–	1	1771	2239	1	1945	2460
Kansas	–	–	–	–	–	–	1	1354	1814	–	–	–
Kentucky	9	1384	2216	18	1139	1826	–	–	–	18	1034	2012
Louisiana	9	1064	1731	6	939	1909	4	874	1731	14	1173	2210
Maine	–	–	–	–	–	–	1	1396	1857	1	1449	1937
Maryland	–	–	–	23	1209	1582	1	1501	1970	1	1501	1970
Massachusetts	1	1602	2095	1	1870	2455	1	1519	1970	1	1519	1970
Michigan	1	2481	3339	3	2201	2918	9	1886	2481	9	2201	2918
Minnesota	5	1933	3033	14	1827	2570	–	–	–	7	2041	3330
Mississippi	–	–	–	–	–	–	–	–	–	–	–	–
Missouri	–	–	–	–	–	–	1	1650	2243	8	1567	2124
Montana	–	–	–	–	–	–	1	1826	1922	–	–	–
Nebraska	–	–	–	1	1872	2621	1	1402	1963	1	1872	2621
Nevada	2	1807	2446	–	–	–	1	1886	2556	–	–	–
New Hampshire	1	1518	1933	1	1400	1775	1	1356	1722	4	1356	1915
New Jersey	–	–	–	1	1850	2590	1	1598	2237	27	1598	2237
New Mexico	–	–	–	–	–	–	1	1238	2103	1	1500	2553
New York	–	–	–	1	2185	2644	2	1743	2125	10	1743	2125
North Carolina	14	1725	2635	25	1456	2191	–	–	–	14	1516	2295
North Dakota	–	–	–	–	–	–	8	1350	2041	–	–	–
Ohio	11	1389	1664	1	2305	3076	1	1599	1999	18	1483	1999
Oklahoma	–	–	–	11	2066	2768	1	2016	2702	–	–	–
Oregon	–	–	–	–	–	–	1	1790	1976	9	1976	2446
Pennsylvania	–	–	–	11	1491	1984	1	1382	1816	11	1685	2362
Rhode Island	1	1403	1559	1	1403	1559	1	1439	1608	1	1439	1608
South Carolina	–	–	–	–	–	–	7	1449	2054	7	1507	2136
South Dakota	–	–	–	–	–	–	1	1459	2191	–	–	–
Tennessee	4	1535	2281	3	1232	1831	11	1079	1604	–	–	–
Texas	–	–	–	–	–	–	–	–	–	–	–	–
Utah	1	1994	2909	-	1994	2909	1	1430	2090	3	1249	2463
Vermont	1	1543	2415	–	–	–	–	–	–	1	1160	1810
Virginia	9	1824	2491	9	1824	2491	8	1277	1744	20	1396	2086
Washington	–	–	–	–	–	–	1	1918	2455	6	2015	2580
West Virginia	10	1170	1920	10	1255	1568	10	1109	1470	1	1638	2765
Wisconsin	8	1950	2793	8	2122	2793	11	1667	2190	1	2122	2793
Wyoming	3	1514	2421	–	–	–	1	1846	2955	6	1757	2811
1986 Average			2527			2410			2097			2374
1977 Average			1479			1308			1176			1396
% Increase 1977-1986			70.9%			84.3%			78.3%			70.1%
% Increase 1985-1986			-0.3%			6.4%			2.4%			2.1%

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

TRAFFIC OPERATIONS PERSONNEL (Cont'd)

(29) Striper Foreman			(30) Sign Erection Foreman			(31) Sign Fabricator			(32) Sign Technician			STATE
#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	
–	–	–	–	–	–	4	1219	1764	1	1600	1600	Alabama
–	–	–	–	–	–	–	–	–	–	–	–	Alaska
8	1459	2089	2	1510	2188	7	1409	1990	32	1348	1858	Arizona
2	2158	2981	1	2158	2981	8	823	1627	18	823	1627	Arkansas
–	–	–	–	–	–	–	–	–	–	–	–	California
9	2461	3298	1	2344	3141	6	1750	2344	13	1929	2584	Colorado
–	–	–	–	–	–	1	1461	1776	–	–	–	Connecticut
–	–	–	3	1377	2436	7	902	1685	–	–	–	Delaware
151	1243	2043	245	1243	2043	15	815	1298	–	–	–	Florida
10	1394	2183	7	1394	2183	2	1088	1636	–	–	–	Georgia
1	1689	1792	–	–	–	5	1561	1561	–	–	–	Hawaii
11	1380	2479	6	1678	2479	5	1192	1761	–	–	–	Idaho
30	2173	2173	–	–	–	12	2177	2177	–	–	–	Illinois
6	1164	1758	20	1184	1540	6	1000	1300	6	1164	1758	Indiana
6	1856	2345	–	–	–	7	1113	1359	–	–	–	Iowa
6	1567	2099	–	–	–	3	1169	1567	–	–	–	Kansas
–	–	–	–	–	–	4	850	1362	–	–	–	Kentucky
13	964	1731	2	874	1425	15	800	1909	44	800	1425	Louisiana
1	1410	1875	8	1139	1487	1	1192	1557	1	1263	1663	Maine
7	1297	1699	–	–	–	8	884	1479	–	–	–	Maryland
36	1385	1740	32	1447	1862	1	1385	1740	–	–	–	Massachusetts
6	1813	2232	12	1583	1994	14	1455	1994	41	1583	1994	Michigan
–	–	–	–	–	–	–	–	–	–	–	–	Minnesota
–	–	–	–	–	–	4	987	1480	7	1137	1702	Mississippi
–	–	–	–	–	–	2	1211	1573	2	1156	1501	Missouri
3	1826	1922	–	–	–	2	1760	1853	–	–	–	Montana
–	–	–	–	–	–	7	1213	1698	–	–	–	Nebraska
6	1530	2054	6	1530	2054	2	1732	2340	4	1411	1886	Nevada
8	1229	1567	7	1229	1722	2	1147	1567	2	1196	1500	New Hampshire
8	1598	2237	–	–	–	11	1134	1587	1	1378	1930	New Jersey
–	–	–	–	–	–	4	929	1575	–	–	–	New Mexico
20	1383	1705	68	1383	1705	18	1235	1529	–	–	–	New York
25	1456	2191	14	1054	1550	14	1054	1550	–	–	–	North Carolina
–	–	–	–	–	–	13	1057	1775	–	–	–	North Dakota
11	1389	1664	11	1389	1664	12	1230	1446	4	1389	1664	Ohio
8	1742	2334	11	1742	2334	4	1179	1580	–	–	–	Oklahoma
8	1622	1880	16	1622	1790	8	1407	1543	–	–	–	Oregon
21	1335	1751	52	1335	1899	2	1178	1487	4	1110	1487	Pennsylvania
1	1275	1482	–	–	–	3	1246	1360	–	–	–	Rhode Island
10	1340	1899	–	–	–	4	1101	1561	–	–	–	South Carolina
5	1459	2191	–	–	–	3	1024	1537	–	–	–	South Dakota
9	987	1469	10	987	1469	20	779	1179	20	779	1179	Tennessee
–	–	–	–	–	–	–	–	–	–	–	–	Texas
6	1590	2326	–	–	–	5	1249	1843	–	–	–	Utah
7	1111	1730	4	1016	1579	1	1061	1652	–	–	–	Vermont
–	–	–	–	–	–	25	1069	1460	–	–	–	Virginia
–	–	–	–	–	–	–	–	–	24	1738	2015	Washington
4	1109	1470	–	–	–	9	1079	1382	–	–	–	West Virginia
16	1516	2029	40	1516	2029	25	1439	1771	40	1439	1771	Wisconsin
10	1591	2544	2	1442	2305	3	1307	2088	4	1306	2088	Wyoming
		2027			1994			1651			1749	1986 Average
		1120			1097			967			899	1977 Average
		81.0%			81.8%			70.7%			94.5%	% Inc. 1977-1986
		5.0%			9.0%			4.1%			7.0%	% Inc. 1985-1986

MONTHLY SALARIES OF HIGHWAY PERSONNEL (as of July 1, 1986)

TRAFFIC OPERATIONS PERSONNEL (Cont'd) | OTHER RELATED PERSONNEL

STATE	(33) Traffic Signal & Lighting Tech.			(34) Striper Technician			(35) Chief Engineer			(36) Project Engineer		
	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.	#	Min.	Max.
Alabama	23	1560	2201	–	–	–	1	5358	5358	150	1852	2743
Alaska	–	–	–	–	–	–	10	5019	7121	50	3363	4858
Arizona	32	1510	2188	25	1261	1739	1	4441	6433	20	2344	3395
Arkansas	–	–	–	5	1213	1924	1	5597	5597	29	3179	3913
California	213	1912	2768	–	–	–	2	4269	5522	–	2838	3941
Colorado	11	2126	2849	–	–	–	1	3636	4872	78	2461	3298
Connecticut	3	1675	2021	–	–	–	1	4574	5614	45	2415	2940
Delaware	13	958	2436	–	–	–	2	2588	4749	–	–	–
Florida	36	1113	1815	152	946	1526	1	3875	6583	166	1972	2796
Georgia	16	1451	2183	18	1202	1847	1	4151	6818	216	1702	2701
Hawaii	8	1661	1761	4	1381	1381	–	–	–	6	2216	3442
Idaho	8	1135	2141	20	1193	1941	1	4789	4789	51	1849	2733
Illinois	20	2025	3470	–	–	–	1	3800	5175		2175	3140
Indiana	39	1184	1540	20	1184	1540	–	–	–	–	–	–
Iowa	2	1303	1822	19	1203	1615	1	3577	4524	17	2345	2966
Kansas	–	–	–	–	–	–	1	NO RANGE		27	2204	2954
Kentucky	26	937	1502	28	937	1655	1	2743	4166	59	1769	3838
Louisiana	45	800	1731	93	800	1571	1	3254	4540	67	2028	3134
Maine	1	1385	1872	–	–	–	1	2889	4040	–	–	–
Maryland	20	1394	2122	–	–	–	1	4425	–	412	1501	2285
Massachusetts	20	1385	1740	–	–	–	1	4510	5706	120	1868	2874
Michigan	28	1583	2441	17	1583	1994	1	5457	5457	55	2584	3744
Minnesota	34	1724	2393	–	–	–	1	4228	5518	66	2250	3798
Mississippi	–	–	–	–	–	–	1	3388	6134	30	1996	3191
Missouri	48	1490	2012	–	–	–	1	4878	5850	46	2174	2986
Montana	1	1792	2485	10	1760	1853	1	–	4208	53	1792	2485
Nebraska	7	1213	1698	–	–	–	1	4733	4733	59	1872	2621
Nevada	–	–	–	5	1411	1886	1	UNCLASSIFIED		14	2144	2922
New Hampshire	8	1007	1358	–	–	–	1	–	4195	55	1518	3142
New Jersey	110	1378	1930	34	1080	1512	1	4039	5654	–	–	–
New Mexico	9	1021	2316	–	–	–	1	4355	–	36	1909	4144
New York	94	1551	1902	–	–	–	–	–	–	–	–	–
North Carolina	33	1399	2096	58	1096	1618	1	3559	5574	45	2241	3478
North Dakota	–	–	–	2	1218	1784	1	3092	4593	8	2200	3285
Ohio	23	1423	1695	11	1389	1664	1	3410	4943	47	1855	2584
Oklahoma	–	–	–	64	1118	1365	1	4477	5983	25	2834	3781
Oregon	30	1758	2226	–	–	–	1	–	4999	36	2293	2927
Pennsylvania	11	1685	2385	94	1110	1610	1	–	–	314	1486	2955
Rhode Island	1	1367	1515	5	1220	1328	–	–	–	–	–	–
South Carolina	27	1288	1899	–	–	–	1	5503	5503	61	1763	3041
South Dakota	–	–	–	–	–	–	1	3345	5016	40	1849	2775
Tennessee	–	–	–	20	779	1179	1	3868	5264	98	1535	2491
Texas	–	–	–	–	–	–	1	5725	5725	–	2648	3561
Utah	14	1077	2349	–	–	–	1	3604	5262	27	1994	3236
Vermont	1	1111	1730	6	961	1486	1	2980	4876	30	1805	2874
Virginia	75	1168	1744	–	–	–	1	4068	5556	31	1824	2491
Washington	54	1574	2455	–	–	–	1	6122	6122	46	2455	3143
West Virginia	10	1434	2765	12	1032	1317	1	3097	4507	–	–	–
Wisconsin	10	1439	1771	40	1439	1887	–	–	–	175	1990	3238
Wyoming	7	1514	2421	28	1126	2194	–	–	–	33	–	–
1986 Average			2094			1657			5315			3151
1977 Average			1182			966			3017			1841
% Increase 1977-1986			77.2%			71.5%			76.2%			71.2%
% Increase 1985-1986			4.2%			4.5%			5.9%			6.0%

MAINTENANCE QUESTIONNAIRE ON POLICIES AFFECTING MAINTENANCE AND TRAFFIC OPERATIONS PERSONNEL,
(as of July 1, 1986)

Questions asked the various State Highway Departments are answered in the table below. The numbers at the head of each column of the table refer to the question numbers.

CIVIL SERVICE ON MERIT SYSTEM

1. Are your maintenance and operations employees under a civil service plan, merit system, or some other comparable plan?
   a. all, b. all but temporary, c. supervisory only, d. none

RETIREMENT

2. Are your maintenance and operations employees included in any state sponsored or controlled retirement plan?
3. Are your maintenance and operations employees included in a Federal Social Security retirement plan?
4. Do you have a compulsory retirement age? If answer is "yes" indicate the following: a. Is it established by policy or established statute? b. Compulsory retirement age?
5. Is voluntary retirement possible after a prescribed number of years? If answer is "yes", indicate the following:
   a. Minimum year of service at which voluntary retirement is possible?
   b. Minimum age at which voluntary retirement is possible?

VACATIONS

6. Do maintenance and operations employees receive an annual vacation of full pay?
7. What is your annual vacation schedule for maintenance and operations personnel (working hours per year per years of service)?
8. Are your annual vacations cumulative? If answer is "yes", what amount of vacation may be carried over into a new year? (Do not include any unearned vacation.)

SICK LEAVE

9. Do you grant sick leave with pay to maintenance and operations employees?
10. What is your annual sick leave schedule for maintenance and operations personnel (working hours per year per years of service?)
11. Is your sick leave cumulative? If answer is "Yes", what is the maximum?

INSURANCE

12. Are your maintenance and operations employees protected by a wholly or partially state-financed hospitalization plan?
    a. If answer is "yes" indicate whether plan is wholly state-financed or partially state-financed.
    b. Is participation optional or mandatory with employees?
13. Are your maintenance and operations employees protected by a wholly or partially state-financed life insurance plan?
    a. If answer is "yes" indicate whether plan is wholly state-financed or partially state-financed.
    b. Is participation optional or mandatory with employees?
14. Are your maintenance and operations employees protected against lawsuit by a state-financed public liability plan?
    a. All, b. All but temporary, c. Supervisory only, d. None

UNIONIZATION

15. Do maintenance and operations employees have collective bargaining rights?
16. Are your maintenance and operations employees organized by the following, and if so, is membership mandatory or voluntary?
    a. National union, b. Local union or employee association

SERVICE AWARDS

17. Do your maintenance and operations departments give any type of recognition, such as pins or tokens, to employees serving a certain length of time with the department?

WORKING CONDITIONS

18. Check which of your maintenance and operations field employees are paid on a salaried basis and which are paid on a hourly basis.
    a. All, b. Permanent Field Employees (exclusive of surpervisory), c. Supervisory, d. Temporary
19. Standard number of hours worked by each permanent field employee per day and per week.
20. Is any allowance or adjustment made for overtime work? If answer is "yes" indicate basis of payment for overtime (straight time, time and a half, compensatory time, none) for:
    a. Permanent field employees (exclusive of supervisory), b. Supervisory, c. Temporary
21. Are your field employees required to report at an assembly point, such as a headquarters garage or shop, preparatory to their day's work?
    a. If answer to Question 21 is "yes" are they paid from the time they leave this assembly point until they return at the close of the day's work (portal to portal)?
22. Are the maintenance and operations employees furnished any type of protective clothing as indicated below:
    a. Hard hats and safety vests, b. Welding goggles and helmets, c. Other protective clothing for specialized operations (bituminous work, shop mechanics, etc.), d. Normal operations (rain outfits, insulated undergarments, etc.)

WORKING CONDITIONS (cont'd)

23. Do you have automatic or automatic-recommended salary advancement?
24. Do you, by law or policy, require a formalized job classification plan?
25. Do you use convict labor?
26. Do you pay any travel expenses for maintenance and operations employees when they are away from the home station overnight? If answer is "yes" is payment for meals and lodging respectively based on:
    a. Actual, b. Actual with a maximum, c. Per Diem
27. Does your policy provide reimbursement of expenses incurred when a maintenance or operations employee is required to change residence which necessitates his moving his family and furniture?
    a. Total, b. Limited, c. None

MAINTENANCE RESPONSIBILITY

28. Is the physical placement and maintenance of signing and marking the responsibility of the Maintenance Division?
    a. Original placement of highway signs, b. Replacement and maintenance of highway signs
    c. Pavement marking
29. Are garage or shop operations for vehicle maintenance under the jurisdiction of the Highway Department? If answer is "yes", which of the following do you maintain?
    a. Highway Department vehicles only, b. Vehicles for several state agencies, c. Vehicles for all state agencies

LANE MILES

30. Number of lane miles maintained by state forces on the following systems, a lane mile being defined as any single driving lane:
    a. Interstate and Freeways, b. Primary and Secondary, c. County, Township, Municipal and Service Roads
    d. Total Lane Miles
31. What is your average number of maintenance and traffic operations field employees?
    a. Permanent, b. Temporary, c. Total

BASIS OF OPERATIONS

32. Average lane miles covered by each general maintenance crew working out of one location (gang or section headquarters)?
33. Do you have special crews for traffic signs and striping?
    a. Same crew handles traffic signs and striping (yes or no); Average lane miles per crew
    b. Traffic signs (yes or no); Average lane miles per crew,
    c. Striping (yes or no); Average lane miles per crew
34. Have you implemented an equipment management system?
35. If the answer to Question 35 is "no", do you intend to implement one?
36. If the answer to Question 35 is "yes", does your system provide for:
    a. Control of number of units, b. Determination of optimum replacement intervals
    c. Determination of shop personnel requirements, d. Determination of parts requirements
    e. Managing preventative maintenance programs, f. Control of utilization
37. Do you work four 10-hour day work week? If "Yes", check the applicable statements:
    a. Field crews, b. Shop personnel, c. Summer months, d. Winter months, e. Management's prerogative
    f. Union concurrence
38. Do you perform maintenance work by contract? (yes or no)
39. What is the approximate percentage of your maintenance budget that is done by contract?

State	CIVIL SERVICE or MERIT SYSTEM (1a)	(1b)	(1c)	(1d)	RETIREMENT PLAN State Plan (2)	Fed. Soc. Sec. (3)	Compulsory Retirement (4)	(4a)	(4b)	Vol Retirement (5)	Min Yrs Service (5a)	Min Age (5b)	(6)	VACATION An Vacation Schedule Hrs /Yrs	Minimum Yrs of Service (7)
Alabama		X			yes	yes	yes	Statute	70	yes	30	none	yes	104	1-5
Alaska	X				yes	no	no			yes	5	55	yes	112.5	1-2
Arizona	X				yes	yes	yes	Statute	70	yes	5	50	yes	96	0-3
Arkansas				X	yes	yes	yes	Both	70	yes	10@60	any@30	yes	96	0-3
California	X				yes	yes	no			yes	5	50	yes	84	1-3
Colorado		X			yes	no	yes	Statute	70	yes	20@60 30@any	55	yes	96	1-5
Connecticut	X				yes	yes	yes	Statute	70	yes	10	55	yes	84	0-5
Delaware		X			yes	yes	yes	Statute	70	yes	5	var	yes	112.5	0-10
Florida	X				yes	yes	no			yes	10	any	yes	156	1-5
Georgia		X			yes	yes	no			yes	5	any	yes	120	1-5
Hawaii	X				yes	yes	no			yes	10	55	yes	168	any
Idaho	X				yes	yes	no			yes	5	55	yes	96	0-5
Illinois		X			yes	yes	no			yes	8	60	yes		
Indiana				X	yes	yes	yes	Statute	70	yes	15	55	yes	96	0-5
Iowa	X				yes	yes	no			yes	0	55	yes	80	1-4
Kansas		X			yes	yes	no			yes	10	60	yes	144	0-5
Kentucky		X			yes	yes	no			yes	30	any@30	yes	96	0-5
Louisiana		X			yes	no	yes	Policy	70	yes	30	55	yes	96	1-3
Maine	X				yes	no	no			yes	10	60	yes	96	0-5
Maryland		X			yes	yes	yes	Policy	70	yes	25	na	yes	80	1-5
Massachusetts		X			yes	no	no			yes	20	55	yes	80	0-5
Michigan	X				yes	yes	yes	Statute	70	yes	10@60	55	yes	104	1/2-5
Minnesota		X			yes	yes	yes	Statute	70	yes	10	55	yes	104	0-5
Mississippi		X			yes	yes	yes	Statute	70	yes	30		yes	144	1mo-3yrs
Missouri	X				yes	yes	yes	Statute	70	yes	15	55	yes	120	0-10
Montana				X	yes	yes	no			yes	5@55		yes	120	1-10
Nebraska	X				yes	yes	no			yes	5	60	yes	96	1-5
Nevada	X				yes	no	no			yes	10	55	yes	120	0-10
New Hampshire	X				yes	yes	no			yes	10	50	yes	120	0-8
New Jersey		X			yes	yes	no			yes	10@60 25@55	55	yes	96	0-5
New Mexico	X				yes	yes	no			yes	7@60	any/25	yes	120	ea.yr.
New York	X				yes	yes	no			yes	10	55	yes	104	1
North Carolina		X			yes	yes	yes	Statute	70	yes	20	50	yes	94	0-2
North Dakota				X	yes	yes	no			yes	30	60	yes	96	0-3
Ohio	X				yes	no	yes	Statute	70	yes	5@60	any/30	yes	80	1-7
Oklahoma	X				yes	yes	yes	Policy	70	yes	10	55	yes	80	1-5
Oregon	X				yes	yes	no			yes	30	55	yes	96	6mo/5yrs
Pennsylvania	X				yes	yes	no			yes	10	none	yes	39	0-1
Rhode Island	X				yes	yes	yes	Statute	70	yes	10	55	yes	80	6mo/5yrs
South Carolina				X	yes	yes	yes	Statute	72	yes	30	60	yes	120	1-10
South Dakota		X			yes	yes	yes	Statute	70	yes	5	55	yes	120	1-15
Tennessee		X			yes	yes	no			yes	30	48	yes	90	0-5
Texas				X	yes	yes	yes	Policy	70	yes	10@60	50	yes	84	0-2
Utah		X			yes	yes	yes	Statute	70	yes	25	43	yes	104	0-5
Vermont		X			yes	yes	no			yes	10	55	yes	96	1-5
Virginia		X			yes	yes	yes	Statute	70	yes	5	55	yes	96	0-5
Washington	X				yes	yes	no	Statute		yes	5	55/25	yes	96	0-1
West Virginia	X				yes	yes	no			yes	5	55	yes	240	1-10
Wisconsin	X				yes	yes	no			no		55	yes	80	1-5
Wyoming	X				yes	yes	yes	Policy	70	yes	25	50	yes	96	0-4

VACATION (cont'd					SICK LEAVE						
					Annual Sick Leave Schedule						
Maximum					Minimum		Maximum				
Hrs. Yrs.	Yrs. of Service		Cumulative Maximum		Hrs. Yrs	Yrs. of Service	Hrs. Yrs.	Yrs. of Service		Cumulative Maximum	
(7 cont'd)			(8)	(9)			(10)			(11)	State
234	25	yes	480	yes	104	1-max	104	1	yes	1200	Alabama
225	10	yes	450	yes	112.5	all	112.5	all	yes	unlimited	Alaska
168	15	yes	240	yes	96	all	96	all	yes	unlimited	Arizona
176	20	yes	216	yes	96	any	96	any	yes	unlimited	Arkansas
180	20	yes	400	yes	96	1	96		yes	unlimited	California
168	15	yes	336	yes	120	1	120	1	yes	unlimited	Colorado
140	20	yes	70	yes	105		105		yes	unlimited	Connecticut
157.5	15	yes	315	yes	112.5		112.5		yes	675	Delaware
208	10	yes	240	yes	52	all	104			unlimited	Florida
168	10	yes	360	yes	120		120		yes	720	Georgia
168	any	yes	720	yes	168	any	168	any	yes	unlimited	Hawaii
168	15	yes	336	yes	96	0-15	96	15	yes	unlimited	Idaho
		yes	80-200	yes	96	1	96	1	yes	unlimited	Illinois
		yes	no-max	yes					yes	unlimited	Indiana
200	24	yes	twice the annual hrs	yes	144		144		yes	unlimited	Iowa
240	15	yes	240	yes	96	all	96	all	yes	unlimited	Kansas
158	15	yes	450	yes	96	all	96	all	yes	unlimited	Kentucky
192	15	yes	all	yes	96	1-3	192	15	yes	unlimited	Louisiana
192	20	yes	320	yes	96	any	96		yes	960	Maine
200	20	yes	360	yes	120	all			yes	unlimited	Maryland
200	20	yes	200	yes	120	0-50	120	all	yes	3000	Massachusetts
249	40	yes	240	yes	104	1/2-all	104	all	yes	unlimited	Michigan
234	30	yes	240/275	yes	104	0-1	104	1	yes	900	Minnesota
216	15	yes	n/a	yes	96	1mo-3yr	60	15	yes	n/a	Mississippi
1103	15	yes	336	yes	120		120		yes	unlimited	Missouri
192	20	yes	384	yes	8/mo		96	all	yes	unlimited	Montana
200	16	yes	200	yes	96	1-5	240	19	yes	1400	Nebraska
168	15	yes	240	yes	120		120		yes	unlimited	Nevada
192	21	yes	384	yes	120	0-8	120	16	yes	720/0-8 960/over 18	New Hampshire
200	20	yes	200	yes	96	0-1	120	1	yes	unlimited	New Jersey
120	1 or more	yes	240	yes	96	1	96	1	yes	unlimited	New Mexico
160	7	yes	240	yes	104	unlimited			yes	1600	New York
206	20	yes	240	yes	96	all	96	1	yes	unlimited	North Carolina
192	18	yes	240	yes	96		96		yes	unlimited	North Dakota
200	25	yes	3yrs	yes	56	all	56	all	yes	unlimited	Ohio
160	20	yes	480	yes	120	1-5	160	20	yes	1040	Oklahoma
192	20	yes	250	yes	96	all	96		yes	unlimited	Oregon
195	25	yes	337.5	yes			97.5		yes	1500	Pennsylvania
224	25	yes	208	yes			120		yes	1000	Rhode Island
240	22	yes	360	yes	120		120		yes	1440	South Carolina
160	15	yes	240/320	yes			112	1/2	yes	unlimited	South Dakota
180	20	yes	315	yes	90	0-5	90	20	yes	unlimited	Tennessee
168	20	yes	336	yes	96		96		yes	unlimited	Texas
156	10	yes	320	yes	104	all			yes	unlimited	Utah
192	20	yes	360	yes	96	1-5	192	20	yes	unlimited	Vermont
168	20	yes	336	yes	120	any	120	any	yes	unlimited	Virginia
176	26	yes	240	yes	96	all	96	all	yes	unlimited	Washington
320	15	yes	320	yes	144	all	144	all	yes	unlimited	West Virginia
200	25	yes	40	yes					yes	unlimited	Wisconsin
192	19	yes	384	yes	96	all	96	all	yes	unlimited	Wyoming

	INSURANCE										UNIONIZATION	
		Hospitalization			Life Insurance		Public Liability				Supv	Non-Supv
State	(12)	(12a)	(12b)	(13)	(13a)	(13b)	(14a)	(14b)	(14c)	(14d)	(15)	
Alabama	yes	wholly	mandatory	no						x	no	no
Alaska	yes	wholly	mandatory	yes	wholly	mandatory	x				yes	yes
Arizona	yes	partially	optional	yes	wholly	optional	x				no	no
Arkansas	yes	partially	optional	yes	partially	optional				x	no	no
California	yes	partially	optional	yes	wholly	mandatory	x				no	yes
Colorado	yes	partially	optional	yes	wholly	mandatory	x				no	no
Connecticut	yes	wholly	optional	yes	partially	optional	x				yes	yes
Delaware	yes	partially	optional	no		optional				x	yes	yes
Florida	yes	partially	optional	yes	partially	optional	x				no	yes
Georgia	yes	partially	optional	yes	partially	mandatory	x				no	no
Hawaii	yes	partially	optional	yes	wholly	optional				x	yes	yes
Idaho	yes	wholly	optional	yes	wholly	mandatory	x				no	no
Illinois	yes	wholly	mandatory	yes	wholly	mandatory	x				yes	yes
Indiana	yes	partially	optional	yes	partially	mandatory	x				no	no
Iowa	yes	wholly & partially	optional	yes	wholly & partially	optional	x				no	yes
Kansas	yes	wholly	optional	yes	wholly	mandatory				x	no	yes
Kentucky	yes	wholly	mandatory	yes	wholly	mandatory				x	no	no
Louisiana	yes	partially	optional	yes	partially	optional				x	no	yes
Maine	yes	wholly	optional	yes	wholly	optional				x	yes	yes
Maryland	yes	partially	optional	yes	wholly	mandatory	x				no	no
Massachusetts	yes	partially	optional	yes	partially	optional				x	yes	yes
Michigan	yes	partially	optional	yes	partially	optional	x				no	yes
Minnesota	yes	partially	mandatory	yes	wholly	mandatory				x	yes	yes
Mississippi	yes	wholly	optional	yes	partially	optional				x	no	no
Missouri	yes	wholly	optional	yes	wholly	optional	x				no	no
Montana	yes	partially	optional	no			x				no	yes
Nebraska	yes	wholly & partially	optional	yes	wholly & partially	optional				x	yes	yes
Nevada	yes	wholly	mandatory	no						x	no	no
New Hampshire	yes	wholly	optional	yes	partially	optional				x	yes	yes
New Jersey	yes	wholly & partially	optional	yes	wholly & partially	optional & mandatory				x	yes	yes
New Mexico	yes	partially	optional	yes	partially	optional	x				no	yes
New York	yes	partially	optional	no	wholly	mandatory	x				yes	yes
North Carolina	yes	wholly	optional	yes	partially	mandatory	x				no	no
North Dakota	yes	partially	optional	yes	wholly	mandatory				x	no	no
Ohio	yes	partially	optional	yes	wholly	mandatory	x				no	yes
Oklahoma	yes	partially	optional	yes	partially	optional				x	no	no
Oregon	yes	wholly & partially	optional	no			x				no	yes
Pennsylvania	yes	wholly	optional	yes	wholly	optional	x				yes	yes
Rhode Island	yes	wholly	mandatory	no						x	yes	yes
South Carolina	yes	wholly	mandatory	yes	wholly	mandatory		x			no	no
South Dakota	yes	wholly	mandatory	yes	wholly	mandatory				x	no	yes
Tennessee	yes	partially	optional	yes	partially	optional	x				no	no
Texas	yes	wholly	optional	yes	wholly	optional	x				no	no
Utah	yes	partially	optional	no			x				no	no
Vermont	yes	partially	optional	yes	partially	optional				x	yes	yes
Virginia	yes	wholly	optional	yes	wholly	mandatory	x				no	no
Washington	yes	wholly	mandatory	yes	partially	optional	x				yes	yes
West Virginia	yes	wholly & partially	optional	yes	wholly & partially	optional	x				no	no
Wisconsin	yes	partially	optional	yes	partially	optional	x				no	yes
Wyoming	yes	partially	optional	yes	partially	optional	x				no	no

UNIONIZATION (cont'd)				SERVICE AWARDS	WORKING CONDITION						
Supervisory		Non-Supervisory						Working Hours			
Nat'l Union (16a)	Local Union (16b)	Nat'l Union (16a)	Local Union (16b)	(17)	Salary Basis (18a)	(18b)	(18c)	(18d)	Per Day (19)	Per Week (19)	State
no	yes voluntary	yes voluntary	yes voluntary	yes		S	S	H	8	40	Alabama
no	yes mandatory	no	yes mandatory	yes		H	S	H	7.5	37.5	Alaska
no	yes voluntary	no	yes voluntary	yes		S	S	H	8	40	Arizona
no	no	no	no	yes	S				8	40	Arkansas
no	no	no	yes voluntary	yes		S	S	H	8-10	40	California
		no		yes		S	S	H	8	40	Colorado
no	yes voluntary	no	yes voluntary	no		H	S	H	7	35	Connecticut
yes mandatory		yes mandatory		no		H	S	H	7.5	37.5	Delaware
no	no	yes voluntary	no	yes	S				8-10	40	Florida
no	yes voluntary	no	yes voluntary	yes	S				8	40	Georgia
no	yes voluntary	no	yes voluntary	yes	S				8	40	Hawaii
no	yes voluntary	no	yes voluntary	yes	H	H	H	H	8	40	Idaho
no	yes voluntary	yes voluntary	no	yes		S	S	S&H	8	40	Illinois
no	no	yes voluntary		yes		H	S	H	8	40	Indiana
no	no	yes voluntary	yes voluntary	yes		S	S	H	8	40	Iowa
no	no	yes voluntary	yes voluntary	yes		S	S	H	8	40	Kansas
no	no	no	no	yes		H	S	S&H	8	40	Kentucky
									8	40	
yes voluntary	yes voluntary	yes voluntary	yes voluntary	yes		S	S	H	8	40	Louisiana
no	yes voluntary	no	yes voluntary	no	H	H	S	H	8	40	Maine
no	no	yes voluntary	yes voluntary	yes	S	S	S	H	8	40	Maryland
yes mandatory	yes mandatory	yes mandatory	yes mandatory	no	H	H	H	H	8	40	Massachusetts
no	yes voluntary	no	yes mandatory	yes	S	S	S	S	8	40	Michigan
no	yes mandatory	yes mandatory	yes mandatory	yes		H	S	H	8	40	Minnesota
no	yes voluntary	no	yes voluntary	yes	S				8	40	Mississippi
no	yes voluntary	yes voluntary	yes voluntary	yes		S	S	H	8	40	Missouri
		yes mandatory	yes mandatory	yes		S	S	H	8	40	Montana
no	no	no	yes voluntary	yes	H				8	40	Nebraska
no	yes voluntary	no	yes voluntary	yes	H				8	40	Nevada
no	yes voluntary	no	yes voluntary	yes	H	H	H	H	8	40	New Hampshire
yes voluntary	no	yes voluntary	no	yes	S				8	40	New Jersey
no	no	yes voluntary		yes		S	S	H	8	40	New Mexico
yes voluntary		yes voluntary		yes	S			H	8	40	New York
no	yes voluntary	no	yes voluntary	yes		S	S	H	8	40	North Carolina
no	yes voluntary	yes voluntary	yes voluntary	yes		S	S	H	8-10	40	North Dakota
no	no	yes voluntary	yes voluntary	yes	H	H	H	H	8	40	Ohio
no	yes voluntary	no	yes voluntary	yes	S	S	S	S	8	40	Oklahoma
no	no	yes mandatory	no	yes		S	S	S	8	40	Oregon
yes voluntary	yes voluntary	yes voluntary	yes voluntary	yes		S	S	H	7.5	37.5	Pennsylvania
no	no	yes mandatory	no	yes	H				8	40	Rhode Island
no	yes voluntary	no	yes voluntary	yes		H	S		8	40	South Carolina
no	yes voluntary	yes voluntary	yes voluntary	yes	H				8/10	40	South Dakota
no	yes voluntary	no	yes voluntary	yes	S				7.5	37.5	Tennessee
no	yes voluntary	no	yes voluntary	yes		H	S	H	8	40	Texas
no	yes voluntary	no	yes voluntary	yes	H	H	H	H	8	40	Utah
no	yes voluntary	no	yes voluntary	yes	H				8	40	Vermont
no		no		yes		S	S	H	8	40	Virginia
yes mandatory		yes mandatory		yes		S	S	H	8	40	Washington
no	yes voluntary	yes voluntary	yes voluntary	no	H				8	40	West Virginia
no	no	no	yes	yes	H	H	H	H	8	40	Wisconsin
no	yes voluntary	no	yes voluntary	yes		S	S	H	8	40	Wyoming

WORKING CONDITIONS (continued)

State	Adjustment for Overtime (20)	(20a)	(20b)	(20c)	Travel Time (21)	(21a)	Protective Clothing (22a)	(22b)	(22c)	(22d)	(23)	(24)	(25)
Alabama	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	yes	yes	no	yes	yes
Alaska	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	no
Arizona	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	no	no	yes	yes
Arkansas	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	no
California	yes	1-1/2	straight & comp	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Colorado	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
Connecticut	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Delaware	yes	1-1/2	& 1-1/2 comp	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Florida	yes	1-1/2	comp	none	yes	yes	yes	yes	yes	yes	no	yes	yes
Georgia	yes	1-1/2	none	1-1/2	yes	1 way	yes	yes	yes	yes	yes	yes	yes
Hawaii	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Idaho	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	no	no	yes	no
Illinois	yes	1-1/2 & 2	1-1/2	1-1/2 & 2	yes	yes	yes	yes	yes	no	no	yes	yes
Indiana	yes	straight			yes	yes	yes	yes	yes	no	yes	yes	yes
Iowa	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
Kansas	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	no	no	yes	yes	yes
Kentucky	yes	1-1/2	comp	varies	yes	yes	yes	yes	yes	no	yes	yes	yes
Louisiana	yes	1-1/2	comp	none	yes	yes	yes	yes	yes	yes	yes	yes	no
Maine	yes	1-1/2		1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	no
Maryland	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Massahusetts	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	no
Michigan	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Minnesota	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
Mississippi	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	yes	yes	no	yes	yes
Missouri	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	no	no	yes	no
Montana	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	no	no	no	yes	no
Nebraska	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	yes
Nevada	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	yes
New Hampshire	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
New Jersey	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	no	yes	yes	yes	limited
New Mexico	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	no	no	yes	no
New York	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
North Carolina	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	yes
North Dakota	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	no	no	no	yes	yes
Ohio	yes	1-1/2	1-1/2 or Comp	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
Oklahoma	yes	1-1/2			yes	yes	yes	yes	yes	yes	no	yes	yes
Oregon	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no
Pennsylvania	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	no	no	yes	yes	no
Rhode Island	yes	1-1/2	1-1/2	1-1/2	yes	no	yes	yes	yes	yes	yes	yes	yes
South Carolina	yes	1-1/2	comp	1-1/2	yes	yes	yes	yes	no	yes	yes	yes	no
South Dakota	yes	1-1/2	straight	1-1/2	yes	yes	yes	yes	yes	no	no	yes	yes
Tennessee	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	yes	no	yes	yes
Texas	yes	comp & 1-1/2	comp	comp & 1-1/2	yes	yes	yes	yes	yes	yes	no	yes	no
Utah	yes	1-1/2	1-1/2	1-1/2	yes	no	yes	yes	yes	no	yes	yes	yes
Vermont	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	no	yes	no	yes	no
Virginia	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	yes
Washington	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	yes
West Virginia	yes	1-1/2	1-1/2	1-1/2	yes	yes	yes	yes	yes	yes	yes	yes	no
Wisconsin	yes		none	1-1/2	no		yes	yes	no	no	no	yes	no
Wyoming	yes	1-1/2	none	1-1/2	yes	yes	yes	yes	yes	no	yes	yes	no

WORKING CONDITIONS (cont'd)										MAINTENANCE RESPONSIBILITY						
Travel Expenses										Signing & Marking Responsibility			Vehicle Maintenance			
	Meals			Lodging			Moving Expense									
(26)	(26a)	(26b)	(26c)	(26a)	(26b)	(26c)	(27a)	(27b)	(27c)	(28a)	(28b)	(28c)	(29)	(29a)	(29b)	(29c)	State
yes			x			x		x		yes	yes	yes	yes		x		Alabama
yes			x			x		x		no	yes	no	yes			x	Alaska
yes			x		x			x		yes	yes	yes	yes	x			Arizona
yes		x			x			x		no	yes	yes	yes	x			Arkansas
yes			x			x		x		no	yes	yes	yes	x			California
yes			x		x			x		no	yes	yes	yes	x			Colorado
no									x	yes	yes	yes	yes	x			Connecticut
no									x	no	no	no	yes	x			Delaware
yes	x	x	x	x	x	x		x		no	yes	yes	yes	x			Florida
yes		x				x		x		no	yes	yes	yes		x		Georgia
yes			x			x		x		no	yes	yes	yes	x			Hawaii
yes		x		x				x		no	yes	yes	yes		x		Idaho
yes			x		x			x		no	no	no	no				Illinois
yes			x	x				x		no	yes	no	yes		x		Indiana
yes		x			x			x		yes	yes	yes	yes		x		Iowa
yes			x			x		x		yes	yes	yes	yes	x			Kansas
yes			x		x		x			no	no	no	yes	x			Kentucky
yes		x			x		x			yes	yes	yes	yes	x			Louisana
yes		x			x		x			no	yes	no	yes		x		Maine
yes		x		x					x	yes	yes	yes	yes	x			Maryland
yes		x		x					x	no	yes	yes	yes	x			Massachusetts
yes		x			x		x			yes	yes	yes	yes	x			Michigan
yes		x		x				x		yes	yes	yes	yes		x		Minnesota
yes		x		x				x		no	no	no	yes	x			Mississippi
yes	x			x				x		yes	yes	yes	yes	x			Missouri
yes			x					x		no	yes	yes	yes	x			Montana
yes		x			x		x			yes	yes	yes	yes	x			Nebraska
yes			x			x	x			yes	yes	yes	yes	x			Nevada
yes		x				x			x	no	no	no	yes	x			New Hampshire
no									x	part	yes	yes	yes	x			New Jersey
yes			x			x		x		no	yes	yes	yes	x			New Mexico
yes			x			x		x		yes	yes	yes	yes	x			New York
yes			x			x		x		no	yes	yes	yes		x		North Carolina
yes			x		x			x		no	yes	yes	yes		x		North Dakota
yes		x			x		x			no	no	no	yes		x		Ohio
yes			x	x				x		yes	yes	yes	yes	x			Oklahoma
yes		x			x			x		yes	yes	yes	yes	x			Oregon
yes		x			x		x			no	yes	yes	yes	x			Pennsylvania
yes		x			x				x	no	yes	yes	yes			x	Rhode Island
yes		x		x				x		yes	yes	yes	yes	x			South Carolina
yes			x		x			x		yes	yes	yes	yes		x		South Dakota
yes			x			x	x			no	yes	yes	yes	x			Tennessee
yes			x			x		x		no	yes	yes	yes	x			Texas
yes			x		x		x			no	yes	yes	yes		x		Utah
yes		x		x			x			yes	yes	yes	yes		x		Vermont
yes	x			x				x		no	yes	yes	yes			x	Virginia
yes			x			x		x		yes	yes	yes	yes	x			Washington
yes		x		x			x			no	yes	yes	yes	x			West Virginia
yes		x			x		x			yes	yes	yes	no				Wisconsin
yes	x			x			x			no	yes	yes	yes	x			Wyoming

	Relationship, Miles to Number of Employees								BASIS OF OPERATIONS			
	Lane Miles			Average Numbers of Employees					Lane Miles Per Crew			
State	(30a)	(30b)	(30c)	(30d)	(31a)	(31b)	(31c)	(32)	(33a)		(33b)	
Alabama	4,157	24,253		28,410	1,084	416	1,500	693	no		yes	693
Alaska	2,400	7,100	3,000	12,500	350	60	410	175	no		no	
Arizona	7,020	9,890		16,910	795	0	795	360	no		yes	2,340
Arkansas	2,971	32,256	122,550	157,777	2,189	154	2,343	200	no		yes	6,966
California	21,717	25,170		46,887			4,951	184	no		yes	2,163
Colorado	7,557	175	400	25,457	1,344	157	1,501	65	yes	3,181	yes	3,181
Connecticut	3,136	6,581	189	9,906	1,722		1,722	200	no		yes	2,500
Delaware	170	3,238	6,164	9,572	464	80	544	190	no		yes	870
Florida	7,849	27,117		34,966	2,820		2,820	66	no		yes	920
Georgia	5,500	36,206	283	41,989	2,809	164	2,973		no		yes	954
Hawaii	325	2,039		2,364	332		332	119	yes	448	yes	848
Idaho	2,338	9,102	37	11,477	478	60	538	142	yes	1,416	yes	2,161
Illinois	7,461	30,766	1,425	39,652	3,166	175	3,341	370	yes	4,500	yes	2,400
Indiana	4,725	24,950		29,675	1,733	103	1,836	265	no		yes	1,562
Iowa	3,832	20,940		24,772	1,471	42	1,513	182	no		no	
Kansas	4,037	18,993	1,121	24,151	1,342	10	1,352	210	no		no	
Kentucky	5,477	23,974	24,831	54,282	2,902	265	3,167	450	yes	4,523		
Louisiana	3,276	19,459	15,605	38,340	2,629		2,629	620	no		yes	3,800
Maine	1,162	7,232	7,606	16,000	995	12	1,007	220	no		yes	2,300
Maryland	1,985	12,559	1,725	16,269	1,520	285	1,805	100	no		yes	500
Massachusetts	5,200	7,100	300	12,600			1,250	150	yes	270	no	
Michigan	3,168	4,233		7,401	798	100	898	218	no		yes	3,000
Minnesota	3,744	24,980		28,724	1,654	74	1,728	211	no		no	
Mississippi	3,125	21,408		24,533	1,274		1,274	285	no		yes	2,392
Missouri	6,406	65,027	2,432	73,865	3,681	79	3,760	205	no		yes	739
Montana	4,722	11,656	2,473	18,851	551	4	555	144	yes	1,714	no	
Nebraska	1,972	20,089		22,061	913	20	933	248	no		yes	735
Nevada	2,212	8,253	2,154	12,619	434	12	446	31	yes	1,573	yes	3,330
New Hampshire	1,404	7,845		9,249	652	39	691		no		no	
New Jersey	2,841	7,609		10,450	1,745	53	1,798	150	yes	2,090		
New Mexico	4,509	16,411	7,930	28,850	1,084	13	1,097	339.4	no		yes	5,770
New York	5,269	33,033	5,147	43,449	5,126	180	5,306	71	no		yes	634
North Carolina	3,138	143,837	13,879	160,854	5,609	300	5,906	360	no		yes	1,711
North Dakota	3,266	12,384	548	16,198	370	34	404	150				
Ohio	6,520	35,897		42,417	2,572		2,572	482	yes	1,500		
Oklahoma	3,771	22,490		26,261	1,514	20	1,534	294	no		yes	3,270
Oregon	3,424	15,752		19,176	1,424	70	1,494	235	no		yes	1,200
Pennsylvania	20,245	74,661		94,906	6,399	131	6,530	133	no		yes	1,825
Rhode Island	446	2,623		3,069	427		472	171	no		yes	1,023
South Carolina	3,313	82,893		86,206	2,507		2,507	454	no		yes	1,834
South Dakota	3,073	14,651	678	18,402	510	97	607	256	yes	3,068		
Tennessee	4,778	27,308		32,086	1,928		1,928	338	yes	8,000		
Texas	22,421	154,618		177,039	6,056	1,093	7,149				yes	
Utah	4,141	10,399		14,540	559	45	604	184	yes	2,360	yes	2,740
Vermont	1,606	4,481		6,087	495	20	515	150	no		yes	1,520
Virginia	4,458	109,335		113,793	5,256	200	5,456	480	no		yes	1,802
Washington	5,943	11,299		17,242	1,292	250	1,542	150	no		yes	
West Virginia	4,102	44,585		48,687	2,657		2,657	200	yes	2,000	yes	2,000
Wisconsin	4,053	21,996		26,049	246		246		no		yes	
Wyoming	3,784	12,711	516	16,021	565	50	615	266	no		yes	3,194

Lane Miles Per Crew (cont'd)																		% Work Done By Contract		
(33c)		(34)	(35)	(36a)	(36b)	(36c)	(36d)	(36e)	(36f)	(37)	(37a)	(37b)	(37c)	(37d)	(37e)	(37f)	(38)	(39)	State
yes	3,157	no	yes																Alabama
yes	4,000	no	yes							yes					x	x	yes	20	Alaska
yes	5,300	yes		x	x	x	x	x		yes	x	x	x	x	x		yes	5	Arizona
yes	6,966	yes		x	x	x	x	x		yes	x	x	x				no		Arkansas
yes	3,460	yes			x			x	x	yes					x		yes	12	California
yes	3,181	yes		x	x			x	x	yes			x				yes	24	Colorado
yes	2,500	no	yes							no							yes	10	Connecticut
no		yes		x	x	x	x	x	x										Delaware
yes	3,885	yes				x	x	x	x	yes	x	x			x	x	yes	15	Florida
yes	4,190	yes		x			x	x	x	yes	x		x		x		no		Georgia
yes	556	no								no							yes	5	Hawaii
yes	3,458	yes		x	x	x		x	x	yes					x		yes	25	Idaho
yes	2,400	no	yes		x			x	x	yes	x		x		x	x	yes	15	Illinois
yes	1,484	yes		x	x	x	x	x	x	no							yes	47	Indiana
yes	4,129	no	yes							yes	x		x		x		yes	16	Iowa
yes	4,025	yes		x					x	yes	x	x	x		x	x	yes	9	Kansas
		yes		x	x	x	x	x	x								yes	4	Kentucky
yes	4,700	yes		x	x	x	x	x	x								no		Louisiana
yes	2,650	yes		x	x		x	x		yes	x	x	x			x			Maine
yes	2,300	yes		x	x	x		x		no							yes	30	Maryland
no		no	yes							no							yes	15	Massachusetts
yes	1,500	no	yes							yes	x		x		x	x	yes	73	Michigan
no		yes						x		yes	x	x	x		x		yes	7	Minnesota
yes	4,089	no	yes							yes	x	x	x		x		yes	25	Mississippi
yes	4,924	no	no							yes	x	x		x			no		Missouri
no		yes		x	x	x		x	x								no		Montana
yes	3,151	no	yes	x	x	x	x	x	x	yes					x		yes	10	Nebraska
yes	3,330	yes		x				x	x	yes	x		x		x		yes		Nevada
no		no	yes																New Hampshire
		yes		x	x	x	x	x	x	yes	x		x		x	x	yes	30	New Jersey
yes	8,240	yes		x	x			x		yes	x		x		x	x	yes	16	New Mexico
yes	2,125	yes		x	x		x	x	x	yes	x		x		x	x	yes	7	New York
yes	8,928	yes			x	x	x	x		yes	x	x	x		x		yes	5	North Carolina
		yes		x	x		x	x	x	yes	x		x		x		yes	10	North Dakota
		no	yes														yes		Ohio
yes	3,270	no								yes	x		x		x		yes	50	Oklahoma
yes	2,400	no	no							yes	x		x	x	x		yes	20	Oregon
yes	4,314	yes		x	x	x	x	x	x	no							yes	40	Pennsylvania
no		no	yes							no									Rhode Island
yes	8,621	no								yes	x		x		x		yes	22	South Carolina
		no	yes							yes	x		x			x	yes	20	South Dakota
		no	yes							yes	x		x				yes	35	Tennessee
yes		yes						x		yes	x		x				yes	20	Texas
yes	2,740	yes		x		x		x	x	yes					x		yes	21	Utah
yes	2,030	part		x		x	x	x		no									Vermont
yes	4,500	yes		x	x	x		x	x	yes	x		x		x		yes	40	Virginia
no		yes		x	x	x	x	x	x	yes	x	x	x	x	x	x	yes	18	Washington
yes	2,000	yes		x	x	x	x	x	x	yes	x				x		yes	5	West Virginia
yes		no	no							yes	x				x				Wisconsin
yes	1,597	yes				x		x	x	yes	x		x		x		yes	11	Wyoming