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PROJECT LATEDAY: THE LEVEL OF ACCIDENTS UNDER THE EFFECT OF DAYLIGHT SAVING ALL YEAR

David S. Prerau

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16. Abstract

Year-round daylight saving time (YRDST) has recently been observed in the United States. The observance of double daylight saving time (DDST) is under some consideration. One of the principal expected effects of the adoption of these time systems is a change in the level of motor vehicle accidents.

The objective of this study was to determine the effect of year-round daylight saving time and of year-round double daylight saving time on the motor vehicle accident rate.

An experiment was designed to employ computer analysis of available motor vehicle accident data to model the accident situation in the United States under YRDST and DDST. The Daylight Savings Equivalent Day, a novel concept, was developed to allow the available data, from non-YRDST and non-DDST years, to be used to find an estimate of the effect of YRDST and DDST.

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PREFACE

In response to the need for information on the effects of daylight saving time and double daylight saving time on the motor vehicle accident rate, this study was performed at the Transportation Systems Center for the National Highway Traffic Safety Administration.

The author is a member of the Data Technology Branch, Information Sciences Division, Office of Engineering of the Transportation Systems Center.

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1. INTRODUCTION AND SUMMARY

Year-round daylight saving time (YRDST) has recently been observed in the United States. The observance of double daylight saving time (DDST) is under consideration. One of the principal expected effects of the adoption of these time systems is a change in the level of motor vehicle accidents. For this reason, Project LATEDAY was initiated to determine the Level of Accidents under The Effect of Daylight saving All Year.

The two principal objectives of Project LATEDAY were:

1. The determination of an estimate of the level of motor vehicle accidents under the effect of year-round daylight saving time.
2. The determination of an estimate of the level of motor vehicle accidents under the effect of year-round double daylight saving time.

These objectives were accomplished through a computer analysis of currently available motor vehicle accident data. An experiment was designed which made use of these data to model the accident situation in the United States under year-round DST and under DDST. A novel technique, the Daylight Saving Equivalent Day approach, was developed to allow data from non-YRDST and non-DDST years to be used to find an estimate of the effect of YRDST and of DDST.

The results of Project LATEDAY show that under YRDST there would be an increase in morning accidents and a somewhat smaller increase in evening accidents, as compared to a six-month DST/six-month standard time system. Based upon these results, an increase in yearly motor vehicle accidnets of the order of one-half to one percent is estimated if YRDST is introduced.

Under DDST, the results of Project LATEDAY show a large increase in morning accidents and a moderate increase in evening accidents compared to the six-six system. Based upon these results, an increase in yearly motor vehicle accidents of the order of four percent is estimated if DDST is introduced.

It should be noted that these results are only estimates, based upon data that were not necessarily fully representative. Furthermore, the Equivalent Day methodology, though possibly the best available technique, was based upon a set of assumptions which may not be entirely satisfied. Thus, the results should be considered only as an indication that there would be a greater number of motor vehicle accidents under YRDST or under DDST than there would be under a policy of six months DST and six months standard time, as was previously in effect.

2. DAYLIGHT SAVING TIME IN THE UNITED STATES

The idea of advancing clock time to make the best use of daylight seems to have originated, as many good ideas have, with Benjamin Franklin in 1784. Not until World War I, however, did pressures for fuel conservation and increased national efficiency finally produce action. The Standard Time Act of 1918 officially divided the country into time zones and established seven months of daylight saving time (one hour advanced) from the last Sunday in March to the last Sunday in October. The Interstate Commerce Commission was empowered to fix time zone boundaries and to govern time regulation.

Following the war, the daylight saving time provision was repealed, and from 1920 to 1942 DST was at local option. During World War II, Year Round DST (called "War Time") was introduced, primarily for power conservation reasons. "War Time" was repealed at the close of the war in 1945. From 1946 to 1966, DST was again at local option, with each locality free to choose whether to have DST and when the DST period should begin and end.

In 1966, the Uniform Time Act was adopted to standardize the use of DST throughout the country. The Act provided that all states were to be on daylight saving time from the last Sunday in April until the last Sunday in October. Exemptions were allowed only for complete states, by acts of their legislatures. Under an amendment to the Act, state legislatures of states that are in two time zones may also exempt the entire area of the state lying within one of the time-zones.

With its establishment in 1967, the Department of Transportation took over from the Interstate Commerce Commission the function of fixing time-zone boundaries. It also assumed responsibility for policing the observance of the Uniform Time Act.

In December 1973, under the impetus of the Energy Crisis, the Emergency Daylight Saving Time Energy Conservation Act of 1973 was passed. It provides that full-year daylight saving time shall be in effect in the entire country, from January 1974 until April (and

therefore October) 1975. Exemptions are allowed only for:

1. One time zone of a two-or-more time zone state,
2. A state in one time zone and not contiguous to any other state, and
3. Hardship declared by proclamation of the Governor of a state prior to the effective date of the Act.

The Act directs the Secretary of Transportation to submit two reports to the Congress on the effects of this Act, including recommendations for legislative or other action: an Interim Report, due June 1974, and a Final Report, due June 1975.

3. EFFECTS OF LIGHT ON MOTOR VEHICLE ACCIDENTS

It is generally accepted that the presence of daylight decreases the motor vehicle fatality rate and the absence of daylight increases the motor vehicle fatality rate. A National Safety Council report shown in Table 3-1 shows a higher fatality rate at night than during the day. Other factors (e.g., differences in driver speeds or driver intoxication) may be responsible for some of this disparity, but the light effect is probably at least a partial cause.

TABLE 3-1. DEATHS AND DEATH RATES BY DAY AND NIGHT

URBAN/RURAL	DAY/NIGHT	PERCENT OF DEATHS	DEATH RATES*
Total	Day	47%	3.1
	Night	53%	8.3
Urban	Day	47%	1.9
	Night	53%	5.2
Rural	Day	47%	4.3
	Night	53%	11.6

*Deaths per 100,000,000 vehicle miles

Source: "1972 Accident Facts" National Safety Council

YRDST causes the light pattern to shift one hour back as compared to standard time. Thus morning periods that would have had light under standard time are dark under YRDST, and evening periods that would have been dark under standard time are light under YRDST. With this change of light pattern should come a corresponding change in the accident rate, so that the affected morning hours should have a higher accident rate and the affected evening hours should have a lower accident rate. Under the assumption that the traffic pattern

(vehicle-miles per hour) remains unaffected by YRDST, the new accident rates can be applied to the daily traffic pattern to find an estimate of the total accidents under YRDST.

However, it is not clear that the daily traffic pattern remains unchanged under YRDST. There are three classes of effects that might be expected. First, the shift in daylight of one hour might cause a complete shift in activity of one hour for people in "daylight-oriented" activities. This might include persons in occupations such as farming, construction work, etc., where light is more important than clock time, and persons not working, such as retired people and those on a day off from work. Second, there may be a time change of certain trips. With an extra hour of light in the evening, some trips such as midday shopping may be deferred to the evening. Third, new trips may be generated. For example, an extra hour of light in the evening may induce some additional recreational travel, such as an evening swim, baseball game, or tennis match, that might not have been scheduled if darkness occurred an hour earlier.

For this reason, an approach to the determination of the level of accidents under YRDST (and similarly under DDST) should not discount a change in traffic pattern. As will be seen, the approach used in this study finds days upon which the sunrise/sunset (and therefore the traffic patterns affected by them) are the same as they would be under YRDST or under DDST, and uses these days for comparison purposes.

4. AVAILABLE DATA

The best source of motor vehicle accident data available to this project was the set of Standard Accident File Extract (SAFE) Computer Tapes which were prepared under contract to the National Highway Traffic Safety Administration (NHTSA). These tapes contain, in a standardized format, information concerning each reported motor vehicle accident in a state for a given year. The original accident data were taken from state Accident Data Tapes (ADTs), which were supplied to NHTSA by the individual states. The contractor prepared individual computer programs to convert the data from each ADT into the SAFE standard format.

The SAFE standard format specifies the form in which the data for each accident are placed on the SAFE tapes. Each group of records of the tapes contains data for one accident. The data are broken into several categories:

1. Modified Accident Severity Index (e.g., total number of people severely injured)
2. Accident Related Factors (e.g., date, time)
3. Vehicle Identification (e.g., make, model)
4. Vehicle Dynamics (e.g., speed)
5. Roadway Data (e.g., number of lanes)
6. Occupant Data (e.g., driver, age, sobriety)
7. Non-occupant Factors (e.g., pedestrian age, sobriety)
8. Special Data (e.g., destination for buses).

An analysis of the data available and the methodology to be used by this project determined that data from only the first two categories would be needed. Since tape processing on a computer is costly, it was decided to have excerpted SAFE tapes produced specifically for Project LATEDAY. These LATEDAY tapes would contain, for each accident, only those records of the SAFE tapes in which the necessary data resided.

LATEDAY tapes were produced, under contract to the sponsor, for all state-year pairs for which the corresponding SAFE tape data were available and usable. Most were produced from SAFE tapes, but a few were produced directly from state ADTs.

After eliminating all LATEDAY tapes that had obvious errors or other problems, there remained a total of 20 LATEDAY tapes which could be used in this project, as listed in Table 4-1. Note that the accident data are all for either 1971 or 1972.

The LATEDAY tape format for each accident is shown in Table 4-2. It consists of one 36-byte record. The first half-record is a copy of the first 18 bytes of the Modified Accident Severity Index. The second half-record is a copy of the first 18 bytes of Accident Related Factors. Only those bytes used by the LATEDAY programs are indicated in Table 4-2. The other bytes are included to adhere to the SAFE tape format, and the corresponding SAFE tape information usually does appear there. However, for those LATEDAY tapes produced directly from the ADTs these bytes may be blank.

It should be noted that the SAFE tape format (and thus the LATEDAY tape format) shows the time of each accident as local time without any indication of the time zone. The location of the accident within the state is also not included in the SAFE information. Therefore, for a state which is split into two time zones, it is impossible to determine in which of the time zones an accident occurred. Since knowledge of the time of the accident relative to sunrise or sunset is necessary to determine a DST effect, the SAFE data for states split into two time zones may not be acceptable for use in this project. Of the eleven such states for 1971-1972, only a few had SAFE data available. Of these, only two were used: Kansas, which had over 99% of its population on one side of the time zone boundary, and Texas, which had over 96% of its population on one side of the time zone boundary.

TABLE 4-1. LATEDAY TAPES USED

1971 (5)

District of Columbia (DC)
Maine (ME)
South Carolina (SC)
Utah (UT)
Vermont (VT)

1972 (15)

California (CA)
Connecticut (CT)
Delaware (DE)
District of Columbia (DC)
Georgia (GA)
Kansas (KS)
Michigan (MI)
Missouri (MO)
New Hampshire (NH)
New Mexico (NM)
Oklahoma (OK)
Pennsylvania (PA)
South Carolina (SC)
Texas (TX)
Washington (WA)

TABLE 4-2. LATEDAY TAPE FORMAT

Bytes	Contents	Code
1-2	Unused	
3	Total number of fatalities	'0' to '9' = 0 to 9 'A' to 'X' = 10 to 28 'Y' = over 28
4-7	Unused	
8	Total number of non-fatal injuries.	Same as Byte 3
9-19	Unused	
20-21	Year	For example '72' = 1972
22-23	Month	'01' to '12' = January to December
24-25	Day of month	'01' to '31' = 1st to 31st
26-28	Unused	
29-32	Military clock time	'0000' to '2359' = Midnight to 11:59 p.m.
33-36	Unused	

For all Bytes:
* = unknown/not stated
blank = not reportable

5. DAYLIGHT SAVING EQUIVALENT DAY METHODOLOGY

The principal technical problem faced in Project LATEDAY was that of using data which came from years when neither Year Round Daylight Saving Time nor Double Daylight Saving Time were in effect to determine the impact of YRDST and DDST upon motor vehicle accidents. A novel approach, the Daylight Saving Equivalent Day, was developed.

One method for investigating the effect of YRDST or DDST on motor vehicle accidents would be to compare the number of accidents in two similar periods, one on Standard Time and the other on Daylight Saving Time or Double Daylight Saving Time. There were two obstacles to such a comparison: first, as mentioned, data were not available for two such periods; second, even if such data were available, changes in motor-vehicle accidents observed between the two periods may be caused by factors other than Daylight Saving Time, e.g., weather patterns.

To overcome these obstacles, the Daylight Saving Equivalent Day Approach was devised. It enables a comparison to be made, in effect, between a Standard Time period and a YRDST or DDST period. In addition, it allows the impact of YRDST or DDST upon motor vehicle accidents to be isolated from the changes due to other factors.

5.1 THE DAYLIGHT SAVING EQUIVALENT DAY

The approach used in this project is based upon the Daylight Saving Equivalent Day. This and the following two sections will consider this concept as applied to the study of Year Round Daylight Saving Time. The application to Double Daylight Saving Time will be discussed in Section 5.4.

The accident data available to this project were for years (1971 and 1972) which had six months of DST. The sunrise and sunset curves for such years, for a typical location in the United States, are shown as solid lines in Figure 5-1. If these years had

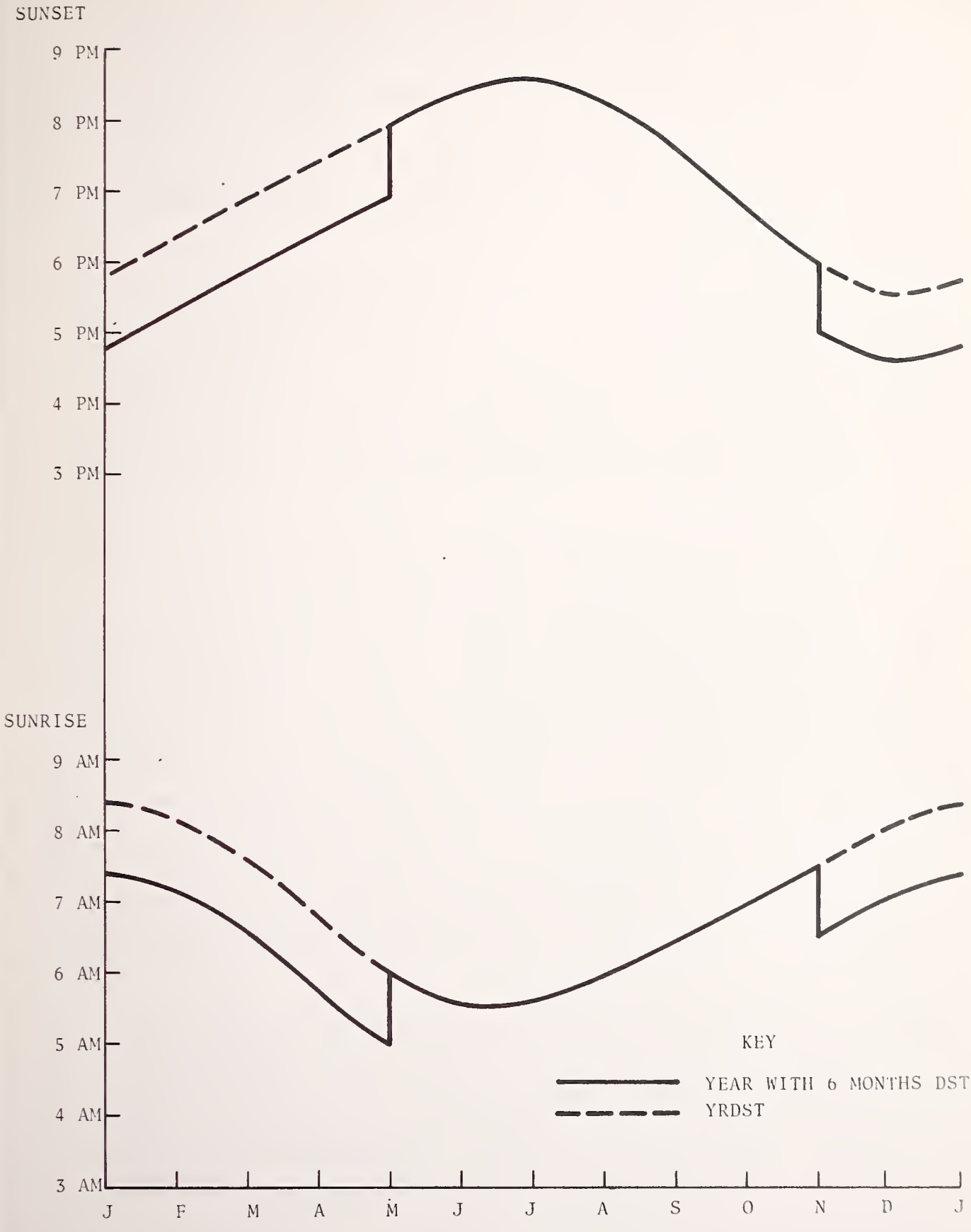

Figure 5-1. 1972 Sunrise and Sunset, 40°N Latitude

Year Round DST, the sunrise and sunset curves would follow the broken lines in Figure 5-1. The problem is therefore to use accident data which are available only for days that have their sunrise and sunset on the solid line to estimate the number of accidents on days that have their sunrise and sunset on the broken lines. The Daylight Saving Equivalent Day Approach was designed to do this, as will now be discussed.

To determine the impact of imposing YRDST upon a Standard Time day, a Daylight Saving Equivalent Day corresponding to the given day is found. The Daylight Saving Equivalent Day is defined as a day which has its sunrise one hour later than the sunrise of the given day and which has its sunset one hour later than the sunset of the given day. Thus, it is the equivalent of the Standard Time day having DST.

Using the definition of Equivalent Day, the basic idea behind the Daylight Saving Equivalent Day Approach can be stated as follows: If, for a given Standard Time day, such an Equivalent Day can be found from among the actual days for which data are available, then the number of accidents that were recorded on the Standard Time day can be compared against the number of accidents recorded on the Equivalent Day. All other things being equal, the only difference between the two days would be the one hour difference in sunrise and sunset time. Thus, the comparison would show the effect of having DST on the Standard Time day. Finally, if such a comparison were made for all the Standard Time days of the year, the overall comparison would show the impact of having Year Round Daylight Saving Time.

The above is an idealized description of the Equivalent Day Approach. Practically, there are two major points that must be considered. First: do Equivalent Days exist for the Standard Time days of the data years and how should they be chosen? This will be discussed in the next section. Secondly: what should be done if "all other things" are not equal? This is discussed in Section 5.3.

5.2 SELECTION OF EQUIVALENT DAYS

In this section, the desirability of using composite Daylight Saving Equivalent Days and several considerations in their selection are discussed.

5.2.1 Composite Equivalent Days

Examination of the sunrise/sunset curves of Figure 5-1 reveals that there are very few Standard Time days in the year for which a day exists that has both a one hour later sunrise and a one hour later sunset. This is due to the approximately inverse shapes of the sunrise and sunset curves (i.e., a day with a later sunrise than a given day usually has an earlier sunset). Since no single Daylight Saving Equivalent Day exists for most of the Standard Time days of the year, it was decided that composite Equivalent Days would be used.

A composite Daylight Saving Equivalent Day is constructed out of two different days, one with its sunrise one hour later than the Standard Time day, and one with its sunset one hour later. For example, consider March 14 (a Standard Time day for the data years 1971 and 1972) in a city such as Denver (latitude 40°). Sunset occurs at 6:06 p.m. (see Figure 5-2). The Daylight Saving Equivalent Day for this day would therefore have a sunset time one hour later, 7:06 p.m. A search for such a day yields September 17, which is selected as the evening portion of the Daylight Saving Equivalent Day (or the Evening Equivalent Day), as shown in Figure 5-2. Similarly, sunrise in Denver on March 14 occurs at 6:14 a.m. (see Figure 5-3). The Daylight Saving Equivalent Day thus would have a sunrise time one hour later, 7:14 a.m. A search for such a day yields October 19, which is selected as the morning portion of the Daylight Saving Equivalent Day (or the Morning Equivalent Day) for March 14 for Denver, as shown in Figure 5-3. The composite Daylight Saving Equivalent Day is thus composed as follows:

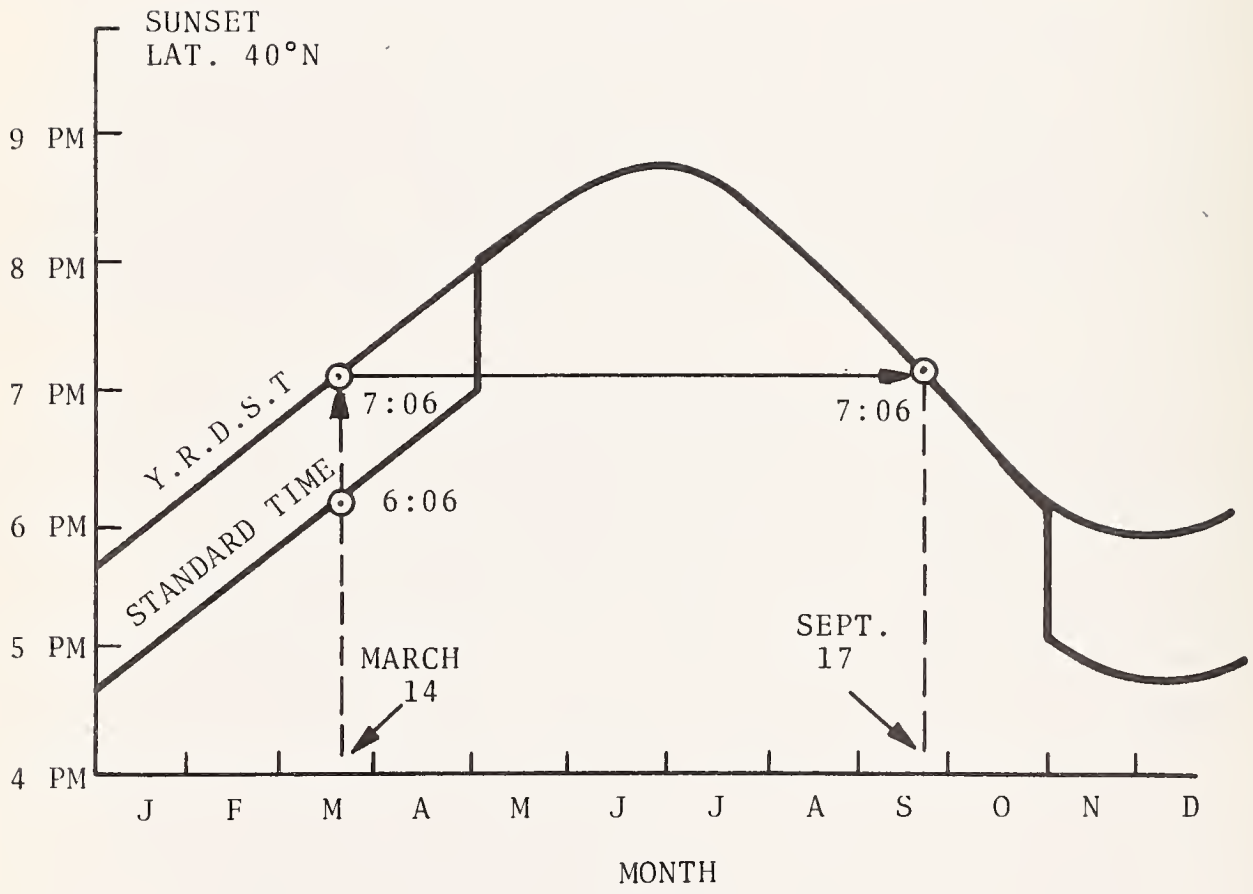

Figure 5-2. Determination of the Evening Portion of a Daylight Saving Equivalent Day

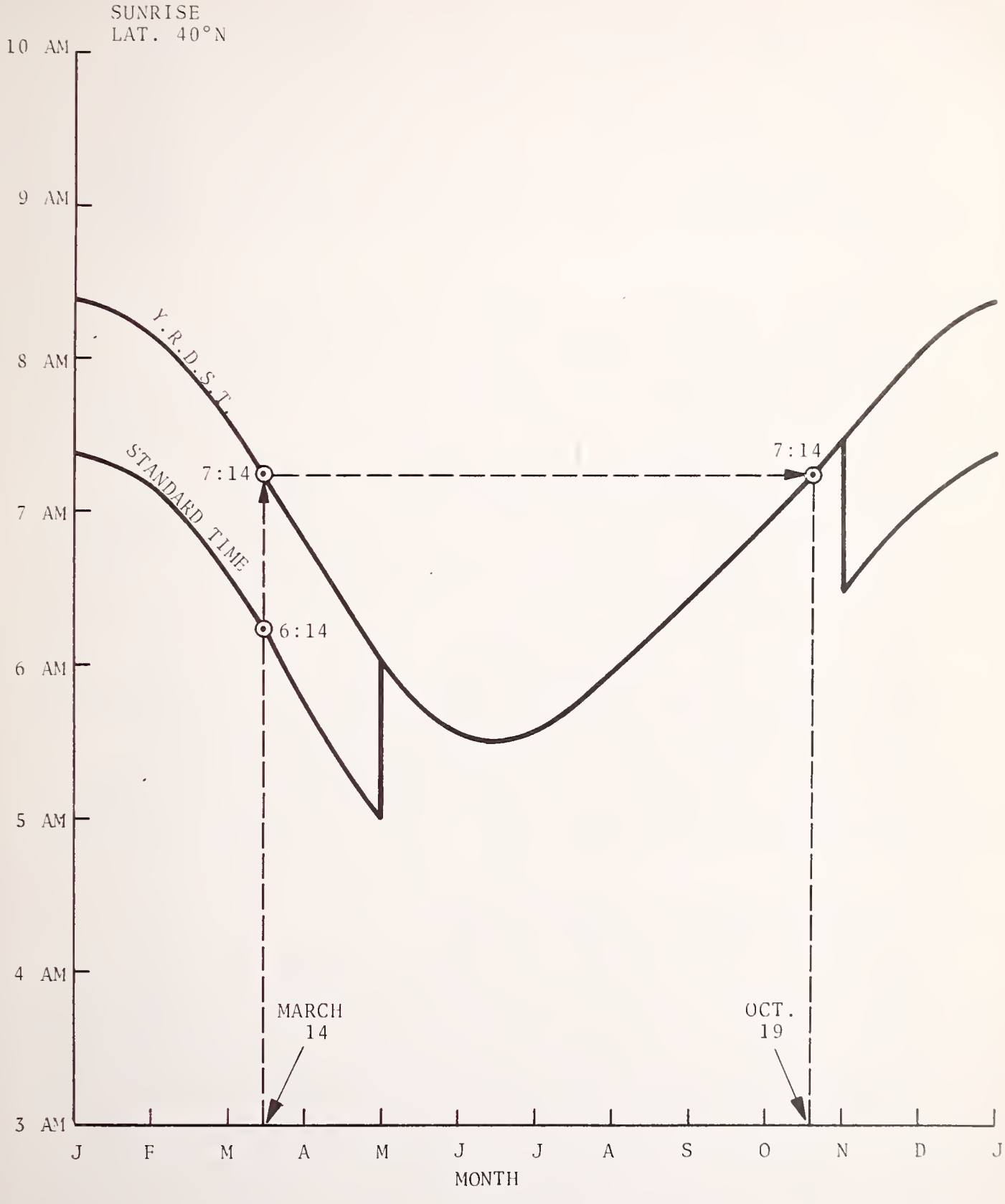

Figure 5-3. Determination of the Morning Portion of a Daylight Saving Equivalent Day

	Standard Time Day		Daylight Saving Equivalent Day
Sunrise	6:14 a.m.	March 14	7:14 a.m., Oct. 19
Sunset	6:06 p.m.		7:06 p.m., Sept. 17

Thus data on accidents for March 14 are compared with data for the morning portion of October 19 plus data for the evening portion of September 17.

5.2.2 Existence of Morning and Evening Equivalent Days

Using the sunset curve of Figure 5-4 it is possible to find the Evening Equivalent Day corresponding to each Standard Time day of the data years. These are shown in Figure 5-4. It can be seen that an Evening Equivalent Day exists for each Standard Time day; i.e., for approximately 180 days per year. For several Standard Time days, there are two possible Evening Equivalent Days. The method for choosing among two or more possible Equivalent Days is discussed in Section 5.2.7.

Similarly, using the sunrise curve of Figure 5-3, the Morning Equivalent Day(s) corresponding to each Standard Time day of the data years are shown in Figure 5-5. A Morning Equivalent Day exists for about one-third of the Standard Time days of the year; i.e., approximately 60 days per year. For most Standard Time days, there are two or more possible Morning Equivalent Days.

5.2.3 Latitude-Longitude Considerations

The determination of Morning and Evening Equivalent Days is based upon the shape of the sunrise and sunset curves for the region of interest. However, a change in longitude at a given latitude does not change the shape of the curves significantly; it just increases or decreases all of the values by approximately the same constant, as shown in Figure 5-6. Therefore, as the example in the figure indicates, two regions with the same latitude will have the same set of Morning and Evening Equivalent Days.

Latitude changes, however, do not change the shape of the sunrise/sunset curves, as illustrated in Figure 5-7. This figure shows that at different latitudes the same day can have significantly

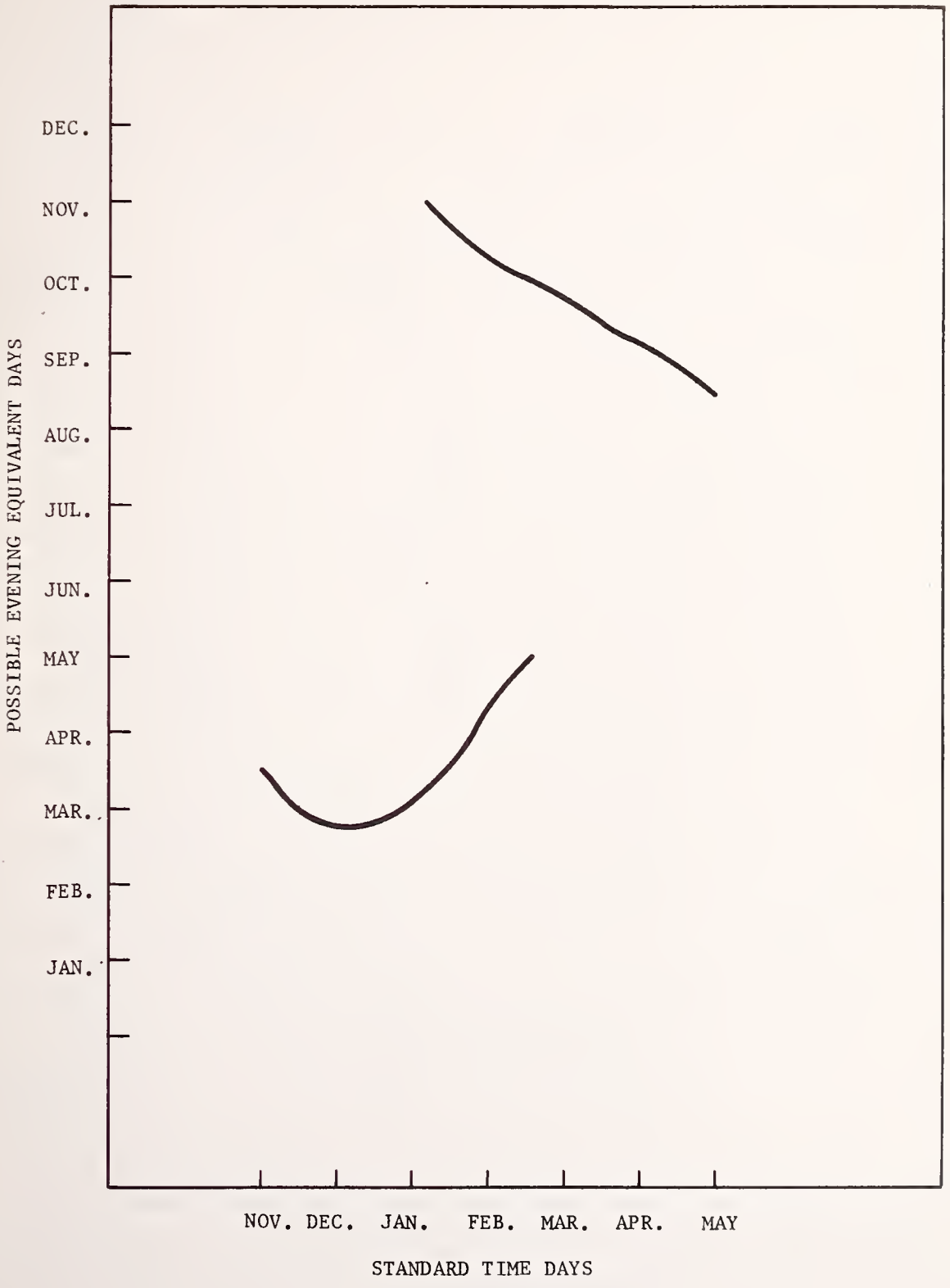

Figure 5-4. Evening Equivalent Days Corresponding to the Standard Time Days of the Year

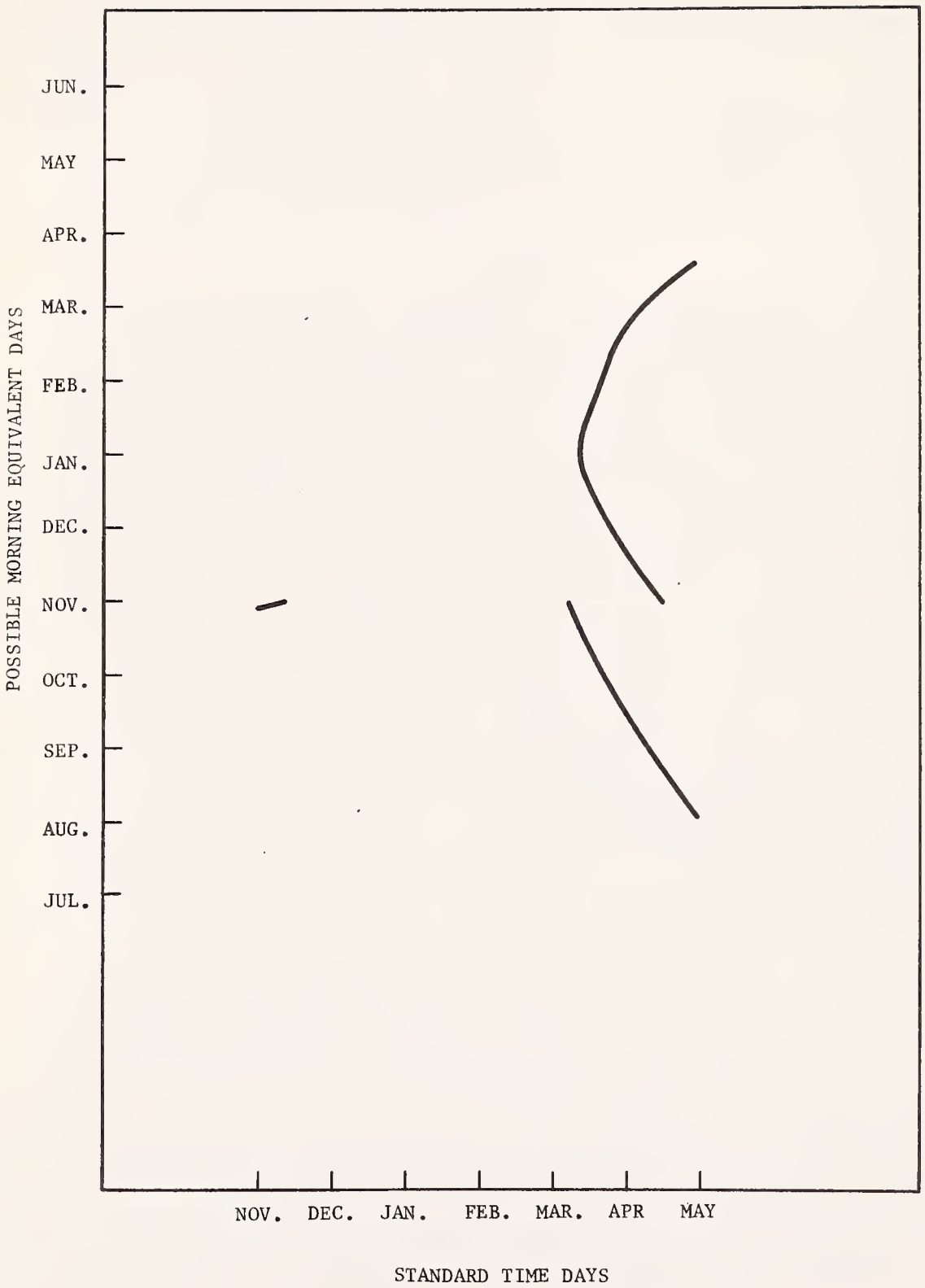

Figure 5-5. Morning Equivalent Days Corresponding to the Standard Time Days of the Year

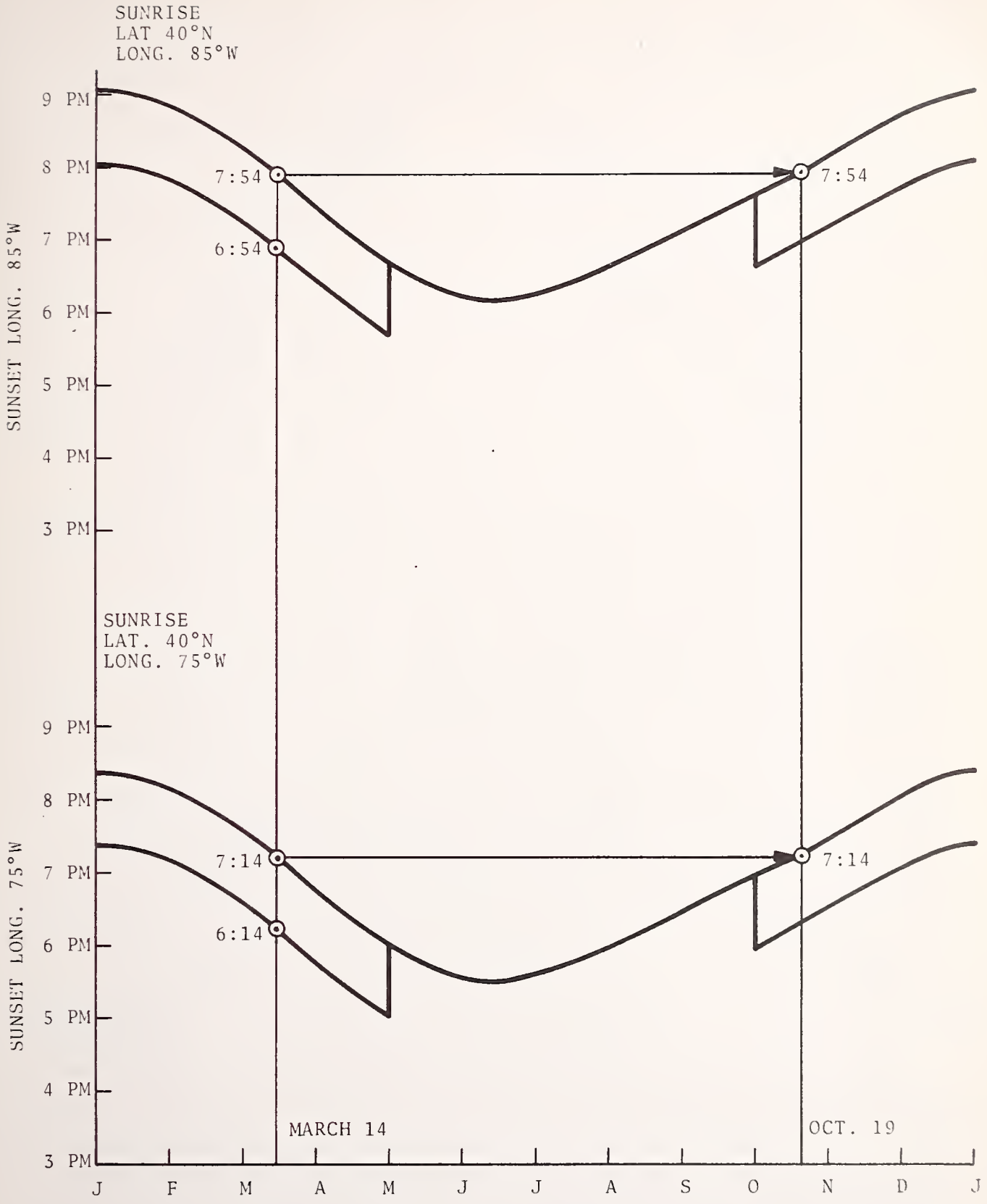

Figure 5-6. Equivalent Days for Two Different Longitudes at the Same Latitude

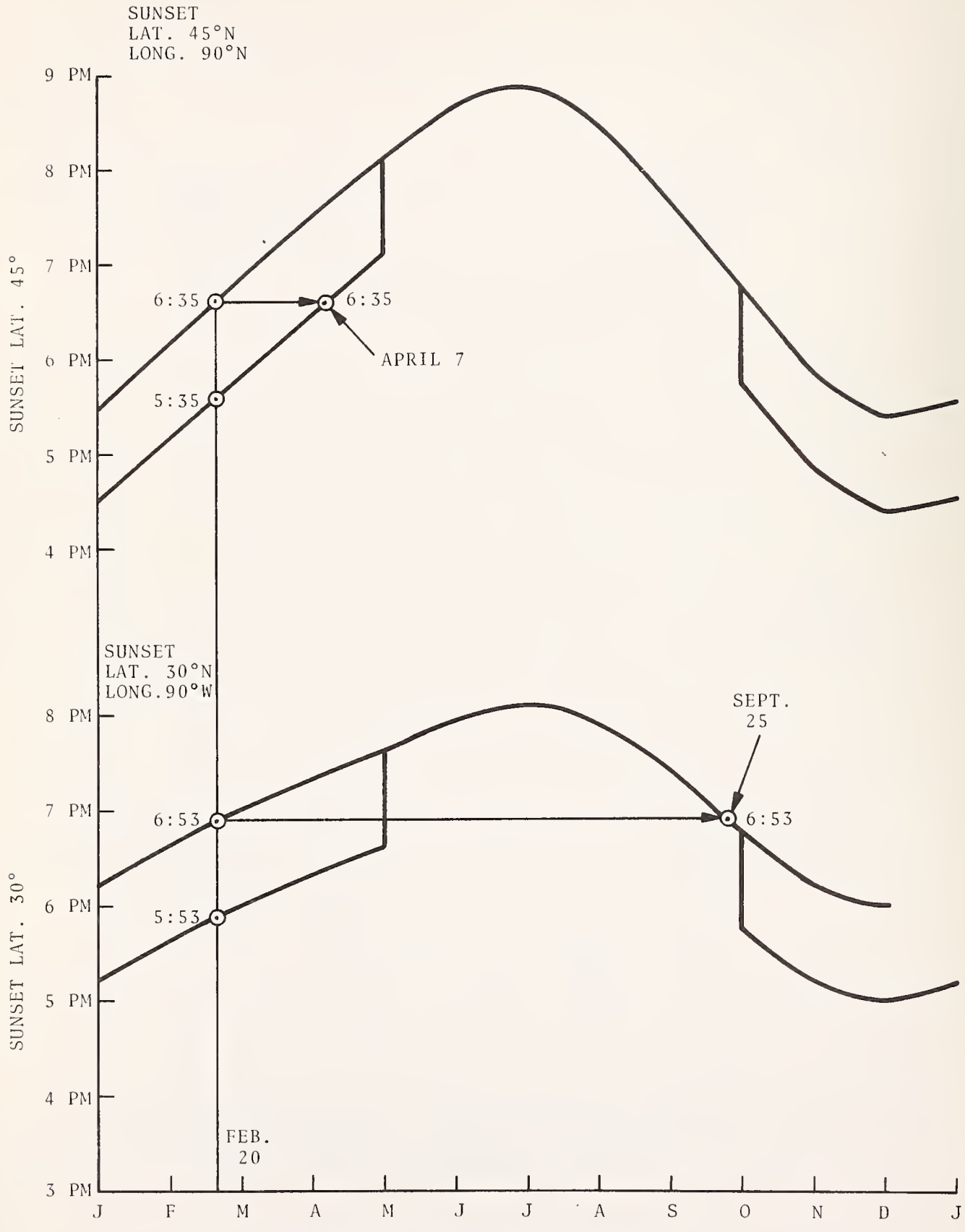

Figure 5-7. Equivalent Day for Two Different Latitudes at the Same Longitude

different Equivalent Days. Therefore, as shown, the Daylight Saving Equivalent Day is a function of latitude. Thus, for each region of interest, the central latitude is used to determine the set of Equivalent Days, and longitude is not considered.

5.2.4 Base Region for Accident Data

Since the data are available by state and year, it was decided that the basic region for use in accident comparisons would be the state. The geographical center of each state was found, and the states were tabulated by the latitude (to the nearest whole degree) of their geographical centers (see Table 5-1). This latitude was used to specify the sunrise/sunset curves which were used to find the Equivalent Days for each state.

The central latitude of a state will, for an average state, be no more than 2° of latitude from the latitude extremes, with a maximum of about 5° for all states except Alaska. Data on the location of an accident within a state are not available using SAFE data. If such data became available, some slight gain in accuracy might be made by breaking up states with large latitude spreads into two or more regions.

5.2.5 Same-Day-of-the-Week Equivalent Days

In comparing the number of accidents on a Standard Time day against the number of accidents on its Equivalent Day there may be a problem if the two days occur on different days of the week. This is illustrated in Table 5-2, which shows the average number of accidents for each day of the week for three states. It can be seen that there can be large differences between the numbers of accidents on two different days of the week. Therefore, a difference in accidents between a day and its Equivalent Day may be due to the difference in day of the week and not due to DST.

To eliminate this problem, it was decided that an Equivalent Day would only be chosen to be the same day of the week as its corresponding Standard Time day. Thus, if the Standard Time day is a Thursday, then both its Morning Equivalent Day and its Evening

TABLE 5-1. GEOGRAPHIC CENTER LATITUDES

LATITUDE	STATE
47°	Montana, North Dakota, Washington
46°	Minnesota
45°	Maine
44°	Idaho, Michigan, South Dakota, Vermont, Wisconsin
43°	New Hampshire, New York, Wyoming
42°	Iowa, Massachusetts
41°	Connecticut, Nebraska, Pennsylvania, Rhode Island
40°	Illinois, Indiana, New Jersey, Ohio
39°	Colorado, Delaware, District of Columbia, Maryland, Nevada, Utah
38°	Kansas, Missouri, West Virginia
37°	California, Kentucky, Virginia
36°	
35°	Arkansas, North Carolina, Oklahoma, Tennessee
34°	Arizona, New Mexico, South Carolina
33°	
32°	Alabama, Georgia, Mississippi
31°	Louisiana, Texas
30°	
29°	Florida

TABLE 5-2. AVERAGE NUMBER OF 1972 INJURY-CAUSING ACCIDENTS BY DAY OF THE WEEK FOR THREE SELECTED STATES

Day of the Week	California	Kansas	Vermont
Monday	448.7	52.4	10.9
Tuesday	439.5	54.1	10.2
Wednesday	446.5	54.3	10.4
Thursday	464.0	55.2	13.1
Friday	634.9	76.2	19.0
Saturday	582.2	72.2	19.1
Sunday	442.5	42.3	11.8

Equivalent Day are chosen to be Thursdays. This introduces a slight inaccuracy, since the Equivalent Day may not have a sunrise (sunset) exactly one hour later than that of the Standard Time day. However, whatever day of the week the Equivalent Day would normally have been, changing it to another specified day of the week requires a shift of no more than three days. Since sunrise (sunset) times typically change between zero and two minutes per day, the new Equivalent Day will usually be no more than three to five minutes off from the desired sixty minute difference between Standard Time day and Equivalent Day. To eliminate any large deviations from the desired sixty minute difference, we can consider that no Equivalent Day exists whenever the best same-day-of-the-week Equivalent Day has a deviation more than a specified amount (e.g., five minutes).

5.2.6 Holidays

It is well known that the traffic pattern on a holiday often differs greatly from the "normal" traffic pattern that would have occurred on the same day if it were not a holiday. Thus, if a Standard Time day and its Equivalent Day are being compared and if either or both are holidays, a difference in accidents may well be due in large part to the unusual holiday traffic patterns rather than being due to a DST effect. Since there are typically just eight to ten legal holidays per year in a state it was decided that it

would be reasonable to eliminate the holidays from consideration rather than to try to adjust for holiday traffic behavior. Since the traffic on the evening before a holiday is often affected by the holiday, these were also eliminated.

Each state was contacted to determine the legal holidays for the data years. All of these holidays and all the evenings before the holidays were then eliminated from both the list of Standard Time days and the list of possible Equivalent Days.

5.2.7 Choosing Between Multiple Equivalent Days

As mentioned in Section 5.2.2, and shown in Figures 5-4 and 5-5, more than one Morning or Evening Equivalent Day often corresponds to a given Standard Time day. An example is shown in Figure 5-8. Since it was convenient in the processing to have a unique Morning Equivalent Day and a unique Evening Equivalent Day corresponding to each Standard Time day, a method for choosing between multiple Equivalent Days was developed.

One method of choosing between multiple Equivalent Days would be to choose the Equivalent Day nearest to the Standard Time day. However, the major non-DST differences between two days that can affect accidents are differences related to weather. Therefore, it is preferable to choose the Equivalent Day closest to the Standard Time day in weather.

As a gross approximation to the yearly weather pattern, the following function was used:

$$\text{WEATHER FUNCTION} \equiv \text{WF} \equiv \text{Cos}\left(2\pi\frac{\text{DAY} - 32}{366}\right) .$$

As shown in Figure 5-9, this function will be +1 for February 1 (Day number 32 of the year) which might be considered the middle of winter. Also, WF will be -1 on August 2, approximately the middle of summer. It will be near zero for spring and fall. Thus, when there are multiple Equivalent Days, the Equivalent Day which has its Weather Function closest to that of the Standard Time Day will be chosen.

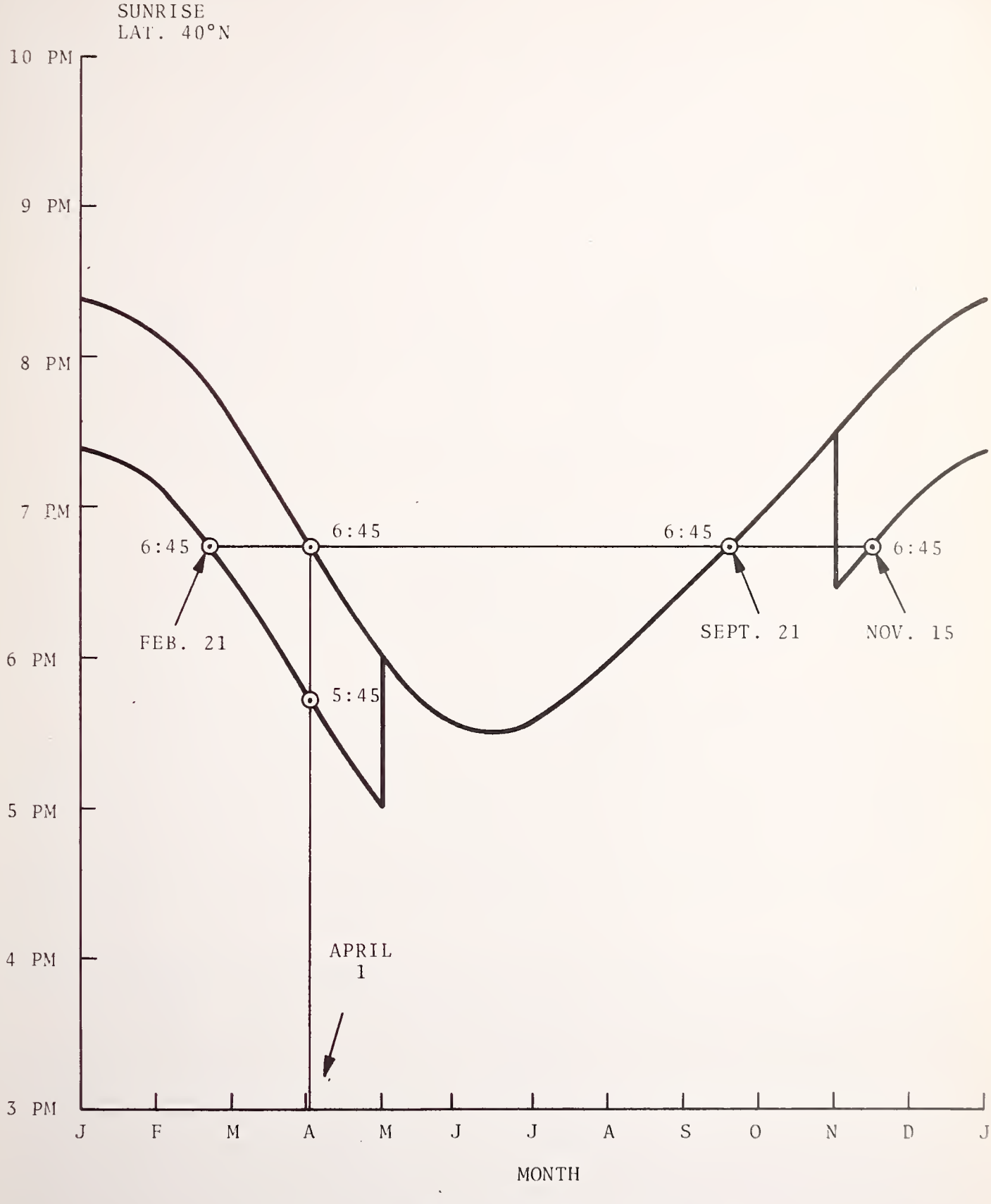

Figure 5-8. Multiple Equivalent Days

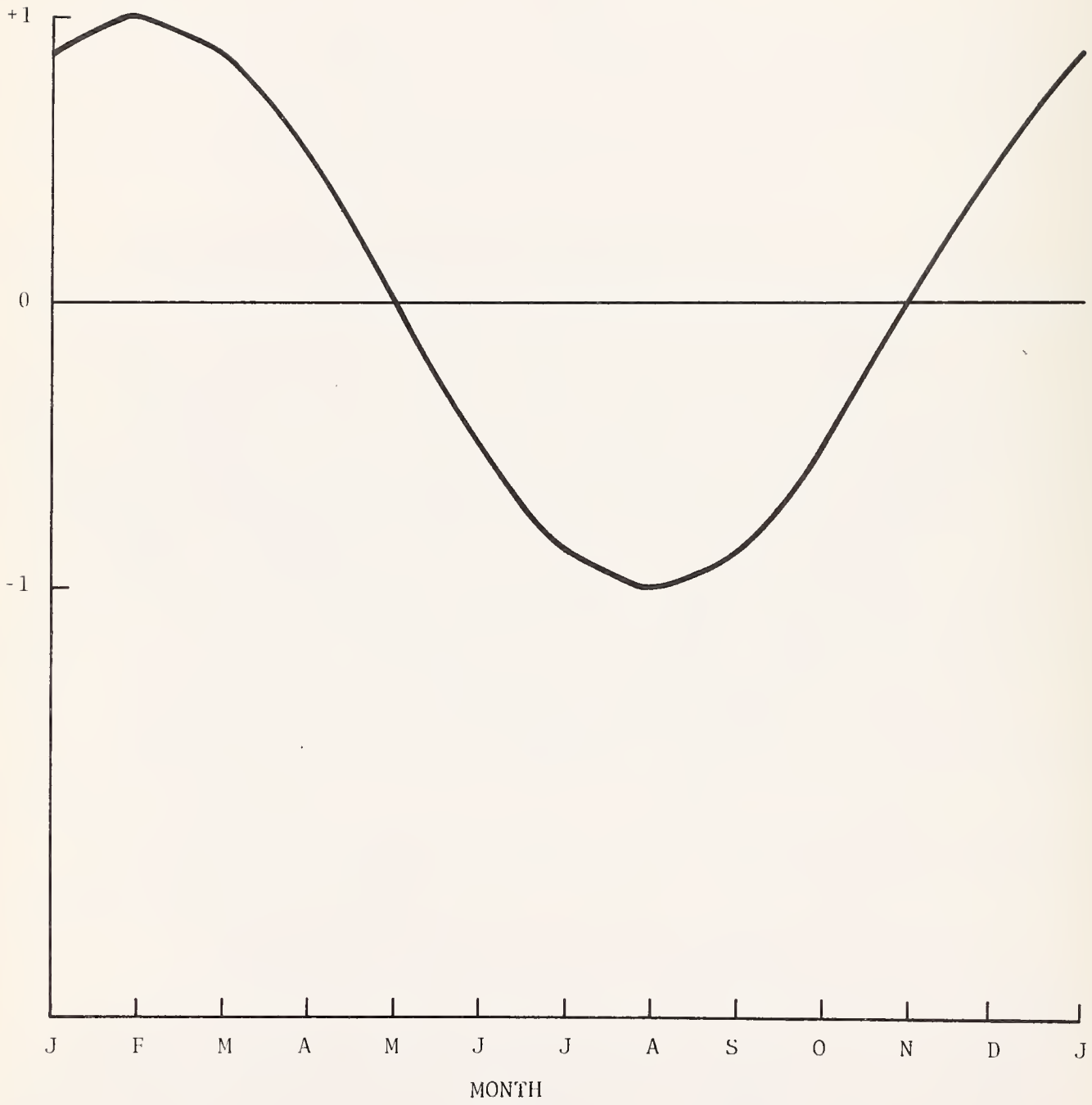

Figure 5-9. The Weather Function

As an example of this process, consider the multiple Morning Equivalent Days shown in Figure 5-8. This figure shows that for April 1, at 40°N latitude, there are three possible Equivalent Mornings (ignoring same-day-of-the-week Equivalent Days for this example): February 21, September 20, and November 15.

The WF value for April 1, the Standard Time day, is found to be 0.5148. The WF values for the three possible Morning Equivalent Days are found, yielding the following:

DAY	WF(DAY)	|WF(DAY)-WF(APRIL 1)|
February 21	.9416	0.4268
September 20	-.6666	1.1814
November 15	.2297	0.2851

Thus November 15 has the closest WF to that of April 1 and is chosen as the Morning Equivalent Day. Note that though February 21 is only 40 days from April 1, whereas November 15 is 98 days away, November 15 is chosen since it should be somewhat closer in weather to April 1.

The use of same-day-of-the-week Equivalent Days makes the choice of a method for finding a unique Morning or Evening Equivalent Day less critical. It is not usually possible to find two Equivalent Days both equally close to the desired sunrise (sunset) time and both of the same-day-of-the-week as the Standard Time day. However, when such a situation does occur, the above procedure is used.

5.2.8 Influenced Periods

A change from Standard Time to Daylight Saving Time will have its greatest effect on motor-vehicle accidents in certain parts of the day (those near sunrise and sunset) and may have essentially no effect on accidents in certain other parts of the day (those near noon and midnight). Therefore, the morning and evening periods for which data are collected and for which the comparisons of Standard Time days and Equivalent Days are made can be defined to exclude

those parts of the day in which the change will not influence motor vehicle accidents. This divides the day into those parts (morning and evening) in which accidents may be influenced by DST and those parts (midday and night) in which accidents are considered not to be influenced by DST.

For convenience of computation, it is desirable to make standard definitions of the morning and evening periods that will apply for all state-years. Also, since the effect of the change to DST will be in the hours near sunrise and sunset, the morning and evening periods must be chosen so that all sunrises and sunsets (both Standard Time and DST) for all parts of the country for all parts of the year are included in the defined periods. These considerations led to the choice of 4 a.m. to 10 a.m. as the Morning period, and 4 p.m. to 10 p.m. as the Evening period. This splits each twenty-four hours into four quarter-days:

4 a.m. to 10 a.m.:	Morning (DST-Influenced)
10 a.m. to 4 p.m.:	Midday (DST-Uninfluenced)
4 p.m. to 10 p.m.:	Evening (DST-Influenced)
10 p.m. to 4 a.m.:	Night (DST-Uninfluenced)

Therefore, when the Equivalent Day approach requires a comparison of Morning or Evening accidents, the number of accidents for the particular six hour period, as just defined, is used.

5.3 ISOLATING THE EFFECTS OF DAYLIGHT SAVING TIME

To find the effect of DST on motor vehicle accidents, the Equivalent Day approach compares the number of accidents on several pairs of days, each pair consisting of a Standard Time day and its corresponding Daylight Saving Equivalent Day. The discovered difference in accidents will be due partly to Daylight Saving Time, but will also be due to any differences in other accident-affecting factors (such as weather) that might exist between the set of Standard Time days and the set of Equivalent Days. Thus, to find the impact of DST, its effect must be isolated from the effects of other accident-related factors. There are two methods of treating this situation: one is to make an assumption of randomization; the other is to use a normalization technique.

5.3.1 Assumption of Randomization

The simplest way to treat the problem of isolating the effects of DST is to use a sufficiently large set of data so that the assumption can be made that the random effects of non-DST accident factors are balanced out. Accident data were available for 20 state-years. For each state-year there were about 60 Standard Time days with Equivalent Mornings, for a total of 1119 Morning-Equivalent Morning pairs. Also, for each state-year there were about 160 days with Equivalent Evenings, for a total of 3192 Evening-Equivalent Evening pairs. Let us consider the assumption that any effect of non-DST accident factors on the 1119 Standard Time mornings and the 3192 Standard Time evenings was approximately balanced by a similar effect upon the 1119 Equivalent Mornings and the 3192 Equivalent Evenings. For accident factors that are truly random, this is a good assumption. However, since the Equivalent Days and Standard Time days often come from different parts of the year (see Figures 5-4 and 5-5), there may be a general bias which does not balance out over the large number of comparisons. If so, this will produce some degree of error in the results under the Randomization Assumption. This possibility of error leads to the use of the Normalization technique discussed in the next section.

The Randomization Assumption, however, does produce a direct comparison between Standard Time days and Equivalent Days, and thus does not introduce any additional assumptions in the attempt to isolate the DST effect. Therefore, there is some advantage to using this assumption. For this reason, and since it required little added computation, results based upon the Randomization Assumption method were computed in addition to those based upon the Normalization technique.

5.3.2 Normalization

Normalization is a procedure designed to isolate the effects of Daylight Saving Time from other effects, such as weather, which may influence the number of accidents. This procedure is applied to the pairs of Standard Time and Daylight Saving Equivalent Days. The normalization procedure separates each day into two parts: the

part of the day potentially influenced by Daylight Saving Time (i.e., morning and evening), and the part of the day uninfluenced by Daylight Saving Time (i.e, midday and night). Then for the two days in each pair the parts of the days influenced by Daylight Saving Time are compared, and the parts of the days uninfluenced by Daylight Saving Time are compared. Any change in the number of accidents in the hours influenced by Daylight Saving Time over and above the change in the uninfluenced hours is assumed to represent the effect of Daylight Saving Time.

A step by step description of the normalization methodology is presented below, followed by an example.

Step 1: Assumption of Isolated Day-Parts

Assume that for each day two parts can be isolated:

Part I = DST-Influenced parts of the day
(i.e., 4-10 a.m. and 4-10 p.m.)

Part U = DST-Uninfluenced parts of the day
(i.e., 10 a.m. - 4 p.m. and 10 p.m. - 4 a.m.)

Step 2: Values of Impact Parameters

Define four accident totals for each state-year:

U_{ST} = Total number of accidents for the uninfluenced hours of all Standard Time days that have Equivalent Days.

U_{EQ} = Total number of accidents for the uninfluenced hours of the corresponding Equivalent Days.

I_{ST} = Total number of accidents for the influenced hours of all Standard Time days that have Equivalent Days.

I_{EQ} = Total number of accidents for the influenced hours of the corresponding Equivalent Days.

The morning and evening periods are considered separately. For each morning (4 a.m. to 10 a.m.), the corresponding DST-uninfluenced hours are chosen to be the night preceding (10 p.m. to 4 a.m.) and the midday following (10 a.m. to 4 p.m.). For each evening (4 p.m. to 10 p.m.), the corresponding DST-uninfluenced hours are chosen to be the midday preceding (10 a.m. to 4 p.m.) and the night following (10 p.m. to 4 a.m.).

Step 3: Change Factors

Define two change factors:

Change factor for uninfluenced hours (this is the comparison between parts of the days uninfluenced by DST):

$$C_U = \frac{U_{EQ}}{U_{ST}}$$

Change factor for influenced hours (the comparison between parts of the days influenced by DST):

$$C_I = \frac{I_{EQ}}{I_{ST}}$$

Change factors are similar to percent changes. For example, a change factor of 1.03 corresponds to a 3% increase in accidents when going from the Standard Time day to the Equivalent Day; a change factor of 0.96 corresponds to a 4% decrease.

Step 4: Break Up C_I into a DST and a Non-DST Part

Change factor for DST influenced hours =
(Change factor due to DST) x (Change factor due to all other causes)

or

$$C_I = C_{I/DST} \times C_{I/OTHER}$$

Therefore

$$C_{I/DST} = \frac{C_I}{C_{I/OTHER}}$$

Step 5: Assumption of Same Non-DST Change in Both Day-Parts

Assume that the change due to all factors other than Daylight Saving Time is the same in both the influenced and uninfluenced hours, that is:

$$C_U = C_{I/OTHER}$$

Substituting this into the previous equation yields:

$$C_{I/DST} = \frac{C_I}{C_{I/OTHER}} = \frac{C_I}{C_U}$$

Step 6: Change in the DST-Influenced Hours Due to DST

Substituting the change factor definitions of Step 3 into the equation of Step 5 yields:

$$C_{I/DST} = \frac{\frac{I_{EQ}}{I_{ST}}}{\frac{U_{EQ}}{U_{ST}}}$$

and the percent change of accidents in the influenced hours due to DST can be found directly from $C_{I/DST}$.

Using the case of morning accidents in Michigan, 1972, as an example of this Equivalent Day Normalization procedure, we calculate:

I_{ST}=2468=Sum of morning (4 a.m. to 10 a.m.) injury-causing accidents on all Standard Time days that have Morning Equivalent Days.

I_{EQ}=2620=Sum of morning (4 a.m. to 10 a.m.) injury-causing accidents on all the corresponding Morning Equivalent Days.

U_{ST}=10277=Sum of all injury-causing accidents on the night preceding (10 p.m. to 4 a.m.) and the midday following (10 a.m. to 4 p.m.) each of the above Standard Time days.

U_{EQ}=10725=Sum of all injury-causing accidents on the night preceding (10 p.m. to 4 a.m.) and the midday following (10 a.m. to 4 p.m.) each of the above Morning Equivalent Days.

$$C_I = \frac{I_{EQ}}{I_{ST}} = \frac{2620}{2468} = 1.062 \text{ (i.e., + 6.2\%)}$$

$$C_U = \frac{U_{EQ}}{U_{ST}} = \frac{10725}{10277} = 1.044 \text{ (i.e., + 4.4\%)}$$

$$C_{I/DST} = \frac{C_I}{C_U} = \frac{1.062}{1.044} = 1.017 \text{ (i.e., + 1.7\%)}$$

Note that the Normalization technique is based upon the two assumptions stated in Steps 1 and 5. The Step 1 assumption seems reasonable and has been discussed in Section 5.2.8. The Step 5 assumption is that the accident-related factors which differ between the Standard Time days and the Equivalent Days differ equally in the influenced hours and in the uninfluenced hours. This will be true, in general, for phenomena that occur randomly in different parts of the day, for phenomena that occur for more than half a day at a time (i.e., spanning both influenced and uninfluenced hours), and for phenomena that occur possibly in certain parts of the day, but with equal likelihood throughout the year (i.e., spanning both Standard Time and Equivalent Days). This list seems to include most accident-related factors. However, if there are accident-related phenomena which occur only in certain parts of the year (e.g., more in the Standard Time days than in the Equivalent Days) and occur more in certain times of the day than in others (e.g., more in the influenced hours than in the uninfluenced hours), then there will be inaccuracies introduced in the Normalization.

5.4 APPLICATION TO DOUBLE DAYLIGHT SAVING TIME (DDST)

The Daylight Saving Equivalent Day Methodology can be applied to the estimation of the number of accidents under Year Round Double Daylight Saving Time. The method is the same as that used for Year Round Daylight Saving Time (as discussed in Sections 5.2 and 5.3), with some exceptions that will be discussed in the following paragraphs.

The adoption of DDST will, of course, change the sunrise and sunset times of all the days of the year, not just the Standard Time days. The previously Standard Time days will have their sunrise and sunset times delayed by two hours, and the previously DST days will have their sunrise and sunset times delayed by one hour. Therefore, the Equivalent Day methodology for DDST ideally must compare the number of accidents on all the days of the year against the number of accidents on all of their corresponding Equivalent Days.

Composite Double DST Equivalent Days are found in a similar manner to that of composite Daylight Saving Equivalent Days. An example is shown in Figure 5-10. The Morning DDST Equivalent Days corresponding to each day of the year are shown in Figure 5-11. A Morning DDST Equivalent Day exists for (depending on latitude) about one-third of the days of the year, approximately 130 days. The Evening DDST Equivalent Days corresponding to each day of the year are shown in Figure 5-12. An Evening DDST Equivalent Day exists for (depending on latitude) a little over half of the days of the year, approximately 200 days. Note that the days which have DDST Equivalent Days are not equally distributed throughout the year. For the morning, they are generally April through September days; for the evening, they they are generally September through April days. The Equivalent Day approach, therefore, found the change due to having DDST in these periods of the year.

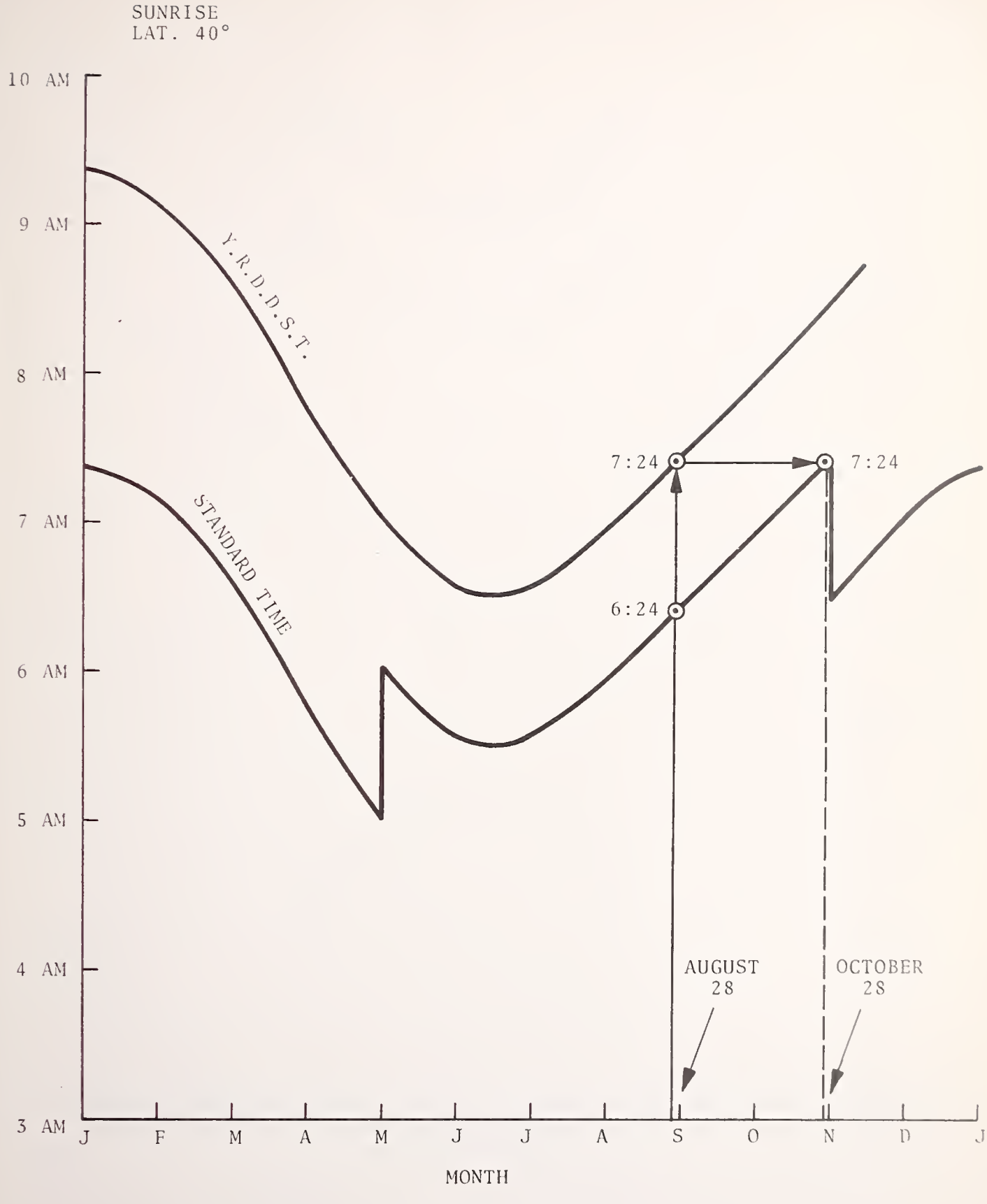

Figure 5-10. Example of Finding a Morning Double DST Equivalent Day

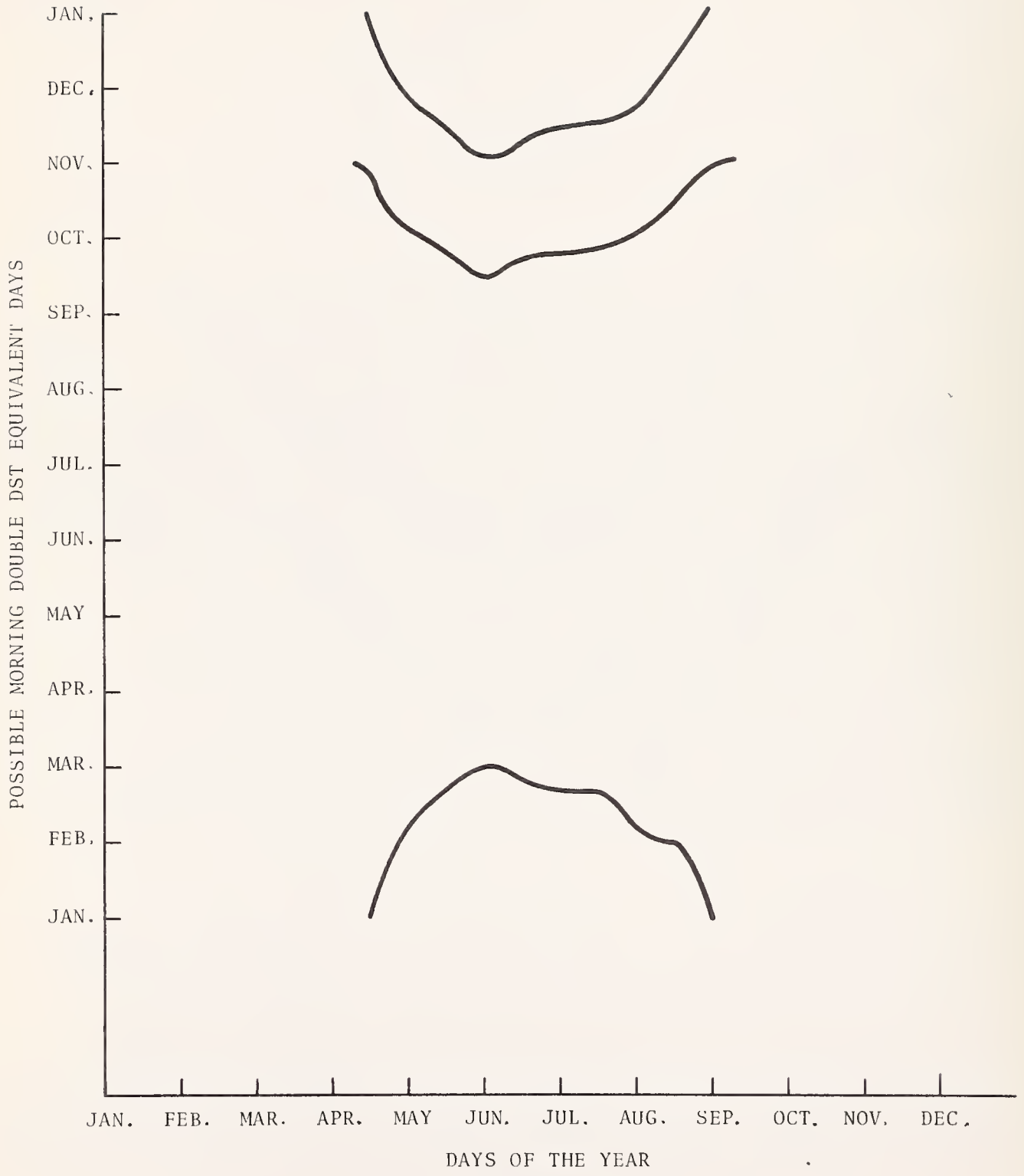

Figure 5-11. Morning DDST Equivalent Days Corresponding to the Days of the Year

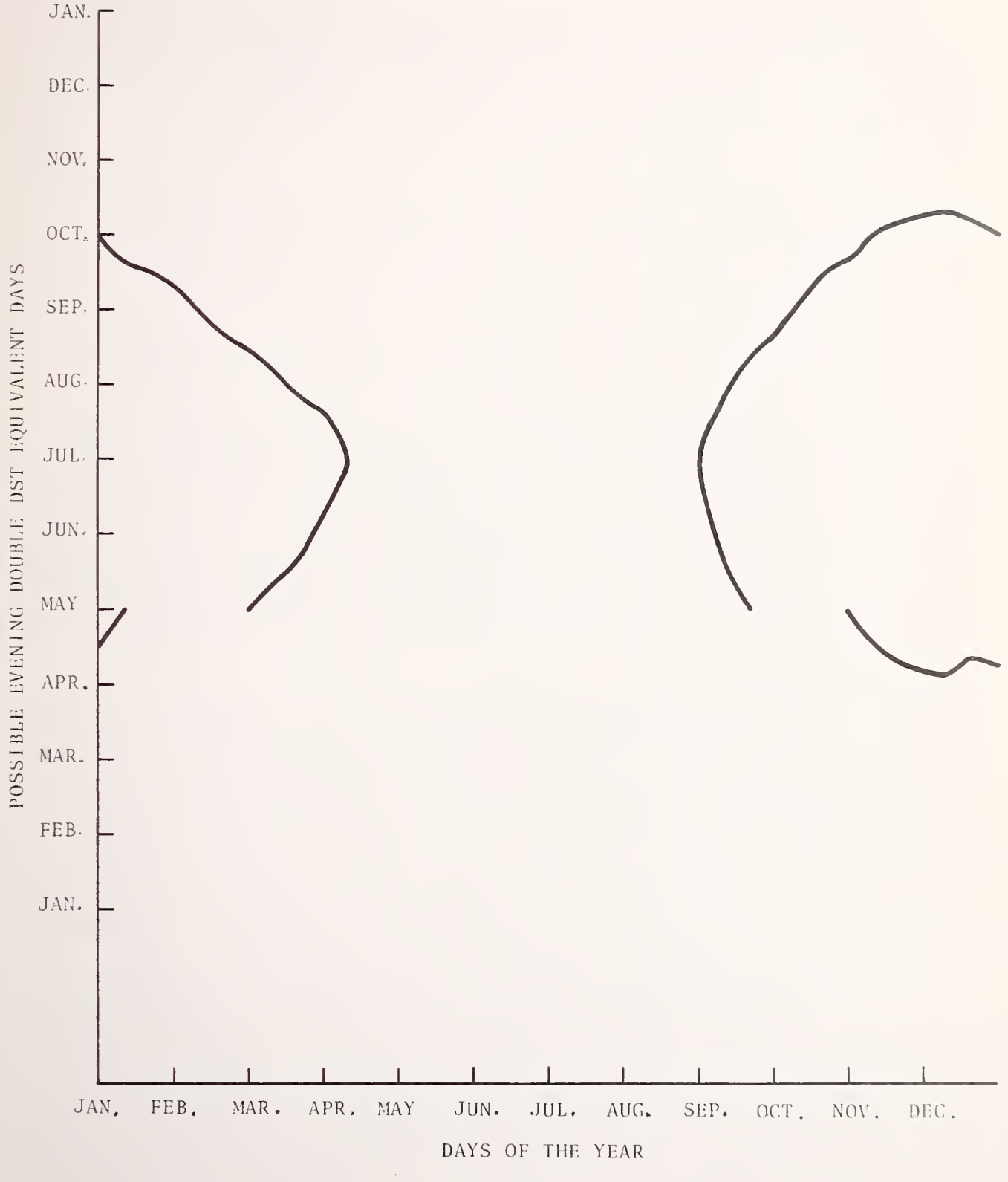

Figure 5-12. Evening DDST Equivalent Days Corresponding to the Days of the Year

6. DESCRIPTION OF THE LATEDAY PROGRAMS

There are five major LATEDAY Programs. Three of these programs are used in the determination of the level of accidents under YRDST:

1. The EQDAY program (discussed in Section 6.1) computes the Daylight Saving Equivalent Days for a given state for a given year. This program accepts as input a sunrise/sunset table for the latitude of the state's geographic center and a list of the holidays for the state for the given year. It produces a list of the Morning and Evening Equivalent Days for each non-D.S.T. day of the year.

2. The QDY program (Section 6.2) reads in a LATEDAY Tape, extracts pertinent accident data, and produces an array showing the number of accidents involving at least one fatality or injury, for each quarter-day of the year. This program was optimized to minimize the time of execution, since it was used to process data on several million accidents.

3. The COMPAR program (Section 6.3) reads in both the computed table of Daylight Saving Equivalent Days, and the accident array discussed above, and then computes, tabulates, and compares the accidents for each non-D.S.T. day and its Equivalent Day.

To determine the level of accidents under Year-Round Double DST, three programs (including one of the above) are used:

1. The DBLDAY program (Section 6.4) computes the Double Daylight Saving Equivalent Days for a given state for a given year. DBLDAY, as EQDAY above, accepts a sunrise/sunset table and a list of holidays as input. It produces a list of Morning and Evening DDST Equivalent Days for each day of the year.

2. The QDY program, mentioned above, finds the number of accidents for each quarter-day of the year.

3. The DBLCOMP program (Section 6.5) reads in both the computed table of DDST Equivalent Days and the accident array, and then computes, tabulates, and compares the accidents for each day of the year and its DDST Equivalent Day.

The five LATEDAY programs were written in FORTRAN IV on an IBM 370/155 computer. Listings of the programs appear in Appendix A.

6.1 EQUIVALENT DAY (EQDAY) PROGRAM

The Equivalent Day (EQDAY) Program computes the Daylight Saving Equivalent Days for a state-year. Based upon the latitude of the geographic center of the state, a set of sunrise and sunset times are found in the Tables of Sunrise, Sunset, and Twilight (Supplement to the American Ephemeris, 1946), published by the Naval Almanac Office, U.S. Naval Observatory, Washington, D.C. These times are keypunched and then entered into a computer file for use as input to EQDAY. In addition, state governments are contacted to determine the legal holidays for each state for the data year. These are coded (January 1 = 1, December 31 = 366), keypunched, and entered into the input computer file for EQDAY.

Using the above inputs, the EQDAY program (see listing, Appendix A.1) is run. An outline of the operation of the EQDAY program follows:

1. The state name, data year name, list of holidays and lists of sunrise/sunset times are read in.

2. An hour is added to the appropriate sunrise/sunset times to account for DST in the data year.

3. February 29 is deleted from the sunrise/sunset tables for non-leap years.

4. For each Standard Time day of the year, the best same-day-of-the-week Equivalent Day is found. Only days which have a sunrise (sunset) 60 $\pm$5 minutes later than the sunrise (sunset) of the Standard Time day are considered. Also, no day which has already been a Morning (Evening) Equivalent Day 4 times is considered. The day closest to a 60 minute difference is used. If 2 or more days are equally close to a 60 minute difference, the Weather Function described in Section 5.2.7 is used.

5. A list of the Morning and Evening Equivalent Days corresponding to each Standard Time day is stored in a computer file for use as input to the COMPAR program.

6.2 QUARTER DAY (QDY) PROGRAM

The Quarter Day (QDY) Program (see listing, Appendix A.2) extracts accident data from a LATEDAY tape for each quarter day of the year.

The input to QDY is the LATEDAY tape which has the data on accidents for the state-year.

Using this input, the QDY program operates as follows:

1. Each accident entry is read from the LATEDAY tape using the format shown in Table 4-2.

2. The data are converted into numerical form from the byte codes of Table 4-2.

3. The quarter day of the accident is found based on the time of the accident:

   000 to 359 = Quarter day 4 of previous day
   400 to 1059 = Quarter day 1
   1100 to 1559 = Quarter day 2
   1600 to 2159 = Quarter day 3
   2200 to 2359 = Quarter day 4

4. Two matrices are filled, a fatality matrix and an injury-causing accidents matrix. These matrices have 366 x 4

entries, one for each quarter day of the year. If the accident involved one or more fatalities, the corresponding quarter day's entry in the fatality matrix is increased by one. Similarly, if the accident involved one or more injuries or fatalities (i.e., injuries of severity K, A, B, or C), the corresponding quarter day's entry in the injury-causing accident matrix is increased by one.

5. A total count is kept of all fatalities and all non-injury accidents.

6. A matrix of the hourly injury-causing accidents for the Evening quarter day is also found.

7. The matrices and totals found are printed out and are stored in a computer file for use as input to the COMPAR and DBLCOMP programs. The fatality matrix and the fatality and non-injury accident totals are found and printed for comparison with the injury-causing accident matrix, but are not now used in the COMPAR or DBLCOMP programs.

6.3 THE COMPARISON (COMPAR) PROGRAM

The Comparison (COMPAR) Program (see listing, Appendix A.3) computes and tabulates a comparison between the number of accidents on Standard Time days and the number of accidents on their corresponding Morning and Evening Equivalent Days. Based upon this, the program produces an estimate of the level of accidents under Year Round Daylight Saving Time.

The inputs to COMPAR are the data files produced by the EQDAY and QDY programs.

Using these inputs, the COMPAR program operates as follows (a sample printout of this program's output is shown in Appendix B.1):

1. The accident matrices produced by QDY are read in. The fatality and injury-causing accident matrices are printed out.

2. For information and comparison purposes, four tables are computed and printed out: the accident totals by day-of-

the-week and quarter day, the accident totals by month and quarter day, the average accidents by day-of-the-week and quarter day, and the average accidents by month and quarter day.

3. The Equivalent Days found by EQDAY are read in and printed out.

4. The accident totals in the Morning quarter day and in the Evening quarter day are found for the DST and the non-DST parts of the year.

5. The actual accidents for each Standard Time day of the year are compared with the accidents of their Equivalent Days. A large table is printed out. For each Standard Time day, the table contains:

   a. Day-of-the-week (1 = Monday,...,7 = Sunday)

   b. Date

   c. Number of Morning accidents (preceded by a minus sign if no Equivalent Morning exists)

   d. Number of Evening accidents (preceded by a minus sign if no Equivalent Evening exists)

   e. Number of Night-of-Previous-Day accidents + Number of Midday accidents (Normalization for the Morning)

   f. Number of Midday accidents + Number of Night accidents (Normalization for the Evening)

   For the corresponding Equivalent Day, the table contains:

   a. Day-of-the-week of the Equivalent Morning

   b. Date of the Equivalent Morning

   c. Number of Equivalent Morning accidents (0 = no Equivalent Morning)

   d. Day-of-the-week of the Equivalent Evening

   e. Date of the Equivalent Evening

f. Number of Equivalent Evening accidents (0 = No Equivalent Evening)

g. Number of Night-of-Previous-Day accidents + Number of Midday accidents for the Equivalent Morning (Equivalent Morning Normalization)

h. Number of Midday accidents + Number of Night accidents for the Equivalent Evening (Equivalent Evening Normalization)

The overall totals of all of the above accident entries are found and printed out at the bottom of the table. For the Standard Time days, only the entries for which a corresponding Equivalent Morning or Evening exists (i.e., those not preceded by minus signs) are totaled.

6. The Morning Apparent Percent Change and the Evening Apparent Percent Change are found and printed. Each of these is the percent difference between the actual total number of accidents on the Standard Time days and the corresponding total number of accidents on the Equivalent Days. If the Randomization Assumption is accepted, these Apparent Percent Changes indicate the change in the level of Morning and Evening accidents under the effect of YRDST.

7. The percent change for the Night + Midday accidents (Morning Normalization) and for the Midday + Night accidents (Evening Normalization) are found.

8. Using these, the Morning Net Percent Change and the Evening Net Percent Change are found and printed. These are the results of the Normalization process and indicate the change in the level of Morning and Evening accidents under the effect of YRDST.

9. The Apparent and Net Percent changes refer to the change in the accident totals for the Morning or Evening quarter day for the six months which had Standard Time in the data years. To get an estimate of the effect of YRDST on the yearly accident totals, an accident total for a year with YRDST was computed as follows:

Yearly accidents under YRDST =

(Year's DST Accidents)

+(100% + Year's Morning % Change) x (Year's Non-DST Morning Accidents)

+(Year's Non-DST Midday Accidents)

+(100% + Year's Evening % Change) x (Year's Non-DST Evening accidents)

+(Year's Non-DST Night Accidents)

This is computed in two different ways: first, by using the Apparent Changes, and second, by using the Net Percent Changes. These are then compared with the actual data year's total accidents.

6.4 DOUBLE DST EQUIVALENT DAY (DBLDAY) PROGRAM

The Double DST Equivalent Day (DBLDAY) Program computes the Double Daylight Saving Equivalent Days for a state-year. DBLDAY is similar to EQDAY and accepts the same inputs, a set of sunrise/sunset times and a list of state holidays. Using the above inputs, the DBLDAY program (see listing, Appendix A.4) is run. An outline of the operation of the DBLDAY program follows:

1. The state name, the data year name, the list of holidays, and the lists of sunrise/sunset times are read in.
2. An hour is added to the appropriate sunrise/sunset times to account for DST in the data year.
3. February 29 is deleted from the sunrise/sunset tables for non-leap years.
4. For each day of the year, the best same-day-of-the-week Equivalent Day is found. Only days which have a sunrise (sunset) 120 ±5 minutes later than the sunrise (sunset) of a Standard Time day or 60 ±5 minutes later than the sunrise (sunset) on a DST day are considered. Also, no day which has already been a Morning (Evening) Equivalent Day four times is considered. The day closest to the de-

sired time difference is used. If two or more days are equally close to the desired time difference, the Weather Function described in Section 5.2.7 is used.

5. A list of the Morning and Evening Equivalent Days corresponding to each Standard Time day is output to a computer file for use as input to the DBLCOMP program.

6.5 THE DOUBLE DST COMPARISON (DBLCOMP) PROGRAM

The Double DST Comparison (DBLCOMP) Program (see listing, Appendix A.5) computes and tabulates a comparison between the number of accidents on Standard Time days and the number of accidents on their corresponding Double DST Morning and Evening Equivalent Days. Based upon this, the program produces an estimate of the level of accidents under Double Daylight Saving Time. The inputs to DBLCOMP are the data files produced by the DBLDAY and QDY programs.

Using these inputs, the DBLCOMP program, in a similar manner to the COMPAR program, operates as follows (a sample printout of this program's output is shown in Appendix B.2):

1. The accident matrices produced by QDY are read in. The fatality and injury-causing accidents matrices are printed out.

2. For information and comparison purposes, four tables are computed and printed out: the accident totals by day-of-the-week and quarter day, the accident totals by month and quarter day, the average accidents by day-of-the-week and quarter day, and the average accidents by month and quarter day.

3. The Double DST Equivalent Days found by DBLDAY are read in and printed out.

4. The accident totals in the Morning quarter day and in the Evening quarter day are found for the DST and the non-DST parts of the year.

5. The actual accidents for each day of the year are compared with the accidents of their DDST Equivalent Days.

A large table is printed out. For each day of the year, the table contains:

a. Day-of-the-week (1 = Monday,...,7 = Sunday)

b. Date

c. Number of Morning accidents (preceded by a minus sign if no DDST Equivalent Morning exists)

d. Number of Evening accidents (preceded by a minus sign if no DDST Equivalent Evening exists)

e. Number of Night-of-Previous-Day accidents + Number of Midday accidents (Normalization for the Morning)

f. Number of Midday accidents + Number of Night accidents (Normalization for the Evening)

For the corresponding DDST Equivalent Day, the table contains:

a. Day-of-the-week of the DDST Equivalent Morning

b. Date of the DDST Equivalent Morning

c. Number of DDST Equivalent Morning accidents (0 = no DDST Equivalent Morning)

d. Day-of-the-week of the DDST Equivalent Evening

e. Date of the DDST Equivalent Evening

f. Number of DDST Equivalent Evening accidents (0 = no DDST Equivalent Evening)

g. Number of Night-of-Previous-Day accidents + Number of Midday accidents for the DDST Equivalent Morning (DDST Equivalent Morning Normalization)

h. Number of Midday accidents + Number of Night accidents for the DDST Equivalent Evening (DDST Equivalent Evening Normalization)

The overall totals of all of the above accident entries are found and printed out at the bottom of the table. For the actual days of the year, only the entries for

which a corresponding DDST Equivalent Morning or Evening exists (i.e., those not preceded by minus signs) are totaled.

6. The Morning DDST Apparent Percent Change and the Evening DDST Apparent Percent Change are found and printed. Each of these is the percent difference between the actual total number of accidents on the days of the year and the corresponding total number of accidents on the DDST Equivalent Days. If the Randomization Assumption is accepted, these Apparent Percent Changes indicate the change in the level of Morning and Evening accidents under the effect of DDST.

7. The percent change for the Night + Midday accidents (Morning Normalization) and the percent change for the Midday + Night accidents (Evening Normalization) are found.

8. Using these, the Morning DDST Net Percent Change and the Evening DDST Net Percent Change are found and printed. These are the results of the Normalization process and indicate the change in the level of Morning and Evening accidents under the effect of DDST.

9. All totals for Morning, Evening, Night + Midday, and Midday + Night accidents for both actual days of the year and DDST Equivalent Days are broken up into two parts: the total corresponding to the DST period of the data year and the total corresponding to the non-DST period of the year. These are used to find and print out Apparent and Net Percent Changes for the DST and non-DST periods of the year.

10. The Apparent and Net Percent changes refer to the change in the accident totals for the Morning or Evening quarter days for the days which had DDST Equivalent Days. To get an estimate of the effect of DDST on the yearly accident totals, an accident total for a year with DDST was computed as follows:

Yearly accidents under DDST =

(100% + Year's Morning % Change) x (Year's Morning Accidents)

+(Year's Midday Accidents)

+(100% + Year's Evening % Change) x (Year's Evening Accidents)

+(Year's Night Accidents)

This is found using the Apparent Percent Changes and using the Net Percent Changes, and these are compared with the actual data year's total accidents.

11. The Yearly comparisons above are also made using the DST and non-DST period data. In this case, the accident total for a year with DDST was computed as follows:

Yearly accidents under DDST =

(100% + Year's Morning DST % Change) x (Year's DST Morning Accidents)

+(100% + Year's Morning Non-DST % Change) x (Year's Non-DST Morning Accidents)

+(Year's Midday Accidents)

+(100% + Year's Evening DST % Change) x (Year's DST Evening Accidents)

+(100% + Year's Evening Non-DST % Change) x (Year's Non-DST Evening Accidents)

+(Year's Night Accidents)

This is computed in two different ways: first, by using the Apparent Changes, and second, by using the Net Percent changes. These are then compared with the actual data year's total accidents.

7. RESULTS

7.1 YRDST RESULTS

The LATEDAY YRDST Programs (EQDAY, QDAY AND COMPAR) were run for each of the 20 state-years for which data were available. The results are shown in Tables 7-1 to 7-6.

Tables 7-1 and 7-2 show, for the non-DST period of the year, the estimated change in injury-causing accidents that would have occurred in the morning (4 a.m. to 10 a.m.) and the evening (4 p.m. to 10 p.m.) parts of the day if there had been YRDST. For each state and year for which data were available, Table 7-1 contains:

1. The number of non-DST days that had Equivalent mornings.
2. The total number of actual morning accidents on the days that had Equivalent mornings.
3. The corresponding total number of accidents on the Equivalent mornings.
4. The difference between these two totals.
5. The apparent percent change between these two totals.
6. The morning normalization; i.e., the change in accidents in the "Night + Midday" period.
7. The net percent change (found as shown in Section 5.3.2).

The columns are totaled and the overall morning percent changes are shown.

Table 7-2 shows the evening results in a form similar to the morning results. For each state and year, Table 7-2 contains:

1. The number of non-DST days that had Equivalent evenings.
2. The total number of actual evening accidents on the days that had Equivalent evenings.
3. The corresponding total number of accidents on the Equivalent evenings.
4. The difference between these two totals.

TABLE 7-1. MORNING (4 A.M. TO 10 A.M.) INJURY-CAUSING ACCIDENTS

STATE & YEAR	NO. EQVL DAYS	ACTUAL ACCIDENT TOTALS	EQVL DAY ACCIDENT TOTALS	CHANGE	APPARENT PERCENT CHANGE	NIGHT+ MIDDAY CHANGE	NET PERCENT CHANGE
CA72	53	3382	3635	253	7.5%	-3.1%	10.9%
CT72	59	363	437	74	20.4%	15.3%	4.4%
DC71	51	141	163	22	15.6%	14.3%	1.2%
DC72	55	119	155	36	30.3%	-1.1%	31.7%
DE72	54	75	59	-16	-21.3%	8.2%	-27.3%
GA72	53	493	487	-6	-1.2%	2.2%	-3.3%
KS72	52	400	462	62	15.5%	2.7%	12.4%
ME71	60	173	189	16	9.2%	24.5%	-12.2%
MI72	69	2468	2620	152	6.2%	4.4%	1.7%
MD72	52	150	181	31	20.7%	3.4%	16.7%
NH72	65	85	150	65	76.5%	34.6%	31.1%
NM72	51	144	216	72	50.0%	16.6%	28.7%
OK72	52	310	371	61	19.7%	14.9%	4.1%
PA72	58	1332	1406	74	5.6%	18.2%	-10.7%
SC71	48	240	266	26	10.8%	-3.9%	15.3%
SC72	51	257	363	106	41.2%	8.2%	30.5%
TX72	50	1635	1763	128	7.8%	3.8%	3.9%
UT71	51	278	260	-18	-6.5%	28.2%	-27.0%
VT71	60	85	110	25	29.4%	25.8%	2.9%
WA72	75	1083	1215	127	11.7%	1.4%	10.1%
TOTAL	1119	13218	14508	1290	9.76%	4.82%	4.71%

TABLE 7-2. EVENING (4 P.M. TO 10 P.M.) INJURY-CAUSING ACCIDENTS

STATE & YEAR	NO. EQVL DAYS	ACTUAL ACCIDENT TOTALS	EQVL DAY ACCIDENT TOTALS	CHANGE	APPARENT PERCENT CHANGE	MIDDAY +NIGHT CHANGE	NET PERCENT CHANGE
CA72	162	27686	29092	1406	5.1%	1.8%	3.3%
CT72	154	3543	3478	-65	-1.8%	-2.8%	1.0%
DC71	158	976	1106	130	13.3%	5.6%	7.3%
DC72	169	1126	1099	-27	-2.4%	-1.2%	-1.2%
DE72	163	587	589	2	0.3%	11.6%	-10.1%
GA72	168	3871	4291	420	10.8%	2.9%	7.8%
KS72	167	3278	3178	-100	-3.1%	-8.1%	5.5%
ME71	150	933	1003	70	7.5%	-8.5%	17.5%
MI72	161	17584	17146	-438	-2.5%	-2.0%	-0.5%
MD72	164	1051	1209	158	15.0%	9.8%	4.8%
NH72	158	747	813	66	9.8%	6.1%	2.5%
NM72	169	2004	2132	128	6.4%	4.5%	1.8%
OK72	166	2526	2632	106	4.2%	6.6%	-2.3%
PA72	152	9383	9992	609	6.5%	0.6%	5.9%
SC71	161	2154	2251	97	4.5%	6.5%	-1.9%
SC72	167	2412	2266	-146	-6.1%	-2.3%	-3.8%
TX72	163	14036	15019	983	7.0%	1.0%	5.9%
UT71	153	2150	2243	93	4.3%	1.2%	3.0%
VT71	139	571	630	59	10.3%	8.4%	1.8%
WA72	148	5754	5235	-519	-9.0%	-8.3%	-0.7%
TOTAL	3192	102372	105404	3032	2.96%	0.04%	2.92%

TABLE 7-3. NIGHT AND MIDDAY INJURY-CAUSING ACCIDENTS (MORNING NORMALIZATION)

State & Year	# Eqvl. Days	Actual Acc. Totals	Eqvl. Day Acc. Totals	Change	%Change
CA 72	53	13032	12627	-405	-3.1
CT 72	59	1732	1997	265	15.3
DC 71	51	399	456	57	14.3
DC 72	55	466	461	-5	-1.1
DE 72	54	280	303	23	8.2
GA 72	53	1488	1520	32	2.2
KS 72	52	1386	1424	38	2.7
ME 71	60	523	651	128	24.5
MI 72	69	10277	10725	448	4.4
MO 72	52	531	549	18	3.4
NH 72	65	289	389	100	34.6
NM 72	51	603	703	100	16.6
OK 72	52	1031	1185	154	14.9
PA 72	58	4478	5294	816	18.2
SC 71	48	882	790	-32	-3.9
SC 72	51	934	1011	77	8.2
TX 72	50	5611	5823	212	3.8
UT 71	51	689	883	194	25.8
VT 71	60	345	434	89	28.2
WA 72	75	4226	4286	60	1.4
TOTAL	1119	49142	51511	2369	4.82%

TABLE 7-4. MIDDAY AND NIGHT INJURY-CAUSING ACCIDENTS (EVENING NORMALIZATION)

State & Year	# Eqvl. Days	Actual Acc. Totals	Eqvl. Day Acc. Totals	Change	%Change
CA 72	162	38623	39304	681	1.8
CT 72	154	4760	4625	-135	-2.8
DC 71	158	1294	1367	73	5.6
DC 72	169	1436	1419	-17	-1.2
DE 72	163	804	897	93	11.6
GA 72	168	4531	4661	130	2.9
KS 72	167	4787	4398	-389	8.1
ME 71	150	1569	1435	-134	-8.5
MI 72	161	26153	25618	-535	-2.0
MO 72	164	1605	1762	157	9.8
NH 72	158	944	1002	58	6.1
NM 72	169	2027	2119	92	4.5
OK 72	166	3269	3485	216	6.6
PA 72	152	12240	12314	74	0.6
SC 71	161	2532	2697	165	6.5
SC 72	167	3013	2943	-70	-2.3
TX 72	163	18124	18312	188	1.0
UT 71	153	2409	2439	30	8.4
VT 71	139	909	985	76	1.2
WA 72	148	8350	7653	-697	-8.3
TOTAL	3192	139379	139435	56	0.04%

TABLE 7-5. IMPACT OF YRDST ON YEARLY ACCIDENTS (USING APPARENT PERCENT CHANGE)

STATE & YEAR	YEAR WITH SIX-MONTH D.S.T. (ACTUAL)	YEAR WITH FULL-YEAR D.S.T. (CALCULATED)	CHANGE	PERCENT CHANGE
CA72	180849	183353	2504	1.38%
CT72	23511	23709	198	0.84%
DC71	6745	6970	225	3.34%
DC72	6811	6933	122	1.79%
DE72	3967	3913	-54	-1.36%
GA72	23189	23627	438	1.89%
KS72	21261	21399	138	0.65%
ME71	7710	7847	137	1.78%
MI72	116711	116664	-47	-0.04%
MO72	8419	8724	305	3.62%
NH72	4837	5150	313	6.47%
NM72	10595	11040	445	4.20%
OK72	16442	16801	359	2.18%
PA72	65548	66549	1001	1.53%
SC71	13264	13468	204	1.54%
SC72	14201	14474	273	1.92%
TX72	86701	88314	1613	1.86%
UT71	13588	13626	38	0.28%
VT71	4930	5107	177	3.59%
WA72	41635	41310	-325	-0.78%
TOTAL	670914	678978	8064	1.20%

TABLE 7-6. IMPACT OF YRDST ON YEARLY ACCIDENTS (USING NET PERCENT CHANGE)

STATE & YEAR	YEAR WITH SIX-MONTH D.S.T. (ACTUAL)	YEAR WITH FULL-YEAR D.S.T. (CALCULATED)	CHANGE	PERCENT CHANGE
CA72	180849	183203	2354	1.30%
CT72	23511	23612	101	0.43%
DC71	6745	6830	85	1.26%
DC72	6811	6954	143	2.10%
DE72	3967	3827	-140	-3.53%
GA72	23189	23462	273	1.18%
KS72	21261	21659	398	1.87%
ME71	7710	7835	125	1.62%
MI72	116711	116745	34	0.03%
MO72	8419	8579	160	1.90%
NH72	4837	4954	117	2.42%
NM72	10595	10808	213	2.01%
OK72	16442	16430	-12	-0.07%
PA72	65548	65722	174	0.27%
SC71	13264	13362	98	0.74%
SC72	14201	14420	219	1.54%
TX72	86701	87888	1187	1.37%
UT71	13588	13378	-210	-1.55%
VT71	4930	4952	22	0.45%
WA72	41635	41867	232	0.56%
TOTAL	670914	676487	5573	0.83%

5. The apparent percent change between these two totals.

6. The evening normalization, i.e., the change in accidents in the "Midday + Night" period.

7. The net percent change (found as shown in Section 5.3.2).

The columns are totaled and the overall evening percent changes are shown.

The morning and evening normalizations used in Tables 7-1 and 7-2 were obtained as shown in Tables 7-3 and 7-4. Table 7-3 shows the morning normalization, using accident totals from the "Night + Midday" period (the 10 p.m. to 4 a.m. period preceding the specified morning and the 10 a.m. to 4 p.m. period following it). Table 7-4 shows the evening normalization, using accident totals from the "Midday + Night" period (the preceding 10 a.m. to 4 p.m. period and the 10 p.m. to 4 a.m. period following).

The overall results from Tables 7-1 and 7-2 show a Net Percent Change of +4.71% in morning injury-causing accidents for the non-DST six months of the year (based upon an Apparent Percent Change of +9.76%), and a Net Percent Change of +2.92% in evening injury-causing accidents for the non-DST six months of the year (based upon an Apparent Percent Change of +2.96%). These results indicate an increase in accidents under YRDST in the morning and a somewhat smaller increase in the evening.

Tables 7-5 and 7-6 show the impact of YRDST on the yearly injury-causing accident totals (under the assumption that the accidents in the non-DST morning and evening periods are changed by the percentages shown in Tables 7-1 and 7-2, and that the accidents in all other parts of the year remain unchanged). For each state-year, the actual year's accidents are shown and compared with the calculated YRDST accidents. Table 7-5 uses the Apparent Percent Change (from Tables 7-1 and 7-2), and Table 7-6 uses the Net Percent Change (From Tables 7-1 and 7-2).

The yearly injury-causing accident totals show a normalized Net Percent Change of +0.83% (based upon an Apparent Percent Change of +1.20%). This result indicates an increase in yearly accidents of the order of one-half to one percent if YRDST is introduced.

It should be noted that these results are, of course, only estimates based upon data from a not necessarily representative group or states. Furthermore, the Equivalent Day Methodology, though possible the best available technique, still includes various inaccuracies, as was noted in the discussion of the methodology.

Thus, the results should be considered only as an indication of a small increase in morning and evening accidents yielding a net change in yearly injury-causing accidents of between one-half and one percent, and the calculated percent changes should not be taken as exact figures.

7.2 DDST RESULTS

The LATEDAY DDST Programs (DBLDAY, QDY, and DBLCOMP) were run for each of the 20 state-years for which data were available. The results are shown in Tables 7-7 through 7-12.

Table 7-7 shows the estimated change in injury-causing accidents that would have occurred in the morning (4 a.m. to 10 a.m.) and the evening (4 p.m. to 10 p.m.) parts of the day if there had been Year Round Double DST. For each state and year for which data were available, Table 7-7 contains:

1. The number of days of the year that had DDST Equivalent mornings.
2. The total number of actual morning accidents on the days that had Equivalent mornings.
3. The corresponding total number of accidents on the DDST Equivalent mornings.
4. The difference between these two totals.
5. The apparent percent change between these two totals.
6. The morning normalization, i.e., the change in accidents in the "Night + Midday" period.
7. The net percent change (found as shown in Section 5.3.2).

The columns are totaled and the overall DDST morning percent

TABLE 7-7. MORNING (4 A.M. TO 10 A.M.) DDST INJURY- CAUSING ACCIDENTS

STATE & YEAR	NO. EQVL DAYS	ACTUAL ACCIDENT TOTALS	EQVL DAY ACCIDENT TOTALS	CHANGE	APPARENT PERCENT CHANGE	NIGHT+ MIDDAY CHANGE	NET PERCENT CHANGE
CA72	120	7356	8615	1259	17.1%	-8.1%	27.4%
CT72	146	945	1137	192	20.3%	-0.4%	20.8%
DC71	135	340	412	72	21.2%	-4.1%	26.3%
DC72	134	340	424	84	24.7%	2.7%	21.4%
DE72	133	172	172	0	0.0%	-9.5%	10.5%
GA72	94	761	923	162	21.3%	-4.7%	27.3%
KS72	130	936	1040	104	11.1%	-8.6%	21.6%
ME71	167	408	481	73	17.9%	5.0%	12.3%
MI72	165	5753	6508	165	13.1%	-0.5%	13.7%
MO72	130	434	520	86	19.8%	-11.2%	34.9%
NH72	159	160	279	119	74.4%	3.4%	68.6%
NM72	107	386	396	10	2.6%	-8.7%	12.4%
OK72	111	702	859	157	22.4%	-6.7%	31.2%
PA72	144	3207	3440	233	7.3%	-3.1%	10.7%
SC71	109	559	627	68	12.2%	-14.9%	31.8%
SC72	106	593	655	62	10.5%	-5.9%	17.3%
TX72	82	2418	2985	567	23.4%	-5.2%	30.3%
UT71	133	631	785	154	24.4%	-7.2%	34.1%
VT71	164	224	297	73	32.6%	3.2%	28.5%
WA72	178	2450	2687	237	9.7%	0.5%	9.1%
TOTAL	2647	28775	33242	4467	15.52%	-4.09%	20.45%

TABLE 7-8. EVENING (4 P.M. TO 10 P.M.) DDST INJURY-CAUSING ACCIDENTS

STATE & YEAR	NO. EQVL DAYS	ACTUAL ACCIDENT TOTALS	EQVL DAY ACCIDENT TOTALS	CHANGE	APPARENT PERCENT CHANGE	MIDDAY +NIGHT CHANGE	NET PERCENT CHANGE
CA72	193	33811	37165	3354	9.9%	4.5%	5.2%
CT72	207	4997	5215	218	4.4%	2.3%	2.0%
DC71	209	1320	1575	195	14.1%	3.7%	10.0%
DC72	211	1465	1671	206	14.1%	6.5%	7.1%
DE72	207	811	920	109	13.4%	14.8%	-1.2%
GA72	178	4177	4713	536	12.8%	9.5%	3.0%
KS72	207	4227	4337	110	2.6%	1.3%	1.3%
ME71	210	1406	1507	101	7.2%	-0.4%	7.6%
MI72	221	24908	25490	582	2.3%	0.1%	2.2%
MO72	204	1484	1776	292	19.7%	15.4%	3.7%
NH72	217	1088	1108	20	1.8%	-2.5%	4.5%
NM72	183	2232	2398	166	7.4%	14.5%	-6.2%
OK72	192	2997	3156	159	5.3%	18.3%	-11.0%
PA72	207	13467	14745	1278	9.5%	5.6%	3.6%
SC71	182	2394	2600	206	8.6%	12.4%	-3.4%
SC72	184	2616	2629	13	0.5%	2.9%	-2.4%
TX72	168	14710	15595	885	6.0%	3.0%	2.9%
UT71	206	3054	3268	214	7.0%	2.7%	4.2%
VT71	225	993	1011	18	1.8%	-4.3%	6.4%
WA72	227	9328	9228	-100	-1.1%	-4.1%	3.2%
TOTAL	4038	131545	140107	8562	6.51%	3.38%	3.03%

TABLE 7-9. NIGHT AND MIDDAY DDST INJURY-CAUSING ACCIDENTS (DDST MORNING NORMALIZATION)

STATE	ACTUAL	EQUIVALENT	CHANGE	% CHANGE
CA 72	30870	28368	-2502	-8.1
CT 72	5020	5002	-18	-0.4
DC 71	1234	1184	-50	-4.1
DC 72	1176	1208	32	2.7
DE 72	821	743	-78	-9.5
GA 72	3103	2956	-147	-4.7
KS 72	4002	3657	-345	-8.6
ME 71	1898	1992	94	5.0
MI 72	27669	27519	-150	-0.5
MO 72	1743	1548	-195	-11.2
NH 72	1045	1081	36	3.4
NM 72	1507	1376	-131	-8.7
OK 72	2620	2444	-176	-6.7
PA 72	13262	12846	-416	-31.5
SC 71	2023	1722	-301	-14.9
SC 72	2063	1942	-121	-5.9
TX 72	9674	9167	-507	-5.2
UT 71	2410	2236	-174	-7.2
VT 71	1172	1209	37	3.2
WA 72	10344	10400	56	0.5
TOTAL	123656	118600	-5056	-4.09%

TABLE 7-10. MIDDAY AND NIGHT DDST INJURY-CAUSING ACCIDENTS (DDST EVENING NORMALIZATION)

STATE	ACTUAL	EQUIVALENT	CHANGE	% CHANGE
CA 72	46975	49094	2119	4.5
CT 72	6787	6945	158	2.3
DC 71	1815	1883	68	3.7
DC 72	1855	1975	120	6.5
DE 72	1083	1243	160	14.8
GA 72	4807	5266	459	9.5
KS 72	6041	6121	80	1.3
ME 71	2261	2253	-8	-0.4
MI 72	36459	36499	40	0.1
MO 72	2260	2609	349	15.4
NH 72	1391	1356	-35	-2.5
NM 72	2251	2578	327	14.5
OK 72	3929	4648	719	18.3
PA 72	17659	18655	996	5.6
SC 71	2805	3154	349	12.4
SC 72	3370	3469	99	2.9
TX 72	18952	19519	567	3.0
UT 71	3407	3498	91	2.7
VT 71	1573	1505	-68	-4.3
WA 72	13327	12781	-546	-4.1
TOTAL	179007	185051	6044	3.38%

TABLE 7-11. IMPACT OF DDST ON YEARLY ACCIDENTS (USING APPARENT PERCENT CHANGE)

STATE & YEAR	YEAR WITH SIX-MONTH D.D.S.T. (ACTUAL)	YEAR WITH FULL-YEAR D.D.S.T. (CALCULATED)	CHANGE	PERCENT CHANGE
CA72	180849	191496	10647	5.89%
CT72	23511	24426	915	3.89%
DC71	6745	7312	567	8.41%
DC72	6811	7425	614	9.01%
DE72	3967	4165	198	4.99%
GA72	23189	25060	1871	8.07%
KS72	21261	21781	520	2.45%
ME71	7710	8082	372	4.82%
MI72	116711	119509	2798	2.40%
MO72	8419	9226	807	9.59%
NH72	4837	5267	430	8.89%
NM72	10595	10964	369	3.48%
OK72	16442	17300	858	5.22%
PA72	65548	68532	2984	4.55%
SC71	13264	13940	676	5.10%
SC72	14201	14444	242	1.71%
TX72	86701	91517	4816	5.55%
UT71	13586	14448	860	6.33%
VT71	4930	5160	230	4.67%
WA72	41635	41992	357	0.86%
TOTAL	670914	702046	31132	4.64%

TABLE 7-12. IMPACT OF DDST ON YEARLY ACCIDENTS (USING NET PERCENT CHANGE)

STATE & YEAR	YEAR WITH SIX-MONTH D.D.S.T. (ACTUAL)	YEAR WITH FULL-YEAR D.D.S.T. (CALCULATED)	CHANGE	PERCENT CHANGE
CA72	180849	190785	9936	5.49%
CT72	23511	24226	715	3.04%
DC71	6745	7258	513	7.61%
DC72	6811	7210	399	5.86%
DE72	3967	3999	32	0.81%
GA72	23189	24349	1160	5.00%
KS72	21261	21988	727	3.42%
ME71	7710	8035	325	4.22%
MI72	116711	119546	2835	2.43%
MO72	8419	8967	548	6.51%
NH72	4837	5286	449	9.28%
NM72	10595	10476	-119	-1.12%
OK72	16442	16543	101	0.61%
PA72	65548	67388	1840	2.81%
SC71	13264	13690	426	3.21%
SC72	14201	14432	231	1.63%
TX72	86701	91335	4634	5.34%
UT71	13588	14491	903	6.65%
VT71	4930	5215	285	5.78%
WA72	41635	42601	966	2.32%
TOTAL	670914	697820	26906	4.01%

changes are shown.

Table 7-8 shows the evening results in a form similar to the morning results. Tables 7-9 and 7-10 show how the morning normalization and the evening normalization were obtained.

The overall results from Tables 7-7 and 7-8 show a Net Percent Change of +20.45% in morning injury-causing accidents for the year (based upon an Apparent Percent Change of +15.52%), and a Net Percent Change of +3.03% in evening injury-causing accidents for the year (based upon an Apparent Percent Change of +6.51%). These results indicate a large increase in accidents under DDST in the morning and a small increase in the evening.

Tables 7-11 and 7-12 show the impact of DDST on the yearly injury-causing accident totals under the assumption that the accidents in the morning and evening periods are changed by the percentages shown in Tables 7-7 and 7-8 and that the accidents in the other parts of the day remain unchanged for the year. For each state-year, the actual year's accidents are shown and compared with the calculated DDST yearly accidents. Table 7-11 uses the Apparent Percent Change (from Tables 7-7 and 7-8), and Table 7-12 uses the Net Percent Change (from Tables 7-7 and 7-8).

The yearly injury-causing accident totals show a normalized Net Percent Change of +4.01% (based upon an Apparent Percent Change of +4.64%). This result indicates an increase in yearly accidents of the order of 4% if DDST is introduced.

It should be noted that these results are, as for YRDST, only estimates based upon data from a not necessarily representative group of states, and include the various inaccuracies of the Equivalent Day Methodology. It should especially be noted that the morning increase is based upon April through September days, while the evening increase is based upon September through April days. Thus, the results should be considered only as an indication of a large increase in April through September morning accidents and a small increase in September through April evening accidents, yielding a net change in yearly injury-causing accidents of about 4%, and the calculated percent changes should not be taken as exact numbers.

APPENDIX A - THE PROGRAMS

A.1 THE EQUIVALENT DAY PROGRAM, EQDAY

```
C EQDAY
C
C FINDS THE EQUIVALENT DAY FOR EACH NON-D.S.T. DAY
C
C     THE EQUIVALENT DAY IS CHOSEN TO BE ON THE SAME DAY OF THE
C        WEEK AS THE GIVEN DAY.
C    HOLIDAYS AND THE NIGHTS BEFORE HOLIDAYS ARE NOT USED AS DAYS
C       OR AS EQUIVALENT DAYS.
C    NO EQUIVALENT MORNING/EVENING IS USED MORE THAN FOUR TIMES.
C
C
      IMPLICIT INTEGER (A-Z)
      DIMENSION MTHBGN(12),MTHEND(12)
      DATA MTHBGN/1,32,61,92,122,153,183,214,245,275,
     1     306,336/
      DATA MTHEND/31,60,91,121,152,182,213,244,274,305,335,
     1366/
      DIMENSION STATE(5),HOL(50),MDSED(366),EDSED(366)
      DIMENSION RISE(366), SET(366), RUSAGE(366), SUSAGE(366)
      LOGICAL LEAP
      DATA MDSED,EDSED,RUSAGE,SUSAGE/366*0,366*0,366*0,366*0/
      READ (8,601) STATE,YEAR,NHOL
601   FORMAT (4A4,A2,1X,I4,1X,I2)
      WRITE(6,691)  STATE,YEAR,NHOL
691   FORMAT (1H1,4A4,A2,1X,I4,1X,I2)
      READ (8,602) (HOL(I),I=1,NHOL)
602   FORMAT (20(I3,1X))
      WRITE(6,692) (HOL(I),I=1,NHOL)
692   FORMAT (1X,20(I3,1X))
      DO 401 M=1,12
      M1=MTHBGN(M)
      M2=MTHEND(M)
      READ (8,603) (RISE(I), I=M1,M2)
603   FORMAT (16(I4,1X))
      WRITE(6,693) (RISE(I), I=M1,M2)
693   FORMAT (16(1X,I4))
401   CONTINUE
      DO 402 M=1,12
      M1=MTHBGN(M)
      M2=MTHEND(M)
      READ (8,603) (SET(I), I=M1,M2)
      WRITE(6,693) (SET(I), I=M1,M2)
402   CONTINUE
C CHECK YEAR
      IF (YEAR.EQ.1972)GO TO 1972
      IF (YEAR.EQ.1971)GO TO 1971
1972  LEAP=.TRUE.
      DSTBGN=121
      DSTEND=302
      GO TO 701
1971  LEAP=.FALSE.
      DSTBGN=116
      DSTEND=304
      GO TO 701
C ADD ONE HOUR FOR DST DAYS
701   DO 499 I=DSTBGN,DSTEND
      RISE(I)=RISE(I)+100
      SET (I)=SET(I)+100
```

```
499   CONTINUE
      IF (LEAP) GO TO 703
C NON-LEAP YEAR
C DELETE FEB 29
      RISE(60)=0
      SET(60)=0
      GO TO 703
C LEAP YEAR
C REMOVE HOLIDAYS AND NIGHT BEFORE HOLIDAYS
703   DO 403 I=1,NHOL
      HOLDAY=HOL(I)
      RISE (HOLDAY)=0
      SET(HOLDAY)=0
      IF (HOLDAY.NE.1) GOTO 702
      SET(366)=0
      GOTO 403
702   SET(HOLDAY-1)=0
403   CONTINUE
C FIND EQUIVALENT DAYS
      DO 409 I=1,366
      IF (I.GE.DSTBGN.AND.I.LE.DSTEND) GO TO 409
      MOSED(I)=EQUIV(RISE,I,RUSAGE,LEAP)
      EOSED(I)=EQUIV(SET,I,SUSAGE,LEAP)
409   CONTINUE
C PRINT OUTPUT
      WRITE(9,617)YEAR,STATE
617   FORMAT(1X,I4,' EQUIVALENT DAYS FOR ',4A4,A2//)
      WRITE(6,607)YEAR,STATE
607   FORMAT (1H1,I4,21H EQUIVALENT DAYS FOR ,4A4,A2//)
      WRITE(9,604)
      WRITE(6,604)
604   FORMAT (2X,'DAY',7X,'MORNING',2X,'EVENING'/13X,'EQDAY',4X,'EQDAY')
      DO 411 I=1,366
      IF (I.GE.DSTBGN.AND.I.LE.DSTEND) GOTO 411
      IF (I.EQ.60.AND..NOT.LEAP)GOTO 411
      M=MOSED(I)
      E=EOSED(I)
      WRITE(9,614)I,M,E
      WRITE(6,614)I,M,E
614   FORMAT(2X,I3,':',8X,I3,6X,I3)
411   CONTINUE
      WRITE(6,607)
      WRITE(6,604)
      DO 410 I=1,366
      IF (I.GE.DSTBGN.AND.I.LE.DSTEND) GO TO 410
      IF (I.EQ.60.AND..NOT.LEAP)GO TO 410
      J=MOSED(I)
      K=EOSED(I)
      M1=MNTHNO(I)
      N1=DAYNO(I)
      M2=MNTHNO(J)
      N2=DAYNO(J)
      M3=MNTHNO(K)
      N3=DAYNO(K)
      WRITE(6,605) M1,N1,M2,N2,M3,N3
605   FORMAT (1H ,I2,1H/,I2,7X,I2,1H/,I2,4X,I2,1H/,I2)
410   CONTINUE
      END
```

```
C FIND MORNING/EVENING EQUIVALENT DAY
      INTEGER FUNCTION EQUIV(RISET,I,USAGE,LEAP)
      IMPLICIT INTEGER(A-Z)
      LOGICAL LEAP
      DIMENSION RISET(366),USAGE(366)
      IF (RISET(I).EQ.0) GOTO 706
      DYOFWK=I - (I/7)*7
      IF (.NOT. LEAP .AND. I.GE.60)DYOFWK=DYOFWK-1
      IF (DYOFWK.LE.0) DYOFWK=DYOFWK+7
      DSTIME=RISET(I)+100
      EQUIV=0
      MINDIF=5
      DO 411 J=DYOFWK,366,7
      EQ=J
      IF (.NOT.LEAP .AND. J.GE.60)EQ=J+1
      IF (EQ.GT.366)GOTO411
      IF (USAGE(EQ).GT.3) GOTO 411
      DIFF=GETDIF(DSTIME,RISET(EQ))
      IF (DIFF.GT.MINDIF) GO TO 411
      IF (DIFF.LT.MINDIF) GO TO 705
      IF (APART(I,EQ).GT.APART(I,EQUIV))GO TO 411
705   EQUIV=EQ
      MINDIF=DIFF
411   CONTINUE
      IF (EQUIV.GT.0) USAGE(EQUIV)=USAGE(EQUIV) + 1
      RETURN
706   EQUIV=0
      RETURN
      END
```

```
C GET TIME DIFFERENCE IN MINUTES BETWEEN TWO GIVEN TIMES
      INTEGER FUNCTION GETDIF (DSTIME,JTIME)
      INTEGER TIME1,TIME2,HOUR1,HOUR2,DSTIME
      IF(DSTIME.LT.JTIME)GO TO 712
      TIME1=JTIME
      TIME2=DSTIME
      GO TO 711
712   TIME1=DSTIME
      TIME2=JTIME
711   HOUR1=TIME1/100
      HOUR2=TIME2/100
      GETDIF=(HOUR2-HOUR1)*60
      MINUT1=TIME1-HOUR1*100
      MINUT2=TIME2-HOUR2*100
      GETDIF=GETDIF+MINUT2-MINUT1
      IF(GETDIF.GT.720) GETDIF=1440-GETDIF
      RETURN
      END
```

```
C FIND HOW FAR APART TWO DAYS ARE (BASED ON WEATHER)
      INTEGER FUNCTION APART (DAY1,DAY2)
      INTEGER DAY1,DAY2
      DATA PI/3.14159/
      DY1=DAY1
      DY2=DAY2
      WETHR1=COS(2.0*PI*(DY1-32.0)/366.0)
      WETHR2=COS(2.0*PI*(DY2-32.0)/366.0)
      APART=ABS(WETHR2-WETHR1)*1000.0
      IF (DAY2.EQ.0)APART=5000
      RETURN
      END
```

```
C FIND MONTH NUMBER FROM DAYCODE
      FUNCTION MNTHNO(DAYCDE)
      INTEGER DAYCDE
      IF(DAYCDE.EQ.0)MNTHNO=0
      IF(DAYCDE.GT.0.AND.DAYCDE.LE.31)MNTHNO=1
      IF(DAYCDE.GT.31.AND.DAYCDE.LE.60)MNTHNO=2
      IF(DAYCDE.GT.60.AND.DAYCDE.LE.91)MNTHNO=3
      IF(DAYCDE.GT.91.AND.DAYCDE.LE.121)MNTHNO=4
      IF(DAYCDE.GT.121.AND.DAYCDE.LE.152)MNTHNO=5
      IF(DAYCDE.GT.152.AND.DAYCDE.LE.182)MNTHNO=6
      IF(DAYCDE.GT.182.AND.DAYCDE.LE.213)MNTHNO=7
      IF(DAYCDE.GT.213.AND.DAYCDE.LE.244)MNTHNO=8
      IF(DAYCDE.GT.244.AND.DAYCDE.LE.274)MNTHNO=9
      IF(DAYCDE.GT.274.AND.DAYCDE.LE.305)MNTHNO=10
      IF(DAYCDE.GT.305.AND.DAYCDE.LE.335)MNTHNO=11
      IF(DAYCDE.GT.335)MNTHNO=12
      RETURN
      END
```

```
C FIND DAY NUMBER FROM DAYCODE
      INTEGER FUNCTION DAYNO(DAYCDE)
      INTEGER DAYCDE
      IF(DAYCDE.LE.31)DAYNO=DAYCDE
      IF(DAYCDE.GT.31.AND.DAYCDE.LE.60)DAYNO=DAYCDE-31
      IF(DAYCDE.GT.60.AND.DAYCDE.LE.91)DAYNO=DAYCDE-60
      IF(DAYCDE.GT.91.AND.DAYCDE.LE.121)DAYNO=DAYCDE-91
      IF(DAYCDE.GT.121.AND.DAYCDE.LE.152)DAYNO=DAYCDE-121
      IF(DAYCDE.GT.152.AND.DAYCDE.LE.182)DAYNO=DAYCDE-152
      IF(DAYCDE.GT.182.AND.DAYCDE.LE.213)DAYNO=DAYCDE-182
      IF(DAYCDE.GT.213.AND.DAYCDE.LE.244)DAYNO=DAYCDE-213
      IF(DAYCDE.GT.244.AND.DAYCDE.LE.274)DAYNO=DAYCDE-244
      IF(DAYCDE.GT.274.AND.DAYCDE.LE.305)DAYNO=DAYCDE-274
      IF(DAYCDE.GT.305.AND.DAYCDE.LE.335)DAYNO=DAYCDE-305
      IF(DAYCDE.GT.335)DAYNO=DAYCDE-335
      RETURN
      END
```

A.2 THE QUARTER DAY PROGRAM, QDY

```
C QUARTER-DAY STATISTICS
C
C FINDS THE NUMBER OF ACCIDENTS FOR EACH QUARTER-DAY
C   OF THE YEAR
C
C
C (INCLUDES FEB. 29 ENTRY IN ARRAYS)
C
C
      IMPLICIT INTEGER (A-Z)
      DIMENSION DYINMH(12),DYBFMH(12)
      DIMENSION NEVEAC(366,6)
      DIMENSION TOT46(366)
      DIMENSION TOT610(366)
      INTEGER*2 NUMBER(256)
      INTEGER*2 ACSVIX(256)
      INTEGER*2 KI(2)/2*0/,NNF(2)/2*0/,M10(2)/2*0/,M1(2)/2*0/,
     1D10(2)/2*0/,D1(2)/2*0/,TMHR10(2)/2*0/,TMHR1(2)/2*0/,
     2TMMN10(2)/2*0/,TMMN1(2)/2*0/
      INTEGER*2 B(12)
      DATA BLANKS /Z00000000/
      DATA NEVEAC,TOT46,TOT610/2196*0,366*0,366*0/
      DATA DYBFMH/0,31,60,91,121,152,182,213,244,274,305,335/
      DATA DYINMH/31,29,31,30,31,30,31,31,30,31,30,31/
      EQUIVALENCE (KI(1),BYTS4A),(NNF(1),BYTS4B),(M10(1),BYTS4C)
      EQUIVALENCE (M1(1),BYTS4D),(D10(1),BYTS4E),(D1(1),BYTS4F)
      EQUIVALENCE (TMHR10(1),BYTS4G),(TMHR1(1),BYTS4H)
      EQUIVALENCE (TMMN10(1),BYTS4I),(TMMN1(1),BYTS4J)
      DATA ACSVIX/192*-20,10,11,12,13,14,15,16,17,8*-20,
     118,19,20,21,-20,-20,22,-20,23,8*-20,24,25,
     2-20,26,27,28,29,7*-20,0,1,2,3,4,5,6,7,8,9,
     37*-20/
      DATA NUMBER/239*-20,0,1,2,3,4,5,6,7,8,9,7*-20/
      DIMENSION NFATAL(366,4),NCASUL(366,4)
      DATA NFATAL,NCASUL/1464*0,1464*0/
      DATA NZERO,NERROR,NFACC,NINJAC,NFTLTY,NINJRD/0,0,0,0,0,0/
C
      CALL ERRSET(218,250,250,1)
C
C LOOP TO READ AND FILL ARRAYS
C
1111  READ(9,1601,END=1500)KI(2),NNF(2),M10(2),M1(2),D10(2),D1(2),
     1  TMHR10(2),TMHR1(2),TMMN10(2),TMMN1(2)
1601  FORMAT(2X,A1,4X,A1,10X,3X,4A1,3X,4A1,4X)
      INJK=ACSVIX((BYTS4A-BLANKS)/256)
      NNFINJ=ACSVIX((BYTS4B-BLANKS)/256)
      MNTH10=NUMBER((BYTS4C-BLANKS)/256)
      MNTH1=NUMBER((BYTS4D-BLANKS)/256)
      DAY10=NUMBER((BYTS4E-BLANKS)/256)
      DAY1=NUMBER((BYTS4F-BLANKS)/256)
      HR10=NUMBER((BYTS4G-BLANKS)/256)
      HR1=NUMBER((BYTS4H-BLANKS)/256)
      MIN10=NUMBER((BYTS4I-BLANKS)/256)
      MIN1=NUMBER((BYTS4J-BLANKS)/256)
      MONTH=10*MNTH10 + MNTH1
      DYOFMH=10*DAY10 + DAY1
      HOUR=1000*HR10 + 100*HR1
      MIN=10*MIN10 + MIN1
```

```
      TIME=HOUR + MIN
      IF (INJK.LT.0 .OR. NNFINJ.LT.0 .OR. MONTH.LT.1
     1     .OR. MONTH.GT.12) GO TO 1405
      IF (HOUR.GT.2300 .OR.HOUR.LT.0) GO TO 1405
      IF (DYOFMH.LT.1 .OR. DYOFMH.GT.DYINMH(MONTH)) GOTO 1405
      IF (MIN.GT.59 .OR. MIN.LT.0) GO TO 1405
      DAY=DYOFMH + DYBFMH(MONTH)
      IF (TIME.GE.400.AND.TIME.LT.1000)QDAY=1
      IF (TIME.GE.1000.AND.TIME.LT.1600)QDAY=2
      IF (TIME.GE.1600.AND.TIME.LT.2200)QDAY=3
      IF (TIME.GE.2200.AND.TIME.LE.2359)QDAY=4
      IF(TIME.GE.0.AND.TIME.LT.400)GOTO 1701
      GOTO 1702
 1701 QDAY=4
      DAY=DAY-1
      IF(DAY.EQ.0)DAY=366
 1702 IF(INJK.EQ.0)GOTO 1703
      NFATAL(DAY,QDAY)=NFATAL(DAY,QDAY)+1
      NFACC=NFACC+1
      NFTLTY=NFTLTY+INJK
      GOTO 1704
 1703 IF(NNFINJ.EQ.0) GOTO 1798
 1704 NCASUL(DAY,QDAY)=NCASUL(DAY,QDAY)+1
      NINJAC=NINJAC+1
      NINJRD=NINJRD+NNFINJ+INJK
      IF(QDAY.NE.3)GOTO 1111
      EVEHR=10*HR10 + HR1 - 15
      NEVEAC(DAY,EVEHR)=NEVEAC(DAY,EVEHR)+1
      GOTO 1111
 1405 NERROR=NERROR+1
      GOTO 1111
 1798 NZERO=NZERO+1
      GOTO 1111
C
C WRITE OUT ARRAYS
C
 1500 WRITE(6,1608)
 1608 FORMAT(1H1)
      WRITE(6,1603)
      WRITE(8,1603)
 1603 FORMAT(////'     NO. OF ACCIDENTS WITH FATALITIES (K)'///)
      WRITE(6,1609)
      WRITE(8,1609)
 1609 FORMAT(1X,'DAY',9X,'4AM-',6X,'10AM',6X,'4PM-',6X,'10PM'/
     1   1X,'NO.',9X,'10AM',6X,'-4PM',6X,'10PM',6X,'-4AM'/)
      WRITE(6,1602)(I,(NFATAL(I,J),J=1,4),I=1,366)
      WRITE(8,1602)(I,(NFATAL(I,J),J=1,4),I=1,366)
 1602 FORMAT((1X,I3,':  ',4(1X,I9)))
      WRITE (6,1610)NFACC,NFTLTY
      WRITE (8,1610)NFACC,NFTLTY
 1610 FORMAT(//' NUMBER OF FATAL ACCIDENTS =',I7/
     1            ' NUMBER OF FATALITIES      =',I7)
      WRITE(6,1608)
      WRITE(6,1604)
      WRITE(8,1604)
 1604 FORMAT(////'     NO. OF ACCIDENTS WITH ANY INJURY (K,A,B,C)  '///)
      WRITE(6,1609)
      WRITE(8,1609)
```

```
      WRITE(6,1602)(I,(NCASUL(I,J),J=1,4),I=1,366)
      WRITE(8,1602)(I,(NCASUL(I,J),J=1,4),I=1,366)
      WRITE(6,1611)NINJAC,NINJRD
      WRITE(8,1611)NINJAC,NINJRD
 1611 FORMAT(///' NUMBER OF INJURY-CAUSING ACCIDENTS   =',I7/
     1          ' NUMBER OF INJURED (INCL. FATALITIES) =',I7)
      WRITE(6,1607)NZERO,NERROR
      WRITE(8,1607)NZERO,NERROR
 1607 FORMAT(////23H NO-INJURY ACCIDENTS = ,I7//10H ERRORS =  ,I7)
      DO 1401 I=1,366
      TOT46(I)=NEVEAC(I,1)+NEVEAC(I,2)
      TOT610(I)=NEVEAC(I,3)+NEVEAC(I,4)+NEVEAC(I,5)+NEVEAC(I,6)
 1401 CONTINUE
      WRITE(6,1608)
      WRITE(6,1612)(I,(NEVEAC(I,J),J=1,6),TOT46(I),TOT610(I),I=1,366)
      WRITE(8,1612)(I,(NEVEAC(I,J),J=1,6),TOT46(I),TOT610(I),I=1,366)
 1612 FORMAT(//12X,' HOURLY EVENING INJURY-CAUSING ACCIDENT TOTALS'///
     1  1X,'DAY',1X,4X,'4-5',4X,'5-6',4X,'6-7',4X,'7-8',4X,'8-9',3X,
     2  '9-10',6X,3X,'4-6',3X,'6-10'//
     3  (1X,I3,6(1X,I6),5X,2(1X,I6)))
      END
```

A.3 THE COMPARISON PROGRAM, COMPAR

```
C COMPAR
C
C ROUTINE TO COMPARE THE ACCIDENT TOTALS OF
C NON-D.S.T. DAYS WITH THOSE OF THEIR EQUIVALENT DAYS
C
C
C     ACTUAL EQUIVALENT DAY ACCIDENT TOTALS ARE USED.
C
C
      IMPLICIT INTEGER (A-Z)
      REAL MPCTCG,EPCTCG,YPCTCG
      REAL PCEVAC,NCGEVA
      REAL MNMPCG,ENMPCG,MNETCG,ENETCG,YNTPCG
      REAL RMPCTC,REPCTC
      REAL RMNMPC,RENMPC
      REAL RMNETC,RENETC,RYPCTC,RYNTPC
      REAL QAVDWK,AVDWK,DMNRM,DENRM,MNRM,ENRM,QAVMNH,AVMNH
      LOGICAL LEAP
      DIMENSION NFATAL(366,4),NCASUL(366,4)
      DIMENSION CLEVAC(8),PCEVAC(8),NCGEVA(8)
      DIMENSION MNHALL(12)
      DIMENSION EVAC(8),EQFVAC(8),SEVAC(8),SEQEVA(8)
      DIMENSION NEVEAC(366,6),TOT46(366),TOT610(366)
      DIMENSION DSTBGN(2),DSTEND(2)
      DIMENSION STATE(5)
      DIMENSION DWKTOT(7,4),DWKNO(7),QAVDWK(7,4),AVDWK(7)
      DIMENSION MNHTOT(12,4),MNHNO(12),QAVMNH(12,4),AVMNH(12)
      DIMENSION DYEFM2(13)
      DIMENSION EQDAY(366,3)
      DATA LEAP/.FALSE./
      DATA DSTBGN/116,121/
      DATA DSTEND/304,302/
      DATA SMNON,SENON,SMDST,SEDST,SNOON,SMIDN/0,0,0,0,0,0/
      DATA DWKTOT,DWKNO,MNHTOT,MNHNO/28*0,7*0,48*0,12*0/
      DATA MNHALL/12*0/
      DATA SEVAC,SEQEVA/8*0,8*0/
      DATA DYEFM2/0,0,31,60,91,121,152,182,213,244,274,305,335/
      DATA NERROR/0/
      DATA SMDYNM,SEDYNM,SMEQNM,SEEQNM/0,0,0,0/
      DATA NMEQDS,NEEQDS/0.0/
C
C
C
C GET STATE AND YEAR
C
      READ(10,2630)YEAR,STATE
2630  FORMAT(1X,I4,21X,4A4,A2////)
      IF (YEAR.EQ.1972) LEAP=.TRUE.
C
C READ QUARTER-DAY ACCIDENT TOTALS
C
      READ(8,2601)((NFATAL(I,J),J=1,4),I=1,366)
2601  FORMAT(////////////(7X,4(1X,I9)))
      READ(8,2641)NFACC,NFTLTY
2641  FORMAT(//28X,I7/28X,I7)
      READ(8,2601)((NCASUL(I,J),J=1,4),I=1,366)
      READ(8,2642)NINJAC,NINJRD
2642  FORMAT(//39X,I7/39X,I7)
```

```
      READ(8,2652)((NEVEAC(I,J),J=1,6),TOT46(I),TOT610(I),I=1,366)
2652  FORMAT(/////////////(4X,6(1X,I6),5X,2(1X,I6)))
      IF (LEAP) GOTO 2720
      NFATAL(59,4)=NFATAL(59,4)+NFATAL(60,4)
      NCASUL(59,4)=NCASUL(59,4)+NCASUL(60,4)
2720  WRITE(6,2631)YEAR,STATE
2631  FORMAT('1',10X,I4,1X,4A4,A2)
      WRITE(6,2610)(I,(NFATAL(I,J),J=1,4),I=1,366)
2610  FORMAT('  NUMBER OF ACCIDENTS WITH FATALITIES'///(1X,I3,
     1    3X,4(1X,I9)))
      WRITE(6,2643)NFACC,NFTLTY
2643  FORMAT(//' NUMBER OF FATAL ACCIDENTS =',I7/
     1       ' NUMBER OF FATALITIES      =',I7)
      WRITE(6,2631)YEAR,STATE
      WRITE (6,2611)(I,(NCASUL(I,J),J=1,4),I=1,366)
2611  FORMAT('  NUMBER OF ACCIDENTS WITH ANY INJURY'///
     1     (1X,I3,3X,4(1X,I9)))
      WRITE(6,2644)NINJAC,NINJRD
2644  FORMAT(//' NUMBER OF INJURY-CAUSING ACCIDENTS   =',I7/
     1          ' NUMBER OF INJURED (INCL. FATALITIES) =',I7)
C
C GET DAY-OF-WEEK AND MONTHLY TOTALS AND AVERAGES
C
      DO 2420 I=1,366
      IF (.NOT.LEAP .AND. I.EQ.60)GOTO 2420
      DYOFWK=WEEKDY(YEAR,I)
      MHOFYR=MNTHNO(I)
      DO 2421 J=1,4
      DWKTOT(DYOFWK,J)=DWKTOT(DYOFWK,J) + NCASUL(I,J)
      MNHTOT(MHOFYR,J)=MNHTOT(MHOFYR,J)+NCASUL(I,J)
      MNHALL(MHOFYR)=MNHALL(MHOFYR)+NCASUL(I,J)
2421  CONTINUE
      DWKNO(DYOFWK)=DWKNO(DYOFWK)+1
      MNHNO(MHOFYR)=MNHNO(MHOFYR)+1
2420  CONTINUE
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2620)(D,(DWKTOT(D,J),J=1,4),DWKNO(D),D=1,7)
2620  FORMAT('  ACCIDENT TOTALS FOR EACH DAY OF THE WEEK'//
     1       (3X,I2,':',4(1X,I9),3X,'NO.DAYS=',I9))
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2621)(M,(MNHTOT(M,J),J=1,4),MNHALL(M),MNHNO(M),M=1,12)
2621  FORMAT('  ACCIDENT TOTALS FOR EACH MONTH'//
     1        (3X,I2,':',4(1X,I9),3X,'TOT=',I9,3X,'NO.DAYS=',I9))
      DO 2426 D=1,7
      DO 2428 J=1,4
      QAVDWK(D,J)=(1.*DWKTOT(D,J))/DWKNO(D)
2428  CONTINUE
      SIGDWK=DWKTOT(D,1)+DWKTOT(D,2)+DWKTOT(D,3)+DWKTOT(D,4)
      AVDWK(D)=(1.*SIGDWK)/DWKNO(D)
2426  CONTINUE
      DO 2427 M=1,12
      DO 2429 J=1,4
      QAVMNH(M,J)=(1.*MNHTOT(M,J))/MNHNO(M)
2429  CONTINUE
      SIGMNH=MNHTOT(M,1)+MNHTOT(M,2)+MNHTOT(M,3)+MNHTOT(M,4)
      AVMNH(M)=(1.*SIGMNH)/MNHNO(M)
2427  CONTINUE
      WRITE(6,2631)YEAR,STATE
```

```
     5     'DAY DATE  ACCONTS',9X,'MIDDAY  +NIGHT'///)
      SMACC=0
      SOMACC=0
      SEACC=0
      SOEACC=0
      SOYTOT=0
      SEQTOT=0
      DO 2404 I=1,NDAYS
      DAY=EQDAY(I,1)
      MEQDAY=EQDAY(I,2)
      EEQDAY=EQDAY(I,3)
      MHDAY=MNTHNO(DAY)
      OYDAY=DAY-DYBFM2(MHDAY+1)
      OWKDAY=WEEKDY(YEAR,DAY)
      MHMEQ=MNTHNO(MEQDAY)
      OYMEQ=MEQDAY-DYBFM2(MHMEQ+1)
      OWKMEQ=WEEKDY(YEAR,MEQDAY)
      MHEEQ=MNTHNO(EEQDAY)
      DYEEQ=EEQDAY-DYBFM2(MHEEQ+1)
      OWKEEQ=WEEKDY(YEAR,EEQDAY)
      IF (DAY.LT.1 .OR. DAY.GT.366
     1     .OR. MEQDAY.LT.0 .OR. MEQDAY.GT.366
     2     .OR. EEQDAY.LT.0 .OR. EEQDAY.GT.366) GOTO 2709
      IF (.NOT.LEAP .AND. (DAY.EQ.60 .OR. MEQDAY.EQ.60
     1       .OR. EEQDAY.EQ.60)) GOTO 2709
      DYBEFR=DAY-1
      IF (DAY.EQ.1)DYBEFR=366
      IF (DAY.EQ.61 .AND. .NOT.LEAP) DYBEFR=59
      MBEFOR=MEQDAY-1
      IF (MEQDAY.EQ.1)MBEFOR=366
      IF (MEQDAY.EQ.61 .AND. .NOT.LEAP) MBEFOR=59
C
      DMACC=NCASUL(DAY,1)
      DEACC=NCASUL(DAY,3)
C
      IF (MEQDAY.EQ.0)GOTO 2705
C     MORNING EQUIVALENT DAY
      NMEQDS=NMEQDS+1
      MACC=NCASUL(MEQDAY,1)
      SMACC=SMACC+MACC
      SOMACC=SOMACC+OMACC
      MEQNMO=NCASUL(MBEFOR,4)+NCASUL(MEQDAY,2)
      MOYNMD=NCASUL(DYBEFR,4)+NCASUL(DAY,2)
      GOTO 2706
C     NO MORNING EQUIVALENT DAY
2705  MACC=0
      MOYNMD=0
      MEQNMD=0
      DMACC=-DMACC
C
2706  IF (EEQDAY.EQ.0)GOTO 2707
C     EQUIVALENT EVENING
      NEEQDS=NEEQDS+1
      EACC=NCASUL(EEQDAY,3)
      SEACC=SEACC+EACC
      SOEACC=SOEACC+OEACC
      EDYNMD=NCASUL(DAY,2)+NCASUL(DAY,4)
      EEQNMD=NCASUL(EEQDAY,2)+NCASUL(EEQDAY,4)
```

```
      GOTO 2708
C     NO EQUIVALENT EVENING
2707  EACC=0
      EDYNMD=0
      EEQNMD=0
      DEACC=-DEACC
C     TOTALS
2708  SMDYNM=SMDYNM+MDYNMD
      SMEQNM=SMEQNM+MEQNMD
      SEDYNM=SEDYNM+EDYNMD
      SEEQNM=SEEQNM+EEQNMD
      WRITE(6,2602)DWKDAY,MHDAY,DYDAY,DMACC,DEACC,MDYNMD,EDYNMD,
     1      DWKMEQ,MHMEQ,DYMEQ,MACC,
     2      DWKEEQ,MHEEQ,DYEEQ,EACC,MEQNMD,EEQNMD
2602  FORMAT(1X,1X,I1,1X,I2,'/',I2,1H:,I7,3X,I7,8X,'<',I6,I6,2X,
     1 '>',12X,1H(,I1,1X,I2,'/',I2,2H:),I7,3X,1H(,I1,1X,I2,'/',
     2  I2,':)',I7,8X,'<',I6,I6,2X,'>')
      GOTO 2404
2709  NERROR=NERROR+1
2404  CONTINUE
      WRITE(6,2604)
2604   FORMAT(///1X,'----------------------------------------',
     1 '----------------------------------------',
     2 '----------')
      WRITE(6,2603)SDMACC,SDEACC,SMDYNM,SEDYNM,SMACC,SEACC,
     1   SMEQNM,SEEQNM
2603  FORMAT(//1X,9X,I7,3X,I7,8X,'<',I6,I6,2X,'>',12X,10X,I7,3X,
     1    10X,I7,8X,'<',I6,I6,2X,'>')
      WRITE(6,2646)NMEQDS,NEEQDS
2646  FORMAT(/////////////////1X,40X,'NO. OF MORNING EQUIVALENT DAYS   =',
     1    I7//1X,40X,'NO. OF EVENING EQUIVALENT DAYS   =',I7)
      MCHNG=SMACC-SDMACC
      ECHNG=SEACC-SDEACC
      MNMCHG=SMEQNM-SMDYNM
      ENMCHG=SEEQNM-SEDYNM
      WRITE(6,2650)MCHNG,ECHNG,MNMCHG,ENMCHG
2650  FORMAT(////1X,40X,'CHANGE IN MORNING ACCIDENTS      =',I7/
     1     1X,40X,'CHANGE IN EVENING ACCIDENTS      =',I7//
     2    1X,40X,'CHANGE IN NIGHT-MIDDAY ACCIDENTS =',I7/
     3     1X,40X,'CHANGE IN MIDDAY-NIGHT ACCIDENTS =',I7)
      WRITE(6,2638)YEAR,STATE
2638  FORMAT('1'/////40X,' CHANGE IN THE LEVEL OF ACCIDENTS'/
     1    40X,'       UNDER THE EFFECT OF'/
     2    40X,'   DAYLIGHT-SAVING ALL YEAR'/
     3    40X,'    FOR ',I4,' FOR ',4A4,A2///)
      MPCTCG=(MCHNG*100.)/SDMACC
      EPCTCG=(ECHNG*100.)/SDEACC
      RMPCTC=MPCTCG+0.00
      REPCTC=EPCTCG+0.00
      WRITE(6,2637)RMPCTC,REPCTC
2637  FORMAT(3X,40X,' MORNING ACCIDENTS: ',F6.1,'%'//
     1      3X,40X,' EVENING ACCIDENTS: ',F6.1,'%')
      MNMPCG=(MNMCHG*100.)/SMDYNM
      ENMPCG=(ENMCHG*100.)/SEDYNM
      RMNMPC=MNMPCG+0.00
      RENMPC=ENMPCG+0.00
      MNETCG=((100.*SMACC)/SDMACC)/((1.*SMEQNM)/SMDYNM) - 100.
      ENETCG=((100.*SEACC)/SDEACC)/((1.*SEEQNM)/SEDYNM) - 100.
```

```
      RMNETC=MNETCG+0.00
      RENETC=ENETCG+0.00
      WRITE(6,2649)YEAR,STATE,RMPCTC,RMNMPC,RMNETC,REPCTC,RENMPC,RENETC
2649  FORMAT('1'/////40X,'  NET CHANGE IN ',I4,' ACCIDENTS FOR ',4A4,A2
     1     /////1X,40X,F6.1,'% CHANGE IN MORNING ACCIDENTS'/
     2      1X,40X,F6.1,'% CHANGE IN NIGHT+MIDDAY ACCIDENTS'//
     3      1X,40X,F6.1,'% NET CHANGE IN MORNING ACCIDENTS'////
     4      1X,40X,F6.1,'% CHANGE IN EVENING ACCIDENTS'/
     5      1X,40X,F6.1,'% CHANGE IN MIDDAY+NIGHT ACCIDENTS'//
     6      1X,40X,F6.1,'% NET CHANGE IN EVENING ACCIDENTS')
      WRITE(6,2639)YEAR,STATE
2639  FORMAT('1'/////1X,30X,' COMPARISON OF ',I4,' ACCIDENT TOTALS',
     1     ' FOR ',4A4,A2)
      WRITE(6,2651)
2651  FORMAT(30X,'  USING ACTUAL PERCENT ACCIDENT CHANGES')
      WRITE(6,2648)
2648  FORMAT(///50X,'6-MONTH O.S.T.    FULL-YEAR O.S.T.'/)
      M6MTH=SMNON+SMOST
      E6MTH=SENON+SEDST
      MFYEAR=(MPCTCG/100. + 1.)*SMNON + SMDST
      EFYEAR=(EPCTCG/100. + 1.)*SENON + SEDST
      TOT6M=M6MTH+SNOON+E6MTH+SMION
      TOTFYR=MFYEAR+SNOON+EFYEAR+SMION
      WRITE(6,2640)M6MTH,MFYEAR,SNOON,SNOON,E6MTH,EFYEAR,SMION,
     1     SMIDN,TOT6M,TOTFYR
2640  FORMAT(30X,' MORNING ACCIDENTS:',4X,I7,12X,I7/
     1       30X,' MID-DAY ACCIDENTS:',4X,I7,12X,I7/
     2    30X,' EVENING ACCIDENTS:',4X,I7,12X,I7/
     3     30X,' NIGHT   ACCIDENTS:',4X,I7,12X,I7///
     4     30X,' TOTAL',17X,I7,12X,I7)
      YCHNGE=TOTFYR-TOT6M
      YPCTCG=(100.*YCHNGE)/TOT6M
      RYPCTC=YPCTCG+0.000
      WRITE(6,2645)YCHNGE,RYPCTC
2645  FORMAT(////30X,' CHANGE IN YEARLY ACCIDENT TOTAL =',I7///
     1       30X,' PERCENT CHANGE IN YEARLY ACCIDENTS =',F7.2,'%')
      WRITE(6,2639)YEAR,STATE
      WRITE(6,2647)
2647  FORMAT(30X,'    USING NET PERCENT ACCIDENT CHANGES')
      WRITE(6,2648)
      MNTFYR=(MNETCG/100. + 1.)*SMNON + SMOST
      ENTFYR=(ENETCG/100. + 1.)*SENON + SEDST
      TNTFYR=MNTFYR+SNOON+ENTFYR+SMION
      WRITE(6,2640)M6MTH,MNTFYR,SNOON,SNOON,E6MTH,ENTFYR,SMION,
     1   SMIDN,TOT6M,TNTFYR
      YNTCHG=TNTFYR-TOT6M
      YNTPCG=(100.*YNTCHG)/TOT6M
      RYNTPC=YNTPCG+0.000
      WRITE(6,2645)YNTCHG,RYNTPC
C
C HOURLY ACCIDENTS FOR EVENING QUARTER-DAY
C
      WRITE(6,2655) YEAR,STATE
2655  FORMAT(1H1//1X,I4,' HOURLY EVENING ACCIDENTS FOR ',
     1     4A4,A2)
      WRITE(6,2656)
2656  FORMAT(///1X,1X,'DAY',2X,1X,3X,'4-5',3X,'5-6',3X,'6-7',
     1  3X,'7-8',3X,'8-9',2X,'9-10',5X,3X,'4-6',
```

```
     2   2X,'6-10',8X,1X,'FQDAY',1X,3X,'4-5',3X,'5-6',3X,'6-7',
     3  3X,'7-8',3X,'8-9',2X,'9-10',5X,3X,'4-6',2X,'6-10'/)
      DO 2435 I=1,NDAYS
      DAY=EQDAY(I,1)
      EEQDAY=EQDAY(I,3)
      MHDAY=MNTHNO(DAY)
      DYDAY=DAY-DYBFM2(MHDAY+1)
      DWKDAY=WEEKDY(YEAR,DAY)
      MHEEQ=MNTHNO(EEQDAY)
      DYEEQ=EEQDAY-DYBFM2(MHEEQ+1)
      DWKEEQ=WEEKDY(YEAR,EEQDAY)
      IF (DAY.LT.1 .OR. DAY.GT.366
     2     .OR. FEQDAY.LT.0 .OR. EEQDAY.GT.366) GOTO 2739
      IF (.NOT.LEAP .AND. (DAY.EQ.60
     1       .OR. EEQDAY.EQ.60)) GOTO 2739
C
      DO 2436 J=1,6
      EVAC(J)=NEVEAC(DAY,J)
2436  CONTINUE
      EVAC(7)=TOT46(DAY)
      EVAC(8)=TOT610(DAY)
C
      IF (EEQDAY.EQ.0)GOTO 2737
C     EQUIVALENT EVENING
      DO 2437 J=1,6
      EQEVAC(J)=NEVEAC(EEQDAY,J)
2437  CONTINUE
      EQEVAC(7)=TOT46(EEQDAY)
      EQEVAC(8)=TOT610(EEQDAY)
      DO 2438 J=1,8
      SEVAC(J)=SEVAC(J)+EVAC(J)
      SEQEVA(J)=SEQEVA(J)+EQEVAC(J)
2438  CONTINUE
      GOTO 2738
C     NO EQUIVALENT EVENING
2737  DO 2439 J=1,8
      EVAC(J)=-EVAC(J)
      EQEVAC(J)=0
2439  CONTINUE
2738  WRITE(6,2653)MHDAY,DYDAY,EVAC,MHEEQ,DYEEQ,EQEVAC
2653  FORMAT(1X,I2,'/',I2,':',1X,6I6,5X,2I6,
     1   7X,1X,I2,'/',I2,':',1X,6I6,5X,2I6)
      GOTO 2435
2739  NERROR=NERROR+1
2435  CONTINUE
      WRITE(6,2604)
      WRITE(6,2654)SEVAC,SEQEVA
2654  FORMAT(1X,6X,1X,6I6,5X,2I6,7X,1X,6X,1X,
     1    6I6,5X,2I6)
      WRITE(6,2658)YEAR,STATE
2658  FORMAT(1H1//1X,I4,' EVENING INJURY-CAUSING ACCIDENT ',
     1   'SUMMARY FOR ',4A4,A2/
     2  //1X,10X,5X,'  ACTUAL  ',5X,'EQUIV DAY ',8X,10X,8X,' APPARENT ',
     3  5X,'  MIDDAY  ',8X,'   NET    '/
     4  1X,'  HOURS   ',5X,'ACCIDENTS ',5X,'ACCIDENTS ',8X,
     5  '  CHANGE  ',8X,' PERCENT  ',5X,'  +NIGHT  ',8X,' PERCENT'/
     6  1X,10X,5X,'  TOTALS  ',5X,'  TOTALS  ',8X,10X,8X,
     7   '  CHANGE  ',5X,'  CHANGE  ',8X,'  CHANGE'//)
```

```
      DO 2440 I=1,8
      IF (I.GE.7)WRITE(6,2659)
2659  FORMAT(/)
      DLEVAC(I)=SEQEVA(I)-SEVAC(I)
      PCEVAC(I)=(DLEVAC(I)*100.)/SEVAC(I)
      NCGEVA(I)=((100.*SEQEVA(I))/SEVAC(I))/((1.*SEEQNM)/SEDYNM) - 100.
      TIM1=I+3
      TIM2=I+4
      IF(I.EQ.7)TIM1=4
      IF(I.EQ.7)TIM2=6
      IF(I.EQ.8)TIM1=6
      IF(I.EQ.8)TIM2=10
      WRITE(6,2657)TIM1,TIM2,SEVAC(I),SEQEVA(I),DLEVAC(I),PCEVAC(I),
     1   ENMPCG,NCGEVA(I)
2657  FORMAT(1X,I1,'PM-',I2,'PM: ',5X,I7,3X,5X,I7,3X,8X,I7,3X,8X,
     1   F7.2,'%',2X,5X,F7.2,'%',2X,8X,F7.2,'%')
2440  CONTINUE
      WRITE(6,2660)
2660  FORMAT(////)
      TIM1=4
      WRITE(6,2657)TIM1,TIM2,SDEACC,SEACC,ECHNG,EPCTCG,ENMPCG,ENETCG
      END
```

A.4 THE DOUBLE DST EQUIVALENT DAY PROGRAM, DBLDAY

```
C DBLDAY
C
C FINDS THE DOUBLE D.S.T. EQUIVALENT DAY FOR EACH DAY
C
C     THE DOUBLE D.S.T. EQUIVALENT DAY IS CHOSEN TO BE ON THE
C        SAME DAY OF THE WEEK AS THE GIVEN DAY.
C    HOLIDAYS AND THE NIGHTS BEFORE HOLIDAYS ARE NOT USED AS DAYS
C       OR AS EQUIVALENT DAYS.
C    NO EQUIVALENT MORNING/EVENING IS USED MORE THAN FOUR TIMES.
C
C
      IMPLICIT INTEGER (A-Z)
      DIMENSION MTHBGN(12),MTHEND(12)
      DATA MTHBGN/1,32,61,92,122,153,183,214,245,275,
     1     306,336/
      DATA MTHEND/31,60,91,121,152,182,213,244,274,305,335,
     1366/
      DIMENSION STATE(5),HOL(50),MDBLDY(366),EDBLDY(366)
      DIMENSION RISE(366), SET(366), RUSAGE(366), SUSAGE(366)
      LOGICAL LEAP
      DATA MDBLDY,EDBLDY,RUSAGE,SUSAGE/366*0,366*0,366*0,366*0/
      READ (8,601) STATE,YEAR,NHOL
601   FORMAT (4A4,A2,1X,I4,1X,I2)
      WRITE(6,691)  STATE,YEAR,NHOL
691   FORMAT (1H1,4A4,A2,1X,I4,1X,I2)
      READ (8,602) (HOL(I),I=1,NHOL)
602   FORMAT (20(I3,1X))
      WRITE(6,692) (HOL(I),I=1,NHOL)
692   FORMAT (1X,20(I3,1X))
      DO 401 M=1,12
      M1=MTHBGN(M)
      M2=MTHEND(M)
      READ (8,603) (RISE(I), I=M1,M2)
603   FORMAT (16(I4,1X))
      WRITE(6,693) (RISE(I), I=M1,M2)
693   FORMAT (16(1X,I4))
401   CONTINUE
      DO 402 M=1,12
      M1=MTHBGN(M)
      M2=MTHEND(M)
      READ (8,603) (SET(I), I=M1,M2)
      WRITE(6,693) (SET(I), I=M1,M2)
402   CONTINUE
C CHECK YEAR
      IF (YEAR.EQ.1972)GO TO 1972
      IF (YEAR.EQ.1971)GO TO 1971
1972  LEAP=.TRUE.
      DSTBGN=121
      DSTEND=302
      GO TO 701
1971  LEAP=.FALSE.
      DSTBGN=116
      DSTEND=304
      GO TO 701
C ADD ONE HOUR FOR DST DAYS
701   DO 499 I=DSTBGN,DSTEND
      RISE(I)=RISE(I)+100
      SET (I)=SET(I)+100
```

```
499   CONTINUE
      IF (LEAP) GO TO 703
C NON-LEAP YEAR
C DELETE FEB 29
      RISE(60)=0
      SET(60)=0
      GO TO 703
C LEAP YEAR AND NON-LEAP YEAR
C REMOVE HOLIDAYS AND NIGHT BEFORE HOLIDAYS
703   DO 403 I=1,NHOL
      HOLDAY=HOL(I)
      RISE (HOLDAY)=0
      SET(HOLDAY)=0
      IF (HOLDAY.NE.1) GOTO 702
      SET(366)=0
      GOTO 403
702   SET(HOLDAY-1)=0
403   CONTINUE
C FIND DOUBLE D.S.T. EQUIVALENT DAYS
      DO 409 I=1,366
      IF (.NOT. LEAP .AND. I.EQ.60) GOTO 409
      MDBLDY(I)=DBLEQV(RISE,I,RUSAGE,LEAP,DSTBGN,DSTEND)
      EDBLDY(I)=DBLEQV(SET,I,SUSAGE,LEAP,DSTBGN,DSTEND)
409   CONTINUE
C PRINT OUTPUT
      WRITE(9,617)YEAR,STATE
617   FORMAT(1X,I4,' DOUBLE D.S.T. EQUIVALENT DAYS FOR ',4A4,A2//)
      WRITE(6,607)YEAR,STATE
607   FORMAT (1H1,I4,' DOUBLE D.S.T. EQUIVALENT DAYS FOR ',4A4,A2//)
      WRITE(9,604)
      WRITE(6,604)
604   FORMAT (2X,'DAY',7X,'MORNING',2X,'EVENING'/12X,'DBEQDAY',
     1     2X,'DBEQDAY')
      DO 411 I=1,366
      IF (I.EQ.60.AND..NOT.LEAP)GOTO 411
      M=MDBLDY(I)
      E=EDBLDY(I)
      WRITE(9,614)I,M,E
      WRITE(6,614)I,M,E
614   FORMAT(2X,I3,':',8X,I3,6X,I3)
411   CONTINUE
      WRITE(6,607)
      WRITE(6,604)
      DO 410 I=1,366
      IF (I.EQ.60.AND..NOT.LEAP)GO TO 410
      J=MDBLDY(I)
      K=EDBLDY(I)
      M1=MNTHND(I)
      N1=DAYND(I)
      M2=MNTHND(J)
      N2=DAYND(J)
      M3=MNTHND(K)
      N3=DAYND(K)
      WRITE(6,605) M1,N1,M2,N2,M3,N3
605   FORMAT (1H ,I2,1H/,I2,7X,I2,1H/,I2,4X,I2,1H/,I2)
410   CONTINUE
      END
```

```
C FIND MORNING/EVENING DOUBLE D.S.T. EQUIVALENT DAY
      INTEGER FUNCTION DBLEQV(RISET,I,USAGE,LEAP,DSTBGN,DSTEND)
      IMPLICIT INTEGER(A-Z)
      LOGICAL LEAP
      DIMENSION RISET(366),USAGE(366)
      IF (RISET(I).EQ.0) GOTO 706
      DYOFWK=I - (I/7)*7
      IF (.NOT. LEAP .AND. I.GE.60)DYOFWK=DYOFWK-1
      IF (DYOFWK.LE.0) DYOFWK=DYOFWK+7
      DDSTIM=RISET(I)+200
      IF (I.GE.DSTBGN .AND. I.LE.DSTEND) DDSTIM=RISET(I)+100
      DBLEQV=0
      MINDIF=5
      DO 411 J=DYOFWK,366,7
      EQ=J
      IF (.NOT.LEAP .AND. J.GE.60)EQ=J+1
      IF (EQ.GT.366)GOTO411
      IF (USAGE(EQ).GT.3) GOTO 411
      DIFF=GETDIF(DDSTIM,RISET(EQ))
      IF (DIFF.GT.MINDIF) GO TO 411
      IF (DIFF.LT.MINDIF) GO TO 705
      IF (APART(I,EQ).GT.APART(I,DBLEQV))GO TO 411
705   DBLEQV=EQ
      MINDIF=DIFF
411   CONTINUE
      IF (DBLEQV.GT.0) USAGE(DBLEQV)=USAGE(DBLEQV) + 1
      RETURN
706   DBLEQV=0
      RETURN
      END
```

```
C GET TIME DIFFERENCE IN MINUTES BETWEEN TWO GIVEN TIMES
      INTEGER FUNCTION GETDIF (DDSTIM,JTIME)
      INTEGER TIME1,TIME2,HOUR1,HOUR2,DDSTIM
      IF(DDSTIM.LT.JTIME)GO TO 712
      TIME1=JTIME
      TIME2=DDSTIM
      GO TO 711
712   TIME1=DDSTIM
      TIME2=JTIME
711   HOUR1=TIME1/100
      HOUR2=TIME2/100
      GETDIF=(HOUR2-HOUR1)*60
      MINUT1=TIME1-HOUR1*100
      MINUT2=TIME2-HOUR2*100
      GETDIF=GETDIF+MINUT2-MINUT1
      IF(GETDIF.GT.720) GETDIF=1440-GETDIF
      RETURN
      END
```

```
C FIND HOW FAR APART TWO DAYS ARE (BASED ON WEATHER)
      INTEGER FUNCTION APART (DAY1,DAY2)
      INTEGER DAY1,DAY2
      DATA PI/3.14159/
      DY1=DAY1
      DY2=DAY2
      WETHR1=COS(2.0*PI*(DY1-32.0)/366.0)
      WETHR2=COS(2.0*PI*(DY2-32.0)/366.0)
      APART=ABS(WETHR2-WETHR1)*1000.0
      IF (DAY2.EQ.0)APART=5000
      RETURN
      END



C FIND MONTH NUMBER FROM DAYCODE
      FUNCTION MNTHNO(DAYCDE)
      INTEGER DAYCDE
      IF(DAYCDE.EQ.0)MNTHNO=0
      IF(DAYCDE.GT.0.AND.DAYCDE.LE.31)MNTHNO=1
      IF(DAYCDE.GT.31.AND.DAYCDE.LE.60)MNTHNO=2
      IF(DAYCDE.GT.60.AND.DAYCDE.LE.91)MNTHNO=3
      IF(DAYCDE.GT.91.AND.DAYCDE.LE.121)MNTHNO=4
      IF(DAYCDE.GT.121.AND.DAYCDE.LE.152)MNTHNO=5
      IF(DAYCDE.GT.152.AND.DAYCDE.LE.182)MNTHNO=6
      IF(DAYCDE.GT.182.AND.DAYCDE.LE.213)MNTHNO=7
      IF(DAYCDE.GT.213.AND.DAYCDE.LE.244)MNTHNO=8
      IF(DAYCDE.GT.244.AND.DAYCDE.LE.274)MNTHNO=9
      IF(DAYCDE.GT.274.AND.DAYCDE.LE.305)MNTHNO=10
      IF(DAYCDE.GT.305.AND.DAYCDE.LE.335)MNTHNO=11
      IF(DAYCDE.GT.335)MNTHNO=12
      RETURN
      END



C FIND DAY NUMBER FROM DAYCODE
      INTEGER FUNCTION DAYNO(DAYCDE)
      INTEGER DAYCDE
      IF(DAYCDE.LE.31)DAYNO=DAYCDE
      IF(DAYCDE.GT.31.AND.DAYCDE.LE.60)DAYNO=DAYCDE-31
      IF(DAYCDE.GT.60.AND.DAYCDE.LE.91)DAYNO=DAYCDE-60
      IF(DAYCDE.GT.91.AND.DAYCDE.LE.121)DAYNO=DAYCDE-91
      IF(DAYCDE.GT.121.AND.DAYCDE.LE.152)DAYNO=DAYCDE-121
      IF(DAYCDE.GT.152.AND.DAYCDE.LE.182)DAYNO=DAYCDE-152
      IF(DAYCDE.GT.182.AND.DAYCDE.LE.213)DAYNO=DAYCDE-182
      IF(DAYCDE.GT.213.AND.DAYCDE.LE.244)DAYNO=DAYCDE-213
      IF(DAYCDE.GT.244.AND.DAYCDE.LE.274)DAYNO=DAYCDE-244
      IF(DAYCDE.GT.274.AND.DAYCDE.LE.305)DAYNO=DAYCDE-274
      IF(DAYCDE.GT.305.AND.DAYCDE.LE.335)DAYNO=DAYCDE-305
      IF(DAYCDE.GT.335)DAYNO=DAYCDE-335
      RETURN
      END
```

A.5 THE DOUBLE DST COMPARISON PROGRAM, DBLCOMP

```
C DBLCOMP
C
C ROUTINE TO COMPARE THE ACCIDENT TOTALS OF
C ALL THE DAYS OF THE YEAR WITH THOSE OF THEIR
C DOUBLE-DAYLIGHT-SAVING TIME EQUIVALENT DAYS.
C
C
C     ACTUAL EQUIVALENT DAY ACCIDENT TOTALS ARE USED.
C
C
      IMPLICIT INTEGER (A-Z)
      REAL MPCTCG,EPCTCG,YPCTCG
      REAL MPCTC1,EPCTC1
      REAL MPCTC2,EPCTC2
      REAL MNMPCG,ENMPCG,MNETCG,ENETCG,YNTPCG
      REAL MNMPC1,ENMPC1,MNETC1,ENETC1
      REAL MNMPC2,ENMPC2,MNETC2,ENETC2
      REAL RMPCTC,REPCTC
      REAL RMNMPC,RENMPC
      REAL RMPCT1,REPCT1
      REAL RMNMP1,RENMP1
      REAL RMPCT2,REPCT2
      REAL RMNMP2,RENMP2
      REAL RMNETC,RENETC,RYPCTC,RYNTPC
      REAL RMNET1,RENET1
      REAL RMNET2,RENET2
      REAL QAVDWK,AVDWK,DMNRM,DENRM,MNRM,ENRM,QAVMNH,AVMNH
      LOGICAL LEAP
      LOGICAL DST
      DIMENSION NFATAL(366,4),NCASUL(366,4)
      DIMENSION DSTBGN(2),DSTEND(2)
      DIMENSION STATE(5)
      DIMENSION DWKTOT(7,4),DWKNO(7),QAVDWK(7,4),AVDWK(7)
      DIMENSION MNHTOT(12,4),MNHNO(12),QAVMNH(12,4),AVMNH(12)
      DIMENSION MNHALL(12)
      DIMENSION DYBFM2(13)
      DIMENSION EQDAY(366,3)
      DATA LEAP/.FALSE./
      DATA SMACC,SDMACC,SEACC,SDEACC/0,0,0,0/
      DATA SMAC1,SDMAC1,SEAC1,SDEAC1/0,0,0,0/
      DATA SMAC2,SDMAC2,SEAC2,SDEAC2/0,0,0,0/
      DATA DSTBGN/116,121/
      DATA DSTEND/304,302/
      DATA SMNON,SENON,SMDST,SEDST,SNOON,SMIDN/0,0,0,0,0,0/
       DATA DWKTOT,DWKNO,MNHTOT,MNHNO,MNHALL/28*0,7*0,48*0,12*0,12*0/
      DATA DYBFM2/0,0,31,60,91,121,152,182,213,244,274,305,335/
      DATA NERROR/0/
      DATA SMDYNM,SEDYNM,SMEQNM,SEEQNM/0,0,0,0/
      DATA SMDYN1,SEDYN1,SMEQN1,SEEQN1/0,0,0,0/
      DATA SMDYN2,SEDYN2,SMEQN2,SEEQN2/0,0,0,0/
      DATA NMEQDS,NEEQDS/0,0/
      DATA NMEQD1,NEEQD1/0,0/
      DATA NMEQD2,NEEQD2/0,0/
C
C
C
C GET STATE AND YEAR
C
```

```
      READ(10,2630)YEAR,STATE
2630  FORMAT(1X,I4,35X,4A4,A2////)
      IF (YEAR.EQ.1972) LEAP=.TRUE.
C
C READ QUARTER-DAY ACCIDENT TOTALS
C
      READ(8,2601)((NFATAL(I,J),J=1,4),I=1,366)
2601  FORMAT(////////////(7X,4(1X,I9)))
      READ(8,2641)NFACC,NFTLTY
2641  FORMAT(//28X,I7/28X,I7)
      READ(8,2601)((NCASUL(I,J),J=1,4),I=1,366)
      READ(8,2642)NINJAC,NINJRD
2642  FORMAT(//39X,I7/39X,I7)
      IF (LEAP) GOTO 2720
      NFATAL(59,4)=NFATAL(59,4)+NFATAL(60,4)
      NCASUL(59,4)=NCASUL(59,4)+NCASUL(60,4)
2720  WRITE(6,2631)YEAR,STATE
2631  FORMAT('1',10X,I4,1X,4A4,A2)
      WRITE(6,2610)(I,(NFATAL(I,J),J=1,4),I=1,366)
2610  FORMAT('  NUMBER OF ACCIDENTS WITH FATALITIES'///(1X,I3,
     1    3X,4(1X,I9)))
      WRITE(6,2643)NFACC,NFTLTY
2643  FORMAT(//' NUMBER OF FATAL ACCIDENTS =',I7/
     1       ' NUMBER OF FATALITIES      =',I7)
      WRITE(6,2631)YEAR,STATE
      WRITE (6,2611)(I,(NCASUL(I,J),J=1,4),I=1,366)
2611  FORMAT('  NUMBER OF ACCIDENTS WITH ANY INJURY'///
     1     (1X,I3,3X,4(1X,I9)))
      WRITE(6,2644)NINJAC,NINJRD
2644  FORMAT(//' NUMBER OF INJURY-CAUSING ACCIDENTS   =',I7/
     1          ' NUMBER OF INJURED (INCL. FATALITIES) =',I7)
C
C GET DAY-OF-WEEK AND MONTHLY TOTALS AND AVERAGES
C
      DO 2420 I=1,366
      IF (.NOT.LEAP .AND. I.EQ.60)GOTO 2420
      DYOFWK=WEEKDY(YEAR,I)
      MHOFYR=MNTHNO(I)
      DO 2421 J=1,4
      DWKTOT(DYOFWK,J)=DWKTOT(DYOFWK,J) + NCASUL(I,J)
      MNHTOT(MHOFYR,J)=MNHTOT(MHOFYR,J)+NCASUL(I,J)
      MNHALL(MHOFYR)=MNHALL(MHOFYR)+NCASUL(I,J)
2421  CONTINUE
      DWKNO(DYOFWK)=DWKNO(DYOFWK)+1
      MNHNO(MHOFYR)=MNHNO(MHOFYR)+1
2420  CONTINUE
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2620)(D,(DWKTOT(D,J),J=1,4),DWKNO(D),D=1,7)
2620  FORMAT('  ACCIDENT TOTALS FOR EACH DAY OF THE WEEK'//
     1       (3X,I2,':',4(1X,I9),3X,'NO.DAYS=',I9))
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2621)(M,(MNHTOT(M,J),J=1,4),MNHALL(M),MNHNO(M),M=1,12)
2621  FORMAT('  ACCIDENT TOTALS FOR EACH MONTH'//
     1        (3X,I2,':',4(1X,I9),3X,'TOT=',I9,3X,'NO.DAYS=',I9))
      DO 2426 D=1,7
      DO 2428 J=1,4
      QAVDWK(D,J)=(1.*DWKTOT(D,J))/DWKNO(D)
2428  CONTINUE
```

```
      SIGDWK=DWKTOT(D,1)+DWKTOT(D,2)+DWKTOT(D,3)+DWKTOT(D,4)
      AVDWK(D)=(1.*SIGDWK)/DWKNO(D)
2426  CONTINUE
      DO 2427 M=1,12
      DO 2429 J=1,4
      QAVMNH(M,J)=(1.*MNHTOT(M,J))/MNHNO(M)
2429  CONTINUE
      SIGMNH=MNHTOT(M,1)+MNHTOT(M,2)+MNHTOT(M,3)+MNHTOT(M,4)
      AVMNH(M)=(1.*SIGMNH)/MNHNO(M)
2427  CONTINUE
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2622)(D,(QAVDWK(D,J),J=1,4),AVDWK(D),D=1,7)
2622  FORMAT(1H ,' AVERAGE ACCIDENTS FOR EACH DAY OF THE WEEK'//
     1       (3X,I2,':',4(1X,F9.1),9X,'AV=',F9.1))
      WRITE(6,2631)YEAR,STATE
      WRITE(6,2623)(M,(QAVMNH(M,J),J=1,4),AVMNH(M),M=1,12)
2623  FORMAT(1H ,' AVERAGE ACCIDENTS FOR EACH MONTH'//
     1      (3X,I2,':',4(1X,F9.1),9X,'AV=',F9.1))
C
C
C READ EQUIVALENT DAYS
C
      I=0
2703  I=I+1
      READ(10,2605,END=2704)(EQDAY(I,J),J=1,3)
2605  FORMAT(2X,I3,9X,I3,6X,I3)
      GOTO 2703
2704  NDAYS=I-1
      WRITE(6,2632)YEAR,STATE
2632  FORMAT('1 ',I4,' DOUBLE D.S.T. EQUIVALENT DAYS FOR ',4A4,A2//
     1      2X,'DAY',7X,'MORNING',2X,'EVENING'/
     2      12X,'DBEQDAY',2X,'DBEQDAY')
      DO 2433 I=1,NDAYS
      WRITE(6,2633) (EQDAY(I,J),J=1,3)
2633  FORMAT(2X,I3,':',8X,I3,6X,I3)
2433  CONTINUE
C
C GET MORNING/EVENING ACCIDENT TOTALS FOR D.S.T. AND NON-D.S.T.
C
      DO 2434 I=1,366
      IF (.NOT.LEAP .AND. I.EQ.60) GOTO 2434
      IF (I.GE.DSTBGN(YEAR-1970) .AND. I.LE.DSTEND(YEAR-1970))GOTO 2721
      SMNON=SMNON+NCASUL(I,1)
      SNOON=SNOON+NCASUL(I,2)
      SENON=SENON+NCASUL(I,3)
      SMIDN=SMIDN+NCASUL(I,4)
      GOTO 2434
2721  SMDST=SMDST+NCASUL(I,1)
      SNOON=SNOON+NCASUL(I,2)
      SEDST=SEDST+NCASUL(I,3)
      SMIDN=SMIDN+NCASUL(I,4)
2434  CONTINUE
C
C GET DAY'S ACCIDENTS VS. EQUIVALENT-DAY'S ACCIDENTS
C
      WRITE(6,2606)YEAR,STATE
2606  FORMAT('1',13X,'COMPARISION OF ',I4,' ACTUAL AND ',
     1   'DOUBLE D.S.T. EQUIVALENT-DAY',
```

```
     2    ' INJURY-CAUSING ACCIDENTS FOR ',4A4,A2)
      WRITE(6,2652)
2652  FORMAT(///1X,'DAY DATE ************ACTUAL ACCIDENTS',
     1    '**************',
     2     10X,'************DOUBLE D.S.T. EQUIVALENT DAY ',
     3     'ACCIDENTS************')
      WRITE(6,2608)
2608  FORMAT(1X,11X,'MORNING',3X,'EVENING',7X,'NIGHT+',2X,'MIDDAY',
     1     13X,'--EQUIV MORNING--',3X,'--EQUIV EVENING--',9X,
     2     'NIGHT+  MIDDAY'/
     3   1X,9X,'(4AM-10AM)',1X,'(4PM-10PM)',5X,
     4    'MIDDAY  +NIGHT',13X,'DAY DATE  ACCDNTS',3X,
     5     'DAY DATE  ACCDNTS',9X,'MIDDAY  +NIGHT'///)
      DO 2404 I=1,NDAYS
      DAY=EQDAY(I,1)
      MEQDAY=EQDAY(I,2)
      EEQDAY=EQDAY(I,3)
      MHDAY=MNTHNO(DAY)
      DYDAY=DAY-DYBFM2(MHDAY+1)
      DWKDAY=WEEKDY(YEAR,DAY)
      MHMEQ=MNTHNO(MEQDAY)
      DYMEQ=MEQDAY-DYBFM2(MHMEQ+1)
      DWKMEQ=WEEKDY(YEAR,MEQDAY)
      MHEEQ=MNTHNO(EEQDAY)
      DYEEQ=EEQDAY-DYBFM2(MHEEQ+1)
      DWKEEQ=WEEKDY(YEAR,EEQDAY)
      IF (DAY.LT.1 .OR. DAY.GT.366
     1     .OR. MEQDAY.LT.0 .OR. MEQDAY.GT.366
     2     .OR. EEQDAY.LT.0 .OR. EEQDAY.GT.366) GOTO 2709
      IF (.NOT.LEAP .AND. (DAY.EQ.60 .OR. MEQDAY.EQ.60
     1       .OR. EEQDAY.EQ.60)) GOTO 2709
      DST=.FALSE.
      IF (DAY.GE.DSTBGN(YEAR-1970) .AND. DAY.LE.DSTEND(YEAR-1970))
     1    DST=.TRUE.
      DYBEFR=DAY-1
      IF (DAY.EQ.1)DYBEFR=366
      IF (DAY.EQ.61 .AND. .NOT.LEAP) DYBEFR=59
      MBEFOR=MEQDAY-1
      IF (MEQDAY.EQ.1)MBEFOR=366
      IF (MEQDAY.EQ.61 .AND. .NOT.LEAP) MBEFOR=59
C
      DMACC=NCASUL(DAY,1)
      DEACC=NCASUL(DAY,3)
C
      IF (MEQDAY.EQ.0)GOTO 2705
C     MORNING DOUBLE D.S.T. EQUIVALENT DAY
      NMEQDS=NMEQDS+1
      IF(DST) NMEQD1=NMEQD1+1
      IF(.NOT.DST) NMEQD2=NMEQD2+1
      MACC=NCASUL(MEQDAY,1)
      SMACC=SMACC+MACC
      SDMACC=SDMACC+DMACC
      IF(DST) SMAC1=SMAC1+MACC
      IF(DST) SDMAC1=SDMAC1+DMACC
      IF(.NOT. DST) SMAC2=SMAC2+MACC
      IF(.NOT. DST) SDMAC2=SDMAC2+DMACC
      MEQNMD=NCASUL(MBEFOR,4)+NCASUL(MEQDAY,2)
      MDYNMD=NCASUL(DYBEFR,4)+NCASUL(DAY,2)
```

```
      GOTO 2706
C     NO MORNING DOUBLE D.S.T. EQUIVALENT DAY
2705  MACC=0
      MDYNMD=0
      MEQNMD=0
      DMACC=-DMACC
C
2706  IF (EEQDAY.EQ.0)GOTO 2707
C     DOUBLE D.S.T. EQUIVALENT EVENING
      NEEQDS=NEEQDS+1
      IF (DST) NEEQD1=NEEQD1+1
      IF (.NOT. DST)  NEEQD2=NEEQD2+1
      EACC=NCASUL(EEQDAY,3)
      SEACC=SEACC+EACC
      SDEACC=SDEACC+DEACC
      IF(DST) SEAC1=SEAC1+EACC
      IF(DST)SDEAC1=SDEAC1+DEACC
      IF(.NOT.DST)SEAC2=SEAC2+EACC
      IF(.NOT.DST)SDEAC2=SDEAC2+DEACC
      EDYNMD=NCASUL(DAY,2)+NCASUL(DAY,4)
      EEQNMD=NCASUL(EEQDAY,2)+NCASUL(EEQDAY,4)
      GOTO 2708
C     NO DOUBLE D.S.T. EQUIVALENT EVENING
2707  EACC=0
      EDYNMD=0
      EEQNMD=0
      DEACC=-DEACC
C     TOTALS
2708  SMDYNM=SMDYNM+MDYNMD
      SMEQNM=SMEQNM+MEQNMD
      SEDYNM=SEDYNM+EDYNMD
      SEEQNM=SEEQNM+EEQNMD
      IF (DST) GOTO 2722
      SMDYN2=SMDYN2+MDYNMD
      SMEQN2=SMEQN2+MEQNMD
      SEDYN2=SEDYN2+EDYNMD
      SEEQN2=SEEQN2+EEQNMD
      GOTO 2723
2722  SMDYN1=SMDYN1+MDYNMD
      SMEQN1=SMEQN1+MEQNMD
      SEDYN1=SEDYN1+EDYNMD
      SEEQN1=SEEQN1+EEQNMD
2723  WRITE(6,2602)DWKDAY,MHDAY,DYDAY,DMACC,DEACC,MDYNMD,EDYNMD,
     1      DWKMEQ,MHMEQ,DYMEQ,MACC,
     2      DWKEEQ,MHEEQ,DYEEQ,EACC,MEQNMD,EEQNMD
2602  FORMAT(1X,1X,I1,1X,I2,'/',I2,1H:,I7,3X,I7,8X,'<',I6,I6,2X,
     1 '>',12X,1H(,I1,1X,I2,'/',I2,2H:),I7,3X,1H(,I1,1X,I2,'/',
     2  I2,':)',I7,8X,'<',I6,I6,2X,'>')
      GOTO 2404
2709  NERROR=NERROR+1
2404  CONTINUE
      WRITE(6,2604)
2604   FORMAT(///1X,'----------------------------------------',
     1 '----------------------------------------',
     2 '----------------------------')
      WRITE(6,2653)SDMAC1,SDEAC1,SMDYN1,SEDYN1,SMAC1,SEAC1,
     1   SMEQN1,SEEQN1
2653  FORMAT(//1X,'DST PERIOD',I6,3X,I7,8X,'<',I6,I6,2X,'>',12X,
```

```
     1    10X,I7,3X,10X,I7,8X,'<',I6,I6,2X,'>')
      WRITE(6,2654)SOMAC2,SDEAC2,SMDYN2,SEDYN2,SMAC2,SEAC2,
     1   SMEGN2,SEEGN2
2654  FORMAT(/1X,'REST OF YR',I6,3X,I7,8X,'<',I6,I6,2X,'>',12X,
     1    10X,I7,3X,10X,I7,8X,'<',I6,I6,2X,'>')
      WRITE(6,2603)SDMACC,SDEACC,SMDYNM,SEDYNM,SMACC,SEACC,
     1   SMEGNM,SEEGNM
2603  FORMAT(//1X,'TOTAL',4X,I7,3X,I7,8X,'<',I6,I6,2X,'>',12X,10X,I7,3X,
     1    10X,I7,8X,'<',I6,I6,2X,'>')
      WRITE(6,2646)NMEGDS,NMEGD1,NMEGD2,NEEGDS,NEEGD1,NEEGD2
2646  FORMAT(/////////////////1X,22X,'NO. OF MORNING EQUIVALENT DAYS   =',
     1 I7,5X,'(DST PERIOD =',I5,', REST OF YEAR =',I5,')'
     2    //1X,22X,'NO. OF EVENING EQUIVALENT DAYS   =',I7,
     3    5X,'(DST PERIOD =',I5,', REST OF YEAR =',I5,')')
      MCHNG=SMACC-SDMACC
      ECHNG=SEACC-SDEACC
      MNMCHG=SMEGNM-SMDYNM
      ENMCHG=SEEGNM-SEDYNM
      MCHNG1=SMAC1-SDMAC1
      ECHNG1=SEAC1-SDEAC1
      MNMCG1=SMEGN1-SMDYN1
      ENMCG1=SEEGN1-SEDYN1
      MCHNG2=SMAC2-SDMAC2
      ECHNG2=SEAC2-SDEAC2
      MNMCG2=SMEGN2-SMDYN2
      ENMCG2=SEEGN2-SEDYN2
      WRITE(6,2650)MCHNG,MCHNG1,MCHNG2,ECHNG,ECHNG1,ECHNG2,
     1    MNMCHG,MNMCG1,MNMCG2,ENMCHG,ENMCG1,ENMCG2
2650  FORMAT(////1X,22X,'CHANGE IN MORNING ACCIDENTS      =',I7,
     1   5X,'(DST PERIOD =',I5,', REST OF YEAR =', I5,')'/
     2    1X,22X,'CHANGE IN EVENING ACCIDENTS      =',I7,
     3   5X,'(DST PERIOD =',I5,', REST OF YEAR =', I5,')'//
     4    1X,22X,'CHANGE IN NIGHT-MIDDAY ACCIDENTS =',I7,
     5   5X,'(DST PERIOD =',I5,', REST OF YEAR =', I5,')'/
     6    1X,22X,'CHANGE IN MIDDAY-NIGHT ACCIDENTS =',I7,
     7   5X,'(DST PERIOD =',I5,', REST OF YEAR =', I5,')')
      WRITE(6,2638)YEAR,STATE
2638  FORMAT('1'/////40X,' CHANGE IN THE LEVEL OF ACCIDENTS'/
     1    40X,'      UNDER THE EFFECT OF'/
     2    40X,'DOUBLE DAYLIGHT-SAVING ALL YEAR'/
     3    40X,'    FOR ',I4,' FOR ',4A4,A2///)
      MPCTCG=(MCHNG*100.)/SDMACC
      EPCTCG=(ECHNG*100.)/SDEACC
      RMPCTC=MPCTCG+0.0
      REPCTC=EPCTCG+0.0
      WRITE(6,2637)RMPCTC,REPCTC
2637  FORMAT(3X,40X,' MORNING ACCIDENTS: ',F6.1,'%'//
     1     3X,40X,' EVENING ACCIDENTS: ',F6.1,'%')
      MNMPCG=(MNMCHG*100.)/SMDYNM
      ENMPCG=(ENMCHG*100.)/SEDYNM
      RMNMPC=MNMPCG+0.0
      RENMPC=ENMPCG+0.0
      MNETCG=((100.*SMACC)/SDMACC)/((1.*SMEGNM)/SMDYNM)-100.
      ENETCG=((100.*SEACC)/SDEACC)/((1.*SEEGNM)/SEDYNM)-100.
      RMNETC=MNETCG+0.0
      RENETC=ENETCG+0.0
      WRITE(6,2655)YEAR,STATE
2655  FORMAT('1'////40X,'  NET CHANGE IN ',I4,' ACCIDENTS FOR ',4A4,A2
```

```
     1   /40X,'      UNDER DOUBLE-DAYLIGHT-SAVING TIME')
      WRITE(6,2649)RMPCTC,RMNMPC,RMNETC,REPCTC,RENMPC,RENETC
2649  FORMAT( /////1X,40X,F6.1,'% CHANGE IN MORNING ACCIDENTS'/
     2     1X,40X,F6.1,'% CHANGE IN NIGHT+MIDDAY ACCIDENTS'//
     3     1X,40X,F6.1,'% NET CHANGE IN MORNING ACCIDENTS'////
     4     1X,40X,F6.1,'% CHANGE IN EVENING ACCIDENTS'/
     5     1X,40X,F6.1,'% CHANGE IN MIDDAY+NIGHT ACCIDENTS'//
     6     1X,40X,F6.1,'% NET CHANGE IN EVENING ACCIDENTS')
      MPCTC1=(MCHNG1*100.)/SDMAC1
      EPCTC1=(ECHNG1*100.)/SDEAC1
      RMPCT1=MPCTC1+0.0
      REPCT1=EPCTC1+0.0
      MNMPC1=(MNMCG1*100.)/SMDYN1
      ENMPC1=(ENMCG1*100.)/SEDYN1
      RMNMP1=MNMPC1+0.0
      RENMP1=ENMPC1+0.0
      MNETC1=((100.*SMAC1)/SDMAC1)/((1.*SMEQN1)/SMDYN1)-100.
      ENETC1=((100.*SEAC1)/SDEAC1)/((1.*SEEQN1)/SEDYN1)-100.
      RMNET1=MNETC1+0.0
      RENET1=ENETC1+0.0
      WRITE(6,2655)YEAR,STATE
      WRITE(6,2656)
2656  FORMAT(40X,'       FOR THE D.S.T. PERIOD OF THE YEAR')
      WRITE(6,2649)RMPCT1,RMNMP1,RMNET1,REPCT1,RENMP1,RENET1
      MPCTC2=(MCHNG2*100.)/SDMAC2
      EPCTC2=(ECHNG2*100.)/SDEAC2
      RMPCT2=MPCTC2+0.0
      REPCT2=EPCTC2+0.0
      MNMPC2=(MNMCG2*100.)/SMDYN2
      ENMPC2=(ENMCG2*100.)/SEDYN2
      RMNMP2=MNMPC2+0.0
      RENMP2=ENMPC2+0.0
      MNETC2=((100.*SMAC2)/SDMAC2)/((1.*SMEQN2)/SMDYN2)-100.
      ENETC2=((100.*SEAC2)/SDEAC2)/((1.*SEEQN2)/SEDYN2)-100.
      RMNET2=MNETC2+0.0
      RENET2=ENETC2+0.0
      WRITE(6,2655)YEAR,STATE
      WRITE(6,2657)
2657   FORMAT(40X,'    FOR THE NON-D.S.T. PERIOD OF THE YEAR')
      WRITE(6,2649)RMPCT2,RMNMP2,RMNET2,REPCT2,RENMP2,RENET2
      WRITE(6,2639)YEAR,STATE
2639  FORMAT('1'/////1X,30X,' COMPARISON OF ',I4,' ACCIDENT TOTALS',
     1    ' FOR ',4A4,A2)
      WRITE(6,2651)
2651  FORMAT(27X,' USING APPARENT PERCENT YEARLY ACCIDENT CHANGES')
      WRITE(6,2648)
2648  FORMAT(///50X,'6-MONTH D.S.T.   FULL-YEAR D.D.S.T.'/)
      M6MTH=SMNON+SMDST
      E6MTH=SENON+SEDST
      MFYEAR=(MPCTCG/100. + 1.) * (SMNON + SMDST)
      EFYEAR=(EPCTCG/100. + 1.) * (SENON + SEDST)
      TOT6M=M6MTH+SNOON+E6MTH+SMIDN
      TOTFYR=MFYEAR+SNOON+EFYEAR+SMIDN
      WRITE(6,2640)M6MTH,MFYEAR,SNOON,SNOON,E6MTH,EFYEAR,SMIDN,
     1     SMIDN,TOT6M,TOTFYR
2640  FORMAT(30X,' MORNING ACCIDENTS:',4X,I7,12X,I7/
     1       30X,' MID-DAY ACCIDENTS:',4X,I7,12X,I7/
     2    30X,' EVENING ACCIDENTS:',4X,I7,12X,I7/
```

```
     3     30X,' NIGHT   ACCIDENTS:',4X,I7,12X,I7///
     4     30X,' TOTAL',17X,I7,12X,I7)
      YCHNGE=TOTFYR-TOT6M
      YPCTCG=(100.*YCHNGE)/TOT6M
      RYPCTC=YPCTCG+0.000
      WRITE(6,2645)YCHNGE,RYPCTC
2645  FORMAT(////30X,' CHANGE IN YEARLY ACCIDENT TOTAL =',I7///
     1       30X,' PERCENT CHANGE IN YEARLY ACCIDENTS =',F7.2,'%')
      WRITE(6,2639)YEAR,STATE
      WRITE(6,2647)
2647  FORMAT(30X,'    USING NET PERCENT YEARLY ACCIDENT CHANGES')
      WRITE(6,2648)
      MNTFYR=(MNETCG/100. + 1.) * (SMNON + SMDST)
      ENTFYR=(ENETCG/100. + 1.) * (SENON + SEDST)
      TNTFYR=MNTFYR+SNOON+ENTFYR+SMION
      WRITE(6,2640)M6MTH,MNTFYR,SNOON,SNOON,F6MTH,ENTFYR,SMION,
     1   SMION,TOT6M,TNTFYR
      YNTCHG=TNTFYR-TOT6M
      YNTPCG=(100.*YNTCHG)/TOT6M
      RYNTPC=YNTPCG+0.000
      WRITE(6,2645)YNTCHG,RYNTPC
      WRITE(6,2639)YEAR,STATE
      WRITE(6,2661)
2661  FORMAT(20X,' USING APPARENT PERCENT ACCIDENT CHANGES',
     1   ' FOR D.S.T. AND NON-D.S.T. PERIODS')
      WRITE(6,2648)
      MFYEAR=(MPCTC2/100. + 1.) * SMNON + (MPCTC1/100. + 1.) * SMDST
      EFYEAR=(EPCTC2/100. + 1.) * SENON + (EPCTC1/100. + 1.) * SEDST
      TOTFYR=MFYEAR+SNOON+EFYEAR+SMION
      WRITE(6,2640)M6MTH,MFYEAR,SNOON,SNOON,F6MTH,EFYEAR,SMION,
     1     SMION,TOT6M,TOTFYR
      YCHNGE=TOTFYR-TOT6M
      YPCTCG=(100.*YCHNGE)/TOT6M
      RYPCTC=YPCTCG+0.000
      WRITE(6,2645)YCHNGE,RYPCTC
      WRITE(6,2639)YEAR,STATE
      WRITE(6,2667)
2667  FORMAT(20X,'    USING NET PERCENT YEARLY ACCIDENT CHANGES',
     1     ' FOR D.S.T. AND NON-D.S.T. PERIODS')
      WRITE(6,2648)
      MNTFYR=(MNETC2/100. + 1.)*SMNON + (MNETC1/100. + 1.)*SMDST
      ENTFYR=(ENETC2/100. + 1.)*SENON + (ENETC1/100. + 1.)*SEDST
      TNTFYR=MNTFYR+SNOON+ENTFYR+SMION
      WRITE(6,2640)M6MTH,MNTFYR,SNOON,SNOON,F6MTH,ENTFYR,SMION,
     1   SMION,TOT6M,TNTFYR
      YNTCHG=TNTFYR-TOT6M
      YNTPCG=(100.*YNTCHG)/TOT6M
      RYNTPC=YNTPCG+0.000
      WRITE(6,2645)YNTCHG,RYNTPC
      END
```

```
C
C
C
C GET MONTHNO
C
      INTEGER FUNCTION MNTHNO(D)
      IMPLICIT INTEGER (A-Z)
      DIMENSION DYBFMH(12)
      DATA DYBFMH/0,31,60,91,121,152,182,213,244,274,305,335/
      IF (D.EQ.0)GOTO 2902
      DO 2901 MNTHNO=1,11
      IF (D.LE.DYBFMH(MNTHNO+1))RETURN
2901  CONTINUE
      MNTHNO=12
      RETURN
2902  MNTHNO=0
      RETURN
      END
```

```
C
C
C GET DAY OF WEEK
C
      INTEGER FUNCTION WEEKDY(Y,D)
      IMPLICIT INTEGER (A-Z)
      LOGICAL LEAP
      DIMENSION JAN7(2)
      DATA JAN7/4,5/
      DATA LEAP/.FALSE./
      IF (D.LT.1) GOTO 2202
      IF (Y.EQ.1972) LEAP=.TRUE.
      WEEKDY=D - ((D/7)*7) + JAN7(Y-1970)
      IF (.NOT.LEAP .AND. D.GT.60) WEEKDY=WEEKDY-1
      IF (WEEKDY.GT.7) WEEKDY=WEEKDY-7
      RETURN
2202  WEEKDY=0
      RETURN
      END
```

APPENDIX B - OUTPUT

B.1 SAMPLE OUTPUT OF COMPAR

1972 DISTRICT COLUMBIA
NUMBER OF ACCIDENTS WITH FATALITIES

1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	1	0
5	0	0	0	0
6	0	0	1	0
7	0	0	0	1
8	0	0	1	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	1	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	1
23	0	0	1	0
24	0	0	0	0
25	0	0	0	0
26	0	0	1	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	1	1	0
32	0	0	1	0
33	0	0	0	0
34	0	0	0	0
35	0	1	0	0
36	0	0	1	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	0	0	0	0
56	0	0	0	0
57	0	0	0	1
58	0	0	0	0
59	0	1	0	0
60	0	0	0	0
61	0	0	0	0
62	0	0	0	0
63	0	0	0	0
64	0	0	0	1
65	0	0	0	0
66	0	0	0	0
67	0	0	0	0
68	0	0	0	0
69	0	0	0	0
70	0	0	0	0
71	0	0	0	0
72	0	0	1	0
73	0	0	0	0
74	0	1	0	0
75	0	0	0	0
76	0	0	0	0
77	0	0	0	0
78	0	0	0	0
79	0	0	0	0
80	0	0	0	0
81	0	0	0	0
82	0	0	0	0
83	0	0	0	0
84	0	0	0	0
85	0	0	0	0
86	0	0	0	0
87	0	0	1	0
88	0	0	0	0
89	0	0	0	0
90	0	0	0	0
91	0	1	0	0
92	0	0	1	0
93	0	0	0	0
94	0	0	0	0
95	0	1	0	0
96	0	0	0	0
97	0	0	0	0
98	0	0	1	0
99	0	0	0	1
100	0	0	0	0
101	0	0	0	0
102	0	0	0	0
103	0	0	0	0
104	0	0	0	0
105	0	0	0	0
106	0	0	0	0
107	0	0	0	1
108	0	0	0	0
109	0	0	0	0
110	0	0	0	0
111	0	0	0	0
112	0	0	0	0
113	0	0	0	0
114	0	0	0	0
115	0	0	0	0
116	0	0	0	0
117	0	0	0	0
118	0	0	0	0
119	0	0	0	0
120	0	0	0	0
121	0	0	0	0
122	0	0	0	0

123	0	0	0	0
124	0	0	0	0
125	0	0	0	0
126	0	1	0	0
127	0	0	0	1
128	0	0	0	0
129	0	0	0	0
130	0	0	0	0
131	0	0	0	0
132	0	0	0	0
133	0	0	0	0
134	0	0	0	0
135	0	0	0	0
136	0	0	0	0
137	0	0	0	0
138	0	0	0	0
139	0	0	0	0
140	0	0	0	1
141	1	0	0	0
142	0	0	0	0
143	0	0	0	0
144	0	0	0	0
145	0	0	0	0
146	0	0	0	0
147	0	0	0	0
148	0	0	1	0
149	0	0	0	0
150	0	1	0	0
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152	0	0	0	0
153	0	1	0	0
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157	0	0	0	0
158	0	0	0	1
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160	0	0	0	0
161	0	0	0	0
162	0	0	0	0
163	1	0	0	0
164	0	0	0	1
165	0	0	0	0
166	0	0	0	0
167	0	0	1	0
168	0	0	0	0
169	0	0	0	0
170	0	0	0	0
171	0	0	0	0
172	0	0	0	0
173	0	0	0	0
174	0	0	0	0
175	0	1	0	0
176	0	0	0	0
177	0	0	0	0
178	0	0	0	0
179	0	0	0	0
180	0	0	0	0
181	0	0	0	0
182	0	0	0	0
183	0	0	0	0
184	0	0	0	0

186	0	0	0	0
187	0	0	0	0
188	0	0	0	0
189	0	0	0	0
190	0	0	0	0
191	0	0	0	0
192	0	0	0	0
193	0	0	0	0
194	0	0	0	0
195	0	0	0	0
196	0	0	0	0
197	0	0	0	0
198	0	0	0	0
199	0	0	0	0
200	0	0	0	0
201	0	0	0	0
202	0	0	0	0
203	1	0	0	0
204	0	0	0	0
205	0	0	0	0
206	0	0	0	0
207	0	0	0	1
208	0	0	0	0
209	0	0	0	0
210	0	0	0	0
211	0	0	0	0
212	0	0	1	0
213	0	0	0	0
214	0	0	0	0
215	0	1	0	0
216	0	0	0	0
217	0	0	0	0
218	0	0	0	1
219	0	0	0	0
220	0	0	0	0
221	0	0	0	0
222	0	0	0	0
223	0	0	0	0
224	0	0	0	0
225	0	0	0	0
226	0	0	0	0
227	0	0	1	0
228	0	0	0	0
229	0	0	0	0
230	0	0	0	0
231	0	0	1	0
232	0	0	0	0
233	0	0	0	1
234	0	1	0	0
235	0	0	0	0
236	0	0	0	0
237	0	1	0	0
238	0	0	0	0
239	0	1	0	0
240	0	0	0	0
241	0	0	0	0
242	0	0	0	0
243	0	1	1	0
244	0	0	0	0
245	0	0	0	0
246	0	0	0	0
247	0	0	1	0
248	0	0	0	0

249	0	0	0	0
250	0	0	0	0
251	0	0	0	0
252	0	0	0	0
253	0	0	0	0
254	0	0	0	0
255	0	0	0	0
256	0	0	0	0
257	0	0	0	0
258	0	0	0	0
259	0	0	1	0
260	0	0	0	0
261	0	0	0	0
262	0	0	0	0
263	0	0	0	0
264	0	0	0	0
265	0	0	0	0
266	0	0	1	0
267	0	0	0	0
268	0	0	0	0
269	0	0	0	0
270	0	0	0	0
271	0	0	0	0
272	0	0	0	0
273	0	0	0	0
274	0	0	0	0
275	0	0	0	0
276	0	0	0	0
277	0	0	0	0
278	0	0	0	0
279	0	0	0	0
280	0	0	0	0
281	0	0	0	0
282	0	0	0	0
283	0	0	0	1
284	0	0	0	0
285	0	0	0	0
286	0	0	0	0
287	0	0	0	0
288	0	0	0	0
289	0	0	0	0
290	0	0	0	0
291	0	0	0	0
292	0	0	0	0
293	0	0	1	0
294	0	0	0	0
295	0	0	0	0
296	0	0	0	1
297	0	0	0	0
298	0	0	1	0
299	0	0	0	0
300	0	0	0	0
301	0	0	0	0
302	0	0	0	1
303	0	0	0	0
304	0	0	0	0
305	0	0	0	0
306	0	0	0	0
307	0	0	0	0
308	0	0	0	0
309	0	0	0	0
310	0	0	0	0
311	0	0	0	0
312	0	0	0	0
313	0	0	0	0
314	0	0	0	0
315	0	1	0	1
316	0	0	0	0
317	0	0	0	0
318	0	0	0	0
319	0	0	0	0
320	0	0	0	0
321	0	0	0	0
322	0	0	0	0
323	0	0	0	0
324	0	0	0	0
325	1	0	0	0
326	0	0	0	0
327	0	0	0	0
328	0	0	0	0
329	0	0	0	0
330	0	0	0	1
331	1	0	0	0
332	0	0	0	0
333	0	0	0	0
334	0	0	0	0
335	0	0	0	0
336	0	0	0	1
337	1	0	0	0
338	0	0	0	0
339	0	0	0	0
340	0	0	0	0
341	0	0	0	1
342	0	0	0	0
343	0	0	0	0
344	0	0	0	0
345	0	0	0	0
346	0	0	0	0
347	0	0	0	0
348	0	0	0	0
349	0	0	0	0
350	0	0	0	0
351	0	0	0	0
352	0	0	0	0
353	0	0	0	1
354	0	0	0	0
355	0	0	0	0
356	0	0	0	0
357	0	0	1	0
358	0	0	0	0
359	0	0	0	0
360	0	0	0	0
361	0	0	0	0
362	0	0	0	0
363	0	0	0	0
364	0	0	0	0
365	0	0	1	0
366	0	0	0	0

NUMBER OF FATAL ACCIDENTS = 69
NUMBER OF FATALITIES = 70

1972 DISTRICT COLUMBIA
NUMBER OF ACCIDENTS WITH ANY INJURY

1	4	5	5	4
2	3	2	8	3
3	4	5	7	3
4	6	12	15	3
5	3	1	3	0
6	3	5	4	5
7	4	5	8	5
8	0	4	10	5
9	2	5	9	2
10	2	7	6	5
11	2	3	10	2
12	0	7	3	4
13	8	6	5	6
14	5	4	4	3
15	2	1	9	5
16	2	3	1	4
17	0	12	7	2
18	4	6	8	1
19	2	3	5	1
20	1	11	6	5
21	4	5	8	8
22	3	9	7	7
23	0	4	4	3
24	5	6	1	3
25	4	7	8	2
26	2	1	6	2
27	2	7	3	6
28	4	6	12	3
29	2	7	8	3
30	0	6	3	3
31	2	5	5	3
32	3	4	11	4
33	8	5	9	5
34	5	5	11	1
35	2	4	8	5
36	3	2	7	5
37	3	2	3	0
38	2	1	6	2
39	2	3	4	3
40	4	5	6	2
41	6	4	7	3
42	3	8	6	7
43	2	4	9	10
44	1	3	1	2
45	4	2	6	4
46	1	4	3	2
47	5	7	4	2
48	2	7	8	1
49	2	9	14	8
50	0	3	6	1
51	3	7	4	0
52	2	6	2	2
53	3	6	4	2
54	4	2	5	1
55	2	6	4	2
56	4	5	10	2
57	4	9	8	7
58	3	0	4	1
59	5	3	0	0
60	3	3	8	3
61	2	6	7	4
62	2	8	9	2
63	2	5	10	4
64	3	9	3	10
65	4	3	6	0
66	2	3	6	3
67	0	1	5	0
68	1	3	1	5
69	4	3	3	2
70	1	3	4	4
71	2	4	4	6
72	1	4	2	5
73	3	7	5	2
74	7	7	8	2
75	1	4	6	2
76	2	8	12	5
77	1	8	6	4
78	2	10	4	3
79	1	2	3	3
80	4	1	4	2
81	2	4	6	0
82	7	3	6	2
83	2	5	6	4
84	4	5	7	3
85	1	3	7	2
86	2	1	6	2
87	1	3	9	2
88	1	2	4	2
89	0	6	1	1
90	3	0	7	2
91	2	2	13	8
92	2	7	17	20
93	0	3	4	1
94	0	11	5	1
95	0	6	6	2
96	3	1	5	2
97	1	7	6	1
98	3	9	12	6
99	1	11	1	5
100	1	4	10	1
101	1	1	6	2
102	3	3	6	1
103	2	3	6	4
104	3	4	10	2
105	2	1	9	7
106	3	4	9	13
107	3	10	15	1
108	4	6	6	6
109	1	5	5	3
110	2	5	5	1
111	3	4	8	1
112	3	6	5	14
113	9	10	6	10
114	2	5	6	4
115	1	4	2	1
116	2	5	5	5
117	3	5	11	1
118	2	2	6	2
119	1	8	9	7
120	2	9	9	4
121	1	4	7	5
122	1	5	8	2

123	4	3	5	3
124	9	6	7	5
125	3	7	10	3
126	4	10	12	5
127	1	6	12	9
128	2	7	4	2
129	4	5	8	5
130	4	8	6	4
131	1	2	5	1
132	2	5	15	1
133	4	7	14	6
134	0	6	4	5
135	3	9	7	6
136	1	5	9	0
137	3	5	10	3
138	2	4	8	1
139	4	2	8	2
140	2	4	16	9
141	5	16	9	6
142	1	2	9	2
143	4	5	8	3
144	1	3	12	3
145	5	5	10	8
146	0	9	8	1
147	3	8	8	6
148	3	6	13	3
149	2	5	4	3
150	1	4	4	2
151	0	3	3	2
152	1	0	0	1
153	2	2	5	5
154	2	5	9	2
155	2	2	5	4
156	1	0	0	0
157	2	3	6	3
158	0	1	7	2
159	3	8	11	1
160	4	6	13	2
161	2	9	13	1
162	2	5	9	8
163	1	5	8	3
164	6	3	8	2
165	0	2	12	4
166	1	3	6	1
167	2	3	8	3
168	1	8	5	6
169	2	6	6	5
170	2	10	5	5
171	2	1	7	2
172	0	6	13	3
173	8	5	14	6
174	4	5	5	5
175	4	8	6	10
176	3	7	14	12
177	0	4	7	0
178	0	7	5	1
179	5	8	12	4
180	4	4	8	1
181	3	4	9	4
182	5	10	6	10
183	4	8	9	7
184	4	3	9	4
185	3	13	18	4
186	1	5	13	9
187	2	6	6	1
188	0	4	10	1
189	1	4	9	3
190	1	4	3	4
191	2	4	6	2
192	2	6	8	2
193	2	7	5	4
194	1	7	6	4
195	3	2	12	5
196	0	8	7	3
197	3	3	7	4
198	0	0	7	2
199	5	3	4	1
200	3	7	6	4
201	5	4	16	6
202	0	5	11	3
203	3	6	10	6
204	3	2	5	6
205	1	6	3	2
206	0	0	4	3
207	4	8	3	2
208	0	0	0	1
209	6	6	7	1
210	2	2	10	4
211	4	3	8	6
212	7	11	5	1
213	6	4	3	4
214	0	4	8	1
215	2	3	6	4
216	3	5	7	4
217	3	8	16	7
218	0	5	3	9
219	1	4	8	2
220	4	10	15	1
221	4	3	12	1
222	1	6	7	3
223	4	7	11	3
224	3	7	4	1
225	2	1	4	8
226	1	6	10	4
227	2	3	7	2
228	1	1	0	3
229	1	1	4	1
230	7	1	5	1
231	4	5	11	7
232	1	6	8	5
233	7	4	4	2
234	1	6	5	2
235	2	4	6	0
236	4	2	4	1
237	4	5	9	0
238	2	5	10	5
239	2	6	6	3
240	1	3	2	3
241	3	4	8	2
242	1	3	7	5
243	4	6	10	2
244	3	6	11	1
245	5	12	9	2
246	7	12	13	8
247	1	4	10	3

249	1	6	5	2
250	2	2	7	4
251	5	9	4	2
252	5	6	6	5
253	0	7	9	6
254	1	6	3	2
255	0	3	8	2
256	4	10	7	1
257	4	2	6	3
258	4	3	13	3
259	4	11	11	10
260	1	9	7	5
261	3	5	9	5
262	2	7	8	0
263	7	7	6	3
264	1	4	2	3
265	2	5	9	5
266	3	5	12	9
267	4	6	10	9
268	0	3	3	2
269	3	3	4	0
270	2	1	6	2
271	3	10	9	2
272	5	4	8	3
273	3	7	10	9
274	2	11	6	4
275	2	0	1	4
276	6	3	7	2
277	4	6	12	6
278	2	6	3	2
279	3	1	8	1
280	3	5	7	12
281	3	8	9	6
282	3	3	8	3
283	3	5	5	3
284	5	6	5	1
285	6	6	8	1
286	3	6	6	1
287	6	4	11	8
288	3	7	10	7
289	4	6	5	1
290	5	8	5	2
291	2	4	8	1
292	2	6	11	7
293	7	15	6	3
294	2	9	8	4
295	2	4	9	6
296	2	6	7	2
297	0	8	14	2
298	3	5	7	2
299	4	5	10	2
300	3	5	6	3
301	1	2	6	14
302	8	10	9	4
303	1	4	4	1
304	3	5	6	3
305	2	9	8	5
306	6	4	9	2
307	2	7	12	3
308	6	6	7	6
309	1	5	8	6
310	5	8	8	0
311	4	6	5	5
312	3	7	4	3
313	4	5	9	3
314	4	7	8	1
315	2	3	17	8
316	5	6	12	6
317	4	7	8	0
318	4	8	11	4
319	9	6	13	0
320	4	8	3	1
321	3	7	6	2
322	1	3	3	6
323	1	5	4	3
324	2	1	7	7
325	5	6	6	1
326	5	4	6	3
327	3	3	5	5
328	1	4	4	3
329	3	6	9	7
330	3	1	14	8
331	3	2	3	4
332	4	8	9	1
333	5	1	5	0
334	3	5	9	2
335	1	5	12	3
336	2	8	1	15
337	5	4	5	13
338	3	4	7	0
339	6	7	4	4
340	2	9	2	2
341	7	6	4	2
342	1	4	5	2
343	0	5	16	7
344	2	4	14	0
345	1	1	1	0
346	0	0	3	0
347	0	0	0	1
348	3	2	0	3
349	0	2	2	3
350	3	7	16	6
351	4	8	10	5
352	3	1	2	4
353	3	6	4	2
354	3	5	9	1
355	9	2	10	1
356	3	8	15	9
357	5	8	21	9
358	4	6	8	5
359	2	5	3	4
360	1	2	4	4
361	2	5	12	2
362	2	3	3	0
363	3	8	5	2
364	0	4	2	3
365	1	5	11	3
366	2	3	5	7

NUMBER OF INJURY-CAUSING ACCIDENTS = 6811
NUMBER OF INJURED (INCL. FATALITIES) = 9451

1972 DISTRICT COLUMBIA
ACCIDENT TOTALS FOR EACH DAY OF THE WEEK

1:	139	264	329	126	NO.DAYS=	52
2:	138	253	371	129	NO.DAYS=	52
3:	168	218	325	130	NO.DAYS=	52
4:	155	276	408	144	NO.DAYS=	52
5:	146	318	483	329	NO.DAYS=	52
6:	139	321	422	328	NO.DAYS=	53
7:	110	222	288	132	NO.DAYS=	53

1972 DISTRICT COLUMBIA
ACCIDENT TOTALS FOR EACH MONTH

1:	85	170	198	111	TOT=	564	NO.DAYS=	31
2:	91	129	178	87	TOT=	485	NO.DAYS=	29
3:	70	133	180	96	TOT=	479	NO.DAYS=	31
4:	64	163	217	133	TOT=	577	NO.DAYS=	30
5:	80	172	256	112	TOT=	620	NO.DAYS=	31
6:	73	150	242	115	TOT=	580	NO.DAYS=	30
7:	78	151	230	109	TOT=	568	NO.DAYS=	31
8:	78	142	228	93	TOT=	541	NO.DAYS=	31
9:	85	189	228	121	TOT=	623	NO.DAYS=	30
10:	103	177	229	119	TOT=	628	NO.DAYS=	31
11:	106	154	236	103	TOT=	599	NO.DAYS=	30
12:	82	142	204	119	TOT=	547	NO.DAYS=	31

1972 DISTRICT COLUMBIA
AVERAGE ACCIDENTS FOR EACH DAY OF THE WEEK

1:	2.7	5.1	6.3	2.4	AV=	16.5
2:	2.7	4.9	7.1	2.5	AV=	17.1
3:	3.2	4.2	6.3	2.5	AV=	16.2
4:	3.0	5.3	7.8	2.8	AV=	18.9
5:	2.8	6.1	9.3	6.3	AV=	24.5
6:	2.6	6.1	8.0	6.2	AV=	22.8
7:	2.1	4.2	5.4	2.5	AV=	14.2

1972 DISTRICT COLUMBIA
AVERAGE ACCIDENTS FOR EACH MONTH

1:	2.7	5.5	6.4	3.6	AV=	18.2
2:	3.1	4.4	6.1	3.0	AV=	16.7
3:	2.3	4.3	5.8	3.1	AV=	15.5
4:	2.1	5.4	7.2	4.4	AV=	19.2
5:	2.6	5.5	8.3	3.6	AV=	20.0
6:	2.4	5.0	8.1	3.8	AV=	19.3
7:	2.5	4.9	7.4	3.5	AV=	18.3
8:	2.5	4.6	7.4	3.0	AV=	17.5
9:	2.8	6.3	7.6	4.0	AV=	20.8
10:	3.3	5.7	7.4	3.8	AV=	20.3
11:	3.5	5.1	7.9	3.4	AV=	20.0
12:	2.6	4.6	6.6	3.8	AV=	17.6

1972 EQUIVALENT DAYS FOR DISTRICT COLUMBIA

DAY	MORNING EQDAY	EVENING EQDAY
1:	0	57
2:	0	0
3:	0	0
4:	0	60
5:	0	61
6:	0	62
7:	0	63
8:	0	64
9:	0	65
10:	0	66
11:	0	67
12:	0	68
13:	0	69
14:	0	70
15:	0	71
16:	0	72
17:	0	73
18:	0	74
19:	0	75
20:	0	300
21:	0	77
22:	0	78
23:	0	79
24:	0	80
25:	0	81
26:	0	82
27:	0	83
28:	0	84
29:	0	85
30:	0	86
31:	0	87
32:	0	88
33:	0	89
34:	0	90
35:	0	91
36:	0	92
37:	0	93
38:	0	94
39:	0	284
40:	0	285
41:	0	97
42:	0	280
43:	0	281
44:	0	107
45:	0	108
46:	0	109
47:	0	278
48:	0	279
49:	0	112
50:	0	113
51:	0	0
52:	0	0
53:	0	116
54:	0	117
55:	0	272
56:	0	119
57:	0	120
58:	0	268
59:	0	269
60:	0	270
61:	0	271
62:	0	118
63:	0	266
64:	0	267
65:	0	268
66:	0	269
67:	4	263
68:	299	264
69:	300	265
70:	7	266
71:	15	260
72:	359	261
73:	353	262
74:	354	263
75:	26	257
76:	349	258
77:	28	259
78:	344	260
79:	345	261
80:	339	255
81:	340	256
82:	40	257
83:	335	258
84:	42	252
85:	43	253
86:	331	254
87:	45	255
88:	270	249
89:	327	250
90:	48	251
91:	266	252
92:	323	253
93:	261	0
94:	318	0
95:	319	249
96:	257	250
97:	314	244
98:	315	245
99:	253	246
100:	310	0
101:	311	241
102:	249	242
103:	306	243
104:	307	244
105:	245	245
106:	239	239
107:	303	240
108:	234	241
109:	235	242
110:	236	236
111:	230	237
112:	231	238
113:	232	239
114:	226	233
115:	227	234
116:	228	235
117:	222	236
118:	223	230
119:	77	231
120:	218	232
303:	366	72
304:	0	73
305:	0	67
306:	0	68
307:	0	69
308:	0	63
309:	0	64
310:	0	65
311:	0	59
312:	0	60
313:	0	61
314:	0	62
315:	0	56
316:	0	57
317:	0	58
318:	0	59
319:	0	53
320:	0	54
321:	0	55
322:	0	56
323:	0	50
324:	0	0
325:	0	0
326:	0	53
327:	0	0
328:	0	0
329:	0	49
330:	0	50
331:	0	44
332:	0	45
333:	0	46
334:	0	47
335:	0	48
336:	0	49
337:	0	50
338:	0	44
339:	0	45
340:	0	46
341:	0	47
342:	0	48
343:	0	49
344:	0	50
345:	0	44
346:	0	45
347:	0	46
348:	0	47
349:	0	48
350:	0	49
351:	0	43
352:	0	44
353:	0	45
354:	0	46
355:	0	47
356:	0	48
357:	0	0
358:	0	0
359:	0	0
360:	0	0
361:	0	53
362:	0	54
363:	0	55
364:	0	56
365:	0	57
366:	0	58

COMPARISION OF 1972 ACTUAL AND EQUIVALENT-DAY INJURY-CAUSING ACCIDENTS FOR DISTRICT COLUMBIA

DAY	DATE	ACTUAL ACCIDENTS					EQUIVALENT DAY ACCIDENTS					
		MORNING (4AM-10AM)	EVENING (4PM-10PM)		NIGHT+ MIDDAY	MIDDAY +NIGHT	--EQUIV MORNING-- DAY	DATE	ACCDNTS	--EQUIV EVENING-- DAY	DATE	ACCDNTS	NIGHT+ MIDDAY	MIDDAY +NIGHT
6	1/ 1:	-4	5	<	0	9 >	(0 | 0/ 0:)	0	(6 | 2/26:)	8	< 0	16 >
7	1/ 2:	-3	-8	<	0	0 >	(0 | 0/ 0:)	0	(0 | 0/ 0:)	0	< 0	0 >
1	1/ 3:	-4	-7	<	0	0 >	(0 | 0/ 0:)	0	(0 | 0/ 0:)	0	< 0	0 >
2	1/ 4:	-6	15	<	0	15 >	(0 | 0/ 0:)	0	(2 | 2/29:)	8	< 0	6 >
3	1/ 5:	-3	3	<	0	1 >	(0 | 0/ 0:)	0	(3 | 3/ 1:)	7	< 0	10 >
4	1/ 6:	-3	4	<	0	10 >	(0 | 0/ 0:)	0	(4 | 3/ 2:)	9	< 0	10 >
5	1/ 7:	-4	8	<	0	10 >	(0 | 0/ 0:)	0	(5 | 3/ 3:)	10	< 0	9 >
6	1/ 8:	0	10	<	0	9 >	(0 | 0/ 0:)	0	(6 | 3/ 4:)	3	< 0	19 >
7	1/ 9:	-2	9	<	0	7 >	(0 | 0/ 0:)	0	(7 | 3/ 5:)	6	< 0	3 >
1	1/10:	-2	6	<	0	12 >	(0 | 0/ 0:)	0	(1 | 3/ 6:)	6	< 0	6 >
2	1/11:	-2	10	<	0	5 >	(0 | 0/ 0:)	0	(2 | 3/ 7:)	5	< 0	1 >
3	1/12:	0	3	<	0	11 >	(0 | 0/ 0:)	0	(3 | 3/ 8:)	1	< 0	8 >
4	1/13:	-8	5	<	0	12 >	(0 | 0/ 0:)	0	(4 | 3/ 9:)	3	< 0	5 >
5	1/14:	-5	4	<	0	7 >	(0 | 0/ 0:)	0	(5 | 3/10:)	4	< 0	7 >
6	1/15:	-2	9	<	0	6 >	(0 | 0/ 0:)	0	(6 | 3/11:)	4	< 0	10 >
7	1/16:	-2	1	<	0	7 >	(0 | 0/ 0:)	0	(7 | 3/12:)	2	< 0	9 >
1	1/17:	0	7	<	0	14 >	(0 | 0/ 0:)	0	(1 | 3/13:)	5	< 0	9 >
2	1/18:	-4	6	<	0	7 >	(0 | 0/ 0:)	0	(2 | 3/14:)	8	< 0	9 >
3	1/19:	-2	5	<	0	4 >	(0 | 0/ 0:)	0	(3 | 3/15:)	6	< 0	6 >
4	1/20:	-1	6	<	0	16 >	(0 | 0/ 0:)	0	(4 | 10/26:)	6	< 0	8 >
5	1/21:	-4	8	<	0	13 >	(0 | 0/ 0:)	0	(5 | 3/17:)	6	< 0	12 >
6	1/22:	-3	7	<	0	16 >	(0 | 0/ 0:)	0	(6 | 3/18:)	4	< 0	13 >
7	1/23:	0	4	<	0	7 >	(0 | 0/ 0:)	0	(7 | 3/19:)	3	< 0	5 >
1	1/24:	-5	1	<	0	9 >	(0 | 0/ 0:)	0	(1 | 3/20:)	4	< 0	3 >
2	1/25:	-4	8	<	0	9 >	(0 | 0/ 0:)	0	(2 | 3/21:)	6	< 0	4 >
3	1/26:	-2	6	<	0	3 >	(0 | 0/ 0:)	0	(3 | 3/22:)	6	< 0	5 >
4	1/27:	-2	3	<	0	13 >	(0 | 0/ 0:)	0	(4 | 3/23:)	6	< 0	9 >
5	1/28:	-4	12	<	0	9 >	(0 | 0/ 0:)	0	(5 | 3/24:)	7	< 0	8 >
6	1/29:	-2	8	<	0	10 >	(0 | 0/ 0:)	0	(6 | 3/25:)	7	< 0	5 >
7	1/30:	0	3	<	0	9 >	(0 | 0/ 0:)	0	(7 | 3/26:)	6	< 0	3 >
1	1/31:	-2	5	<	0	8 >	(0 | 0/ 0:)	0	(1 | 3/27:)	9	< 0	5 >
2	2/ 1:	-3	11	<	0	8 >	(0 | 0/ 0:)	0	(2 | 3/28:)	4	< 0	4 >
3	2/ 2:	-8	9	<	0	10 >	(0 | 0/ 0:)	0	(3 | 3/29:)	1	< 0	7 >
4	2/ 3:	-5	11	<	0	6 >	(0 | 0/ 0:)	0	(4 | 3/30:)	7	< 0	2 >
5	2/ 4:	-2	8	<	0	9 >	(0 | 0/ 0:)	0	(5 | 3/31:)	13	< 0	10 >
6	2/ 5:	-3	7	<	0	7 >	(0 | 0/ 0:)	0	(6 | 4/ 1:)	17	< 0	27 >
7	2/ 6:	-3	3	<	0	2 >	(0 | 0/ 0:)	0	(7 | 4/ 2:)	4	< 0	4 >
1	2/ 7:	-2	6	<	0	3 >	(0 | 0/ 0:)	0	(1 | 4/ 3:)	5	< 0	12 >
2	2/ 8:	-2	4	<	0	6 >	(0 | 0/ 0:)	0	(2 | 10/10:)	5	< 0	7 >
3	2/ 9:	-4	6	<	0	7 >	(0 | 0/ 0:)	0	(3 | 10/11:)	8	< 0	7 >
4	2/10:	-6	7	<	0	7 >	(0 | 0/ 0:)	0	(4 | 4/ 6:)	6	< 0	8 >
5	2/11:	-3	6	<	0	15 >	(0 | 0/ 0:)	0	(5 | 10/ 6:)	7	< 0	17 >
6	2/12:	-2	9	<	0	14 >	(0 | 0/ 0:)	0	(6 | 10/ 7:)	9	< 0	14 >
7	2/13:	-1	1	<	0	5 >	(0 | 0/ 0:)	0	(7 | 4/16:)	15	< 0	11 >
1	2/14:	-4	6	<	0	6 >	(0 | 0/ 0:)	0	(1 | 4/17:)	6	< 0	12 >
2	2/15:	-1	3	<	0	6 >	(0 | 0/ 0:)	0	(2 | 4/18:)	5	< 0	8 >
3	2/16:	-5	4	<	0	9 >	(0 | 0/ 0:)	0	(3 | 10/ 4:)	3	< 0	8 >
4	2/17:	-2	8	<	0	8 >	(0 | 0/ 0:)	0	(4 | 10/ 5:)	8	< 0	2 >
5	2/18:	-2	14	<	0	17 >	(0 | 0/ 0:)	0	(5 | 4/21:)	5	< 0	20 >
6	2/19:	0	6	<	0	4 >	(0 | 0/ 0:)	0	(6 | 4/22:)	6	< 0	20 >
7	2/20:	-3	-4	<	0	0 >	(0 | 0/ 0:)	0	(0 | 0/ 0:)	0	< 0	0 >
1	2/21:	-2	-2	<	0	0 >	(0 | 0/ 0:)	0	(0 | 0/ 0:)	0	< 0	0 >
2	2/22:	-3	4	<	0	8 >	(0 | 0/ 0:)	0	(2 | 4/25:)	5	< 0	10 >

3	2/23:	-4	5	<	0	3	>	(0	0/ 0:)	0	(3	4/26:)	11	<	0	6	>
4	2/24:	-2	4	<	0	8	>	(0	0/ 0:)	0	(4	9/28:)	8	<	0	7	>
5	2/25:	-4	10	<	0	7	>	(0	0/ 0:)	0	(5	4/28:)	9	<	0	15	>
6	2/26:	-4	8	<	0	16	>	(0	0/ 0:)	0	(6	4/29:)	9	<	0	13	>
7	2/27:	-3	4	<	0	1	>	(0	0/ 0:)	0	(7	9/24:)	3	<	0	5	>
1	2/28:	-5	0	<	0	3	>	(0	0/ 0:)	0	(1	9/25:)	4	<	0	3	>
2	2/29:	-3	8	<	0	6	>	(0	0/ 0:)	0	(2	9/26:)	6	<	0	3	>
3	3/ 1:	-2	7	<	0	10	>	(0	0/ 0:)	0	(3	9/27:)	9	<	0	12	>
4	3/ 2:	-2	9	<	0	10	>	(0	0/ 0:)	0	(4	4/27:)	6	<	0	4	>
5	3/ 3:	-2	10	<	0	9	>	(0	0/ 0:)	0	(5	9/22:)	12	<	0	14	>
6	3/ 4:	-3	3	<	0	19	>	(0	0/ 0:)	0	(6	9/23:)	10	<	0	15	>
7	3/ 5:	-4	6	<	0	3	>	(0	0/ 0:)	0	(7	9/24:)	3	<	0	5	>
1	3/ 6:	-2	6	<	0	6	>	(0	0/ 0:)	0	(1	9/25:)	4	<	0	3	>
2	3/ 7:	0	5	<	4	1	>	(2	1/ 4:)	6	(2	9/19:)	6	<	15	10	>
3	3/ 8:	1	1	<	3	8	>	(3	10/25:)	4	(3	9/20:)	2	<	7	7	>
4	3/ 9:	4	3	<	8	5	>	(4	10/26:)	3	(4	9/21:)	9	<	7	10	>
5	3/10:	1	4	<	5	7	>	(5	1/ 7:)	4	(5	9/22:)	12	<	10	14	>
6	3/11:	2	4	<	8	10	>	(6	1/15:)	2	(6	9/16:)	7	<	4	14	>
7	3/12:	1	2	<	10	9	>	(7	12/24:)	2	(7	9/17:)	9	<	10	10	>
1	3/13:	3	5	<	12	9	>	(1	12/18:)	3	(1	9/18:)	8	<	10	7	>
2	3/14:	7	8	<	9	9	>	(2	12/19:)	3	(2	9/19:)	6	<	7	10	>
3	3/15:	1	6	<	6	6	>	(3	1/26:)	2	(3	9/13:)	6	<	3	5	>
4	3/16:	2	12	<	10	13	>	(4	12/14:)	0	(4	9/14:)	13	<	5	6	>
5	3/17:	1	6	<	13	12	>	(5	1/28:)	4	(5	9/15:)	11	<	12	21	>
6	3/18:	2	4	<	14	13	>	(6	12/ 9:)	2	(6	9/16:)	7	<	11	14	>
7	3/19:	1	3	<	5	5	>	(7	12/10:)	1	(7	9/17:)	9	<	1	10	>
1	3/20:	4	4	<	4	3	>	(1	12/ 4:)	6	(1	9/11:)	8	<	7	5	>
2	3/21:	2	6	<	6	4	>	(2	12/ 5:)	2	(2	9/12:)	7	<	13	11	>
3	3/22:	7	6	<	3	5	>	(3	2/ 9:)	4	(3	9/13:)	6	<	8	5	>
4	3/23:	2	6	<	7	9	>	(4	11/30:)	1	(4	9/14:)	13	<	7	6	>
5	3/24:	4	7	<	9	8	>	(5	2/11:)	3	(5	9/ 8:)	6	<	11	11	>
6	3/25:	1	7	<	6	5	>	(6	2/12:)	2	(6	9/ 9:)	9	<	11	13	>
7	3/26:	2	6	<	3	3	>	(7	11/26:)	3	(7	9/10:)	3	<	10	8	>
1	3/27:	1	9	<	5	5	>	(1	2/14:)	4	(1	9/11:)	8	<	4	5	>
2	3/28:	1	4	<	4	4	>	(2	9/26:)	2	(2	9/ 5:)	5	<	1	8	>
3	3/29:	0	1	<	8	7	>	(3	11/22:)	3	(3	9/ 6:)	7	<	6	6	>
4	3/30:	3	7	<	1	2	>	(4	2/17:)	2	(4	9/ 7:)	4	<	9	11	>
5	3/31:	2	13	<	4	10	>	(5	9/22:)	3	(5	9/ 8:)	6	<	10	11	>
6	4/ 1:	2	17	<	15	27	>	(6	11/18:)	1	(6	9/ 9:)	9	<	11	13	>
7	4/ 2:	0	-4	<	23	0	>	(7	9/17:)	3	(0	0/ 0:)	0	<	10	0	>
1	4/ 3:	0	-5	<	12	0	>	(1	11/13:)	4	(0	0/ 0:)	0	<	8	0	>
2	4/ 4:	0	6	<	7	8	>	(2	11/14:)	9	(2	9/ 5:)	5	<	10	8	>
3	4/ 5:	3	5	<	3	3	>	(3	9/13:)	4	(3	9/ 6:)	7	<	3	6	>
4	4/ 6:	1	6	<	9	8	>	(4	11/ 9:)	4	(4	8/31:)	11	<	10	7	>
5	4/ 7:	3	12	<	10	15	>	(5	11/10:)	2	(5	9/ 1:)	9	<	4	14	>
6	4/ 8:	1	1	<	17	16	>	(6	9/ 9:)	0	(6	9/ 2:)	13	<	12	20	>
7	4/ 9:	1	-10	<	9	0	>	(7	11/ 5:)	5	(0	0/ 0:)	0	<	14	0	>
1	4/10:	1	6	<	2	3	>	(1	11/ 6:)	4	(1	8/28:)	8	<	6	6	>
2	4/11:	3	6	<	5	4	>	(2	9/ 5:)	1	(2	8/29:)	7	<	13	8	>
3	4/12:	2	6	<	4	7	>	(3	11/ 1:)	6	(3	8/30:)	10	<	9	8	>
4	4/13:	3	10	<	8	6	>	(4	11/ 2:)	2	(4	8/31:)	11	<	9	7	>
5	4/14:	2	9	<	3	8	>	(5	9/ 1:)	5	(5	9/ 1:)	9	<	13	14	>
6	4/15:	3	9	<	11	17	>	(6	8/26:)	2	(6	8/26:)	6	<	11	9	>
7	4/16:	3	15	<	23	11	>	(7	10/29:)	1	(7	8/27:)	2	<	8	6	>
1	4/17:	4	6	<	7	12	>	(1	8/21:)	1	(1	8/28:)	8	<	8	6	>
2	4/18:	1	5	<	11	8	>	(2	8/22:)	2	(2	8/29:)	7	<	6	8	>
3	4/19:	2	5	<	8	6	>	(3	8/23:)	4	(3	8/23:)	4	<	2	3	>
4	4/20:	3	8	<	5	5	>	(4	8/17:)	7	(4	8/24:)	9	<	2	5	>
5	4/21:	3	5	<	7	20	>	(5	8/18:)	4	(5	8/25:)	10	<	6	10	>
6	4/22:	9	6	<	24	20	>	(6	8/19:)	1	(6	8/26:)	6	<	13	9	>
7	4/23:	2	6	<	15	9	>	(7	8/13:)	1	(7	8/20:)	4	<	16	6	>
1	4/24:	1	2	<	8	5	>	(1	8/14:)	2	(1	8/21:)	5	<	7	8	>
2	4/25:	2	5	<	6	10	>	(2	8/15:)	1	(2	8/22:)	6	<	3	4	>

3 4/26:	3	11	<	10	6	>	(3 8/ 9:)	1	(3 8/23:)	4	<	7	3	>
4 4/27:	2	6	<	3	4	>	(4 8/10:)	4	(4 8/17:)	5	<	10	2	>
5 4/28:	1	9	<	10	15	>	(5 3/17:)	1	(5 8/18:)	11	<	13	12	>
6 4/29:	2	9	<	16	13	>	(6 8/ 5:)	0	(6 8/19:)	8	<	12	11	>
7 10/29:	1	4	<	8	5	>	(7 12/31:)	2	(7 3/12:)	2	<	6	9	>
1 10/30:	-3	6	<	0	8	>	(0 0/ 0:)	0	(1 3/13:)	5	<	0	9	>
2 10/31:	-2	6	<	0	14	>	(0 0/ 0:)	0	(2 3/ 7:)	5	<	0	1	>
3 11/ 1:	-6	9	<	0	6	>	(0 0/ 0:)	0	(3 3/ 8:)	1	<	0	8	>
4 11/ 2:	-2	12	<	0	10	>	(0 0/ 0:)	0	(4 3/ 9:)	3	<	0	5	>
5 11/ 3:	-6	7	<	0	12	>	(0 0/ 0:)	0	(5 3/ 3:)	10	<	0	9	>
6 11/ 4:	-1	8	<	0	11	>	(0 0/ 0:)	0	(6 3/ 4:)	3	<	0	19	>
7 11/ 5:	-5	8	<	0	8	>	(0 0/ 0:)	0	(7 3/ 5:)	6	<	0	3	>
1 11/ 6:	-4	5	<	0	11	>	(0 0/ 0:)	0	(1 2/28:)	0	<	0	3	>
2 11/ 7:	-3	4	<	0	10	>	(0 0/ 0:)	0	(2 2/29:)	8	<	0	6	>
3 11/ 8:	-4	9	<	0	8	>	(0 0/ 0:)	0	(3 3/ 1:)	7	<	0	10	>
4 11/ 9:	-4	8	<	0	8	>	(0 0/ 0:)	0	(4 3/ 2:)	9	<	0	10	>
5 11/10:	-2	17	<	0	11	>	(0 0/ 0:)	0	(5 2/25:)	10	<	0	7	>
6 11/11:	-5	12	<	0	12	>	(0 0/ 0:)	0	(6 2/26:)	8	<	0	16	>
7 11/12:	-4	8	<	0	7	>	(0 0/ 0:)	0	(7 2/27:)	4	<	0	1	>
1 11/13:	-4	11	<	0	12	>	(0 0/ 0:)	0	(1 2/28:)	0	<	0	3	>
2 11/14:	-9	13	<	0	6	>	(0 0/ 0:)	0	(2 2/22:)	4	<	0	8	>
3 11/15:	-4	3	<	0	9	>	(0 0/ 0:)	0	(3 2/23:)	5	<	0	3	>
4 11/16:	-3	6	<	0	9	>	(0 0/ 0:)	0	(4 2/24:)	4	<	0	8	>
5 11/17:	-1	3	<	0	9	>	(0 0/ 0:)	0	(5 2/25:)	10	<	0	7	>
6 11/18:	-1	4	<	0	8	>	(0 0/ 0:)	0	(6 2/19:)	6	<	0	4	>
7 11/19:	-2	-7	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
1 11/20:	-5	-6	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2 11/21:	-5	6	<	0	7	>	(0 0/ 0:)	0	(2 2/22:)	4	<	0	8	>
3 11/22:	-3	-5	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
4 11/23:	-1	-4	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
5 11/24:	-3	9	<	0	13	>	(0 0/ 0:)	0	(5 2/18:)	14	<	0	17	>
6 11/25:	-3	14	<	0	9	>	(0 0/ 0:)	0	(6 2/19:)	6	<	0	4	>
7 11/26:	-3	3	<	0	6	>	(0 0/ 0:)	0	(7 2/13:)	1	<	0	5	>
1 11/27:	-4	9	<	0	9	>	(0 0/ 0:)	0	(1 2/14:)	6	<	0	6	>
2 11/28:	-5	5	<	0	1	>	(0 0/ 0:)	0	(2 2/15:)	3	<	0	6	>
3 11/29:	-3	9	<	0	7	>	(0 0/ 0:)	0	(3 2/16:)	4	<	0	9	>
4 11/30:	-1	12	<	0	8	>	(0 0/ 0:)	0	(4 2/17:)	8	<	0	8	>
5 12/ 1:	-2	1	<	0	23	>	(0 0/ 0:)	0	(5 2/18:)	14	<	0	17	>
6 12/ 2:	-5	5	<	0	17	>	(0 0/ 0:)	0	(6 2/19:)	6	<	0	4	>
7 12/ 3:	-3	7	<	0	4	>	(0 0/ 0:)	0	(7 2/13:)	1	<	0	5	>
1 12/ 4:	-6	4	<	0	11	>	(0 0/ 0:)	0	(1 2/14:)	6	<	0	6	>
2 12/ 5:	-2	2	<	0	11	>	(0 0/ 0:)	0	(2 2/15:)	3	<	0	6	>
3 12/ 6:	-7	4	<	0	8	>	(0 0/ 0:)	0	(3 2/16:)	4	<	0	9	>
4 12/ 7:	-1	5	<	0	6	>	(0 0/ 0:)	0	(4 2/17:)	8	<	0	8	>
5 12/ 8:	0	16	<	0	12	>	(0 0/ 0:)	0	(5 2/18:)	14	<	0	17	>
6 12/ 9:	-2	14	<	0	4	>	(0 0/ 0:)	0	(6 2/19:)	6	<	0	4	>
7 12/10:	-1	1	<	0	1	>	(0 0/ 0:)	0	(7 2/13:)	1	<	0	5	>
1 12/11:	0	3	<	0	0	>	(0 0/ 0:)	0	(1 2/14:)	6	<	0	6	>
2 12/12:	0	0	<	0	1	>	(0 0/ 0:)	0	(2 2/15:)	3	<	0	6	>
3 12/13:	-3	0	<	0	5	>	(0 0/ 0:)	0	(3 2/16:)	4	<	0	9	>
4 12/14:	0	2	<	0	5	>	(0 0/ 0:)	0	(4 2/17:)	8	<	0	8	>
5 12/15:	-3	16	<	0	13	>	(0 0/ 0:)	0	(5 2/18:)	14	<	0	17	>
6 12/16:	-4	10	<	0	13	>	(0 0/ 0:)	0	(6 2/12:)	9	<	0	14	>
7 12/17:	-3	2	<	0	5	>	(0 0/ 0:)	0	(7 2/13:)	1	<	0	5	>
1 12/18:	-3	4	<	0	8	>	(0 0/ 0:)	0	(1 2/14:)	6	<	0	6	>
2 12/19:	-3	9	<	0	6	>	(0 0/ 0:)	0	(2 2/15:)	3	<	0	6	>
3 12/20:	-9	10	<	0	3	>	(0 0/ 0:)	0	(3 2/16:)	4	<	0	9	>
4 12/21:	-3	15	<	0	17	>	(0 0/ 0:)	0	(4 2/17:)	8	<	0	8	>
5 12/22:	-5	-21	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
6 12/23:	-4	-8	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
7 12/24:	-2	-3	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
1 12/25:	-1	-4	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2 12/26:	-2	12	<	0	7	>	(0 0/ 0:)	0	(2 2/22:)	4	<	0	8	>

3 12/27:	-2	3	<	0	3	>	(0 0/ 0:)	0	(3 2/23:)	5	<	0	3	>
4 12/28:	-3	5	<	0	10	>	(0 0/ 0:)	0	(4 2/24:)	4	<	0	8	>
5 12/29:	0	2	<	0	7	>	(0 0/ 0:)	0	(5 2/25:)	10	<	0	7	>
6 12/30:	-1	11	<	0	8	>	(0 0/ 0:)	0	(6 2/26:)	8	<	0	16	>
7 12/31:	-2	5	<	0	10	>	(0 0/ 0:)	0	(7 2/27:)	4	<	0	1	>
	119	1126	<	466	1436	>		155		1099	<	461	1419	>

NO. OF MORNING EQUIVALENT DAYS = 55

NO. OF EVENING EQUIVALENT DAYS = 169

CHANGE IN MORNING ACCIDENTS = 36
CHANGE IN EVENING ACCIDENTS = -27

CHANGE IN NIGHT-MIDDAY ACCIDENTS = -5
CHANGE IN MIDDAY-NIGHT ACCIDENTS = -17

CHANGE IN THE LEVEL OF ACCIDENTS
UNDER THE EFFECT OF
DAYLIGHT-SAVING ALL YEAR
FOR 1972 FOR DISTRICT COLUMBIA

MORNING ACCIDENTS: 30.3%

EVENING ACCIDENTS: -2.4%

NET CHANGE IN 1972 ACCIDENTS FOR DISTRICT COLUMBIA

30.3% CHANGE IN MORNING ACCIDENTS
-1.1% CHANGE IN NIGHT+MIDDAY ACCIDENTS

31.7% NET CHANGE IN MORNING ACCIDENTS

-2.4% CHANGE IN EVENING ACCIDENTS
-1.2% CHANGE IN MIDDAY+NIGHT ACCIDENTS

-1.2% NET CHANGE IN EVENING ACCIDENTS

COMPARISON OF 1972 ACCIDENT TOTALS FOR DISTRICT COLUMBIA
USING ACTUAL PERCENT ACCIDENT CHANGES

	6-MONTH D.S.T.	FULL-YEAR D.S.T.
MORNING ACCIDENTS:	995	1147
MID-DAY ACCIDENTS:	1872	1872
EVENING ACCIDENTS:	2626	2596
NIGHT ACCIDENTS:	1318	1318
TOTAL	6811	6933

CHANGE IN YEARLY ACCIDENT TOTAL = 122

PERCENT CHANGE IN YEARLY ACCIDENTS = 1.79%

COMPARISON OF 1972 ACCIDENT TOTALS FOR DISTRICT COLUMBIA
USING NET PERCENT ACCIDENT CHANGES

	6-MONTH D.S.T.	FULL-YEAR D.S.T.
MORNING ACCIDENTS:	995	1154
MID-DAY ACCIDENTS:	1872	1872
EVENING ACCIDENTS:	2626	2610
NIGHT ACCIDENTS:	1318	1318
TOTAL	6811	6954

CHANGE IN YEARLY ACCIDENT TOTAL = 143

PERCENT CHANGE IN YEARLY ACCIDENTS = 2.10%

B.2 SAMPLE OUTPUT OF DBLCOMP

1972 CONNECTICUT
NUMBER OF ACCIDENTS WITH FATALITIES

1	1	1	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	1	0	0
6	0	0	0	0
7	0	1	0	0
8	0	0	0	0
9	1	0	3	0
10	1	0	0	0
11	0	0	0	1
12	0	0	0	0
13	0	0	0	0
14	0	0	0	1
15	0	0	0	0
16	0	0	0	0
17	0	1	0	0
18	0	0	0	0
19	0	1	0	0
20	0	0	1	0
21	0	0	1	0
22	0	0	0	2
23	0	0	1	0
24	0	0	1	0
25	0	0	2	0
26	0	0	3	0
27	0	0	1	0
28	1	0	1	1
29	0	0	0	1
30	1	0	0	0
31	0	0	0	0
32	0	0	0	1
33	0	0	0	0
34	0	0	1	0
35	1	0	0	1
36	0	0	1	1
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	1	0	0
41	0	0	1	0
42	0	1	0	0
43	0	0	1	1
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	1	0	1
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	1	0	0	0
54	1	0	1	0
55	0	0	0	0
56	0	0	0	0
57	0	0	0	0
58	0	0	0	1
59	0	0	0	0
60	0	0	1	0
61	0	0	1	2
62	0	0	0	0
63	1	0	0	0
64	0	0	0	1
65	0	0	0	0
66	0	1	0	0
67	0	0	0	0
68	0	1	0	0
69	0	0	0	0
70	0	0	2	2
71	0	0	0	2
72	0	0	0	0
73	0	0	2	0
74	0	0	0	0
75	0	0	0	0
76	0	0	0	0
77	0	0	1	1
78	0	0	0	4
79	0	1	1	0
80	0	1	1	0
81	0	0	1	1
82	0	0	0	0
83	0	0	0	0
84	0	0	0	1
85	0	1	0	0
86	0	0	0	1
87	1	0	0	0
88	0	0	1	0
89	0	0	0	0
90	1	0	0	0
91	0	0	0	0
92	0	0	0	0
93	0	0	0	0
94	0	0	0	0
95	0	0	0	0
96	1	0	0	0
97	0	0	0	0
98	1	0	1	0
99	0	0	0	0
100	0	0	0	0
101	0	0	1	1
102	0	0	0	0
103	0	0	2	1
104	0	0	0	0
105	0	0	1	3
106	0	0	1	1
107	0	0	0	0
108	1	0	0	0
109	0	0	0	0
110	0	0	2	0
111	0	0	1	1
112	0	1	1	0
113	0	0	4	0
114	0	0	0	1
115	0	0	0	0
116	0	0	0	0
117	1	0	0	2
118	0	0	2	0
119	1	0	0	0
120	0	0	0	0
121	0	0	1	0
122	0	1	0	0

123	0	0	0	1
124	1	0	0	1
125	0	0	0	0
126	1	1	0	1
127	0	0	0	1
128	0	0	0	0
129	1	0	2	0
130	0	0	0	0
131	0	1	1	0
132	0	0	1	0
133	0	1	2	2
134	0	1	0	0
135	0	0	2	0
136	1	0	1	0
137	1	0	0	0
138	0	0	2	0
139	0	0	1	1
140	0	0	0	3
141	1	2	1	1
142	0	0	0	0
143	0	0	2	0
144	0	0	0	0
145	1	0	1	1
146	0	0	0	0
147	0	0	0	1
148	1	1	0	0
149	0	0	1	0
150	0	0	2	2
151	0	0	2	0
152	0	1	0	1
153	0	0	0	0
154	0	0	2	1
155	0	0	0	1
156	0	1	1	0
157	0	0	0	1
158	0	1	0	0
159	0	1	2	1
160	0	0	1	1
161	0	0	1	1
162	0	0	0	3
163	0	0	1	0
164	0	0	0	0
165	0	0	0	0
166	0	0	1	0
167	0	0	2	0
168	0	0	3	1
169	1	2	0	1
170	0	0	1	0
171	0	0	0	0
172	1	1	1	0
173	0	0	0	0
174	0	0	0	1
175	0	0	1	1
176	0	0	2	2
177	0	0	0	0
178	0	1	0	0
179	0	0	0	1
180	0	0	0	1
181	0	0	1	0
182	1	0	0	1
183	0	0	0	1
184	0	1	0	0
185	0	0	0	0

186	0	0	1	1
187	0	1	0	0
188	0	0	0	0
189	0	1	0	0
190	0	1	0	0
191	0	1	0	0
192	0	1	0	0
193	0	1	3	0
194	0	1	0	0
195	0	2	0	0
196	0	0	0	0
197	0	0	1	0
198	0	0	0	0
199	0	0	0	0
200	0	1	0	1
201	0	0	0	0
202	1	0	0	1
203	0	0	0	2
204	0	1	0	1
205	0	0	0	0
206	0	0	0	0
207	1	0	0	1
208	0	0	0	1
209	0	0	0	0
210	0	1	0	1
211	0	0	0	1
212	1	0	0	2
213	0	1	0	1
214	0	2	0	1
215	0	0	0	0
216	1	1	1	0
217	0	0	0	2
218	0	1	2	0
219	0	0	0	1
220	0	0	0	0
221	0	0	0	0
222	0	0	1	1
223	0	0	0	1
224	0	0	0	1
225	0	0	1	1
226	0	1	0	0
227	0	0	0	0
228	0	1	0	0
229	0	2	0	0
230	0	0	0	0
231	0	0	1	0
232	0	3	2	4
233	0	1	1	0
234	0	0	1	0
235	1	0	0	1
236	0	1	0	1
237	0	0	2	0
238	0	0	0	1
239	0	1	2	1
240	0	1	1	0
241	0	1	0	0
242	0	0	0	1
243	0	0	3	0
244	0	1	1	0
245	0	0	0	4
246	0	0	1	0
247	0	1	1	1
248	0	0	0	0

249	0	1	0	0
250	1	0	0	1
251	0	0	0	0
252	0	0	1	1
253	0	0	1	0
254	0	0	2	0
255	0	0	0	1
256	0	0	0	0
257	1	0	0	0
258	0	1	0	0
259	0	0	0	2
260	0	0	0	0
261	0	2	0	1
262	0	0	1	0
263	0	0	0	0
264	0	2	0	1
265	0	0	0	1
266	0	0	0	1
267	0	0	0	0
268	0	0	1	0
269	0	1	0	0
270	0	0	1	0
271	0	0	1	0
272	0	0	0	0
273	0	0	0	0
274	0	0	2	0
275	0	1	0	0
276	0	0	0	0
277	1	0	0	0
278	0	0	1	0
279	0	0	0	1
280	0	0	0	2
281	1	2	1	0
282	0	1	0	0
283	0	0	1	0
284	0	0	1	0
285	0	0	0	0
286	0	0	0	2
287	1	0	0	2
288	0	0	0	0
289	0	1	0	0
290	0	0	0	1
291	0	1	0	0
292	0	0	1	1
293	0	0	0	0
294	0	1	2	1
295	0	0	0	0
296	0	0	0	0
297	1	1	0	0
298	0	0	0	0
299	0	1	1	0
300	0	0	0	1
301	0	0	0	0
302	0	0	2	1
303	0	1	0	0
304	0	0	0	0
305	0	0	0	1
306	0	0	2	0
307	0	0	0	0
308	0	0	0	0
309	1	1	1	0
310	0	0	0	0
311	0	0	0	0
312	1	0	0	0
313	1	0	0	0
314	0	0	0	0
315	0	1	0	0
316	0	0	0	0
317	0	1	0	0
318	1	0	1	0
319	0	0	0	0
320	1	0	0	0
321	0	0	0	1
322	1	0	1	1
323	0	0	0	0
324	0	0	0	0
325	0	0	1	0
326	0	0	0	0
327	0	0	1	1
328	0	0	0	1
329	0	0	0	1
330	0	0	1	1
331	2	0	0	1
332	0	0	0	1
333	1	0	0	0
334	1	0	1	0
335	1	0	1	0
336	0	0	0	1
337	0	0	0	1
338	0	0	0	0
339	0	0	0	0
340	0	0	0	1
341	0	0	0	0
342	0	0	0	0
343	0	0	0	0
344	0	0	0	0
345	0	0	0	2
346	0	0	1	0
347	0	0	0	0
348	0	1	0	0
349	0	0	0	0
350	1	1	0	0
351	0	0	0	1
352	0	0	0	0
353	0	0	1	0
354	0	0	0	0
355	1	0	2	1
356	0	0	0	1
357	1	1	0	3
358	0	0	0	4
359	0	0	1	0
360	0	0	0	0
361	0	0	0	0
362	2	0	0	0
363	0	0	0	0
364	0	0	0	0
365	0	2	0	0
366	0	0	0	0

NUMBER OF FATAL ACCIDENTS = 442
NUMBER OF FATALITIES = 491

1972 CONNECTICUT
NUMBER OF ACCIDENTS WITH ANY INJURY

1	6	11	17	9
2	7	19	10	10
3	9	24	9	6
4	3	15	16	5
5	22	54	24	10
6	12	20	20	8
7	14	24	25	17
8	4	16	23	17
9	5	10	24	7
10	8	10	15	2
11	5	7	19	5
12	39	14	17	6
13	6	17	17	7
14	7	12	24	20
15	8	15	23	13
16	4	7	13	6
17	4	17	14	9
18	6	13	15	7
19	7	15	15	4
20	5	14	36	18
21	17	20	26	21
22	8	11	19	18
23	8	7	20	6
24	9	26	8	7
25	4	13	19	7
26	4	11	15	5
27	6	14	12	7
28	16	29	46	18
29	6	24	24	31
30	6	12	12	7
31	5	17	7	5
32	7	11	11	7
33	5	16	18	16
34	20	30	50	5
35	9	14	26	16
36	0	17	17	20
37	5	65	27	5
38	8	13	14	2
39	9	14	11	1
40	4	11	18	6
41	6	19	18	11
42	6	21	21	20
43	8	15	26	12
44	7	23	18	4
45	5	14	17	4
46	9	14	11	6
47	4	11	13	2
48	4	9	22	17
49	7	9	26	31
50	7	22	30	11
51	5	17	22	4
52	10	28	13	4
53	10	15	14	6
54	11	14	21	3
55	9	21	18	18
56	7	18	26	20
57	9	23	35	25
58	4	13	16	10
59	12	16	19	11
60	2	15	21	14
61	11	15	23	11
62	1	13	25	14
63	10	22	49	29
64	6	20	35	22
65	7	12	11	6
66	7	16	20	4
67	4	20	18	4
68	11	16	16	6
69	7	7	10	8
70	6	17	18	22
71	6	19	26	21
72	3	12	15	6
73	9	11	10	3
74	6	31	35	11
75	12	14	17	7
76	11	11	21	10
77	8	17	24	33
78	4	16	26	28
79	1	11	19	4
80	4	8	16	5
81	3	14	16	4
82	3	22	10	1
83	5	15	14	6
84	4	12	17	21
85	6	15	16	16
86	0	15	22	2
87	8	9	14	2
88	7	12	19	7
89	5	15	14	7
90	5	14	18	15
91	2	11	11	8
92	1	29	25	15
93	4	15	17	8
94	2	21	19	4
95	6	57	18	10
96	4	20	24	2
97	7	16	19	6
98	10	15	28	19
99	10	18	19	11
100	5	18	15	5
101	7	15	20	4
102	10	24	17	5
103	5	15	14	5
104	5	22	25	8
105	9	16	39	17
106	2	18	16	19
107	8	21	26	3
108	4	20	23	6
109	5	12	23	9
110	2	27	21	5
111	13	35	25	13
112	6	20	41	20
113	8	31	37	31
114	4	16	21	8
115	4	17	19	9
116	7	13	21	3
117	9	8	16	9
118	5	15	14	10
119	9	18	22	25
120	5	36	28	18
121	4	12	26	6
122	2	16	28	7

123	4	17	15	7
124	9	23	29	10
125	10	29	19	8
126	9	18	25	15
127	10	21	22	21
128	1	15	26	10
129	6	10	24	5
130	11	31	25	6
131	7	16	25	3
132	6	15	33	11
133	10	23	44	18
134	6	26	22	24
135	5	24	22	11
136	12	16	20	10
137	10	17	22	9
138	4	14	22	7
139	8	19	21	12
140	5	18	52	30
141	12	33	47	20
142	6	13	29	5
143	4	10	15	2
144	10	19	29	11
145	13	21	23	11
146	5	26	25	5
147	9	18	36	23
148	5	27	29	15
149	6	16	27	8
150	3	19	26	16
151	3	19	17	8
152	5	38	34	19
153	10	14	18	12
154	8	19	41	19
155	4	27	31	20
156	4	15	43	7
157	6	27	26	5
158	9	16	25	8
159	6	16	28	14
160	7	19	31	9
161	9	16	28	41
162	9	25	26	34
163	6	17	29	8
164	10	16	20	9
165	5	15	18	8
166	4	25	21	6
167	9	18	30	10
168	7	23	60	26
169	7	28	29	26
170	3	20	48	15
171	17	35	20	11
172	5	23	22	9
173	5	24	22	12
174	5	33	37	16
175	6	32	51	37
176	6	21	25	25
177	2	19	21	10
178	2	24	23	6
179	7	18	18	13
180	4	29	29	13
181	5	20	27	21
182	16	22	24	24
183	7	21	24	28
184	6	20	22	12
185	2	28	23	17
186	2	15	20	16
187	7	40	19	7
188	9	20	20	10
189	6	19	24	16
190	3	21	30	23
191	4	15	21	9
192	7	23	21	7
193	10	15	28	4
194	8	9	33	18
195	18	42	19	17
196	3	17	24	19
197	8	19	23	13
198	4	21	16	6
199	8	20	28	9
200	8	22	15	7
201	0	12	35	17
202	4	25	18	14
203	4	20	27	16
204	3	21	25	23
205	7	14	23	10
206	5	20	20	6
207	7	19	35	12
208	8	17	19	10
209	11	11	29	7
210	4	19	30	21
211	4	16	23	19
212	9	19	17	13
213	3	51	35	15
214	13	25	19	7
215	3	24	14	15
216	3	15	23	14
217	7	24	26	18
218	6	20	29	20
219	6	15	24	13
220	0	37	30	10
221	6	22	25	10
222	6	17	20	12
223	10	26	24	17
224	5	20	35	21
225	1	17	24	18
226	2	16	21	8
227	4	19	23	20
228	5	15	27	12
229	9	26	17	13
230	4	18	15	13
231	12	21	24	28
232	6	26	21	29
233	4	10	39	6
234	7	18	25	7
235	5	21	24	9
236	4	14	24	6
237	9	11	25	14
238	6	20	26	17
239	6	19	21	26
240	0	21	19	8
241	5	22	17	5
242	8	24	23	8
243	9	12	21	9
244	8	23	30	13
245	6	30	28	26
246	6	22	47	39
247	5	21	22	12
248	1	16	21	8

249	15	23	14	6
250	7	20	14	8
251	6	16	22	9
252	4	20	27	20
253	3	25	33	28
254	6	15	21	4
255	12	17	24	9
256	3	11	15	8
257	8	46	38	10
258	13	17	35	1
259	10	23	39	24
260	7	24	30	26
261	8	15	22	11
262	4	18	21	8
263	14	10	21	3
264	7	16	19	9
265	10	14	20	16
266	7	13	42	24
267	7	28	32	29
268	2	14	25	4
269	9	11	19	9
270	5	13	16	4
271	17	21	25	6
272	6	9	22	15
273	5	45	55	36
274	8	53	40	23
275	7	16	25	10
276	16	15	20	7
277	17	10	21	15
278	8	13	23	7
279	4	16	16	14
280	2	22	52	39
281	19	61	37	24
282	3	18	29	5
283	6	22	20	5
284	18	19	24	5
285	7	12	21	6
286	6	35	20	14
287	8	17	42	34
288	7	16	20	30
289	9	16	21	7
290	4	14	9	8
291	13	21	17	9
292	10	20	24	16
293	20	25	23	15
294	8	35	56	32
295	5	20	41	22
296	4	9	18	5
297	3	11	10	6
298	9	12	15	8
299	8	20	23	6
300	5	13	23	18
301	9	26	20	31
302	7	31	58	42
303	9	40	18	1
304	12	19	17	6
305	8	11	15	11
306	5	17	16	4
307	19	29	30	12
308	13	27	30	21
309	4	19	41	28
310	4	17	18	7
311	5	12	15	2
312	10	18	14	5
313	15	30	47	8
314	8	13	19	10
315	9	20	31	29
316	7	32	42	37
317	2	11	17	8
318	7	24	14	5
319	10	22	44	14
320	13	16	23	5
321	21	23	22	10
322	10	14	35	29
323	5	21	21	21
324	8	6	22	6
325	17	18	19	3
326	15	15	25	3
327	7	24	30	17
328	5	13	11	5
329	3	29	15	31
330	1	18	16	23
331	7	25	23	5
332	8	18	14	4
333	6	13	26	3
334	13	24	21	8
335	5	12	35	14
336	6	19	37	27
337	6	31	22	17
338	7	20	18	10
339	5	27	65	12
340	7	8	17	7
341	7	17	27	6
342	18	16	24	3
343	10	74	35	26
344	4	23	29	25
345	5	16	15	7
346	5	13	22	5
347	4	49	30	14
348	5	11	22	9
349	8	26	20	16
350	5	62	40	26
351	2	20	37	21
352	1	19	12	1
353	9	17	19	6
354	3	25	15	13
355	10	10	27	37
356	24	33	77	31
357	13	38	69	45
358	5	23	34	29
359	5	12	22	9
360	4	8	15	6
361	4	8	20	14
362	17	14	21	8
363	9	16	15	12
364	3	11	28	17
365	4	52	55	14
366	4	6	13	27

NUMBER OF INJURY-CAUSING ACCIDENTS = 23511
NUMBER OF INJURED (INCL. FATALITIES) = 34942

1972 CONNECTICUT
ACCIDENT TOTALS FOR EACH DAY OF THE WEEK

1:	345	978	1025	363	NO.DAYS=	52
2:	392	943	1072	417	NO.DAYS=	52
3:	433	1016	1152	477	NO.DAYS=	52
4:	455	1004	1242	619	NO.DAYS=	52
5:	404	1169	1727	1263	NO.DAYS=	52
6:	314	1275	1528	1199	NO.DAYS=	53
7:	258	894	1142	405	NO.DAYS=	53

1972 CONNECTICUT
ACCIDENT TOTALS FOR EACH MONTH

1:	270	518	584	318	TOT=	1690	NO.DAYS=	31
2:	209	528	599	311	TOT=	1647	NO.DAYS=	29
3:	182	472	605	343	TOT=	1602	NO.DAYS=	31
4:	180	622	678	313	TOT=	1793	NO.DAYS=	30
5:	216	627	833	367	TOT=	2043	NO.DAYS=	31
6:	203	660	871	474	TOT=	2208	NO.DAYS=	30
7:	189	664	752	421	TOT=	2026	NO.DAYS=	31
8:	179	620	735	426	TOT=	1960	NO.DAYS=	31
9:	221	626	809	435	TOT=	2091	NO.DAYS=	30
10:	271	631	778	458	TOT=	2138	NO.DAYS=	31
11:	262	581	736	377	TOT=	1956	NO.DAYS=	30
12:	219	730	908	500	TOT=	2357	NO.DAYS=	31

1972 CONNECTICUT
AVERAGE ACCIDENTS FOR EACH DAY OF THE WEEK

1:	6.6	18.8	19.7	7.0	AV=	52.1
2:	7.5	18.1	20.6	8.0	AV=	54.3
3:	8.3	19.5	22.2	9.2	AV=	59.2
4:	8.8	19.3	23.9	11.9	AV=	63.8
5:	7.8	22.5	33.2	24.3	AV=	87.8
6:	5.9	24.1	28.8	22.6	AV=	81.4
7:	4.9	16.9	21.5	7.6	AV=	50.9

1972 CONNECTICUT
AVERAGE ACCIDENTS FOR EACH MONTH

1:	8.7	16.7	18.8	10.3	AV=	54.5
2:	7.2	18.2	20.7	10.7	AV=	56.8
3:	5.9	15.2	19.5	11.1	AV=	51.7
4:	6.0	20.7	22.6	10.4	AV=	59.8
5:	7.0	20.2	26.9	11.8	AV=	65.9
6:	6.8	22.0	29.0	15.8	AV=	73.6
7:	6.1	21.4	24.3	13.6	AV=	65.4
8:	5.8	20.0	23.7	13.7	AV=	63.2
9:	7.4	20.9	27.0	14.5	AV=	69.7
10:	8.7	20.4	25.1	14.8	AV=	69.0
11:	8.7	19.4	24.5	12.6	AV=	65.2
12:	7.1	23.5	29.3	16.1	AV=	76.0

1972 DOUBLE D.S.T. EQUIVALENT DAYS FOR CONNECTICUT

DAY	MORNING DBEQDAY	EVENING DBEQDAY
1:	0	0
2:	0	275
3:	0	108
4:	0	109
5:	0	110
6:	0	272
7:	0	112
8:	0	113
9:	0	114
10:	0	115
11:	0	270
12:	0	117
13:	0	118
1 :	0	119
15:	0	267
16:	0	268
17:	0	0
18:	0	263
19:	0	264
20:	0	265
21:	0	266
22:	0	260
23:	0	261
24:	0	262
25:	0	263
26:	0	257
27:	0	258
28:	0	259
29:	0	260
30:	0	254
31:	0	255
32:	0	256
33:	0	257
34:	0	251
35:	0	252
36:	0	253
37:	0	254
38:	0	0
39:	0	249
40:	0	250
41:	0	0
42:	0	0
43:	0	246
44:	0	0
45:	0	0
46:	0	242
47:	0	243
48:	0	244
49:	0	245
50:	0	239
51:	0	0
52:	0	0
53:	0	242
54:	0	236
55:	0	237
56:	0	238
57:	0	239
58:	0	233
59:	0	234
60:	0	235
61:	0	236
62:	0	230
63:	0	231
64:	0	232
65:	0	121
66:	0	122
67:	0	123
68:	0	124
69:	0	125
70:	0	126
71:	0	127
72:	0	128
73:	0	129
74:	0	130
75:	0	145
76:	0	132
77:	0	133
78:	0	134
79:	0	219
80:	0	136
81:	0	137
82:	0	145
83:	0	139
84:	0	140
85:	0	141
86:	0	212
87:	0	213
88:	0	144
89:	0	145
90:	0	0
91:	0	0
92:	0	204
93:	0	205
94:	0	157
95:	0	158
96:	0	145
97:	0	160
98:	0	161
99:	0	162
100:	0	163
101:	3	192
102:	4	172
103:	5	180
104:	6	174
105:	14	175
106:	358	176
107:	352	177
108:	24	0
109:	25	0
110:	348	0
111:	293	0
112:	343	0
113:	288	0
114:	289	0
115:	339	0
116:	284	0
117:	334	0
118:	335	0
119:	280	0
120:	281	0
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COMPARISION OF 1972 ACTUAL AND DOUBLE D.S.T. EQUIVALENT-DAY INJURY-CAUSING ACCIDENTS FOR CONNECTICUT

DAY	DATE	ACTUAL ACCIDENTS MORNING (4AM-10AM)	ACTUAL ACCIDENTS EVENING (4PM-10PM)	NIGHT+ MIDDAY		MIDDAY +NIGHT		DOUBLE D.S.T. EQUIV MORNING-- DAY DATE	DOUBLE D.S.T. EQUIV MORNING-- ACCDNTS	DOUBLE D.S.T. EQUIV EVENING-- DAY DATE	DOUBLE D.S.T. EQUIV EVENING-- ACCDNTS	NIGHT+ MIDDAY		MIDDAY +NIGHT	
6	1/ 1:	-6	-17	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
7	1/ 2:	-7	10	<	0	29	>	(0 0/ 0:)	0	(7 10/ 1:)	25	<	0	26	>
1	1/ 3:	-9	9	<	0	30	>	(0 0/ 0:)	0	(1 4/17:)	23	<	0	26	>
2	1/ 4:	-3	16	<	0	20	>	(0 0/ 0:)	0	(2 4/18:)	23	<	0	21	>
3	1/ 5:	-22	24	<	0	64	>	(0 0/ 0:)	0	(3 4/19:)	21	<	0	32	>
4	1/ 6:	-12	20	<	0	28	>	(0 0/ 0:)	0	(4 9/28:)	22	<	0	24	>
5	1/ 7:	-14	25	<	0	41	>	(0 0/ 0:)	0	(5 4/21:)	41	<	0	40	>
6	1/ 8:	-4	23	<	0	33	>	(0 0/ 0:)	0	(6 4/22:)	37	<	0	62	>
7	1/ 9:	-5	24	<	0	17	>	(0 0/ 0:)	0	(7 4/23:)	21	<	0	24	>
1	1/10:	-8	15	<	0	12	>	(0 0/ 0:)	0	(1 4/24:)	19	<	0	26	>
2	1/11:	-5	19	<	0	12	>	(0 0/ 0:)	0	(2 9/26:)	16	<	0	17	>
3	1/12:	-39	17	<	0	20	>	(0 0/ 0:)	0	(3 4/26:)	16	<	0	17	>
4	1/13:	-6	17	<	0	24	>	(0 0/ 0:)	0	(4 4/27:)	14	<	0	25	>
5	1/14:	-7	24	<	0	32	>	(0 0/ 0:)	0	(5 4/28:)	22	<	0	43	>
6	1/15:	-8	23	<	0	28	>	(0 0/ 0:)	0	(6 9/23:)	32	<	0	57	>
7	1/16:	-4	13	<	0	13	>	(0 0/ 0:)	0	(7 9/24:)	25	<	0	18	>
1	1/17:	-4	-14	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2	1/18:	-6	15	<	0	20	>	(0 0/ 0:)	0	(2 9/19:)	21	<	0	13	>
3	1/19:	-7	15	<	0	19	>	(0 0/ 0:)	0	(3 9/20:)	19	<	0	25	>
4	1/20:	-5	36	<	0	32	>	(0 0/ 0:)	0	(4 9/21:)	20	<	0	30	>
5	1/21:	-17	26	<	0	41	>	(0 0/ 0:)	0	(5 9/22:)	42	<	0	37	>
6	1/22:	-8	19	<	0	29	>	(0 0/ 0:)	0	(6 9/16:)	30	<	0	50	>
7	1/23:	-8	20	<	0	13	>	(0 0/ 0:)	0	(7 9/17:)	22	<	0	26	>
1	1/24:	-9	8	<	0	33	>	(0 0/ 0:)	0	(1 9/18:)	21	<	0	26	>
2	1/25:	-4	19	<	0	20	>	(0 0/ 0:)	0	(2 9/19:)	21	<	0	13	>
3	1/26:	-4	15	<	0	16	>	(0 0/ 0:)	0	(3 9/13:)	38	<	0	58	>
4	1/27:	-6	12	<	0	21	>	(0 0/ 0:)	0	(4 9/14:)	35	<	0	18	>
5	1/28:	-16	46	<	0	47	>	(0 0/ 0:)	0	(5 9/15:)	39	<	0	47	>
6	1/29:	-6	24	<	0	55	>	(0 0/ 0:)	0	(6 9/16:)	30	<	0	50	>
7	1/30:	-6	12	<	0	19	>	(0 0/ 0:)	0	(7 9/10:)	21	<	0	19	>
1	1/31:	-5	7	<	0	22	>	(0 0/ 0:)	0	(1 9/11:)	24	<	0	26	>
2	2/ 1:	-7	11	<	0	18	>	(0 0/ 0:)	0	(2 9/12:)	15	<	0	19	>
3	2/ 2:	-5	18	<	0	32	>	(0 0/ 0:)	0	(3 9/13:)	38	<	0	58	>
4	2/ 3:	-20	50	<	0	35	>	(0 0/ 0:)	0	(4 9/ 7:)	22	<	0	25	>
5	2/ 4:	-9	26	<	0	30	>	(0 0/ 0:)	0	(5 9/ 8:)	27	<	0	40	>
6	2/ 5:	0	17	<	0	37	>	(0 0/ 0:)	0	(6 9/ 9:)	33	<	0	53	>
7	2/ 6:	-5	27	<	0	68	>	(0 0/ 0:)	0	(7 9/10:)	21	<	0	19	>
1	2/ 7:	-8	-14	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2	2/ 8:	-9	11	<	0	15	>	(0 0/ 0:)	0	(2 9/ 5:)	14	<	0	29	>
3	2/ 9:	-4	18	<	0	17	>	(0 0/ 0:)	0	(3 9/ 6:)	14	<	0	28	>
4	2/10:	-6	-18	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
5	2/11:	-6	-21	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
6	2/12:	-8	26	<	0	27	>	(0 0/ 0:)	0	(6 9/ 2:)	47	<	0	61	>
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1	2/14:	-5	-17	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2	2/15:	-9	11	<	0	20	>	(0 0/ 0:)	0	(2 8/29:)	23	<	0	32	>
3	2/16:	-4	13	<	0	13	>	(0 0/ 0:)	0	(3 8/30:)	21	<	0	21	>
4	2/17:	-4	22	<	0	26	>	(0 0/ 0:)	0	(4 8/31:)	30	<	0	36	>
5	2/18:	-7	26	<	0	40	>	(0 0/ 0:)	0	(5 9/ 1:)	28	<	0	56	>
6	2/19:	-7	30	<	0	33	>	(0 0/ 0:)	0	(6 8/26:)	21	<	0	45	>
7	2/20:	-5	-22	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
1	2/21:	-10	-13	<	0	0	>	(0 0/ 0:)	0	(0 0/ 0:)	0	<	0	0	>
2	2/22:	-10	14	<	0	21	>	(0 0/ 0:)	0	(2 8/29:)	23	<	0	32	>

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1	4/ 3:	-2	19	<	0	25	>	(0	0/ 0:)	0	(1	6/ 5:)	26	<	0	32	>
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2	4/18:	5	-23	<	18	0	>	(2	1/25:)	4	(0	0/ 0:)	0	<	20	0	>
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2	4/25:	7	-21	<	22	0	>	(2	10/10:)	18	(0	0/ 0:)	0	<	24	0	>

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4	4/27:	5	-14	<	24	0	>	(4	11/30:)	5	(0	0/ 0:)	0	<	20	0	>
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6	4/29:	5	-28	<	61	0	>	(6	10/ 7:)	19	(0	0/ 0:)	0	<	100	0	>
7	4/30:	4	-26	<	30	0	>	(7	11/26:)	7	(0	0/ 0:)	0	<	48	0	>
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2	5/ 2:	4	-15	<	24	0	>	(2	10/ 3:)	17	(0	0/ 0:)	0	<	17	0	>
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7	10/15:	-9	21	<	0	23	>	(0	0/ 0:)	0	(7	9/10:)	21	<	0	19	>
1	10/16:	-4	9	<	0	22	>	(0	0/ 0:)	0	(1	9/11:)	24	<	0	26	>
2	10/17:	-13	17	<	0	30	>	(0	0/ 0:)	0	(2	9/12:)	15	<	0	19	>
3	10/18:	-10	24	<	0	36	>	(0	0/ 0:)	0	(3	9/13:)	38	<	0	58	>
4	10/19:	-20	23	<	0	40	>	(0	0/ 0:)	0	(4	9/14:)	35	<	0	18	>
5	10/20:	-8	56	<	0	65	>	(0	0/ 0:)	0	(5	9/15:)	39	<	0	47	>
6	10/21:	-5	41	<	0	42	>	(0	0/ 0:)	0	(6	9/16:)	30	<	0	50	>
7	10/22:	-4	-18	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
1	10/23:	-3	-10	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
2	10/24:	-9	15	<	0	20	>	(0	0/ 0:)	0	(2	9/19:)	21	<	0	13	>
3	10/25:	-8	23	<	0	26	>	(0	0/ 0:)	0	(3	9/20:)	19	<	0	25	>
4	10/26:	-5	26	<	0	31	>	(0	0/ 0:)	0	(4	9/21:)	20	<	0	30	>
5	10/27:	-9	20	<	0	57	>	(0	0/ 0:)	0	(5	9/22:)	42	<	0	37	>
6	10/28:	-7	56	<	0	73	>	(0	0/ 0:)	0	(6	9/23:)	32	<	0	57	>
7	10/29:	-9	-18	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
1	10/30:	-12	-17	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
2	10/31:	-8	-19	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>

3	11/ 1:	-5	16	<	0	21	>	(0	0/ 0:)	0	(3	4/26:)	16	<	0	17	>
4	11/ 2:	-19	30	<	0	41	>	(0	0/ 0:)	0	(4	4/27:)	14	<	0	25	>
5	11/ 3:	-13	30	<	0	48	>	(0	0/ 0:)	0	(5	4/28:)	22	<	0	43	>
6	11/ 4:	-4	41	<	0	47	>	(0	0/ 0:)	0	(6	4/29:)	28	<	0	54	>
7	11/ 5:	-4	18	<	0	24	>	(0	0/ 0:)	0	(7	9/24:)	25	<	0	18	>
1	11/ 6:	-5	-15	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
2	11/ 7:	-10	-14	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
3	11/ 8:	-15	47	<	0	38	>	(0	0/ 0:)	0	(3	9/27:)	25	<	0	27	>
4	11/ 9:	-8	19	<	0	23	>	(0	0/ 0:)	0	(4	9/28:)	22	<	0	24	>
5	11/10:	-9	31	<	0	49	>	(0	0/ 0:)	0	(5	4/21:)	41	<	0	40	>
6	11/11:	-7	42	<	0	69	>	(0	0/ 0:)	0	(6	9/30:)	40	<	0	76	>
7	11/12:	-2	17	<	0	19	>	(0	0/ 0:)	0	(7	10/ 1:)	25	<	0	26	>
1	11/13:	-7	14	<	0	29	>	(0	0/ 0:)	0	(1	4/17:)	23	<	0	26	>
2	11/14:	-10	44	<	0	36	>	(0	0/ 0:)	0	(2	4/18:)	23	<	0	21	>
3	11/15:	-13	23	<	0	21	>	(0	0/ 0:)	0	(3	4/19:)	21	<	0	32	>
4	11/16:	-21	26	<	0	33	>	(0	0/ 0:)	0	(4	4/20:)	25	<	0	48	>
5	11/17:	-10	35	<	0	43	>	(0	0/ 0:)	0	(5	4/14:)	39	<	0	35	>
6	11/18:	-5	21	<	0	42	>	(0	0/ 0:)	0	(6	4/15:)	16	<	0	37	>
7	11/19:	-8	22	<	0	12	>	(0	0/ 0:)	0	(7	4/16:)	26	<	0	24	>
1	11/20:	-17	19	<	0	21	>	(0	0/ 0:)	0	(1	10/ 2:)	20	<	0	22	>
2	11/21:	-15	25	<	0	18	>	(0	0/ 0:)	0	(2	4/11:)	17	<	0	29	>
3	11/22:	-7	-30	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
4	11/23:	-5	-11	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
5	11/24:	-3	15	<	0	60	>	(0	0/ 0:)	0	(5	4/14:)	39	<	0	35	>
6	11/25:	-1	16	<	0	41	>	(0	0/ 0:)	0	(6	10/ 7:)	37	<	0	85	>
7	11/26:	-7	23	<	0	30	>	(0	0/ 0:)	0	(7	4/ 9:)	15	<	0	23	>
1	11/27:	-8	14	<	0	22	>	(0	0/ 0:)	0	(1	4/10:)	20	<	0	19	>
2	11/28:	-6	26	<	0	16	>	(0	0/ 0:)	0	(2	4/11:)	17	<	0	29	>
3	11/29:	-13	21	<	0	32	>	(0	0/ 0:)	0	(3	4/12:)	14	<	0	20	>
4	11/30:	-5	35	<	0	26	>	(0	0/ 0:)	0	(4	4/ 6:)	19	<	0	22	>
5	12/ 1:	-6	37	<	0	46	>	(0	0/ 0:)	0	(5	10/ 6:)	52	<	0	61	>
6	12/ 2:	-6	22	<	0	48	>	(0	0/ 0:)	0	(6	4/ 8:)	19	<	0	29	>
7	12/ 3:	-7	18	<	0	30	>	(0	0/ 0:)	0	(7	4/ 9:)	15	<	0	23	>
1	12/ 4:	-5	65	<	0	39	>	(0	0/ 0:)	0	(1	4/10:)	20	<	0	19	>
2	12/ 5:	-7	17	<	0	15	>	(0	0/ 0:)	0	(2	4/11:)	17	<	0	29	>
3	12/ 6:	-7	27	<	0	23	>	(0	0/ 0:)	0	(3	4/ 5:)	24	<	0	22	>
4	12/ 7:	-18	24	<	0	19	>	(0	0/ 0:)	0	(4	4/ 6:)	19	<	0	22	>
5	12/ 8:	-10	35	<	0	100	>	(0	0/ 0:)	0	(5	4/ 7:)	28	<	0	34	>
6	12/ 9:	-4	29	<	0	48	>	(0	0/ 0:)	0	(6	4/ 8:)	19	<	0	29	>
7	12/10:	-5	15	<	0	23	>	(0	0/ 0:)	0	(7	4/ 9:)	15	<	0	23	>
1	12/11:	-5	22	<	0	18	>	(0	0/ 0:)	0	(1	4/10:)	20	<	0	19	>
2	12/12:	-4	30	<	0	63	>	(0	0/ 0:)	0	(2	4/11:)	17	<	0	29	>
3	12/13:	-5	22	<	0	20	>	(0	0/ 0:)	0	(3	4/ 5:)	24	<	0	22	>
4	12/14:	-8	20	<	0	42	>	(0	0/ 0:)	0	(4	4/ 6:)	19	<	0	22	>
5	12/15:	-5	40	<	0	88	>	(0	0/ 0:)	0	(5	10/ 6:)	52	<	0	61	>
6	12/16:	-2	37	<	0	47	>	(0	0/ 0:)	0	(6	10/ 7:)	37	<	0	85	>
7	12/17:	-1	12	<	0	20	>	(0	0/ 0:)	0	(7	4/ 9:)	15	<	0	23	>
1	12/18:	-9	19	<	0	23	>	(0	0/ 0:)	0	(1	4/10:)	20	<	0	19	>
2	12/19:	-3	15	<	0	38	>	(0	0/ 0:)	0	(2	10/ 3:)	21	<	0	25	>
3	12/20:	-10	27	<	0	47	>	(0	0/ 0:)	0	(3	4/12:)	14	<	0	20	>
4	12/21:	-24	77	<	0	64	>	(0	0/ 0:)	0	(4	10/ 5:)	16	<	0	30	>
5	12/22:	-13	69	<	0	83	>	(0	0/ 0:)	0	(5	10/ 6:)	52	<	0	61	>
6	12/23:	-5	34	<	0	52	>	(0	0/ 0:)	0	(6	4/15:)	16	<	0	37	>
7	12/24:	-5	-22	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
1	12/25:	-4	-15	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>
2	12/26:	-4	26	<	0	22	>	(0	0/ 0:)	0	(2	10/ 3:)	21	<	0	25	>
3	12/27:	-17	21	<	0	22	>	(0	0/ 0:)	0	(3	10/ 4:)	23	<	0	20	>
4	12/28:	-9	15	<	0	28	>	(0	0/ 0:)	0	(4	4/13:)	25	<	0	30	>
5	12/29:	-3	28	<	0	28	>	(0	0/ 0:)	0	(5	4/14:)	39	<	0	35	>
6	12/30:	-4	55	<	0	66	>	(0	0/ 0:)	0	(6	4/15:)	16	<	0	37	>
7	12/31:	-4	-13	<	0	0	>	(0	0/ 0:)	0	(0	0/ 0:)	0	<	0	0	>

DST PERIOD	818	1527	<	4405	2069	>	952	1410	<	4196	1928	>
REST OF YR	127	3470	<	615	4718	>	185	3805	<	806	5017	>
TOTAL	945	4997	<	5020	6787	>	1137	5215	<	5002	6945	>

NO. OF MORNING EQUIVALENT DAYS = 146 (DST PERIOD = 126, REST OF YEAR = 20)

NO. OF EVENING EQUIVALENT DAYS = 207 (DST PERIOD = 57, REST OF YEAR = 150)

CHANGE IN MORNING ACCIDENTS = 192 (DST PERIOD = 134, REST OF YEAR = 58)
CHANGE IN EVENING ACCIDENTS = 218 (DST PERIOD = -117, REST OF YEAR = 335)

CHANGE IN NIGHT-MIDDAY ACCIDENTS = -18 (DST PERIOD = -209, REST OF YEAR = 191)
CHANGE IN MIDDAY-NIGHT ACCIDENTS = 158 (DST PERIOD = -141, REST OF YEAR = 299)

CHANGE IN THE LEVEL OF ACCIDENTS
UNDER THE EFFECT OF
DOUBLE DAYLIGHT-SAVING ALL YEAR
FOR 1972 FOR CONNECTICUT

MORNING ACCIDENTS: 20.3%

EVENING ACCIDENTS: 4.4%

NET CHANGE IN 1972 ACCIDENTS FOR CONNECTICUT
UNDER DOUBLE-DAYLIGHT-SAVING TIME

20.3% CHANGE IN MORNING ACCIDENTS
-0.4% CHANGE IN NIGHT+MIDDAY ACCIDENTS

20.8% NET CHANGE IN MORNING ACCIDENTS

4.4% CHANGE IN EVENING ACCIDENTS
2.3% CHANGE IN MIDDAY+NIGHT ACCIDENTS

2.0% NET CHANGE IN EVENING ACCIDENTS

NET CHANGE IN 1972 ACCIDENTS FOR CONNECTICUT
UNDER DOUBLE-DAYLIGHT-SAVING TIME
FOR THE NON-D.S.T. PERIOD OF THE YEAR

45.7% CHANGE IN MORNING ACCIDENTS
31.1% CHANGE IN NIGHT+MIDDAY ACCIDENTS

11.1% NET CHANGE IN MORNING ACCIDENTS

9.7% CHANGE IN EVENING ACCIDENTS
6.3% CHANGE IN MIDDAY+NIGHT ACCIDENTS

3.1% NET CHANGE IN EVENING ACCIDENTS

NET CHANGE IN 1972 ACCIDENTS FOR CONNECTICUT
UNDER DOUBLE-DAYLIGHT-SAVING TIME
FOR THE D.S.T. PERIOD OF THE YEAR

16.4% CHANGE IN MORNING ACCIDENTS
-4.7% CHANGE IN NIGHT+MIDDAY ACCIDENTS

22.2% NET CHANGE IN MORNING ACCIDENTS

-7.7% CHANGE IN EVENING ACCIDENTS
-6.8% CHANGE IN MIDDAY+NIGHT ACCIDENTS

-0.9% NET CHANGE IN EVENING ACCIDENTS

COMPARISON OF 1972 ACCIDENT TOTALS FOR CONNECTICUT
USING APPARENT PERCENT YEARLY ACCIDENT CHANGES

	6-MONTH D.S.T.	FULL-YEAR D.D.S.T.
MORNING ACCIDENTS:	2601	3129
MID-DAY ACCIDENTS:	7279	7279
EVENING ACCIDENTS:	8888	9275
NIGHT ACCIDENTS:	4743	4743
TOTAL	23511	24426

CHANGE IN YEARLY ACCIDENT TOTAL = 915

PERCENT CHANGE IN YEARLY ACCIDENTS = 3.89%

COMPARISON OF 1972 ACCIDENT TOTALS FOR CONNECTICUT
USING NET PERCENT YEARLY ACCIDENT CHANGES

	6-MONTH D.S.T.	FULL-YEAR O.D.S.T.
MORNING ACCIDENTS:	2601	3140
MID-DAY ACCIDENTS:	7279	7279
EVENING ACCIDENTS:	8888	9064
NIGHT ACCIDENTS:	4743	4743
TOTAL	23511	24226

CHANGE IN YEARLY ACCIDENT TOTAL = 715

PERCENT CHANGE IN YEARLY ACCIDENTS = 3.04%

COMPARISON OF 1972 ACCIDENT TOTALS FOR CONNECTICUT
USING APPARENT PERCENT ACCIDENT CHANGES FOR D.S.T. AND NON-D.S.T. PERIODS

	6-MONTH D.S.T.	FULL-YEAR O.D.S.T.
MORNING ACCIDENTS:	2601	3421
MID-DAY ACCIDENTS:	7279	7279
EVENING ACCIDENTS:	8808	8922
NIGHT ACCIDENTS:	4743	4743
TOTAL	23511	24365

CHANGE IN YEARLY ACCIDENT TOTAL = 854

PERCENT CHANGE IN YEARLY ACCIDENTS = 3.63%