THE COMPREHENSIVE COMMUNITY-BASED TRAFFIC SAFETY PROGRAM
PHASE I: PROBLEM IDENTIFICATION FOR DISTRICT 2 AND DISTRICT 7

by

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A report prepared by the Virginia Highway and Transportation
Research Council for the Virginia Department of Motor Vehicles

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EXECUTIVE SUMMARY

Between 1980 and 1984, an average of more than 950 individuals were killed annually in traffic-related crashes in the Commonwealth of Virginia. Further, the number of injuries incurred in traffic crashes rose steadily over that same period. In an attempt to reduce the number of traffic-related injuries and fatalities suffered in the Commonwealth, the Department of Motor Vehicles (DMV) has initiated what shall be known as the Comprehensive Community-Based Traffic Safety Program (CCBP). This program is designed to address traffic safety problems through utilizing resources available at the local level. This report contains the initial problem identification for the CCBP.

Two DMV districts, District 2 and District 7, have been selected as the pilot areas for the CCBP. Because both districts are slated to have their own support staff, they are treated as separate entities in this report. That is, problem areas are considered and ranked only within a district, rather than across two districts. Hence, the 25 localities in District 2 are analyzed separately from the 10 localities in District 7.

The bulk of this report deals with ranking the localities within each district according to which have the most pronounced crash problems in general and among several specific problem areas. Five years of baseline crash data, 1980 to 1984, were subjected to a linear regression analysis, with projections being made for the year 1985. These projections, both for general and specific crash problem areas, are listed in Appendix A for District 2 and Appendix B for District 7. In ranking localities within each problem area, separate ranks were calculated for the absolute number of crashes and another measure which normalizes the absolute number relative to the size of a locality. These two ranks were added together to produce ranks relative to both the absolute number and the normalized measure. The results of many of these calculations can be found in Appendix C. The localities were also grouped together according to natural clustering (i.e., localities which have relatively similar crash problem ranks) to form priority target areas. Further, for each locality, the times of the days during the week which had the greatest number of crashes were noted. For counties, the routes and road segments with high numbers of crashes and high crash rates were also noted. Such roadway data are not available at the state level for cities. Hence, local data must be tapped to locate which roadways are the most problematic within urban areas.

In general, the data show that Botetourt County, Danville, Lynchburg, and Roanoke City were projected to have the most pronounced crash problems in District 2. Hampton, Newport News, Norfolk, and Virginia Beach were projected to have the most pronounced crash problems in District 7. Alcohol-related crashes were expected to account for at least 40% of all fatal crashes in both districts. Excessive speed was

expected to be a factor in approximately 40% of all fatal crashes in District 2 and 30% of all fatal crashes in District 7. In both districts, crashes involving pedestrians were expected to account for between 1% and 3% of all crashes, but approximately 16% of all traffic-related fatalities.

Injuries and fatalities resulting from bicycle crashes were expected to be relatively small in number in both districts, but motorcycle crashes were expected to be substantially overrepresented among crashes which involve injury or death. In both districts, the percentage of school bus occupants injured or killed in crashes was expected to be disproportionately low when compared to crashes involving other types of vehicles. Finally, crashes involving fixed objects were expected to account for approximately 45% of all fatal crashes in District 2 and 32% of all fatal crashes in District 7.

It is recommended that countermeasure efforts initially target localities which have been identified as high priority localities either in general or for a specific problem area. Initial program efforts might include occupant protection programs and the development and coordination of alcohol countermeasures. Selective enforcement, such as checkpoints or roving patrols, should be used on priority routes and road segments during times when the most pronounced crash problems are experienced. Pedestrian safety also needs to be addressed.

To promote community involvement in the CCBP, citizen advisory committes should be established to help develop countermeasures for local problems. Also, a traffic hot line should be developed in cooperation with local or regional newspapers. Such a hot line would provide citizens a channel for asking questions or identifing problems concerning traffic safety in their community.

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INTRODUCTION

Over the past five years, an average of more than 950 individuals
were killed annually in traffic-related crashes in the Commonwealth of
Virginia. In 1982, traffic-related fatalities were at a low of 881, but
climbed to 1,014 in 1984. Further, in 1984, almost 70,000 people were
injured in traffic-related crashes.

Many of these deaths and injuries, and many of the 123,356 crashes
in 1984, were avoidable. The goal for all of those who work in traffic
safety is quite clear -- to work to reduce the number of crashes and
reduce the severity of the crashes which do occur. Following this
spirit, the Transportation Safety Administration of the Department of
Motor Vehicles has adopted the following mission statement from which it
derives the Commonwealth's highway safety plan.

> To promote transportation safety in Virginia by identifying
> problems, developing programs, coordinating programs, facilitating
> action, and evaluating transportation safety activities; thereby
> achieving an effective integrated transportation safety program, in
> partnership with individuals, local, state and national organiza-
> tions. [1]

The Comprehensive Community-Based Traffic Safety Program (CCBP) was
initiated as a critical strategy to help fulfill this mission. The
program imperatives are to identify specific crash problems and formu-
late effective countermeasure programs -- all at the local level. This
report contains the initial problem identification for the two pilot
districts -- District 2 and District 7 -- with implementation, eval-
uation, and expansion of the CCBP being left to the individual commu-
nities and the state supported staff of the CCBP.

The CCBP planned for Virginia is different from what is being
implemented in other states. Virginia's CCBP is much more ambitious.
For example, "comprehensive" in the West Palm Beach, Florida, CCBP means
addressing the alcohol-related crash problem through enforcement, prose-
cution, adjudication, remedial education and treatment, and public
information and education. [2]

The goal of the Commonwealth's CCBP is to involve all of these areas and apply countermeasure efforts to all areas of traffic-related problems, not exclusively to the alcohol problem. In fact, this approach to alcohol countermeasures has been in effect on the local level in Virginia since 1975. But this approach will be expanded to include speed, pedestrian, motorcycle, traffic engineering, and other crash problems through the CCBP.

District 2 and District 7 are pilot, or even model, areas for the CCBP. If effective, this program will be implemented in other areas of the Commonwealth. Hence, all countermeasure efforts of the CCBP, those with positive outcomes as well as those which fall short of expectations, should be well-documented. This documentation, combined with the close oversight of program initiatives, will make it possible to chart the program's progress and evaluate the program's effectiveness. In short, it will be possible to determine why some local initiatives succeed and others do not.

The following sections of this report are to be used when initially implementing the CCBP. Further, the methods used in identifying crash problems can be transferred for use in other districts as the CCBP expands.

Formally, this report fulfills the requirements to—

1. identify crash problem locations in the two pilot DMV districts,

2. identify specific crash problems which plague these districts,

3. rank crash problems and locations, and

4. develop a set of recommendations for the initial direction of the CCBP.

In a sense, this report completes one of the most simple tasks which the CCBP will require -- the identification of crash problems. What lies ahead for the CCBP staff and the communities is to find effective means to counter those problems. Above all, the success of the CCBP lies in the ability of the communities and the staff of the CCBP to—

1. work with existing programs,

2. work within local networks,

3. implement programs which have proven effective,

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4.   creatively develop new program initiatives to combat crash
     problems, and

5.   closely monitor and evaluate countermeasure programs.

     The task is large and experimental in nature. However, the CCBP
has the potential to be an integral part of a long-range strategic plan
for improving traffic safety. Tapping into local networks will be a
critical element of the program, and the potential benefits for the
Commonwealth require an all-out effort to bring the communities on board
to work toward safer roads and highways.

METHODOLOGY

Data

     The crash data used in this report are based upon the FR-300P
accident report forms filed with the Virginia Department of State Police
for the calendar years 1980 through 1984. The statewide figures are
from Virginia Traffic Crash Facts,(3) and the figures for localities are
from Mini Crash Facts.(4) Districtwide figures were calculated by
summing or averaging crash data from the localities within the district.
Crash rates for specific routes are from the 1983 Summary of Accident
Data,(5) the most current data available at the outset of this research.

     Unless otherwise noted, crash, fatality, and injury rates are
standardized in units corresponding to 100 registered vehicles. Thus,
an injury crash rate of 1.5 indicates that in a given year there were
1.5 injury crashes per 100 registered vehicles. Average daily traffic
(ADT) figures are used where numbers of registered vehicles would not be
an appropriate normalizing measure, such as in calculating rates for
specific routes. Used in this manner, the ADT figures can facilitate a
solid estimate of crashes, fatalities, and injuries relative to roadway
use.

Projections and Comparisons

     At the outset of this project, the researcher decided to use five
years of crash data to reduce the influence of random fluctuations in
the number of crashes, injuries, and fatalities which occur from year to
year. Also, rather than simply calculate averages for the five-year
period 1980 to 1984, linear projections were calculated for the future
based on past trends. An ordinary least squares (OLS) regression line
adjusts a straight-line average for any upward or downward trend that
may have been occurring over the five-year period.

For example, if a particular locality had 300 crashes in 1980 and this number increased by an average of an additional 10 crashes a year (i.e., 310, 320, 330, 340, for 1981 through 1984), one would expect that if this upward trend were to continue, there would be 350 crashes in 1985. However, a straight average ignores this upward trend, and would estimate that there would be 320 crashes in 1985. Obviously, both are forecasts, but linear projections are, on average, superior in that they build upon historical trends.

The equation for the OLS regression line is

$$\hat{y} = a + bx \tag{1}$$

where

$\hat{y}$ is the estimated value (e.g., number of crashes, registered vehicles, etc.),

a   is a constant (the point at which the regression line intercepts the y axis),

b   is the slope of the line (the upward or downward trend), and

x   is the year for which an estimate of y, or $\hat{y}$, is to be made.

Calculations of the OLS regression line are based on the theoretical formulas

$$b = \frac{\Sigma \ (x - X) \ (y - Y)}{\Sigma \ (x - X)^2} \tag{2}$$

and

$$a = Y - bX \tag{3}$$

where

b   is the slope of the line (the upward or downward trend),

a   is a constant (the point at which the regression line intercepts the y axis),

x   represents the years 1980 through 1984,

X   represents the mean value of x,

y   represents the crash data of interest for a particular
     year (e.g., number of crashes, injuries, etc.), and

Y   represents the mean value of the crash data of interest.

The calculated values of a and b are then inserted into equation
(1) where an estimate of y, or $\hat{y}$, can be made for a given year x.

Certainly these formulas may appear complicated, but they can be
thought of as a way of estimating an average increase or decrease that
one would expect from one year to the next.

For the purpose of comparison, estimates for 1985 were made across
all of the data, using 1980 through 1984 figures. Currently, the 1985
data are not available, and may be found to differ significantly from
the 1985 projections contained in this report. These projections are
not intended to accurately measure what did or did not happen in 1985.
Instead, these 1985 estimates provide a way to compare different
localities and problems based on average previous crash history, weight-
ed to account for upward or downward trends. The 1985 linear
projections, those from which all estimates in this report were derived,
are listed in Appendix A for District 2 and Appendix B for District 7.

GENERAL CRASH PROBLEMS

Statewide Crash Trends

Figure 1 indicates that there was a considerable amount of
fluctuation in the number of crashes reported for Virginia over the
five-year research period.* In 1982, the year during which the
threshold for reporting a property damage crash changed from

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* In Figures 1-12 the solid line indicates historical data and the
broken line indicates projected trends.

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$350 to $500, the number of crashes reported was at a low of 112,474. But in 1984, the final year of the research period, the total number of crashes reported in Virginia rose to a high of 123,356. The linear projections indicate that the overall trend experienced across the research period was an increase of approximately 750 crashes reported each year, with 119,100 crashes being expected for 1985.

Figure 2 shows that, even though there was some fluctuation among crash rates in Virginia, these rates generally decreased over the research period. The projections indicate that the 1985 crash rate was expected to be 2.91, and that this decline was expected to continue at a rate of 0.03 crashes per 100 registered vehicles per year. Hence, while the number of crashes was expected to increase, this increase was expected to be proportionately less than the increase in the number of vehicles registered in the Commonwealth.

Looking specifically at the number of fatal crashes, Figure 3 shows that a low of 782 fatal crashes was reached in 1982, but this number increased to 923 in 1984. However, the projections indicate that 839 fatal crashes were expected in 1985, with such crashes being expected to decrease by approximately 10 per year from 1985 to 1987.

Figure 4 shows that injury crashes displayed a steady pattern of increase from 1980 to 1984, with this pattern being expected to continue from 1985 to 1987. Hence, the 1985 projection of approximately 46,542 injury crashes was expected to increase by approximately 1,500 injury crashes per year. Thus, while the number of crashes and fatal crashes were projected to decrease until 1987, injury crashes were projected to continue to increase in number.

District 2 Crash Trends

Figure 5 shows that there were substantial fluctuations in the total number of crashes in District 2 for the period 1980 to 1984. Total crashes declined steadily from 1980 to 1982, but rose in both 1983 and 1984. These fluctuations were so great that no upward or downward trend was distinguishable across the five-year research period. Hence, the total number of crashes from 1985 to 1987 was projected to be around the mean of 15,300.

Figure 6 shows that there was a general decline in the crash rate in District 2. With the exception of 1984, each year brought a decrease in the crash rate. This pattern was expected to continue, and the projected crash rate of 2.38 for 1985 was projected to decline by approximately 0.04 crashes per 100 registered vehicles per year.
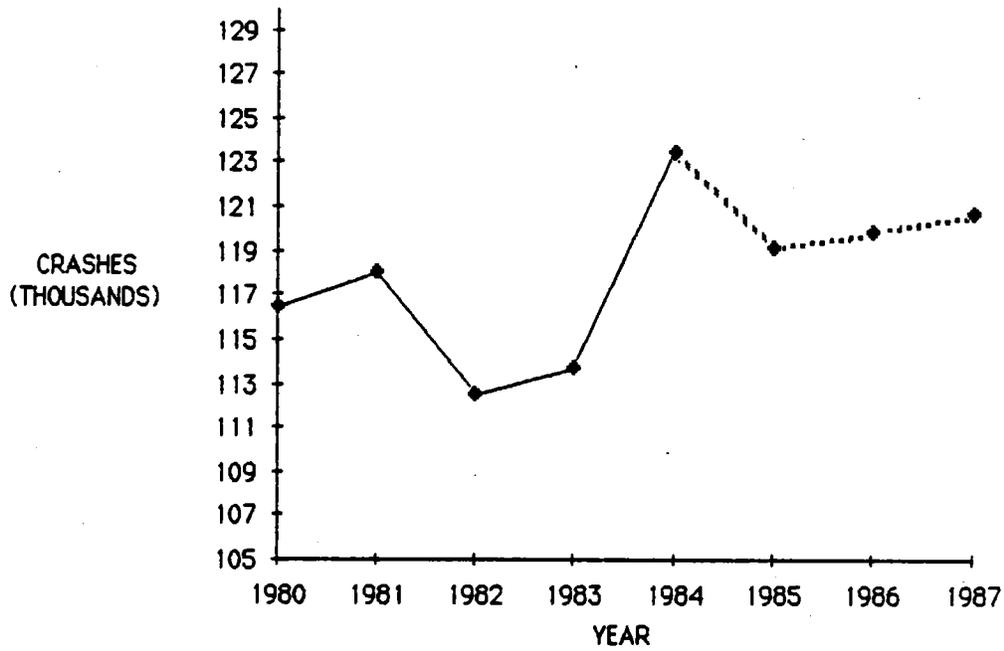
FIGURE 1. ALL VIRGINIA CRASHES
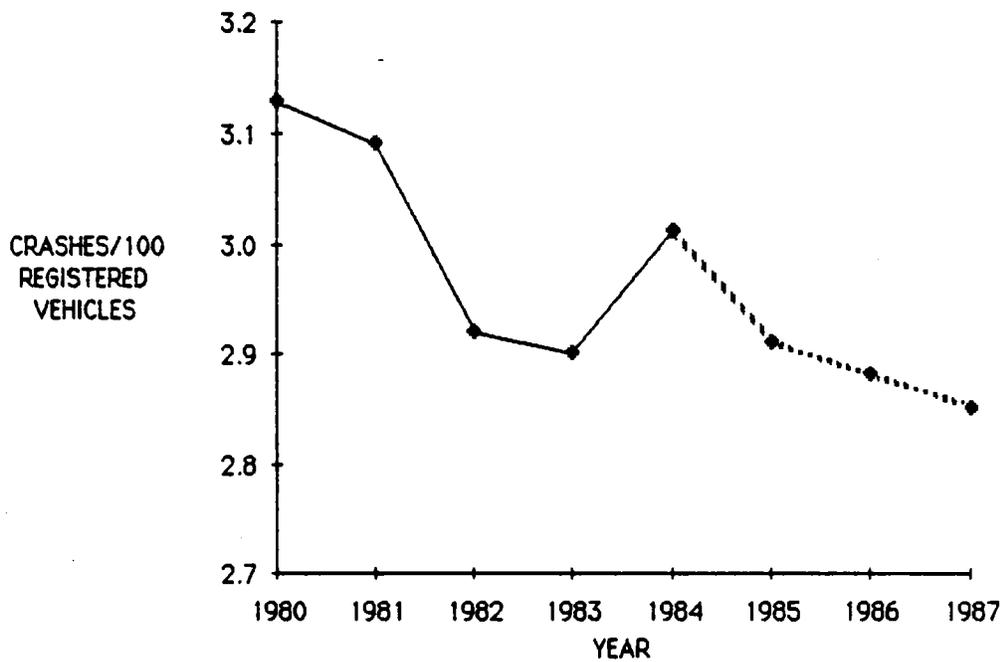
FIGURE 2. VIRGINIA CRASH RATE

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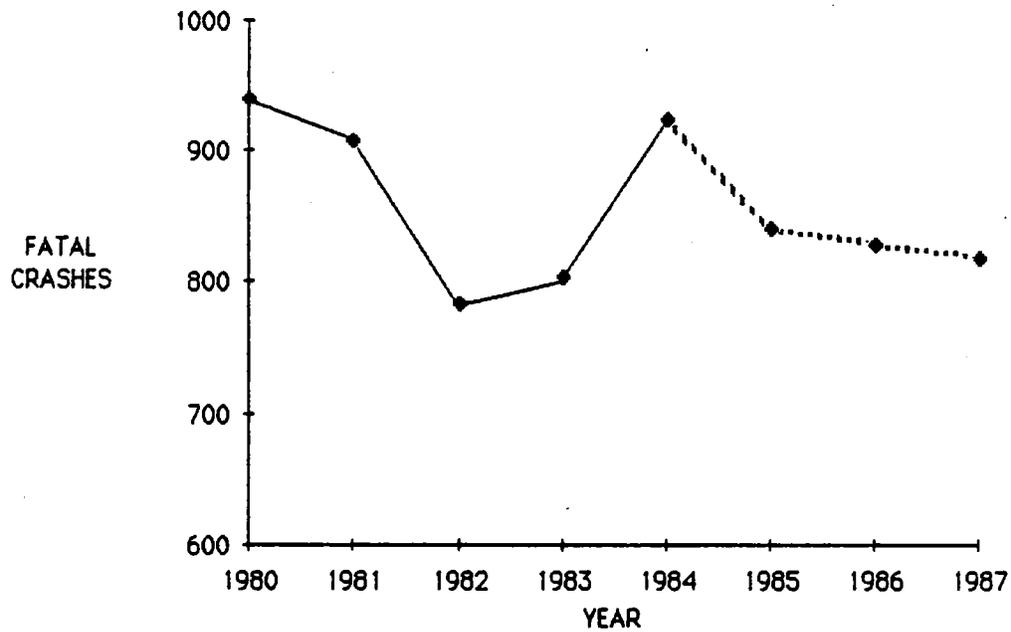
FIGURE 3. VIRGINIA FATAL CRASHES
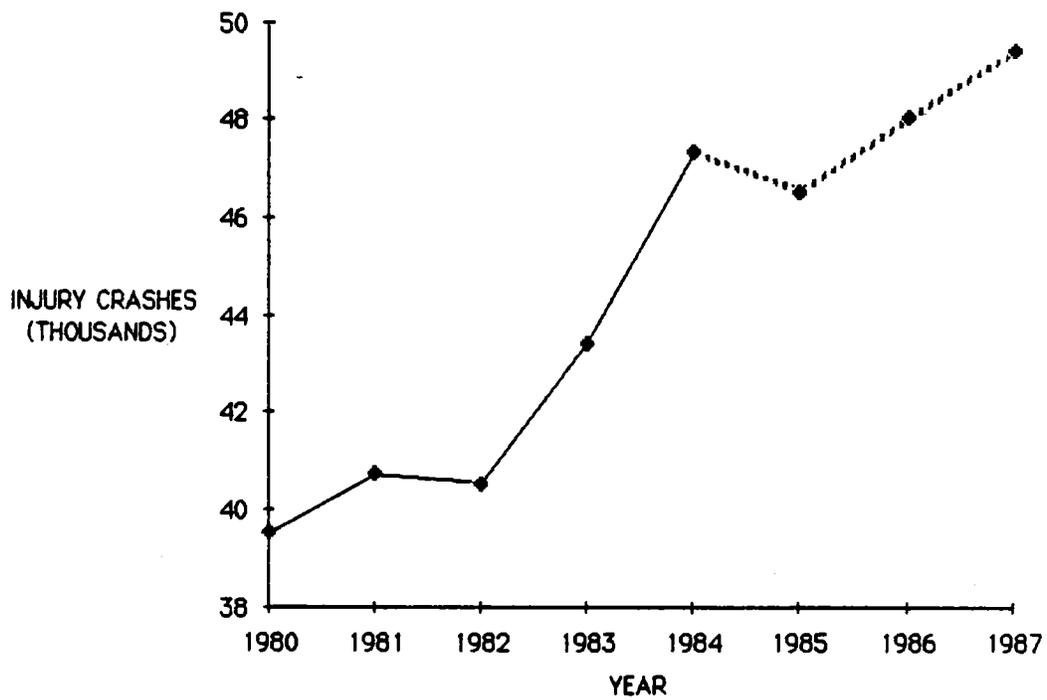
FIGURE 4. VIRGINIA INJURY CRASHES

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Figure 7 indicates that, even though the number of fatal crashes decreased from 1980 to 1982, there were no distinguishable upward or downward trends across the research period. Hence, the number of fatal crashes in District 2 for 1985 to 1987 was projected to be around the mean of approximately 135 fatal crashes per year.

Figure 8 shows that, like the state trend, the number of injury crashes steadily increased in District 2. For 1985, approximately 5,791 injury crashes were expected, with that number being expected to increase by 150 for each of the subsequent two years. Thus, while there was no long-term upward or downward trend in the total number of crashes or fatal crashes in District 2 between 1980 and 1984, there was a substantial increase in the number of injury crashes.

District 7 Crash Trends

Table 9 shows that the total number of crashes in District 7 steadily increased over the research period. In 1985, a total of 27,774 crashes were projected, with that number being expected to increase by approximately 600 crashes for each of the subsequent two years.

Figure 10, however, indicates that, with the exception of 1984, there was a general decrease in the crash rate for District 7. The projected crash rate of 3.62 for 1985 was expected to decrease by approximately 0.03 crashes per 100 registered vehicles per year, thereby continuing the general decrease in crash rates. Hence, the increase in the number of crashes in District 7 was expected to be proportionately less than the increase in the number of registered vehicles.

Figure 11 shows that there was a considerable decline in the number of fatal crashes in District 7 between 1980 and 1983. However, from 1983 to 1984 the number of fatal crashes increased from 129 to 150. In 1985, a total of 139 fatal crashes were expected, with this number being expected to increase to 143 in 1987.

Figure 12 shows that the number of injury crashes increased steadily in District 7. This trend was expected to continue, and the 1985 projection of approximately 10,900 injury crashes for District 7 was expected to increase by approximately 500 injury crashes in each of the subsequent two years. Thus, unlike statewide trends and trends for District 2, the total number of crashes, injury crashes, and fatal crashes were all projected to increase in District 7.
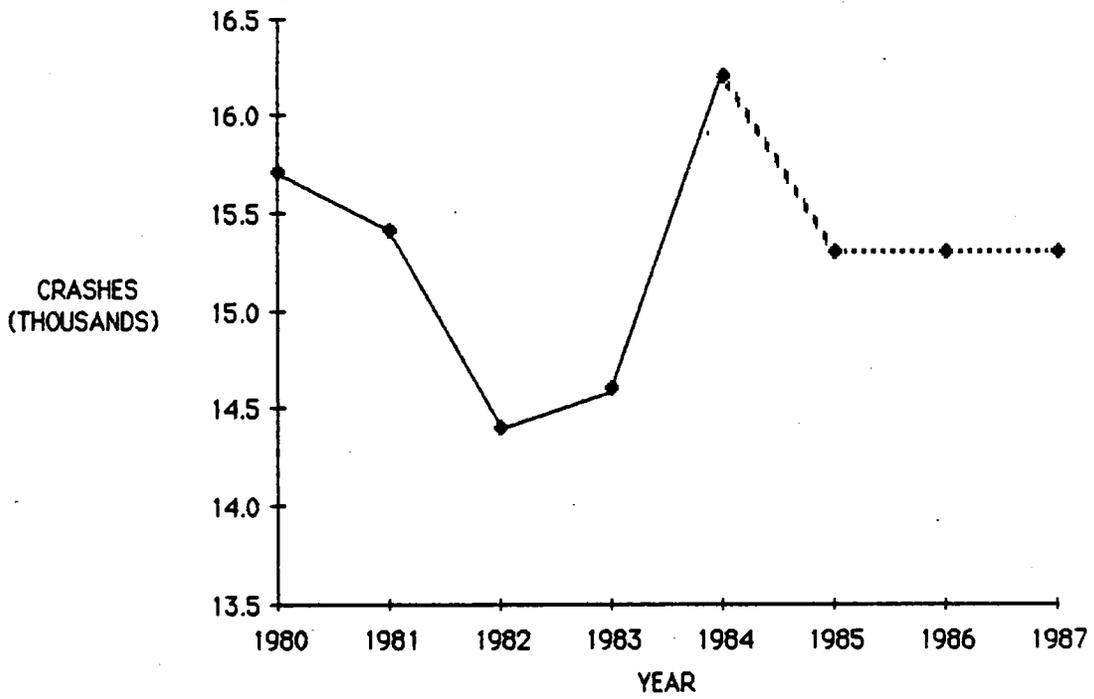
FIGURE 5. ALL DISTRICT 2 CRASHES
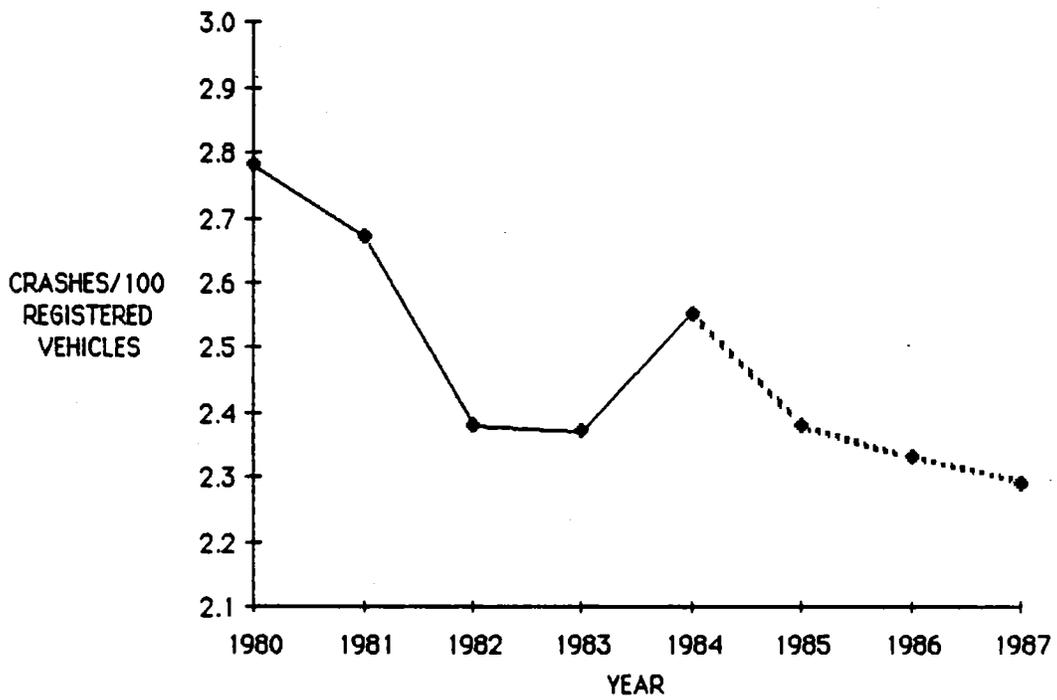
FIGURE 6. DISTRICT 2 CRASH RATE

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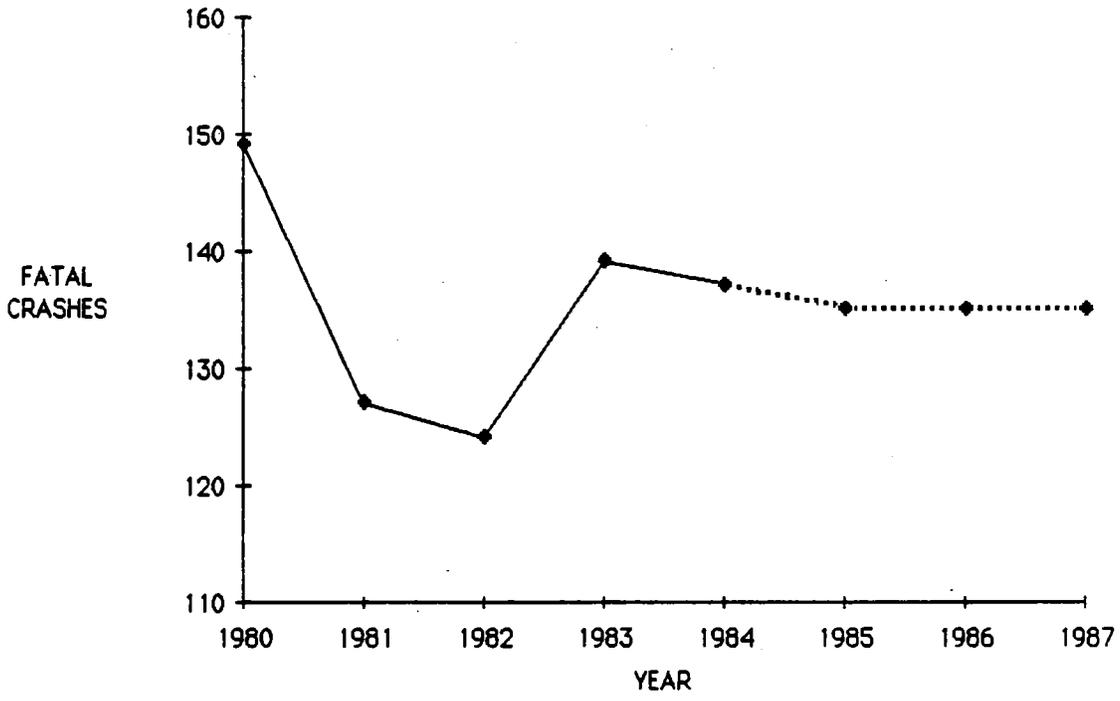
FIGURE 7. DISTRICT 2 FATAL CRASHES
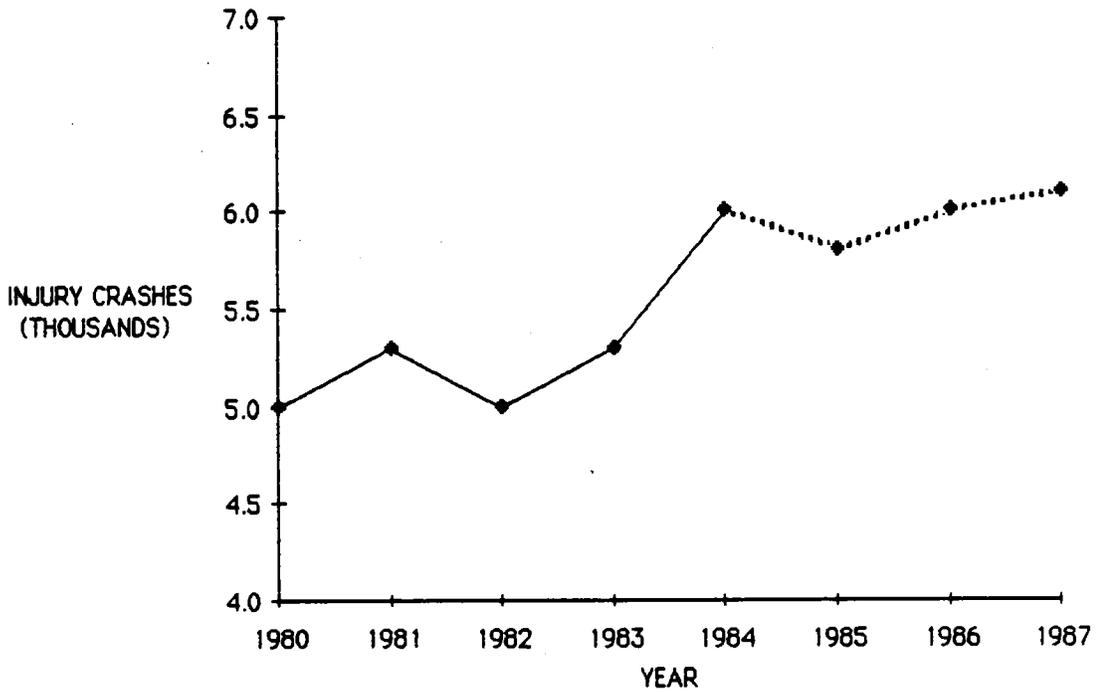
FIGURE 8. DISTRICT 2 INJURY CRASHES

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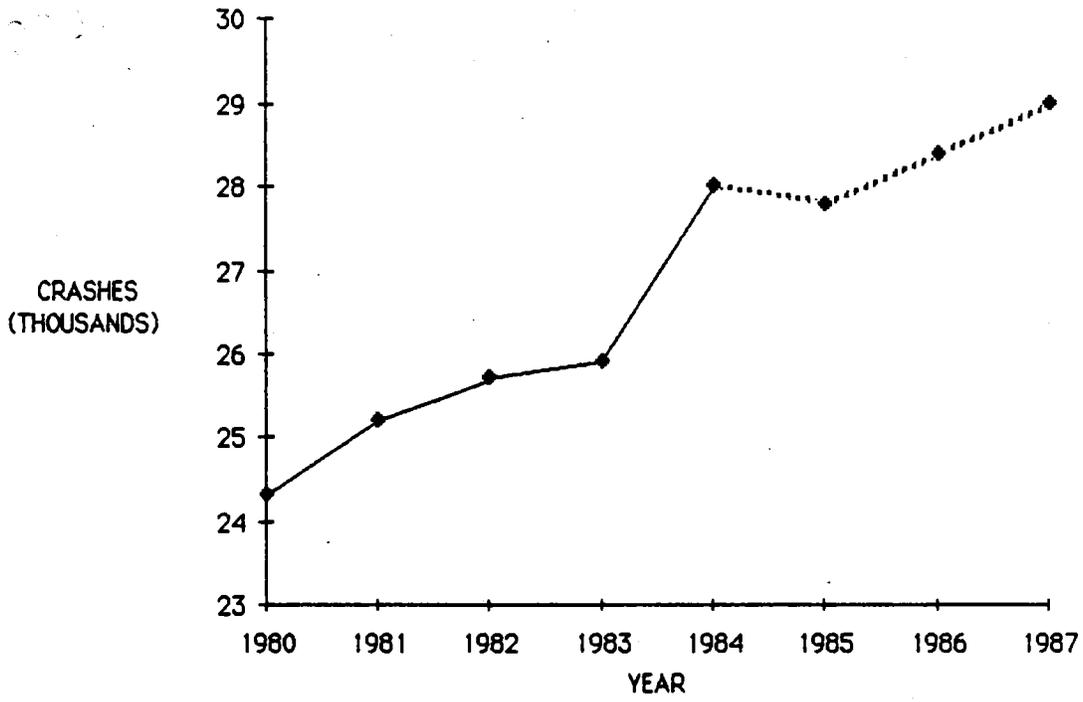
FIGURE 9. ALL DISTRICT 7 CRASHES
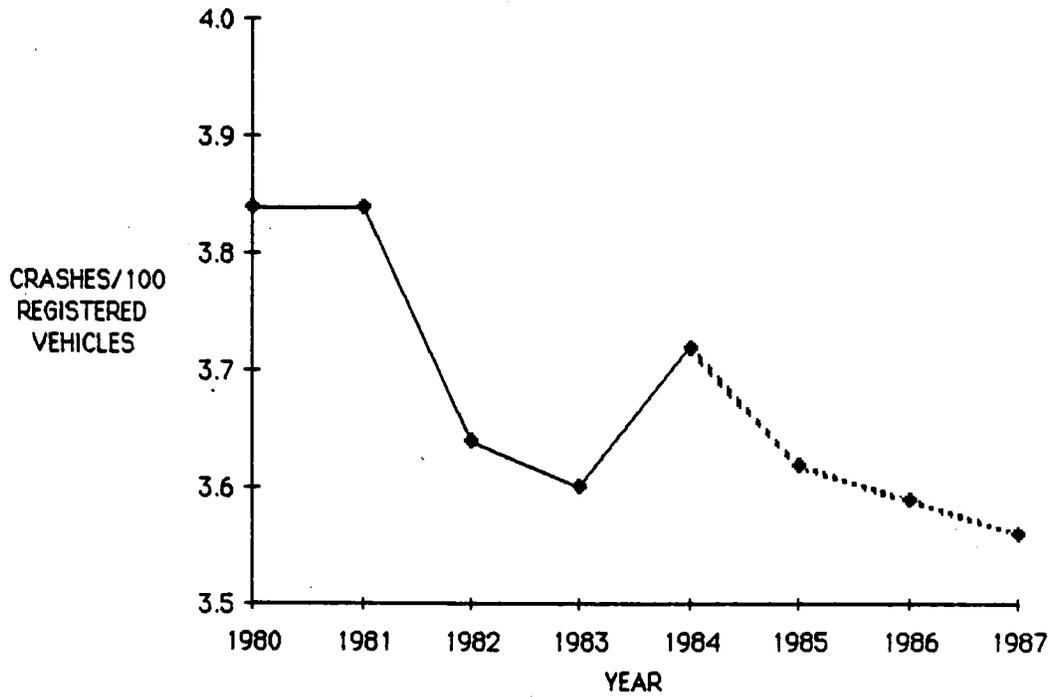
FIGURE 10. DISTRICT 7 CRASH RATE

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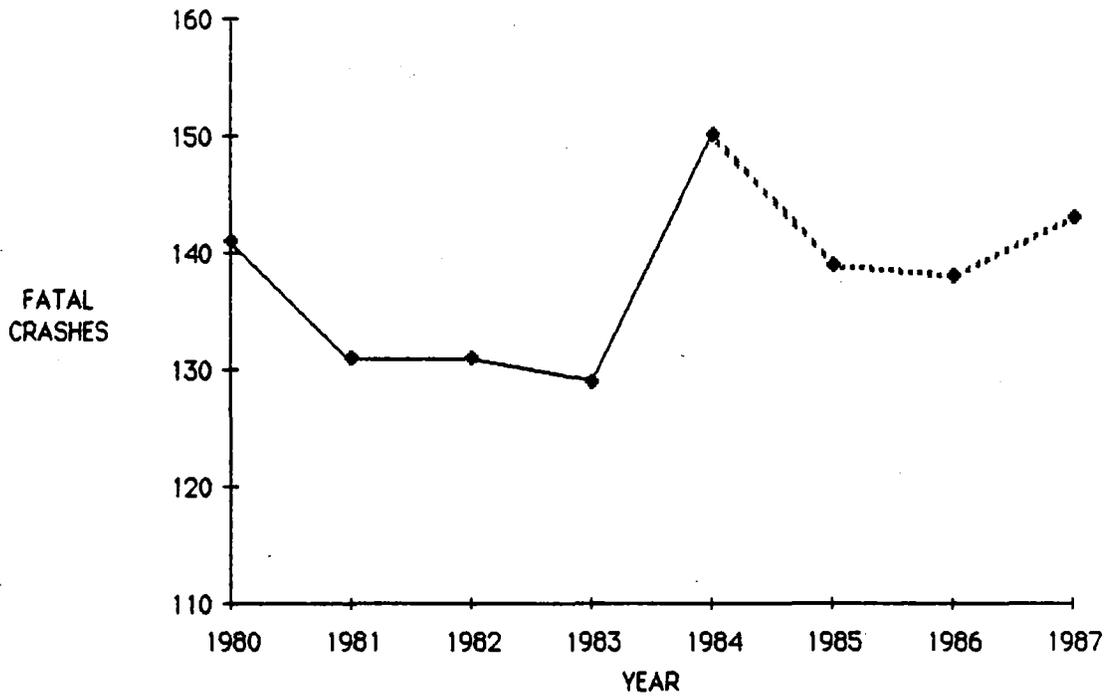
FIGURE 11. DISTRICT 7 FATAL CRASHES
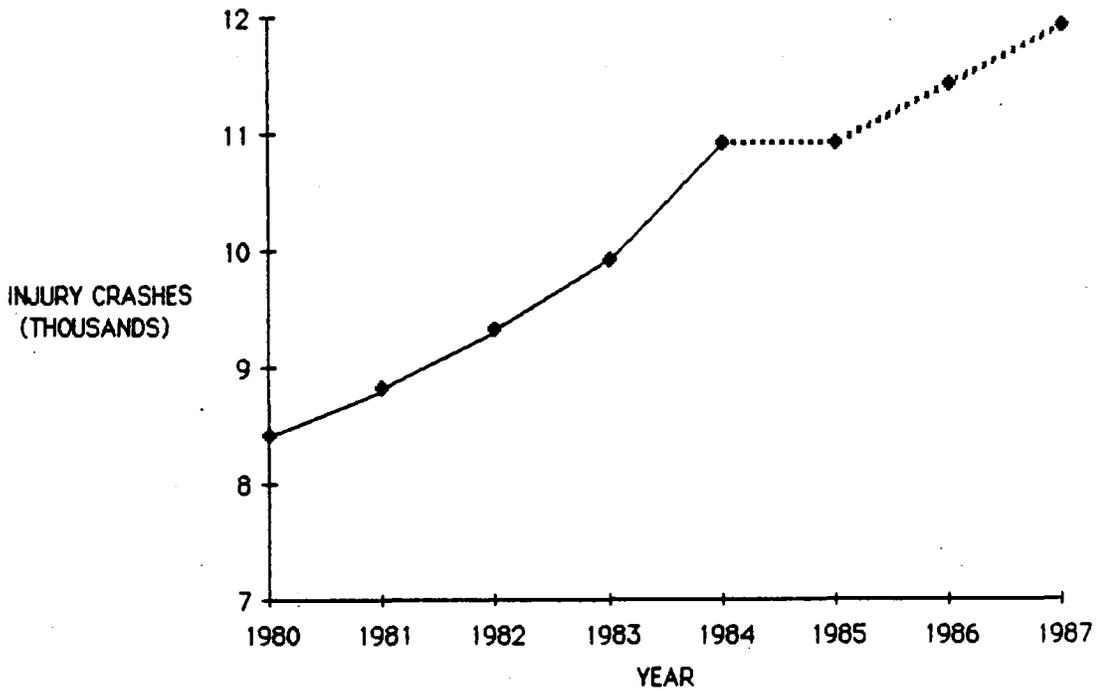
FIGURE 12. DISTRICT 7 INJURY CRASHES

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Priority Localities

One of the primary objectives of this research was to rank the localities' crash problems in each of the pilot districts. That is, the research sought to determine which localities were experiencing the most serious crash problems.

The researcher chose to use both absolute numbers of crashes and crash rates (the number of crashes per 100 registered vehicles) in ranking localities. The 1985 estimates, based on the five-year linear projections, were the only figures used in calculating the relative ranks of localities within the two districts. As stated in an earlier section, these 1985 estimates should be thought of as representing averages which are adjusted for upward or downward trends over the five-year research period.

To set priorities among the localities, the estimates of the number of crashes were ranked among the localities in each of the two districts. Similar ranks were calculated for estimates of crash rates. The two ranks were then added together for each locality. The resulting sums, or "Rank Sums," were then ranked within each district. This procedure was completed separately for total crashes and fatal and injury crashes.

Any ties were broken by giving more weight to the absolute number of crashes. That is, when the localities had the same rank sum, the locality with the higher absolute number of total crashes or fatal and injury crashes was given higher priority.

Table 1 displays the calculation of the total crash priority in District 2, and Table 2 displays the calculation of the fatal and injury crash priority for that district. From comparing these two tables, it is apparent that they are similar, but not the same. Hence, to simplify the interpretation of these tables, a third set of calculations was necessary.

Table 3 displays the calculations of what shall henceforth be referred to as the "Priority Ranks" for District 2. For each locality within the district, the total crash priority was added to the fatal and injury crash priority. (The reader should note that these ranks were based on both absolute and normalized crash problems.) The resulting rank sum was then ranked, with ties being broken by assigning a higher priority rank to the locality with the greater fatal and injury crash problem.

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Table 1

District 2

Total Crash Priority

Locality	Rank of No. of Crashes	Rank of Crash Rate	Rank Sum	Total Crash Priority
Alleghany Co.	17	11	28	15
Amherst Co.	13	9	22	10
Appomattox Co.	20	16	36	21
Bedford City	22	8	30	16
Bedford Co.	10	23	33	17
Botetourt Co.	11	5	16	5
Campbell Co.	8	14	22	8
Clifton Forge	24	12	36	22
Covington	25	25	50	25
Craig Co.	23	10	33	18
Danville	3	2	5	3
Floyd Co.	21	19	40	23
Franklin Co.	9	13	22	9
Giles Co.	18	24	42	24
Henry Co.	6	17	23	11
Lynchburg	2	3	5	2
Martinsville	14	1	15	4
Montgomery Co.	7	15	22	7
Patrick Co.	16	18	34	19
Pittsylvania Co.	5	21	26	13
Pulaski Co.	15	20	35	20
Radford	19	7	26	14
Roanoke City	1	4	5	1
Roanoke Co.	4	22	26	12
Salem	12	6	18	6

Table 2

District 2

Fatal and Injury Crash Priority

Locality	Rank of No. of Fatal and Injury Crashes	Rank of Fatal and Injury Crash Rate	Rank Sum	Fatal and Injury Crash Priority
Alleghany Co.	15	5	20	8
Amherst Co.	12	4	16	7
Appomattox Co.	18	6	24	13
Bedford City	22	18	40	21
Bedford Co.	10	19	29	17
Botetourt Co.	11	2	13	4
Campbell Co.	6	8	14	5
Clifton Forge	24	24	48	24
Covington	25	25	50	25
Craig Co.	23	13	36	20
Danville	3	1	4	1
Floyd Co.	21	23	44	23
Franklin Co.	9	7	16	6
Giles Co.	20	21	41	22
Henry Co.	5	16	21	9
Lynchburg	2	10	12	3
Martinsville	16	12	28	16
Montgomery Co.	7	14	21	10
Patrick Co.	17	15	32	19
Pittsylvania Co.	8	20	28	15
Pulaski Co.	13	17	30	18
Radford	19	3	22	11
Roanoke City	1	11	12	2
Roanoke Co.	4	22	26	14
Salem	14	9	23	12

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Table 3

District 2

Priority Ranks

Locality	Total Crash Priority	Fatal and Injury Crash Priority	Rank Sum	Priority Rank
Alleghany Co.	15	8	23	12
Amherst Co.	10	7	17	7
Appomattox Co.	21	13	34	16
Bedford City	16	21	37	18
Bedford Co.	17	17	34	17
Botetourt Co.	5	4	9	4
Campbell Co.	8	5	13	5
Clifton Forge	22	24	46	24
Covington	25	25	50	25
Craig Co.	18	20	38	21
Danville	3	1	4	2
Floyd Co.	23	23	46	23
Franklin Co.	9	6	15	6
Giles Co.	24	22	46	22
Henry Co.	11	9	20	10
Lynchburg	2	3	5	3
Martinsville	4	16	20	11
Montgomery Co.	7	10	17	8
Patrick Co.	19	19	38	20
Pittsylvania Co.	13	15	28	15
Pulaski Co.	20	18	38	19
Radford	14	11	25	13
Roanoke City	1	2	3	1
Roanoke Co.	12	14	26	14
Salem	6	12	18	9

In addition to ranking each locality within a district, the researcher chose to evaluate whether localities were clustered together, that is, whether there were localities with similar crash problem priorities. To determine these "Priority Clusters," the rank sums in Table 3 were listed in ascending order. Relatively large differences, or gaps, in the ascending progression of these rank sums were interpreted as distinguishing between clusters. The results of this evaluation indicate that there were three priority clusters of localities in District 2. These high, medium, and low priority clusters, henceforth, Priority I, Priority II, and Priority III, respectively, are listed in Table 4 in descending order of priority.

Table 4

District 2

Priority Clusters

Priority I	Priority II	Priority III
Roanoke City	Campbell Co.	Appomattox Co.
Danville	Franklin Co.	Bedford Co.
Lynchburg	Amherst Co.	Bedford City
Botetourt Co.	Montgomery Co.	Pulaski Co.
	Salem	Patrick Co.
	Henry Co.	Craig Co.
	Martinsville	Giles Co.
	Alleghany Co.	Floyd Co.
	Radford	Clifton Forge
	Roanoke Co.	Covington
	Pittsylvania Co.	

Graphically, the priority ranks of these localities are arrayed on the matrix in Figure 13. Localities were plotted onto this matrix according to their relative ranking on total crash priority and fatal and injury crash priority. Measuring distance only horizontally and vertically, not diagonally, the closer a locality is situated to the lower left corner of the matrix, the worse that locality's projected crash problem.

The descending diagonal step line is drawn to discriminate, or distinguish, among the clusters of localities. The reader should note that the localities in the cluster in the lower left corner, the Priority I localities, consistently had the worst projected problem in terms

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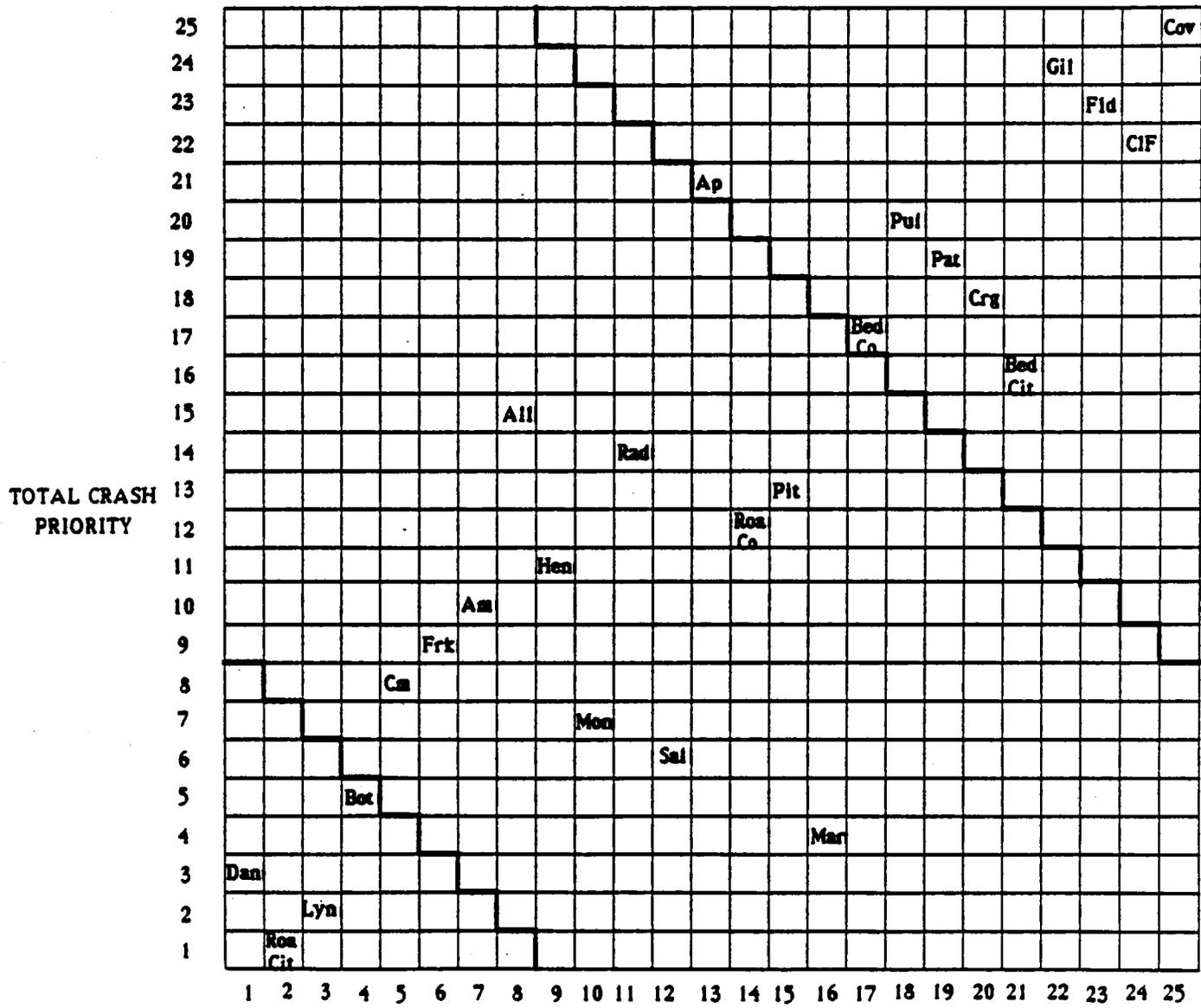
FIGURE 13. DISTRICT 2 PRIORITY MATRIX

The matrix plots TOTAL CRASH PRIORITY (vertical axis, 1–25) against FATAL AND INJURY CRASH PRIORITY (horizontal axis, 1–25), with the following locations plotted:

- Cov — (25, 25)
- Gil — (21, 24)
- Fld — (22, 23)
- ClF — (23, 22)
- Ap — (9, 21)
- Pul — (16, 20)
- Pat — (17, 19)
- Crg — (18, 18)
- Bed Co — (15, 17)
- Bed Cit — (20, 16)
- All — (6, 15)
- Rad — (10, 14)
- Plt — (14, 13)
- Roa Co — (13, 12)
- Hen — (9, 11)
- Am — (6, 10)
- Frk — (5, 9)
- Cm — (4, 8)
- Mon — (9, 7)
- Sal — (11, 6)
- Bot — (3, 5)
- Mar — (15, 4)
- Dan — (1, 3)
- Lyn — (2, 2)
- Roa Cit — (1, 1)

of total crashes, crash rate, fatal and injury crashes, and fatal and injury crash rate. Indeed, the four localities in the Priority I cluster were projected to account for 38.0% of all crashes and 32.2% of all fatal and injury crashes. On the other hand, the ten localities in the cluster in the upper right corner of the matrix, the Priority III cluster, were expected to account for only 15.3% of all crashes and 16.1% of all fatal and injury crashes.

Turning to District 7, the same method used for District 2 was applied to determine priority localities. Table 5 and Table 6 display the results of determining the total crash priority and the fatal and injury crash priority for District 7, and these results were used to calculate the priority ranks in Table 7. From evaluating the rank sums in Table 7, it was apparent that there were three priority clusters in District 7, and these are listed in descending order of priority in Table 8.

Without question, Norfolk had the worst crash problems. However, Va. Beach, Hampton, and Newport News also had high numbers of crashes and fatal and injury crashes, and correspondingly high normalized rates. These four Priority I localities accounted for more than 75% of all crashes and fatal and injury crashes projected for District 7 in 1985. On the other hand, the four Priority III localities accounted for less than 6% of all projected crashes and fatal and injury crashes for District 7.

Figure 14 graphically displays the priority ranks of the localities in District 7. Like the matrix for District 2, measuring distance only horizontally and vertically, the closer a locality is to the lower left corner of the matrix, the worse its projected crash problem.

Table 5

District 7

Total Crash Priority

Locality	Rank of No. of Crashes	Rank of Crash Rate	Rank Sum	Total Crash Priority
Accomack Co.	8	9	17	8
Chesapeake	5	6	11	5
Hampton	4	2	6	4
Newport News	3	3	6	3
Norfolk	1	1	2	1
Northampton Co.	9	8	17	9
Poquoson	10	10	20	10
Portsmouth	6	5	11	6
Va. Beach	2	4	6	2
York Co.	7	7	14	7

Table 6

District 7

Fatal and Injury Crash Priority

Locality	Rank of No. of Fatal and Injury Crashes	Rank of Fatal and Injury Crash Rate	Rank Sum	Fatal and Injury Crash Priority
Accomack Co.	8	9	17	8
Chesapeake	5	5	10	6
Hampton	3	2	5	2
Newport News	4	4	8	4
Norfolk	1	1	2	1
Northampton Co.	9	8	17	9
Poquoson	10	10	20	10
Portsmouth	6	3	9	5
Va. Beach	2	6	8	3
York Co.	7	7	14	7

Table 7

District 7

Priority Ranks

Locality	Total Crash Priority	Fatal and Injury Crash Priority	Rank Sum	Priority Rank
Accomack Co.	8	8	16	8
Chesapeake	5	6	11	6
Hampton	4	2	6	3
Newport News	3	4	7	4
Norfolk	1	1	2	1
Northampton Co.	9	9	18	9
Poquoson	10	10	20	10
Portsmouth	6	5	11	5
Va. Beach	2	3	5	2
York Co.	7	7	14	7

Table 8

District 7

Priority Clusters

Priority I	Priority II	Priority III
Norfolk	Portsmouth	York Co.
Va. Beach	Chesapeake	Accomack Co.
Hampton		Northampton Co.
Newport News		Poquoson

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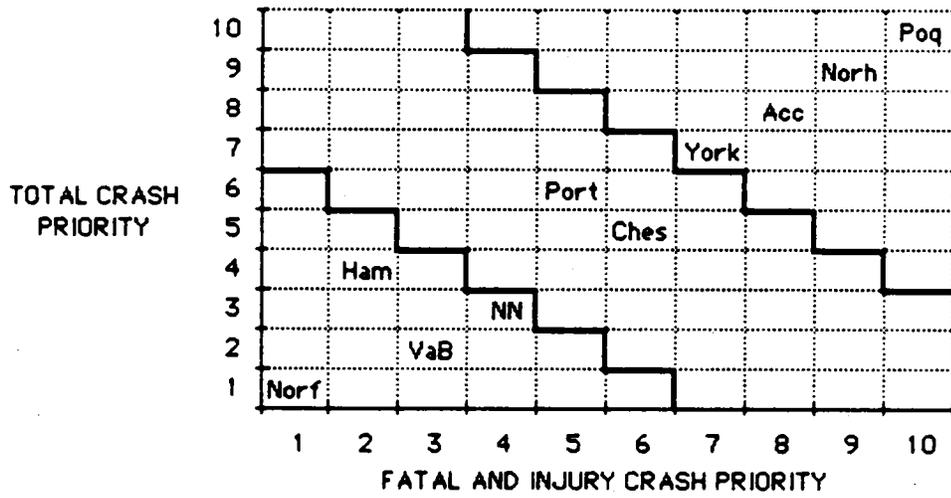
FIGURE 14. DISTRICT 7 PRIORITY MATRIX

SPECIFIC CRASH PROBLEMS

Using much the same approach employed to determine the priority
localities, a priority list can be developed for specific crash problem
areas. To provide the most parsimonious and accurate conceptualization
of a particular crash problem, rankings were determined only from the
number of fatal and injury crashes or the number of fatalities or
injuries projected for a locality. Thus, the following analysis is
based solely on the number of crashes which involve death or injury and
the respective crash rates.*

To determine priority clusters for specific problem areas, the rank
sums for each locality within a district were listed in ascending order.
Evaluating each problem area separately, relatively large differences in
the ascending progression of the rank sums were interpreted as
indicating natural transitions between clusters.

Alcohol-related Crashes

District 2 was projected to have 2,701 reported alcohol-
related crashes in 1985, of which 1,336 were expected to be injury
crashes and 59 fatal crashes. Thus, approximately 17.7% of all crashes,
23.1% of all injury crashes, and 43.7% of all fatal crashes were
expected to be reported as alcohol-related. Obviously, reported
alcohol-related crashes would disproportionately contribute to the total
number of injury crashes and would be vastly overrepresented among all
fatal crashes.

These data are sufficient to indicate that alcohol-related crashes
pose a serious problem in District 2. However, because the number of
alcohol-related crashes being reported may not be accurate, or because
reporting may vary from jurisdiction to jurisdiction or even among
officers, these data alone were not sufficient to allow ranking
localities in terms of which have the more pronounced alcohol-related
crash problem. Instead, reported alcohol-related crashes provide only
one measure of the actual alcohol-related crash problem. Hence, two
proxy measures of alcohol-related crashes -- nighttime and weekend
crashes -- were also used to determine the alcohol priority ranking.

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* The calculations of priority ranks for specific problem areas are
displayed in Appendix C.

In District 2, a total of 5,521 nighttime crashes were projected for 1985, 2,247 of which were expected to involve injury and 71 at least 1 fatality. Roughly 36.2% of all crashes, 38.8% of all injury crashes, and 52.6% of all fatal crashes were expected to occur at night, a prime time for alcohol-related crashes.

Weekends -- Friday through Sunday -- also are times during which alcohol contributes significantly to the number of crashes. In District 2, a total of 7,391 crashes were projected to occur on weekends in 1985, with 2,903 resulting in injury and 83 resulting in at least 1 fatality. Thus, approximately 48.4% of all crashes, 50.1% of injury crashes, and 61.5% of all fatal crashes were expected to occur on weekends. Hence, weekend crashes would be disproportionately represented among fatal and injury crashes.

Table 9 presents the relative priority each locality in District 2 received for the three aforementioned measures of alcohol-related crashes. The priority ranks of the reported alcohol-related, nighttime, and weekend crash problems are listed in columns 2, 3, and 4, respectively.* These ranks were added together for each respective locality, and the resulting sum (column 5) was then ranked (column 6), thereby producing the alcohol priority ranks. Ties were broken by assigning a higher rank to the locality with the greater reported alcohol-related crash problem.

From evaluating the natural breakpoints of the rank sums found in column 5, it was determined that there were four alcohol priority clusters, which are listed in descending order of priority in Table 10. Priority I localities are those requiring the most immediate attention.

District 7, likewise, has a serious alcohol-related crash problem. A total of 5,160 reported alcohol-related crashes, with 2,686 injury crashes and 55 fatal crashes, were projected for 1985. Alcohol was thus expected to be a reported factor in approximately 18.6% of all crashes, 24.6% of all injury crashes, and 39.6% of all fatal crashes.

Nighttime crashes in District 7 were expected to total 10,180 in 1985, with 4,396 resulting in injury and 82 resulting in at least 1 fatality. Thus, approximately 36.7% of all crashes, 40.3% of all injury crashes, and 59.0% of all fatal crashes would occur at night.

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* The reader should note that the relative priorities listed in Table 9 for each of these three measures of alcohol-related crashes were based on both absolute and normalized fatal and injury crash problems. Calculations of these ranks can be found in Tables C-1, C-3, and C-5 in Appendix C.

Table 9

District 2

Alcohol-related Crashes

(1)	(2)	(3)	(4)	(5)	(6)
Locality	Reported-Alcohol Priority	Nighttime Priority	Weekend Priority	Rank Sum	Alcohol Priority Rank
Alleghany Co.	6	6	10	22	6
Amherst Co.	10	5	4	19	5
Appomattox Co.	17	14	11	42	14
Bedford City	21	24	23	68	23
Bedford Co.	16	16	18	50	17
Botetourt Co.	9	10	5	24	10
Campbell Co.	1	3	3	7	2
Clifton Forge	24	23	24	71	24
Covington	25	25	25	75	25
Craig Co.	19	17	20	56	19
Danville	3	2	1	6	1
Floyd Co.	22	21	21	64	22
Franklin Co.	4	1	6	11	4
Giles Co.	18	22	22	62	21
Henry Co.	14	13	13	40	13
Lynchburg	8	8	7	23	8
Martinsville	23	19	19	61	20
Montgomery Co.	5	9	9	23	9
Patrick Co.	15	18	14	47	16
Pittsylvania Co.	7	7	8	22	7
Pulaski Co.	12	15	17	44	15
Radford	13	11	12	36	11
Roanoke City	2	4	2	10	3
Roanoke Co.	11	12	16	39	12
Salem	20	20	15	55	18

Table 10

District 2

Alcohol Priority Clusters

Alcohol Priority I	Alcohol Priority II	Alcohol Priority III	Alcohol Priority IV
Danville	Amherst Co.	Radford	Salem
Campbell Co.	Alleghany Co.	Roanoke Co.	Craig Co.
Roanoke City	Pittsylvania Co.	Henry Co.	Martinsville
Franklin Co.	Lynchburg	Appomattox Co.	Giles Co.
	Montgomery Co.	Pulaski Co.	Floyd Co.
	Botetourt Co.	Patrick Co.	Bedford City
		Bedford Co.	Clifton Forge
			Covington

District 7 was projected to have 12,480 crashes on weekends in 1985, with 5,075 injury crashes and 75 fatal crashes. Roughly 44.9% of all crashes, 46.6% of all injury crashes, and 54.0% of all fatal crashes were expected to occur on Friday through Sunday.

Among these three different measures of alcohol-related crashes for District 7, all were overrepresented among the total number of crashes, injury crashes, and fatal crashes. Hence, these data indicate that crashes involving alcohol would be substantially more serious than other types of crashes.

Table 11 lists the relative priorities of the localities in District 7 for each of the three aforementioned measures.* As was done for District 2, these rankings were added together and the resulting rank sums were then ranked and evaluated to determine the clustering of localities. It was determined that there were three alcohol priority clusters in District 7, and these clusters are listed in descending order of priority in Table 12.

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* The reader should note that the relative priorities listed in Table 11 for each of the three measures of alcohol-related crashes were based on both absolute and normalized fatal and injury crash problems. Calculations of these ranks can be found in Table C-2, C-4, and C-6 in Appendix C.

Table 11

District 7

Alcohol-related Crashes

(1)	(2)	(3)	(4)	(5)	(6)
Locality	Reported-Alcohol Priority	Nighttime Priority	Weekend Priority	Rank Sum	Alcohol Priority Rank
Accomack Co.	8	8	8	24	8
Chesapeake	5	5	6	16	5
Hampton	3	2	2	7	2
Newport News	2	4	4	10	3
Norfolk	1	1	1	3	1
Northampton Co.	10	9	9	28	9
Poquoson	9	10	10	29	10
Portsmouth	7	7	5	19	7
Va. Beach	4	3	3	10	4
York Co.	6	6	7	19	6

Table 12

District 7

Alcohol Priority Clusters

Alcohol Priority I	Alcohol Priority II	Alcohol Priority III
Norfolk	Chesapeake	Accomack Co.
Hampton	York Co.	Northampton Co.
Newport News	Portsmouth	Poquoson
Va. Beach		

Excessive Speed Crashes

In this study, any crash in which an involved vehicle was reported to have been traveling faster than the posted speed limit was classified as having involved excessive speed. In District 2, a total of 1,789 speed-related crashes were projected for 1985, with 833 injury crashes and 56 fatal crashes expected. Hence, approximately 11.7% of all crashes, 14.4% of all injury crashes, and 41.5% of all fatal crashes were projected to involve excessive speed. Thus, excessive speed was expected to be disproportionately associated with fatal and injury crashes, and is, therefore, a problem which needs to be addressed.

After ranking both the absolute number of speed-related crashes and that number normalized per 100 registered vehicles in a locality, the respective ranks were added together to give an excessive speed priority ranking. Ties among rank sums were broken by assigning a higher excessive speed priority rank to the locality with the greater absolute number of speed-related crashes. The rank sums were then examined to determine any clustering of localities (see Appendix C, Table C-7). In Table 13, listed in descending order of priority, are the three resulting excessive speed priority clusters for District 2. The reader should note that 44.0% of the projected speed-related crashes for District 2 were expected to occur in the five localities listed in the Excessive Speed Priority I cluster. Less than 7.0% of all speed-related fatal and injury crashes were expected among the Priority III localities.

District 7 also had a substantial speed-related crash problem. A total of 3,454 speed-related crashes were expected in 1985, with 1,633 injury crashes and 41 fatal crashes. Thus, roughly 12.4% of all crashes, 15.0% of all injury crashes, and 29.5% of all fatal crashes would involve excessive speed in District 7.

Using the same method as that used for District 2, the priority rankings were calculated for District 7, and the rank sums were examined for clustering (see Appendix C, Table C-8). It was determined that there were three excessive speed priority clusters, each listed in Table 14 in descending order of priority. The reader should note that the four Priority I localities would account for 79.5% of all projected speed-related fatal and injury crashes and the Priority III localities for less than 3.0%.

Table 13

District 2

Excessive Speed Priority Clusters

Excessive Speed Priority I	Excessive Speed Priority II	Excessive Speed Priority III
Danville	Franklin Co.	Bedford Co.
Lynchburg	Radford	Patrick Co.
Roanoke City	Henry Co.	Appomattox Co.
Campbell Co.	Amherst Co.	Giles Co.
Botetourt Co.	Alleghany Co.	Craig Co.
	Bedford City	Clifton Forge
	Roanoke Co.	Covington
	Salem	
	Pittsylvania Co.	
	Montgomery Co.	
	Martinsville	
	Pulaski Co.	
	Floyd Co.	

Table 14

District 7

Excessive Speed Priority Clusters

Excessive Speed Priority I	Excessive Speed Priority II	Excessive Speed Priority III
Norfolk	Portsmouth	Northampton Co.
Newport News	York Co.	Accomack Co.
Hampton	Chesapeake	Poquoson
Va. Beach		

Pedestrian Crashes

Even though pedestrian crashes were expected to account for only approximately 1.3% of all crashes projected for 1985 in District 2, the 183 subsequent injuries in pedestrian crashes would account for approximately 2.2% of all injuries and the 23 fatalities would account for approximately 16.0% of all traffic-related fatalities. Hence, pedestrian crashes were expected to be the cause of a substantial number of traffic-related fatalities.

To compare localities with respect to pedestrian crashes, the absolute numbers of fatalities and injuries were ranked among the localities of District 2. However, because the number of registered vehicles may be unrelated to the pedestrian crash problem, the percent contribution of pedestrian crashes to the total number of fatalities in a locality was used as the normalized measure. That is, the relative ranking of the absolute number of crashes was added to the respective relative ranking of the percent of a locality's fatalities that occurred in a pedestrian crash. The resulting sum was then ranked and evaluated to determine priority clusters (see Appendix C, Table C-9). Ties were broken by giving a higher rank to the locality with the greater absolute number of projected fatalities and injuries. The four pedestrian crash priority clusters for District 2 are given in descending order of priority in Table 15. Over 50.0% of all fatalities and injuries projected for pedestrian crashes in District 2 are expected among the Priority I localities.

Table 15

District 2

Pedestrian Crash Priority Clusters

Pedestrian Crash Priority I	Pedestrian Crash Priority II	Pedestrian Crash Priority III	Pedestrian Crash Priority IV
Pittsylvania Co.	Appomattox Co.	Pulaski Co.	Covington
Lynchburg	Campbell Co.	Salem	Craig Co.
Roanoke City	Danville	Clifton Forge	Patrick Co.
Henry Co.	Bedford Co.	Floyd Co.	
Radford	Giles Co.	Alleghany Co.	
Bedford City	Martinsville		
Amherst Co.	Botetourt Co.		
	Roanoke Co.		
	Franklin Co.		
	Montgomery Co.		

For District 7, a total of 698 pedestrian crashes were projected to result in 700 injuries and 25 fatalities in 1985. While pedestrian crashes would account for approximately 2.5% of all crashes, they would account for approximately 4.5% of all injuries and 16.0% of all fatalities.

Using the same method to calculate priority clusters as was used for District 2, it was determined that there were two pedestrian crash priority clusters in District 7 (see Appendix C, Table C-10). These clusters are listed in Table 16 in descending order of priority. Approximately 78.3% of the projected fatalities and injuries among pedestrian crashes in District 7 were projected to occur among the Priority I localities.

Table 16

District 7

Pedestrian Crash Priority Clusters

Pedestrian Crash Priority I	Pedestrian Crash Priority II
Norfolk	Portsmouth
Va. Beach	Northampton Co.
Newport News	Hampton
Accomack Co.	York Co.
Chesapeake	Poquoson

Bicycle Crashes

Bicycle crashes, like pedestrian crashes, were expected to account for a relatively small proportion of all crashes. In District 2, a total of 124 bicycle crashes were projected for 1985, which were expected to result in 118 injuries and 1 fatality. Hence, roughly 0.8% of all crashes, 1.4% of all injuries, and 0.7% of all fatalities were expected to result from bicycle crashes. Thus, unlike pedestrian crashes, bicycle crashes in District 2 were not expected to disproportionately contribute to the total number of fatalities, but were expected to contribute somewhat disproportionately to the total number of injuries.

To estimate the relative priorities of localities with regard to the bicycle crash problem, the relative ranking of the absolute number of bicycle crashes was added to the relative ranking of the percent contribution of bicycle crashes to the total number of projected fatalities and injuries in a locality. This was done because bicycle crashes were projected to contribute disproportionately to injury whereas pedestrian crashes were projected to be overrepresented primarily among traffic-related fatalities. The resulting sums were then ranked, with ties being broken by giving a higher rank to the locality with the greater absolute number of bicycle crashes (see Appendix C, Table C-11).

It was determined that there were four bicycle crash priority clusters. However, the author cautions that, even though the localities can be ranked in relative terms, there is little evidence to suggest that there is a substantial bicycle crash problem in District 2. Given in Table 17, in descending order of priority, are the three priority clusters.

Table 17

District 2

Bicycle Crash Priority Clusters

Bicycle Crash Priority I	Bicycle Crash Priority II	Bicycle Crash Priority III	Bicycle Crash Priority IV
Lynchburg	Campbell Co.	Floyd Co.	Bedford City
Salem	Amherst Co.	Henry Co.	Covington
Roanoke City	Montgomery Co.	Pittsylvania Co.	Craig Co.
Danville	Pulaski Co.	Roanoke Co.	Patrick Co.
Radford	Clifton Forge	Giles Co.	
Martinsville	Botetourt Co.	Bedford Co.	
	Franklin Co.	Appomattox Co.	
		Alleghany Co.	

The bicycle crash problem in District 7 was more pronounced, on average, than that in District 2. A total of 617 bicycle crashes were projected to result in 621 injuries and 5 fatalities. Roughly 2.2% of all crashes, 4.0% of all traffic-related injuries, and 3.2% of all traffic fatalities were expected to involve bicycles. Hence, while still quite small in number, bicycle crashes in District 7 would be slightly overrepresented among all injuries and fatalities.

Using the same method which was applied to District 2, it was determined that there were three bicycle crash priority clusters (see Appendix C, Table C-12). These clusters are listed in Table 18 in descending order of priority.

Table 18

District 7

Bicycle Crash Priority Clusters

Bicycle Crash Priority I	Bicycle Crash Priority II	Bicycle Crash Priority III
Norfolk	Newport News	Accomack Co.
Va. Beach	Hampton	Northampton Co.
Portsmouth	Chesapeake	Poquoson
		York Co.

Motorcycle Crashes

District 2 was projected to have a total of.330 motorcycle crashes in 1985, with 288 injury crashes and 8 fatal crashes. Roughly 2.2% of all crashes, 5.0% of all injury crashes, and 5.9% of all fatal crashes were expected to involve a motorcycle. Hence, the motorcycle crash problem in District 2, while not contributing substantially to the total number of crashes, would be disproportionately represented among all injury and fatal crashes.

To compare localities with respect to motorcycle crashes, the projected absolute numbers of fatal and injury motorcycle crashes were ranked among the localities of District 2. Likewise, the percent contributions of motorcycle crashes to all projected fatal and injury crashes were ranked among the localities. These ranks were then added together and the resulting rank sum ranked. Ties were broken by giving a higher rank to the locality with the greater absolute number of motorcycle fatal and injury crashes (see Appendix C, Table C-13). From evaluating the rank sums, it was determined that there were four motorcycle crash priority clusters in District 2. Each is listed in Table 19 in descending order of priority.

Table 19

District 2

Motorcycle Crash Priority Clusters

Motorcycle Crash Priority I	Motorcycle Crash Priority II	Motorcycle Crash Priority III	Motorcycle Crash Priority IV
Roanoke City	Pittsylvania Co.	Appomattox Co.	Clifton Forge
Lynchburg	Amherst Co.	Roanoke Co.	Covington
Danville	Henry Co.	Craig Co.	Floyd Co.
Montgomery Co.	Bedford City	Alleghany Co.	
Bedford Co.	Martinsville		
	Pulaski Co.		
	Giles Co.		
	Radford		
	Patrick Co.		
	Franklin Co.		
	Salem		
	Campbell Co.		
	Botetourt Co.		

In District 7, the motorcycle crash problem was expected to be much more pronounced than in District 2. A total of 946 motorcycle crashes were projected for 1985, 816 resulting in injury and 15 resulting in death. Approximately 3.4% of all crashes, 7.5% of all injury crashes, and 10.8% of all fatal crashes would involve a motorcycle. Thus, motorcycle crashes were much more likely to result in death or injury than were other types of vehicle crashes, and motorcycles were expected to be involved in a substantial number of fatal crashes.

Applying the same methods to District 7 as were applied to District 2, two motorcycle crash priority clusters were noted (see Appendix C, Table C-14). These clusters are listed in Table 20.

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Table 20

District 7

Motorcycle Crash Priority Clusters

Motorcycle Crash Priority I	Motorcycle Crash Priority II
Norfolk	York Co.
Va. Beach	Chesapeake
Hampton	Accomack Co.
Newport News	Portsmouth
	Poquoson
	Northampton Co.

School Bus Crashes

In District 2, a total of 59 school bus crashes were projected for 1985, with 25 injuries and no fatalities expected among the occupants of the buses. Roughly 0.4% of all crashes would involve school buses, and 0.3% of all persons injured and none of those killed were projected to be school bus occupants. Hence, the school bus crash problem was projected to be extremely small and relatively insignificant in District 2. Further, only 8 of the 25 localities in District 2 were projected to have any injuries to school bus occupants, and Botetourt County accounted for 11, or 44%, of the 25 projected injuries.

District 7 is very similar to District 2 in that the school bus crash problem was projected to be relatively insignificant. A total of 96 crashes were projected to involve school buses in 1985, in which 36 bus occupants were expected to be injured and none killed. Thus, approximately 0.3% of all crashes would involve school buses and only 0.2% of all injuries would involve school bus occupants. In addition to this general underrepresentation of school bus crashes among all injuries and fatalities, 75% of the 36 injuries were projected to occur in two localities, Norfolk with 17 and Va. Beach with 10.

Fixed Object Crashes

A total of 4,947 crashes involving fixed objects were projected for 1985 for District 2, with 2,192 resulting in injury and 61 resulting in death. Roughly 32.4% of all crashes, 37.9% of all injury crashes, and

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45.2% of all fatal crashes would involve fixed objects. Thus, crashes with fixed objects were expected to be overrepresented among all injury and fatal crashes.

Using the relative ranking of the absolute number of fixed object crashes and the relative ranking of that number normalized per 100 registered vehicles, a rank sum was calculated by adding the localities respective ranks (see Appendix C, Table C-15). The rank sums were then evaluated for clustering, and it was determined that there were four fixed object crash priority clusters, which are presented in Table 21.

Table 21

District 2

Fixed Object Crash Priority Clusters

Fixed Object Crash Priority I	Fixed Object Crash Priority II	Fixed Object Crash Priority III	Fixed Object Crash Priority IV
Botetourt Co.	Roanoke City	Lynchburg	Bedford City
Franklin Co.	Bedford Co.	Floyd Co.	Clifton Forge
Montgomery Co.	Appomattox Co.	Giles Co.	Covington
Campbell Co.	Roanoke Co.	Danville	
Pittsylvania Co.	Pulaski Co.	Radford	
Alleghany Co.	Patrick Co.	Martinsville	
Amherst Co.	Craig Co.	Salem	
	Henry Co.		

It is worth noting that fixed object crashes in District 2 appeared to be a greater problem in the more rural areas of the district. This measure was initially to be used to quantify relative engineering problems; however, it may instead be a measure of an inherent rural effect. That is, perhaps in the more rural areas, more crashes involve fixed objects because there are fewer vehicles, pedestrians, and bicycles with which the vehicle can collide, or because rural roads are more curved and narrower than urban roads. Hence, this measure of engineering problems must be supplemented with more specific data to substantiate whether an engineering problem exists.

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In District 7, a total of 5,714 crashes involving fixed objects were projected for 1985, of which 2,178 were expected to involve injury and 45 death. Approximately 20.6% of all crashes, 20.0% of all injury crashes, and 32.4% of all fatal crashes were projected to involve fixed objects. Thus, in District 7, fixed object crashes would be disproportionately represented among all fatal crashes, but not among injury crashes.

Using the same method to determine priority clusters as was used for District 2, it was determined that there were three fixed object crash priority clusters in District 7 (see Appendix C, Table C-16). Each of these clusters is presented in Table 22 in descending order of priority.

Table 22

District 7

Fixed Object Crash Priority Clusters

Fixed Object Crash Priority I	Fixed Object Crash Priority II	Fixed Object Crash Priority III
Norfolk Chesapeake	Hampton Accomack Co. York Co. Va. Beach Newport News	Portsmouth Northampton Co. Poquoson

Obviously, these clusters do not separate the more rural and more urban areas as was the case in District 2. However, the author cautions that more specific data are needed to substantiate a claim that a locality indeed has an engineering problem. Quite simply, these data alone are not sufficient to pinpoint such a problem.

TIME AND ROADWAY CRASH PROBLEMS

This section of the report draws on data available at the state level to identify the times, days, and locations within each locality that exhibited the worst crash problems. The time of day and day of week data have been taken from the Mini Crash Facts for the year 1984 only, and the roadway data from Mini Crash Facts and the Summary of

Accident Data for the year 1983 only. These data sets were the most current ones available at the outset of this research.

Obviously, it would have been better to use cumulative data from 1980 to 1984, but this was not practical. Condensing time periods into two-hour intervals across the seven days of the week would leave 84 time slots per locality -- too many to compile economically over a five-year period. Likewise, data on interstate, primary, and secondary routes are too vast to allow a cost-effective five-year examination.

For both cities and counties, Mini Crash Facts provide data on the time of day and the day of week during which crashes occur. However, neither the Summary of Accident Data nor Mini Crash Facts present data on routes within cities. That is, at the state level, roadway data are available only for counties. Thus, local data must be tapped to determine which roadways have the worst crash problems within cities.

Priority times of day and days of week were determined by noting the 20 two-hour time slots, out of the 84 which occur each week, which had the highest number of crashes in 1983. These 20 time slots were then analyzed to determine any distinguishable clusters or patterns.

From Mini Crash Facts, each county's roadways were ranked in terms of absolute numbers of crashes, and the five routes with the worst crash problems were noted. However, to be targeted for emphasis in this report, a roadway must have had at least 12 crashes in 1983 as well as being ranked among the five worst routes in terms of absolute number of crashes. In other words, it is the opinion of the author that it would be difficult for a program to have an impact on the safety record of a roadway which averaged less than one crash per month.

From the Summary of Accident Data, roadways with high crash rates and a minimum of 12 crashes in 1983 were also noted. Any roadway or road segment which had an accident rate, injury rate, or death rate more than two standard deviations above the respective district averages for interstate, primary, or secondary roadways were considered to have high, or above critical, crash rates.

The lists given on the following pages identify the days and times during which the greatest numbers of crashes occur in each locality. For each county, up to five routes with the greatest number of crashes were ranked. Segments of these routes were noted as emphasis targets if they had above critical crash, injury, or fatality rates. (Segment data were not available for secondary routes.) Other routes were also noted if certain segments or the entire roadway had above critical rates and the entire route had 12 or more crashes in 1983.

Before examining these lists, the reader should note that the total number of crashes which occurred on a route in 1983 is listed in

parentheses below the route number. The numbers of crashes on business and alternate routes are included in the total for the main route, but emphasis targets are listed separately for business and alternate routes. Finally, the following abbreviations are used in the lists: (A) Alternate; (B) Business; (BP) Bypass; (CL) Corporate Limits or County Line; (E) East; (MP) Milepost; (N) North; (OP) Overpass; (S) South, (SL) State Line; (UP) Underpass; (W) West.

District 2

Alleghany County

Day and Time Priority:

o   Friday and Saturday   --   4 p.m. to 4 a.m.

Route Priority:

                                            emphasize:

1.   Route 64   --   7.3 miles from West Virginia
      (34 crashes)   SL to Route 661

2.   Route 60   --   0.67 miles from Route 64 to
      (31 crashes)   ECL Covington

                                --   4.53 miles from WCL
                                      Covington to Route 64

3.   Route 220   --   1.61 miles from Route 687 to
      (18 crashes)   NCL Covington

                                --   1.46 miles from SCL Clifton
                                      Forge to NCL Irongate

4.   Route 687   --   Secondary route
      (15 crashes)

5.   Route 18   --   4.04 miles from SCL Covington
      (14 crashes)   to Route 657

Amherst County

Day and Time Priority:

o   Friday through Sunday   --   4 p.m. to 10 p.m.
o   Saturday   --   12 Midnight to 4 a.m.
o   Sunday   --   12 Midnight to 2 a.m.

Route Priority:

                                            emphasize:

1.   Route 29   --   2.20 miles from route 29B and
      (217 crashes)   Route 1040 to Route 130

	Route 29B (--)	--	1.64 miles from James River Bridge to Route 29 at MP 164
		--	3.37 miles from Route 29 at MP 1198 to NCL Amherst
2.	Route 60 (36 crashes)	--	8.09 miles from ECL Amherst to Nelson CL
		--	5.30 miles from Route 778 to WCL Amherst
3.	Route 622 (33 crashes)	--	Secondary route
4.	Route 130 (24 crashes)	--	4.08 miles from Route 652 to Route 635
5.	Route 604 (13 crashes)	--	Secondary route

Appomattox County

Day and Time Priority:

o	Thursday through Sunday	--	4 p.m. to 6 p.m.
o	Friday	--	2 p.m. to 8 p.m.
o	Saturday and Sunday	--	2 a.m. to 4 a.m.
o	Saturday and Sunday	--	4 p.m. to 10 p.m.

Route Priority:

<u>emphasize:</u>

1.	Route 460 (64 crashes)	--	1.51 miles from Route 24 to ECL Appomattox
2.	Route 727 (19 crashes)	--	Secondary route
3.	Route 26 (15 crashes)	--	12.93 miles from Route 60 to Route 460
4.	Route 24 (14 crashes)	--	No segments above critical rate

Bedford City

    Day and Time Priority:

    o   Monday through Friday   --   12 Noon to 6 p.m.

Bedford County

    Day and Time Priority:

    o   Monday through Friday   --   2 p.m. to 6 p.m.
    o   Friday and Saturday   --   8 p.m. to 12 Midnight (4 a.m.)

    Route Priority: emphasize:

1.	Route 460 (100 crashes)	--	4.18 miles from Route 695 to Botetourt CL
2.	Route 24 (58 crashes)	--	7.59 miles from Campbell CL to Route 43
		--	9.09 miles from Route 746 to Route 651
3.	Route 122 (43 crashes)	--	8.08 miles from Route 639 to NCL Bedford
		--	7.25 miles from SCL Bedford to Route 24
4.	Route 221 (42 crashes)	--	14.12 miles from ECL Bedford to Route 1425
5.	Route 501 (20 crashes)	--	No segment above critical rate

Botetourt County

    Day and Time Priority:

    o   Friday   --   2 p.m. to 12 Midnight
    o   Saturday   --   6 p.m. to 4 a.m.
    o   Sunday   --   12 Noon to 8 p.m.

Route Priority:

<div style="text-align: right">emphasize:</div>

1. Route 220   --   11.28 miles from Route 434 to
    (107 crashes)   NCL Fincastle

                     --   1.50 miles from Route 779 to
                          Route 81

    Route 220A   --   4.64 miles from Roanoke CL to
    (--)   Route 81

2. Route 81   --   11.45 miles from Route 640 to
    (76 crashes)   Route 11

3. Route 11   --   0.86 miles from Route 43 to
    (64 crashes)   Buchanan WCL

                     --   8.93 miles from Route 81 to NCL
                          Troutsville

                     --   0.23 miles from N. Route 220A to
                          S. Route 220A

4. Route 43   --   14.09 miles from Buchanan NCL to
    (28 crashes)   Route 688

5. Route 460   --   No segment above critical rate
    (21 crashes)

Campbell County

Day and Time Priority:

o   Each day   --   4 p.m. to 6 p.m.
o   Friday through Sunday --   12 Noon to 8 p.m.
o   Friday and Saturday   --   10 p.m. to 2 a.m. (4 a.m.)

Route Priority:

<div style="text-align: right">emphasize:</div>

1. Route 29   --   0.42 miles from Route 678 to SCL
    (133 crashes)   Lynchburg

2. Route 460   --   4.56 miles from WCL Lynchburg
    (104 crashes)   to Bedford CL

3. Route 501   --   8.33 miles from Route 24 to
    (80 crashes)   Route 652

                    --   2.28 miles from NCL Brookneal
                          to SCL Brookneal

4. Route 622   --   Secondary route
    (39 crashes)

5. Route 24   --   4.32 miles from Route 501 to
    (34 crashes)   to Route 29

Other Routes:

o   Route 646   --   Secondary route
    (12 crashes)

o   Route 682   --   Secondary route
    (25 crashes)

o   Route 738   --   Secondary route
    (13 crashes)

Clifton Forge

Day and Time Priority:

o   No clustering of crashes

Covington

Day and Time Priority:

o   No clustering of crashes

Craig County

Day and Time Priority:

o   No clustering of crashes

Route Priority:

<div style="text-align: right;">emphasize:</div>

1. Route 311   --   9.38 miles from Roanoke CL to
   (26 crashes)   ECL Newcastle

                      --   0.18 miles from Route 42 to
                            WCL Newcastle

2. Route 42   --   No segment above critical rate
   (17 crashes)

Danville

Day and Time Priority:

o   Monday through Saturday --   2 p.m. to 6 p.m.
o   Friday and Saturday   --   12 Noon to 10 p.m.
o   Friday and Saturday   --   10 p.m. to 4 a.m.
    (High but not among 20 worst)

Floyd County

Day and Time Priority:

o   Monday through Friday   --   6 a.m. to 12 Noon
o   Friday and Saturday   --   4 p.m. to 8 p.m.
o   Saturday and Sunday   --   12 Midnight to 2 a.m.
    (High but not among 20 worst)

Route Priority:

<div style="text-align: right;">emphasize:</div>

1. Route 221   --   11.17 miles from Route 787 to
   (58 crashes)   WCL Floyd

                      --   2.65 miles from Route 8 to
                           Route 860

                      --   7.20 miles from Route 642 to
                           Roanoke CL

2. Route 8   --   5.73 miles from Blue Ridge
   (29 crashes)   Parkway to SCL Floyd

                      --   0.30 miles from Route 221 to NCL
                           Floyd

Franklin County

Day an Time Priority:

o   Each day   --   4 p.m. to 8 p.m.
o   Friday and Saturday   --   4 p.m. to 2 a.m.

Route Priority:

                                            emphasize:

1.   Route 220   --   1.54 miles from Roanoke CL
      (146 crashes)   to NCL Boones Mill

                          --   0.60 miles from SCL Boones
                                Mill to Route 739

      Route 220B   --   0.57 miles from Route 220 By-
      (--)   pass to NCL Rocky Mount

2.   Route 40   --   0.95 miles from Route 122 to
      (94 crashes)   Route 220 Bypass

                          --   8.88 miles from WCL Rocky
                                Mount to Route 602

3.   Route 122   --   10.26 miles from Bedford CL to
      (26 crashes)   Route 116

4.   Route 616   --   Secondary route
      (20 crashes)

5.   Route 116   --   No segment above critical rate
      (19 crashes)

Other Routes:

o   Route 619   --   Secondary route
     (16 crashes)

Giles County

Day and Time Priority:

o   Thursday through Sunday   --   2 p.m. to 8 p.m.
o   Friday and Saturday   --   10 p.m. to 2 a.m.

Route Priority:

<div style="text-align: right">emphasize:</div>

1.   Route 460   --   4.09 miles from Route 730 to ECL
       (17 crashes)   Pembroke

                              --   4.01 miles from Route 460B to
                                  ECL Narrows

                              --   0.91 miles from SCL Rock Creek
                                  to Route 219

       Route 460B   --   0.34 miles from NCL Pearisburg
       (--)   to Route 460

2.   Route 100   --   3.14 miles from Route 42 to
       (30 crashes)   Route 730

Henry County

Day and Time Priority:

o   Monday through Friday   --   6 a.m. to 8 a.m.
o   Monday through Friday   --   4 p.m. to 6 p.m.
o   Friday   --   12 Noon to 10 p.m.
o   Friday and Saturday   --   10 p.m. to 2 a.m. (4 a.m.)
         (High but not among 20 worst)

Route Priority:

<div style="text-align: right">emphasize:</div>

1.   Route 220   --   0.03 miles from Route 220B and
       (241 crashes)   Route 687 to NCL Ridgeway

                              --   3.39 miles from SCL Ridgeway to
                                  North Carolina SL

       Route 220B   --   4.09 miles from Route 993 to WCL
       (--)   Martinsville

2.   Route 57   --   12.80 miles from Pittsylvania
       (124 crashes)   CL to Route 58

                              --   13.79 miles from WCL
                                  Martinsville to Patrick CL

	Route 57A (--)	--	4.09 miles from Route 682 to Route 57
3.	Route 58 (105 crashes)	--	10.84 miles from Route 220 to Patrick CL
4.	Route 609 (35 crashes)	--	Secondary route
5.	Route 108 (26 crashes)	--	No segment above critical rate

Other Routes:

o	Route 87 (18 crashes)	--	0.83 miles from Route 220 By-pass to SCL Ridgeway
o	Route 610 (22 crashes)	--	Secondary route
o	Route 667 (19 crashes)	--	Secondary route
o	Route 674 (12 crashes)	--	Secondary Route
o	Route 682 (15 crashes)	--	Secondary route
o	Route 698 (19 crashes)	--	Secondary route

Lynchburg

Day and Time Priority:

o	Monday through Friday	--	12 Noon to 6 p.m.
o	Thursday and Friday	--	6 p.m. to 8 p.m.
o	Saturday	--	4 p.m. to 6 p.m.
o	Friday and Saturday	--	8 p.m. to 12 mid. (4a.m.)

Martinsville

Day and Time Priority:

o   Monday through Friday   --   2 p.m. to 6 p.m.
o   Wednesday through Friday --   6 p.m. to 8 p.m.
o   Saturday   --   12 Midnight to 2 a.m.
o   Saturday   --   8 p.m. to 2 a.m.

Montgomery County

Day and Time Priority:

o   Monday through Saturday --   2 p.m. to 6 p.m.
o   Saturday   --   12 Midnight to 2 a.m.
o   Saturday   --   12 Noon to 4 a.m

Route Priority:

                                        emphasize:

1.   Route 11   --   6.56 miles from Roanoke CL to
     (97 crashes)   Route 637

                      --   5.59 miles from WCL
                            Christiansburg to ECL Radford

2.   Route 81   --   2.13 miles from Route 603 to
     (85 crashes)   Roanoke CL

3.   Route 460   --   No segment above critical rate
     (56 crashes)

4.   Route 114   --   No segment above critical rate
     (36 crashes)

5.   Route 603   --   Secondary route
     (28 crashes)

Other Routes:

o   Route 8   --   5.99 miles from Floyd CL to
     (26 crashes)   Route 658

o   Route 615   --   Secondary route
     (24 crashes)

o Route 624 -- Secondary route
  (12 crashes)

o Route 637 -- Secondary route
  (14 crashes)

o Route 652 -- Secondary route
  (12 crashes)

Patrick County

·Day and Time Priority:

o Tuesday through Sunday -- 2 p.m. to 6 p.m.
o Friday and Saturday -- 2 p.m. to 2 a.m.

Route Priority:

            emphasize:

1. Route 58 -- 7.59 miles from Route 626 to ECL
  (66 crashes)   Stuart

         -- 15.38 miles from Route 8 to Blue
           Ridge Parkway

2. Route 8 -- 6.15 miles from Route 40 to
  (35 crashes)   Floyd CL

Pittsylvania County

Day and Time Priority:

o Each day   -- 2 p.m. to 6 p.m.
o Monday through Friday -- 6 a.m. to 8 p.m.
o Friday and Saturday -- 12 Noon to 12 Midnight (2 a.m.)

Route Priority:

            emphasize:

1. Route 29 -- 12.31 miles from NCL Danville to
  (144 crashes) SCL Chatham

         -- 7.29 miles from Route 29B at
           MP 3532 to Route 29B and
           Route 988

  Route 29B -- 1.01 miles from SCL Gretna
  (--)   to NCL Gretna

2. __Route 58__   --   No segment above critical rate
   (100 crashes)

3. __Route 750__   --   Secondary route
   (38 crashes)

4. __Route 40__   --   6.84 miles from ECL Gretna
   (35 crashes)   to Route 605

5. __Route 41__   --   No segment above critical rate
   (34 crashes)

Other Routes:

o __Route 51__   --   4.56 miles from WCL Danville
   (25 crashes)   to Route 58

o __Route 57__   --   11.25 miles from WCL Chatham
   (18 crashes)   to Route 41

o __Route 86__   --   1.13 miles from SCL Danville
   (12 crashes)   to North Carolina SL

o __Route 360__   --   7.06 miles from Route 726 to
   (16 crashes)   ECL Danville

o __Route 640__   --   Secondary route
   (24 crashes)

o __Route 703__   --   Secondary route
   (15 crashes)

o __Route 724__   --   Secondary route
   (12 crashes)

o __Route 726__   --   Secondary route
   (19 crashes)

o __Route 832__   --   Secondary route
   (17 crashes)

o __Route 844__   --   Secondary route
   (16 crashes)

Pulaski County:

Day and Time Priority:

o   Each day   --   2 p.m. to 6 p.m.
o   Friday and Saturday   --   10 p.m. to 2 a.m. (4 a.m.)

Route Priority:

                                        emphasize:

1.   Route 11   --   0.75 miles from New River to
     (101 crashes)   Route 114

                              --   0.95 miles from ECL Dublin to
                                   Route 100

                              --   3.11 miles from WCL Pulaski to
                                   Route 766

2   Route 81   --   2.41 miles from Route 100 to
     (47 crashes)   Route 660

3.   Route 100   --   4.07 miles from Wythe CL to
     (42 crashes)   Route 81

                              --   1.43 miles from NCL to Dublin
                                   to Route 797

4.   Route 114   --   0.37 miles from Route 600 to
     (24 crashes)   Route 11

5.   Route 600   --   Secondary route
     (22 crashes)

Other Routes:

o   Route 99   --   2.64 miles from the Route 81
     (17 crashes)   service road to ECL Pulaski

o   Route F047   --   Secondary route
     (14 crashes)

<u>Radford</u>

Day and Time Priority:

o   Monday through Saturday   --   4 p.m. to 6 p.m.
o   Friday and Saturday   --   12 Noon to 2 p.m.

<u>Roanoke City</u>

Day and Time Priority:

o   Monday through Friday   --   2 p.m. to 6 p.m.
o   Monday/Wednesday/Friday   --   10 a.m. to 2 p.m.
o   Friday   --   8 p.m. to 2 a.m.
o   Saturday   --   8 p.m. to 2 a.m.
      (High but not among 20 worst)

<u>Roanoke County</u>

Day and Time Priority:

o   Monday through Friday   --   2 p.m. to 6 p.m.
o   Saturday   --   10 a.m. to 4 p.m.
o   Friday and Saturday   --   6 p.m. to 4 a.m.

Route Priority:

<u>emphasize</u>:

1.   <u>Route 419</u>   --   0.77 miles from WCL Roanoke to
       (139 crashes)   Route 904

                            --   0.48 miles from Route 81 to
                                   Route 311

2   <u>Route 11</u>   --   1.60 miles from Botetourt CL to
       (121 crashes)   Route 117

                            --   3.96 miles from WCL Salem to
                                   Route 647

3.   <u>Route 221</u>   --   2.31 miles from Route 708 to
       (83 crashes)   Route 711

                            --   1.58 miles from Route 897 to
                                   Route 419

4   Route 220   --   6.46 miles from SCL Roanoke to
        (61 crashes)   Franklin CL

5.   Route 81   --   1.82 miles from Montgomery CL
        (58 crashes)   to Route 647

Other Routes:

o   Route 115   --   2.19 miles from NCL Roanoke to
        (27 crashes)   Route 11

o   Route 117   --   0.36 miles from Route 118 to WCL
        (16 crashes)   Roanoke

o   Route 311   --   1.27 miles from NCL Salem to
        (30 crashes)   Route 419

                         --   2.54 miles from Route 785 to
                               Craig CL

o   Route 622   --   Secondary route
        (14 crashes)

o   Route 682   --   Secondary route
        (16 crashes)

o   Route 904   --   Secondary route
        (18 crashes)

Salem

Day and Time Priority:

o   Each day   --   2 p.m. to 6 p.m.
o   Monday, Friday, Saturday   --   10 a.m. to 12 Noon
o   Saturday and Sunday   --   12 Midnight to 4 a.m.
     (High but not among 20 worst)

District 7

Accomack County

Day and Time Priority:

o   Wednesday through Sunday -- 2 p.m. to 6 p.m.
o   Friday and Saturday   -- 10 p.m. to 4 a.m.

Route Priority:

                                        emphasize:

1.   Route 13   --   4.76 miles from Route 187 to
      (189 crashes)   Route 176

                      --   0.15 miles from NCL Accomac to
                           SCL Accomac

                      --   0.74 miles from Route 179 to
                           Route 13B and Route 609

                      --   0.87 miles from NCL Melfa to SCL
                           Melfa

                      --   0.83 miles from NCL Keller to
                           SCL Keller

                      --   2.94 miles from SCL Painter to
                           Northampton CL

      Route 13B   --   0.96 miles from Route 13 to NCL
      (--)   Accomac

                      --   0.75 miles from SCL Accomac to
                           Route 13

                      --   0.79 miles from Route 316 to NCL
                           Onley

2.   Route 175   --   10.45 miles from Route 13 to WCL
      (34 crashes)   Chincoteague

3.   Route 178   --   1.72 miles from Northampton CL
      (25 crashes)   to WCL Belle Haven

4. Route 316   --   2.58 miles from Route 13B to
    (22 crashes)   Route 764

                      --   0.61 miles from Route 676 to NCL
                           Parksley

                      --   0.39 miles from SCL Bloxom to
                           Route 187

5. Route 679   --   Secondary route
    (18 crashes)

Other Routes:

o   Route 658   --   Secondary Route
    (16 crashes)

Chesapeake

Day and Time Priority:

o   Each day   --   4 p.m. to 6 p.m.
o   Friday   --   2 p.m. to 2 a.m. (4 a.m.)
o   Saturday   --   10 p.m. to 12 Midnight (4 a.m.)

Hampton

Day and Time Priority:

o   Monday through Saturday   --   12 Noon to 6 p.m.
o   Friday and Saturday   --   8 p.m. to 4 a.m.
    (High but not among 20 worst)

Newport News

Day and Time Priority:

o   Monday through Friday   --   12 Noon to 6 p.m.
o   Friday   --   6 p.m. to 10 p.m.
o   Friday and Saturday   --   10 p.m. to 4 a.m.
    (High but not among 20 worst)

Norfolk

Day and Time Priority:

o   Monday through Saturday   --   12 Noon to 6 p.m.
o   Friday   --   10 p.m. to 2 a.m. (4 a.m.)
o   Saturday   --   10 p.m. to 4 a.m.
    (High but not among 20 worst)

Northampton County

Day and Time Priority:

o   Wednesday   --   12 Noon to 8 p.m.
o   Friday through Sunday   --   6 p.m. to 8 p.m.
o   Friday and Saturday   --   10 p.m. to 4 a.m.

Route Priority:

<div align="right">emphasize:</div>

1. **Route 13**   --   2.13 miles from NCL Exmore to
   (165 crashes)   Route 13B, South of Exmore

                         --   0.98 miles from NCL Nassawadox
                              to SCL Nassawadox

                         --   0.24 miles from NCL Eastville to
                              SCL Eastville

   Route 13B   --   1.28 miles from SCL Cheriton to
   (--)   Route 184 and Route 13B

                         --   1.97 miles from NCL Exmore to
                              Route 13 at MP 214

                         --   0.79 miles from Route 13 at
                              MP1982 to SCL Cheriton

2. **Route 183**   --   7.45 miles from Route 13B,
   (15 crashes)   across the WCL of Exmore, to
                              Route 613

Poquoson

Day and Time Priority:

o   Saturday and Sunday   --   12 Noon to 4 p.m.
o   Friday and Saturday   --   10 p.m. to 4 a.m.

Portsmouth

Day and Time Priority:

o   Monday through Friday   --   2 p.m. to 6 p.m.
o   Friday and Saturday   --   12 Noon to 8 p.m. (10 p.m.)

Va. Beach

Day and Time Priority:

o   Monday through Friday   --   2 p.m. to 6 p.m.
o   Friday and Saturday   --   12 Noon to 6 p.m. (8 p.m.)
o   Friday   --   6 p.m. to 2 a.m.
o   Saturday   --   10 p.m. to 2 a.m.
    (High but not among 20 worst)

York County

Day and Time Priority:

o   Each day   --   2 p.m. to 6 p.m.
o   Friday and Saturday   --   8 p.m. to 4 a.m.

Route Priority:

                                                emphasize:

1. Route 17   --   8.77 miles from Route 1001 to
    (199 crashes) 1001   Route 134 underpass

2. Route 143   --   0.76 miles from James City CL to
    (50 crashes)   SCL Williamsburg

                            --   0.82 miles from NCL Williamsburg
                                 to Route 64 overpass

3. Route 134   --   4.01 miles from Route 17
    (42 crashes)   overpass to NCL Hampton

4. Route 64   --   No segment above critical rate
    (39 crashes)

5. Route 60   --   2.53 miles from James City CL to
    (38 crashes)   City CL to James City CL

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Other Routes:

o   <u>Route 171</u>   --   2.94 miles from Route 134 to
     (23 crashes)   WCL Poquoson

o   <u>Route 238</u>   --   3.74 miles from ECL Newport News
     (24 crashes)   to Route 17 Underpass

COUNTERMEASURE PROGRAMS

Occupant Protection

Perhaps one of the most effective, or at least one of the most
cost-effective, ways to reduce traffic-related injuries and fatalities
is through increasing the usage of safety belts. Most passenger vehi-
cles on the road today are equipped with at least lap belts, and most
post-1976 cars are equipped with self-adjusting, three-point belt sys-
tems. The Department of Transportation estimates that the three-point
belt system could prevent up to 50% of all traffic-related fatalities
and 65% of all traffic-related injuries. Grey has estimated that, in
Virginia, every percentage point increase in safety belt use could save
4 fatalities per year.(6)

In a 1984 survey of urban travelers, Stoke observed that 20.5% of
urban drivers in Virginia were wearing at least lap belts, up from 16.4%
in 1983.(7) Building upon Grey, if only the 4 percentage point increase
between 1983 and 1984 is held, 16 additional fatalities will be avoided
every year. Raising safety belt use only an additional 5 percentage
points to 25.5% would save an additional 20 lives per year in Virginia,
or reduce fatalities by approximately 2.0%.

Based upon experiences in other states, Grey's estimates may be too
conservative. New York's mandatory safety belt legislation resulted in
an increase in driver belt use of 53 percentage points from 16% to 69%.
In the first quarter after the enactment of its mandatory use law, New
York experienced a 27% drop in fatalities(8) -- or about a 2.5% drop in
fatalities per 5 percentage point increase in belt usage. Assuming that
this decrease can be attributed to the increase in belt use, increases
in Virginia comparable to that of New York (i.e., a 50 percentage point
increase) would result in saving between 200 and 250 lives per year, or
between 120 and 150 lives per year even if usage were to increase only
30 percentage points.

Obviously, the key to New York's success is the perceived power of
the mandatory legislation. Indeed, Grey points out that effective
public information and consistent enforcement are critical to the
continued success of any mandatory safety belt use legislation. Hence,
even if mandatory use legislation is passed, law enforcement officials
are needed to back the program, and public information and education
efforts must continue.

Timing is also critical for bringing about any change in behavior.
Currently, people are becoming more concerned about using occupant
protection. Stoke observed that safety belt use among urban drivers did
not change significantly in Virginia between 1977 and 1983, when driver
usage rates were 16.3% and 16.4%, respectively.(9) In fact, driver belt
use declined in the western survey area. However, in 1984 driver usage

was up from 16.4% to 20.5% -- and increases were observed in all regions of Virginia. (7)

A dramatic component of the 1984 jump was the increase in use among young adults (age 17 to 30) from 14.3% to 22.4% from 1983 to 1984, and for middle adults (age 31 to 60) usage jumped from 17.3% to 25.1% over the same period. However, usage among older adults did not increase significantly. (7) Thus, young and middle adults appear to be the groups which are more likely to be affected by countermeasure efforts.

Other indications of the time being right to implement occupant protection programs can be found in public opinion surveys. A recent Gallup poll found self-reported safety belt use up in all regions of the country, with the eastern United States experiencing the largest increases between 1983 and 1984, from 24% to 53%. (10) Obviously, self-reported figures are systematically biased upward, but these responses indicate that the social climate is such that safety belt use is becoming more of a social expectation or norm. Further evidence of this trend is found in the same report, which indicates that 35% of the people surveyed in 1984 favor fining people who are not wearing safety belts, up from 19% in 1983.

All of these trends suggest a public with the motivation to wear belts, with many putting that motivation into action. In a climate such as this, civic, business, and media groups may more readily support countermeasure efforts than they heretofore have. "A Guide for Comprehensive Community Traffic Safety Programs" points out that the best way to get a comprehensive program started is to "make use of basic motivational factors in a community -- self-interest and concern."(11) Thus, by utilizing this rising wave of public concern, the CCBP has the opportunity to implement occupant protection programs successfully.

Media support is critical because, as Grey points out, public information is easily the most expensive part of an occupant protection program. Thus, any programs tried should be newsworthy -- intriguing enough to the public to be passed through the media and by word of mouth. In other words, programs should be innovative and of public concern in order to take full advantage of free publicity.

In constructing countermeasure programs, the work of Geller of the Department of Psychology at Virginia Polytechnic Institute and State University can serve as an excellent resource. Dr. Geller has written two manuals, one on community programs (12) and the other on corporate programs. (13) These safety belt manuals are well researched, and should serve as excellent reference materials in establishing countermeasure programs.

Alcohol

The data contained in this report indicate that alcohol poses a
serious threat to traffic safety in many of the localities within the
two pilot districts. This is not at all surprising, because driving
under the influence of alcohol (DUI) is a well-documented traffic safety
problem. Unfortunately, though, no solution has yet been found.
Perhaps the only way to combat the alcohol problem is to involve all
aspects of the system and concentrate on prevention, education and
treatment, intervention, law enforcement, prosecution, and adjudication.

A comprehensive alcohol program in San Mateo, California, has
attempted to reduce the alcohol problem through a similar approach.
Prevention may include public information and education programs aimed
not at the drinker, but at the drinker's "significant others," his
family and friends. These efforts encourage loved ones to find ways to
keep the would-be DUI offender off the road. Many of San Mateo's
educational programs concentrate on young persons -- especially those in
their teens. As emphasized by J. Thomas Hicks, the San Mateo project
director, not only are teens overrepresented among the total number of
crashes, they are also disproportionately involved in alcohol-related
crashes. Hence, the young driver population is, and should be, a target
for countermeasure programs.

Intervention may take the form of keeping the intoxicated driver
off the road, or of finding ways to keep the would-be DUI offender from
becoming under the influence. An example of the former is a ride home
program, and among the latter are programs geared at training waiters,
waitresses, and bartenders how to recognize when a customer has had
enough to drink.

Law enforcement is a critical part of any comprehensive alcohol
program. Even with unlimited manpower, it is unlikely that every DUI
offender could be apprehended, but a highly publicized enforcement
effort may increase the perceived risk of getting caught, at least
enough to keep some of the would-be DUI offenders off the road. Through
training officers to detect DUI offenders and increasing enforcement
efforts through selective enforcement, perhaps through roving patrols or
checkpoints, the number of alcohol-related crashes may be reduced. That
is, if the aforementioned efforts are highly publicized, even if
effectiveness is increased only slightly, the perceived risk of getting
caught will increase and, therefore, some persons may seek options other
than driving under the influence.

The prosecution and conviction of DUI offenders is the final link
in building a credible system. Without penalties being given through
the courts, there is little other than self-inflicted risk involved in
driving under the influence. Thus, it is important that prosecutors and
judges be brought on board and, at least in theory, agree with the

techniques used in law enforcement efforts and agree that DUI offenses present a serious threat to public safety.

Fortunately, even though alcohol is a large contributing factor among serious traffic crashes, the public is at least aware of the problem. In fact, increased public awareness and concern may help to make driving under the influence socially unacceptable. By tapping into this growing amount of public support and concern, the CCBP may be able to implement successful countermeasure programs.

Excessive Speed

The data examined through this research indicate that excessive speed is a contributing factor in many fatal and injury crashes. That is, while perhaps only 11.7% of all crashes in District 2, and 12.4% of all crashes in District 7, involve excessive speed, fully 14.4% and 15.0% of all injury crashes and 41.5% and 29.5% of all fatal crashes were projected to involve excessive speed in the respective districts. Thus, this is a problem which the CCBP should attempt to counter.

Unfortunately, the public may not back such efforts as readily as it might back alcohol or occupant protection programs. A recent survey conducted by Northeastern University indicated that nearly 70% of those surveyed believed that the 55 mph speed limit should be raised.(14) This attitude about the 55 mph speed limit may also indicate a general discontent with slower speed limits. It is, therefore, likely that attempts to vigorously enforce speed limits will have little public support. For these attempts to be effective, the public must be convinced that excessive speed is a serious hazard to traffic safety.

Selective Enforcement

If the goal of selective enforcement efforts is to reduce potential crash hazards, then enforcement should concentrate on the hours, days, and locations which experience the worst crash problems. Drawing from problem times and locations noted earlier in this report, selective enforcement activities might be developed to include countermeasures such as checkpoints or roving patrols. These activities would have the added benefit of providing a high profile for law enforcement officials during times and on routes which are the most problematic.

Pedestrian Safety

In both of the pilot districts, pedestrian crashes were projected to account for approximately 16.0% of all fatalities. The data currently accessible at the state level do not permit a more detailed analysis of the factors involved in these pedestrian crashes. The available data permit only an analysis of which localities have the most pronounced pedestrian crash problems. Hence, local data should be tapped to pinpoint the locations of pedestrian crashes and determine the factors involved in these crashes. These efforts should be given a high priority, because improving pedestrian safety has been shown to be a critical need in both districts.

CITIZEN INVOLVEMENT

Citizen Advisory Committee

In order to be truly community-based, the CCBP must tap the resources of local citizens. A comprehensive program in Spokane, Washington has effectively used citizen advisory committees to propose solutions to local traffic and public works problems. Such an advisory role may spark citizen groups' interests in the CCBP. Such a structure may also enhance the effectiveness of the CCBP by promoting traffic safety through a wide variety of groups, and through generating new ideas.

Advisory committees should include representatives of key, active local organizations and agencies, and may also include some of the "average taxpayers." Once established, these advisory committees should then be presented a problem, and supplied relevant data necessary for making an informed decision about that problem. The committee should then evaluate the data and propose a solution or several possible solutions, given the restraining parameters within which any proposal must fall (e.g., time and money).

This structure permits the public to become actively involved in solving local problems. Thus, countermeasure initiatives will not only be molded to a particular community, they will be crafted by members of that community.

Traffic Hot Line

In Northern Virginia, The Fairfax Journal has initiated a running column entitled "Traffic Hotline." This hot line provides the general public an outlet to express any concerns about traffic safety hazards, or to ask questions about traffic safety or traffic problems. The newspaper then addresses these concerns to the appropriate officials -- generally engineering or police officials. The questions and responses are published in a question and answer format, and, occasionally, a few paragraphs on local traffic current events are also reported.

A column such as this encourages public participation in promoting traffic safety, provides for improved public relations, and serves as a means of ongoing problem identification. However, for such an effort to be effective, it is critical that the key officials to whom the questions are addressed be willing and able to investigate the concerns brought to their attention. If these concerns are dismissed without adequate consideration, the result may include poorer public relations and delays in improving traffic safety.

The Journal's hot line occupies one telephone line and an answering machine at the newspaper office. In investigating and writing the column, one reporter is required for approximately 5 hours per week. Hence, such an effort is relatively inexpensive, given the potential benefits to the CCBP and traffic safety in general.

To start such a column in a local or regional newspaper, the CCBP staff will need to sell the management of the paper on the idea. Perhaps a mini-grant to cover the initial capital outlay will help, and the CCBP staff must be able to provide the newspaper with informed and cooperative contacts. The CCBP staff may also need to offer assistance in investigating questions -- at least in the short-run. However, a hot line may provide one of the better returns for the CCBP, with relatively small costs in time, effort, and money.

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APPENDIX A

District 2
Linear Projections

District 2

Linear Projections

I. General Information

Total Number of Crashes   =   15,262

Number of Fatal Crashes   =   135

Number of Fatalities   =   144

Number of Injury Crashes   =   5,791

Number of Injuries   =   8,410

Severity Ratio   =   .5605

Number of Registered Vehicles = 640,291

II. Specific Problems

1. Reported Alcohol-related Crashes:

     2,701   crashes   =   17.7%   of all crashes

     1,336   injury crashes   =   23.1%   of all injury crashes

       59   fatal crashes   =   43.7%   of all fatal crashes

2. Nighttime Crashes:

     5,521   crashes   =   36.2%   of all crashes

     2,247   injury crashes   =   38.8%   of all injury crashes

       71   fatal crashes   =   52.6%   of all fatal crashes

3. Weekend Crashes:

     7,391   crashes   =   48.4%   of all crashes

     2,903   injury crashes   =   50.1%   of all injury crashes

       83   fatal crashes   =   61.5%   of all fatal crashes

4. Speed-related Crashes:

      1,798 crashes   =   11.7% of all crashes

        833 injury crashes   =   14.4% of all injury crashes

         56 fatal crashes   =   41.5% of all fatal crashes

5. Pedestrian Crashes:

        197 crashes   =   1.3% of all crashes

        183 injuries   =   2.2% of all injuries

         23 fatalities   =   16.0% of all fatalities

6. Bicycle Crashes:

        124 crashes   =   0.8% of all crashes

        118 injuries   =   1.4% of all injuries

          1 fatality   =   0.7% of all fatalities

7. Motorcycle Crashes:

        330 crashes   =   2.2% of all crashes

        288 injury crashes   =   5.0% of all injury crashes

          8 fatal crashes   =   5.9% of all fatal crashes

8. School Bus Crashes:

         59 crashes   =   0.4% of all crashes

         25 occupants injured =   0.3% of all injuries

          0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

      4,947 crashes   =   32.4% of all crashes

      2,192 injury crashes   =   37.9% of all injury crashes

         61 fatal crashes   =   45.2% of all fatal crashes

Alleghany County

Linear Projections

I. General Information

Total Number of Crashes   =   257

Number of Fatal Crashes   =   4

Number of Fatalities   =   5

Number of Injury Crashes   =   123

Number of Injuries   =   197

Severity Ratio   = .7860

Number of Registered Vehicles = 11,114

II. Specific Problems

1. Reported Alcohol-related Crashes:

        68   crashes   = 26.5% of all crashes

        40   injury crashes   = 32.5% of all injury crashes

         2   fatal crashes   = 50.0% of all fatal crashes

2. Nighttime Crashes:

       134   crashes   = 52.1% of all crashes

        62   injury crashes   = 50.4% of all injury crashes

         2   fatal crashes   = 50.0% of all fatal crashes

3. Weekend Crashes:

       135   crashes   = 52.5% of all crashes

        61   injury crashes   = 49.6% of all injury crashes

         3   fatal crashes   = 75.0% of all fatal crashes

4. Speed-related Crashes:

     29 crashes   = 11.3% of all crashes

     18 injury crashes   = 14.6% of all injury crashes

      3 fatal crashes   = 75.0% of all fatal crashes

5. Pedestrian Crashes:

      1 crash   =   0.4% of all crashes

      1 injury   =   0.5% of all injuries

      0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

      1 crash   =   0.4% of all crashes

      1 injury   =   0.5% of all injuries

      0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

      3 crashes   =   1.2% of all crashes

      1 injury crash   =   0.8% of all injury crashes

      0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

      1 crash   =   0.4% of all crashes

      0 occupants injured =   0 % of all injuries

      0 occupants killed   =   0 % of all fatalities

9. Fixed Object Crashes:

    137 crashes   = 53.3% of all crashes

     79 injury crashes   = 64.2% of all injury crashes

      2 fatal crashes   = 50.0% of all fatal crashes

Amherst County

Linear Projections

I. General Information

Total Number of Crashes   =   503

Number of Fatal Crashes   =   3

Number of Fatalities   =   4

Number of Injury Crashes   =   244

Number of Injuries   =   366

Severity Ratio   =   .7356

Number of Registered Vehicles = 21,111

II. Specific Problems

1. Reported Alcohol-related Crashes:

     95 crashes   = 18.9% of all crashes

     51 injury crashes   = 20.9% of all injury crashes

      0 fatal crashes   =   0 %   of all fatal crashes

2. Nighttime Crashes:

    196 crashes   = 39.0% of all crashes

     95 injury crashes   = 38.9% of all injury crashes

      2 fatal crashes   = 66.7% of all fatal crashes

3. Weekend Crashes:

    262 crashes   = 52.1% of all crashes

    140 injury crashes   = 57.4% of all injury crashes

      0 fatal crashes   =   0 %   of all fatal crashes

4. Speed-related crashes:

      52 crashes   = 10.3% of all crashes

      36 injury crashes   = 14.8% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

       5 crashes   =   1.0% of all crashes

       3 injuries   =   0.8% of all injuries

       2 fatalities   = 50.0% of all fatalities

6. Bicycle Crashes:

       5 crashes   =   1.0% of all crashes

       5 injuries   =   1.4% of all injuries

       0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

      13 crashes   =   2.6% of all crashes

      12 injury crashes   =   4.9% of all injury crashes

       1 fatal crash   = 33.3% of all fatal crashes

8. School Bus Crashes:

       4 crashes   =   0.8% of all crashes

       0 occupants injured =   0 % of all injuries

       0 occupants killed   =   0 % of all fatalities

9. Fixed Object Crashes:

     184 crashes   = 36.6% of all crashes

     110 injury crashes   = 45.1% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

Appomattox County

Linear Projections

I. General Information

Total Number of Crashes   =   200

Number of Fatal Crashes   =   5

Number of Fatalities   =   6

Number of Injury Crashes   =   103

Number of Injuries   =   163

Severity Ratio   =   .8450

Number of Registered Vehicles = 10,472

II. Specific Problems

1. Reported Alcohol-related Crashes:

      36 crashes   = 18.0% of all crashes

      19 injury crashes   = 18.4% of all injury crashes

       4 fatal crashes   = 80.0% of all fatal crashes

2. Nighttime Crashes:

      87 crashes   = 43.5% of all crashes

      42 injury crashes   = 40.8% of all injury crashes

       5 fatal crashes   = 100.0% of all fatal crashes

3. Weekend Crashes:

   133 crashes   = 56.5% of all crashes

    56 injury crashes   = 54.4% of all injury crashes

     4 fatal crashes   = 80.0% of all fatal crashes

4. Speed-related Crashes:

  13 crashes   = 6.5% of all crashes

   7 injury crashes = 6.8% of all injury crashes

   2 fatal crashes = 40.0% of all fatal crashes

5. Pedestrian Crashes:

   5 crashes   = 2.5% of all crashes

   5 injuries   = 3.1% of all injuries

   1 fatality   = 16.7% of all fatalities

6. Bicycle Crashes:

   1 crash   = 0.5% of all crashes

   1 injury   = 0.6% of all injuries

   0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

   4 crashes   = 2.0% of all crashes

   4 injury crashes = 3.9% of all injury crashes

   0 fatal crashes = 0 % of all fatal crashes

8. School Bus Crashes:

   2 crashes   = 1.0% of all crashes

   0 occupants injured = 0 % of all injuries

   0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

  90 crashes   = 45.0% of all crashes

  54 injury crashes = 52.4% of all injury crashes

   3 fatal crashes = 60.0% of all fatal crashes

Bedford City

Linear Projections

I. __General Information__

    Total Number of Crashes   =   109

    Number of Fatal Crashes   =   1

    Number of Fatalities   =   1

    Number of Injury Crashes   =   36

    Number of Injuries   =   46

    Severity Ratio   = .4312

    Number of Registered Vehicles = 4,492

II. __Specific Problems__

    1. Reported Alcohol-related Crashes:

                23 crashes   = 21.1% of all crashes

                 7 injury crashes = 19.4% of all injury crashes

                 1 fatal crash   = 100.0% of all fatal crashes

    2. Nighttime Crashes:

                39 crashes   = 35.8% of all crashes

                10 injury crashes = 27.8% of all injury crashes

                 1 fatal crash   = 100.0% of all fatal crashes

    3. Weekend Crashes:

                51 crashes   = 46.8% of all crashes

                16 injury crashes = 44.4% of all injury crashes

                 0 fatal crashes   =   0 % of all fatal crashes

4. Speed-related Crashes:

    24 crashes   = 22.0% of all crashes

    10 injury crashes   = 27.8% of all injury crashes

     1 fatal crash   = 100.0% of all fatal crashes

5. Pedestrian Crashes:

     5 crashes   =   4.6% of all crashes

     4 injuries   =   8.7% of all injuries

     1 fatality   = 100.0% of all fatalities

6. Bicycle Crashes:

     1 crash   =   0.9% of all crashes

     0 injuries   =   0 %   of all injuries

     0 fatalities   =   0 %   of all fatalities

7. Motorcycle Crashes:

     3 crashes   =   2.8% of all crashes

     3 injury crashes   =   8.3% of all injury crashes

     0 fatal crashes   =   0 %   of all fatal crashes

8. School Bus Crashes:

     1 crash   =   0.9% of all crashes

     0 occupants injured =   0 %   of all injuries

     0 occupants killed   =   0 %   of all fatalities

9. Fixed Object Crashes:

    37 crashes   = 33.9% of all crashes

     9 injury crashes   = 25.0% of all injury crashes

     0 fatal crashes   =   0 %   of all fatal crashes

Bedford County

Linear Projections

I. <u>General Information</u>

Total Number of Crashes	=	562
Number of Fatal Crashes	=	5
Number of Fatalities	=	6
Number of Injury Crashes	=	254
Number of Injuries	=	367
Severity Ratio	=	.6637
Number of Registered Vehicles	=	33,807

II. <u>Specific Problems</u>

1. Reported Alcohol-related Crashes:

103	crashes	= 18.3%	of all crashes
55	injury crashes	= 21.7%	of all injury crashes
3	fatal crashes	= 60.0%	of all fatal crashes

2. Nighttime Crashes:

212	crashes	= 37.3%	of all crashes
89	injury crashes	= 35.0%	of all injury crashes
3	fatal crashes	= 60.0%	of all fatal crashes

3. Weekend Crashes:

261	crashes	= 46.4%	of all crashes
117	injury crashes	= 46.1%	of all injury crashes
4	fatal crashes	= 80.0%	of all fatal crashes

4. Speed-related Crashes:

      38 crashes   =   6.8% of all crashes

      23 injury crashes   =   9.1% of all injury

       2 fatal crashes   = 40.0% of all fatal crashes

5. Pedestrian Crashes:

       2 crashes   =   0.4% of all crashes

       2 injuries   =   0.5% of all injuries

       1 fatality   = 16.7% of all fatalities

6. Bicycle Crashes:

       2 crashes   =   0.4% of all crashes

       2 injuries   =   0.5% of all injuries

       0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

      16 crashes   =   2.8% of all crashes

      16 injury crashes   =   6.3% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

       5 crashes   =   0.9% of all crashes

       3 occupants injured =   0.8% of all injuries

       0 occupants killed   =   0 % of all fatalities

9. Fixed Object Crashes:

     229 crashes   = 40.7% of all crashes

     121 injury crashes   = 47.6% of all injury crashes

       3 fatal crashes   = 60.0% of all fatal crashes

Botetourt County

Linear Projections

I. General Information

Total Number of Crashes   =   546

Number of Fatal Crashes   =   10

Number of Fatalities   =   11

Number of Injury Crashes   =   243

Number of Injuries   =   347

Severity Ratio   =   .6557

Number of Registered Vehicles = 20,122

II. Specific Problems

1. Reported Alcohol-related Crashes:

   87   crashes   = 15.9%   of all crashes

   46   injury crashes   = 18.9%   of all injury crashes

   4   fatal crashes   = 40.0%   of all fatal crashes

2. Nighttime Crashes:

   210   crashes   = 38.5%   of all crashes

   87   injury crashes   = 35.8%   of all injury crashes

   6   fatal crashes   = 60.0%   of all fatal crashes

3. Weekend Crashes:

   272   crashes   = 49.8%   of all crashes

   133   injury crashes   = 54.7%   of all injury crashes

   4   fatal crashes   = 40.0%   of all fatal crashes

4. Speed-related Crashes:

60	crashes	=	11.0%	of all crashes
36	injury crashes	=	14.8%	of all injury crashes
5	fatal crashes	=	50.0%	of all fatal crashes

5. Pedestrian Crashes:

5	crashes	=	0.9%	of all crashes
4	injuries	=	1.2%	of all injuries
1	fatality	=	9.1%	of all fatalities

6. Bicycle Crashes:

3	crashes	=	0.5%	of all crashes
3	injuries	=	0.9%	of all injuries
0	fatalities	=	0 %	of all fatalities

7. Motorcycle Crashes:

10	crashes	=	1.8%	of all crashes
9	injury crashes	=	3.7%	of all injury crashes
0	fatal crashes	=	0 %	of all fatalities

8. School Bus Crashes:

4	crashes	=	0.7%	of all crashes
11	occupants injured	=	3.2%	of all injuries
0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

246	crashes	=	45.1%	of all crashes
129	injury crashes	=	53.1%	of all injury crashes
7	fatal crashes	=	70.0%	of all fatal crashes

Campbell County

Linear Projections

I. General Information

Total Number of Crashes   =   832

Number of Fatal Crashes   =   13

Number of Fatalities   =   14

Number of Injury Crashes   =   376

Number of Injuries   =   559

Severity Ratio   =   .6887

Number of Registered Vehicles =   38,514

II. Specific Problems

1. Reported Alcohol-related Crashes:

        182 crashes   = 21.9% of all crashes

        110 injury crashes   = 29.3% of all injury crashes

          5 fatal crashes   = 38.5% of all fatal crashes

2. Nighttime Crashes:

        331 crashes   = 39.8% of all crashes

        160 injury crashes   = 42.6% of all injury crashes

          7 fatal crashes   = 53.8% of all fatal crashes

3. Weekend Crashes:

        453 crashes   = 54.4% of all crashes

        200 injury crashes   = 53.2% of all injury crashes

         10 fatal crashes   = 76.9% of all fatal crashes

4. Speed-related Crashes:

                113 crashes   = 13.6% of all crashes

                 60 injury crashes   = 16.0% of all injury crashes

                  6 fatal crashes   = 46.2% of all fatal crashes

5. Pedestrian Crashes:

                  7 crashes   =   0.8% of all crashes

                  6 injuries   =   1.1% of all injuries

                  1 fatality   =   7.1% of all fatalities

6. Bicycle Crashes:

                  7 crashes   =   0.8% of all crashes

                  6 injuries   =   1.1% of all injuries

                  1 fatality   =   7.1% of all fatalities

7. Motorcycle Crashes:

                 13 crashes   =   1.6% of all crashes

                 12 injury crashes   =   3.2% of all injury crashes

                  1 fatal crash   =   7.7% of all fatal crashes

8. School Bus Crashes:

                  6 crashes   =   0.7% of all crashes

                  2 occupants injured   =   0.4% of all injuries

                  0 occupants killed   =   0 %   of all fatalities

9. Fixed Object Crashes:

                297 crashes   = 35.7% of all crashes

                155 injury crashes   = 41.2% of all injury crashes

                  5 fatal crashes   = 38.5% of all fatal crashes

Clifton Forge City

Linear Projections

I. <u>General Information</u>

Total Number of Crashes   =   69

Number of Fatal Crashes   =   0

Number of Fatalities   =   0

Number of Injury Crashes   =   19

Number of Injuries   =   22

Severity Ratio   = .3188

Number of Registered Vehicles = 3,034

II. <u>Specific Problems</u>

1. Reported Alcohol-related crashes:

     10   crashes   =   14.5%   of all crashes

      5   injury crashes   =   26.3%   of all injury crashes

      0   fatal crashes   =   0 %   of all fatal crashes

2. Nighttime Crashes:

     24   crashes   =   34.8%   of all crashes

      8   injury crashes   =   42.1%   of all injury crashes

      0   fatal crashes   =   0 %   of all fatal crashes

3. Weekend Crashes:

     32   crashes   =   46.4%   of all crashes

     10   injury crashes   =   52.6%   of all injury crashes

      0   fatal crashes   =   0 %   of all fatal crashes

4. Speed-related Crashes:

      7 crashes   = 10.1% of all crashes

      1 injury crash   =   5.3% of all injury crashes

      0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

      1 crash   =   1.4% of all crashes

      2 injuries   =   9.1% of all injuries

      0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

      1 crash   =   1.4% of all crashes

      1 injury   =   4.5% of all injuries

      0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

      1 crash   =   1.4% of all crashes

      0 injury crashes   =   0 % of all injury crashes

      0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

      0 crashes   =   0 % of all crashes

      0 occupants injured =   0 % of all injuries

      0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

     26 crashes   = 37.7% of all crashes

      5 injury crashes   = 26.3% of all injury crashes

      0 fatal crashes   =   0 % of all fatal crashes

Covington City

Linear Projections

I. General Information

Total Number of Crashes   =   10

Number of Fatal Crashes   =   0

Number of Fatalities   =   0

Number of Injury Crashes   =   4

Number of Injuries   =   7

Severity Ratio   =   .7000

Number of Registered Vehicles =   5,572

II. Specific Problems

1. Reported Alcohol-related Crashes:

    2 crashes   = 20.9% of all crashes

    1 injury crash   = 25.0% of all injury crashes

    0 fatal crashes =   0 %   of all fatal crashes

2. Nighttime Crashes:

    3 crashes   = 30.0% of all crashes

    1 injury crash   = 25.0% of all injury crashes

    0 fatal crashes =   0 %   of all fatal crashes

3. Weekend Crashes:

    3 crashes   = 30.0% of all crashes

    1 injury crash   = 25.0% of all injury crashes

    0 fatal crashes =   0 %   of all fatal crashes

4. Speed-related Crashes:

       2 crashes   = 20.0% of all crashes

       1 injury crash   = 25.0% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

       0 crashes   =   0 % of all crashes

       0 injuries   =   0 % of all injuries

       0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

       0 crashes   =   0 % of all crashes

       0 injuries   =   0 % of all injuries

       0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

       0 crashes   =   0 % of all crashes

       0 injury crashes   =   0 % of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

       0 crashes   =   0 % of all crashes

       0 occupants injured   =   0 % of all injuries

       0 occupants killed   =   0 % of all fatalities

9. Fixed Object Crashes:

       5 crashes   = 50.0% of all crashes

       2 injury crashes   = 50.0% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

Craig County

Linear Projections

I. General Information

Total Number of Crashes   =   88

Number of Fatal Crashes   =   1

Number of Fatalities   =   1

Number of Injury Crashes   =   35

Number of Injuries   =   58

Severity Ratio   =   .6705

Number of Registered Vehicles = 3,778

II. Specific Problems

1. Reported Alcohol-related Crashes:

   14 crashes   = 15.9% of all crashes

    7 injury crashes   = 20.0% of all injury crashes

    0 fatal crashes   =   0 % of all fatal crashes

2. Nighttime Crashes:

   36 crashes   = 40.9% of all crashes

   16 injury crashes   = 45.7% of all injury crashes

    0 fatal crashes   =   0 % of all fatal crashes

3. Weekend Crashes:

   38 crashes   = 43.2% of all crashes

   17 injury crashes   = 48.6% of all injury crashes

    0 fatal crashes   =   0 % of all fatal crashes

4. Speed-related Crashes:

         3 crashes   =   3.4% of all crashes

         3 injury crashes   =   8.6% of all injury crashes

         0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

         0 crashes   =   0 % of all crashes

         0 injuries   =   0 % of all injuries

         0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

         0 crashes   =   0 % of all crashes

         0 injuries   =   0 % of all injuries

         0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

         2 crashes   =   2.3% of all crashes

         1 injury crash   =   2.9% of all injury crashes

         0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

         0 crashes   =   0 % of all crashes

         0 occupants injured =   0 % of all injuries

         0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

        50 crashes   = 56.8% of all crashes

        27 injury crashes   = 77.1% of all injury crashes

         1 fatal crash   = 100.0% of all fatal crashes

Danville City

Linear Projections

I. General Information

Total Number of Crashes   = 1,143

Number of Fatal Crashes   =   3

Number of Fatalities   =   3

Number of Injury Crashes   =   449

Number of Injuries   =   657

Severity Ratio   = .5774

Number of Registered Vehicles = 30,985

II. Specific Problems

1. Reported Alcohol-related Crashes:

    173 crashes   = 15.1% of all crashes

     86 injury crashes   = 19.2% of all injury crashes

      1 fatal crash   = 33.3% of all fatal crashes

2. Nighttime Crashes:

    337 crashes   = 29.5% of all crashes

    147 injury crashes   = 32.7% of all injury crashes

      1 fatal crash   = 33.3% of all fatal crashes

3. Weekend Crashes:

    557 crashes   = 48.7% of all crashes

    216 injury crashes   = 48.1% of all injury crashes

      2 fatal crashes   = 66.7% of all fatal crashes

4. Speed-related Crashes:

     141 crashes   = 12.3% of all crashes

      67 injury crashes   = 14.9% of all injury crashes

       0 fatal crashes   = 0 % of all fatal crashes

5. Pedestrian Crashes:

      32 crashes   = 2.8% of all crashes

      32 injuries   = 4.9% of all injuries

       0 fatalities   = 0 % of all fatalities

6. Bicycle Crashes:

      18 crashes   = 1.6% of all crashes

      17 injuries   = 2.6% of all injuries

       0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

      31 crashes   = 2.7% of all crashes

      27 injury crashes   = 6.0% of all injury crashes

       0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

       0 crashes   = 0 % of all crashes

       0 occupants injured = 0 % of all injuries

       0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

     220 crashes   = 19.2% of all crashes

      72 injury crashes   = 16.0% of all injury crashes

       1 fatal crash   = 33.3% of all fatal crashes

Floyd County

Linear Projections

I. General Information

Total Number of Crashes   =   192

Number of Fatal Crashes   =   2

Number of Fatalities   =   2

Number of Injury Crashes   =   63

Number of Injuries   =   88

Severity Ratio   =   .4688

Number of Registered Vehicles = 10,207

II. Specific Problems

1. Reported Alcohol-related Crashes:

   33 crashes   = 17.2% of all crashes

   15 injury crashes   = 23.8% of all injury crashes

    1 fatal crash   = 50.0% of all fatal crashes

2. Nighttime Crashes:

   77 crashes   = 40.1% of all crashes

   24 injury crashes   = 38.1% of all injury crashes

    2 fatal crashes   = 100.0% of all fatal crashes

3. Weekend Crashes:

   104 crashes   = 54.2% of all crashes

   37 injury crashes   = 58.7% of all injury crashes

    2 fatal crashes   = 100.0% of all fatal crashes

4. Speed-related Crashes:

  23 crashes   = 12.0% of all crashes

  13 injury crashes = 20.6% of all injury crashes

  1 fatal crash   = 50.0% of all fatal crashes

5. Pedestrian Crashes:

  2 crashes   = 1.0% of all crashes

  2 injuries   = 2.3% of all injuries

  0 fatalities   = 0 % of all fatalities

6. Bicycle Crashes:

  1 crash   = 0.5% of all crashes

  1 injury   = 1.1% of all injuries

  0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

  0 crashes   = 0 % of all crashes

  0 injury crashes   = 0 % of all injury crashes

  0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

  2 crashes   = 1.0% of all crashes

  0 occupants injured = 0 % of all injuries

  0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

  97 crashes   = 50.5% of all crashes

  35 injury crashes = 55.6% of all injury crashes

  2 fatal crashes   = 100.0% of all fatal crashes

Franklin County

Linear Projections

I. General Information

Total Number of Crashes   =   669

Number of Fatal Crashes   =   11

Number of Fatalities   =   12

Number of Injury Crashes   =   296

Number of Injuries   =   441

Severity Ratio   =   .6771

Number of Registered Vehicles = 30,141

II. Specific Problems

1. Reported Alcohol-related Crashes:

           142 crashes   = 21.2% of all crashes

            80 injury crashes   = 27.0% of all injury crashes

             4 fatal crashes   = 36.4% of all fatal crashes

2. Nighttime Crashes:

           303 crashes   = 45.3% of all crashes

           142 injury crashes   = 48.0% of all injury crashes

             6 fatal crashes   = 54.5% of all fatal crashes

3. Weekend Crashes:

           355 crashes   = 53.1% of all crashes

           155 injury crashes   = 52.4% of all injury crashes

             8 fatal crashes   = 72.7% of all fatal crashes

4. Speed-related Crashes:

      70 crashes   = 10.5% of all crashes

      44 injury crashes   = 14.9% of all injury crashes

       5 fatal crashes   = 45.5% of all fatal crashes

5. Pedestrian Crashes:

       4 crashes   = 0.6% of all crashes

       2 injuries   = 0.5% of all injuries

       2 fatalities   = 16.7% of all fatalities

6. Bicycle Crashes:

       2 crashes   = 0.3% of all crashes

       3 injuries   = 0.7% of all injuries

       0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

      13 crashes   = 1.9% of all crashes

       9 injury crashes   = 3.0% of all injury crashes

       2 fatal crashes   = 18.2% of all fatal crashes

8. School Bus Crashes:

       2 crashes   = 0.3% of all crashes

       2 occupants injured = 0.5% of all injuries

       0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

     299 crashes   = 44.7% of all crashes

     154 injury crashes   = 52.0% of all injury crashes

       4 fatal crashes   = 36.4% of all fatal crashes

Giles County

Linear Projections

I. General Information

Total Number of Crashes   =   211

Number of Fatal Crashes   =   6

Number of Fatalities   =   7

Number of Injury Crashes   =   85

Number of Injuries   =   128

Severity Ratio   =   .6398

Number of Registered Vehicles = 13,422

II. Specific Problems

1. Reported Alcohol-related Crashes:

45	crashes	=	21.3%	of all crashes
24	injury crashes	=	28.2%	of all injury crashes
2	fatal crashes	=	33.3%	of all fatal crashes

2. Nighttime Crashes:

70	crashes	=	33.2%	of all crashes
27	injury crashes	=	31.8%	of all injury crashes
2	fatal crashes	=	33.3%	of all fatal crashes

3. Weekend Crashes:

106	crashes	=	50.2%	of all crashes
43	injury crashes	=	50.6%	of all injury crashes
3	fatal crashes	=	50.0%	of all fatal crashes

4. Speed-related Crashes:

    18 crashes   =   8.5% of all crashes

     9 injury crashes   = 10.6% of all injury crashes

     2 fatal crashes   = 33.3% of all fatal crashes

5. Pedestrian Crashes:

     3 crashes   =   1.4% of all crashes

     2 injuries   =   1.6% of all injuries

     1 fatality   = 14.3% of all fatalities

6. Bicycle Crashes:

     1 crash   =   0.5% of all crashes

     1 injury   =   0.8% of all injuries

     0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

     5 crashes   =   2.4% of all crashes

     5 injury crashes   =   5.9% of all injury crashes

     0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

     0 crashes   =   0 % of all crashes

     0 occupants injured = 0 % of all injuries

     0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

    93 crashes   = 44.1% of all crashes

    43 injury crashes   = 50.6% of all injury crashes

     2 fatal crashes   = 33.3% of all fatal crashes

Henry County

Linear Projections

I. General Information

Total Number of Crashes   =   903

Number of Fatal Crashes   =   15

Number of Fatalities   =   16

Number of Injury Crashes   =   383

Number of Injuries   =   566

Severity Ratio   =   .6445

Number of Registered Vehicles = 47,744

II. Specific Problems

1. Reported Alcohol-related Crashes:

         140   crashes   = 15.5% of all crashes

          79   injury crashes = 20.6% of all injury crashes

           5   fatal crashes   = 33.3% of all fatal crashes

2. Nighttime Crashes:

         330   crashes   = 36.5% of all crashes

         148   injury crashes = 38.6% of all injury crashes

           6   fatal crashes   = 40.0% of all fatal crashes

3. Weekend Crashes:

         439   crashes   = 48.6% of all crashes

         188   injury crashes = 49.1% of all injury crashes

           8   fatal crashes   = 53.3% of all fatal crashes

4. Speed-related Crashes:

    107 crashes   = 11.8% of all crashes

    59 injury crashes   = 15.4% of all injury crashes

    5 fatal crashes   = 33.3% of all fatal crashes

5. Pedestrian Crashes:

    11 crashes   = 1.2% of all crashes

    8 injuries   = 1.4% of all injuries

    4 fatalities   = 25.0% of all fatalities

6. Bicycle Crashes:

    2 crashes   = 0.2% of all crashes

    3 injuries   = 0.5% of all injuries

    0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

    19 crashes   = 2.1% of all crashes

    18 injury crashes   = 4.7% of all injury crashes

    0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

    4 crashes   = 0.4% of all crashes

    1 occupant injured   = 0.2% of all injuries

    0 occupants killed   = 0 % of all fatalities

9. Fixed Object Crashes:

    274 crashes   = 30.3% of all crashes

    137 injury crashes   = 35.8% of all injury crashes

    8 fatal crashes   = 53.3% of all fatal crashes

Lynchburg City

Linear Projections

I. General Information

Total Number of Crashes   =   1,564

Number of Fatal Crashes   =   10

Number of Fatalities   =   10

Number of Injury Crashes   =   447

Number of Injuries   =   619

Severity Ratio   =   .4022

Number of Registered Vehicles = 45,488

II. Specific Problems

1. Reported Alcohol-related Crashes:

256	crashes	= 16.4%	of all crashes
95	injury crashes	= 21.3%	of all injury crashes
4	fatal crashes	= 40.0%	of all fatal crashes

2. Nighttime Crashes:

536	crashes	= 34.3%	of all crashes
165	injury crashes	= 36.9%	of all injury crashes
4	fatal crashes	= 40.0%	of all fatal crashes

3. Weekend Crashes:

706	crashes	= 45.1%	of all crashes
198	injury crashes	= 44.3%	of all injury crashes
6	fatal crashes	= 60.0%	of all fatal crashes

4. Speed-related Crashes:

216	crashes	= 13.8%	of all crashes
84	injury crashes	= 18.8%	of all injury crashes
4	fatal crashes	= 40.0%	of all fatal crashes

5. Pedestrian Crashes:

33	crashes	= 2.1%	of all crashes
31	injuries	= 5.0%	of all injuries
2	fatalities	= 20.0%	of all fatalities

6. Bicycle Crashes:

21	crashes	= 1.3%	of all crashes
19	injuries	= 3.1%	of all injuries
0	fatalities	= 0 %	of all fatalities

7. Motorcycle Crashes:

37	crashes	= 2.4%	of all crashes
31	injury crashes	= 6.9%	of all injury crashes
3	fatal crashes	= 30.0%	of all fatal crashes

8. School Bus Crashes:

6	crashes	= 0.4%	of all crashes
0	occupants injured	= 0 %	of all injuries
0	occupants killed	= 0 %	of all fatalities

9. Fixed Object Crashes:

351	crashes	= 22.4%	of all crashes
109	injury crashes	= 24.4%	of all injury crashes
2	fatal crashes	= 20.0%	of all fatal crashes

Martinsville City

Linear Projections

I. General Information

Total Number of Crashes	=	482
Number of Fatal Crashes	=	2
Number of Fatalities	=	2
Number of Injury Crashes	=	123
Number of Injuries	=	166
Severity Ratio	=	.3485
Number of Registered Vehicles	=	12,809

II. Specific Problems

1. Reported Alcohol-related Crashes:

59	crashes	= 12.2%	of all crashes
14	injury crashes	= 11.4%	of all injury crashes
1	fatal crash	= 50.0%	of all fatal crashes

2. Nighttime Crashes:

127	crashes	= 26.3%	of all crashes
38	injury crashes	= 30.9%	of all injury crashes
1	fatal crash	= 50.0%	of all fatal crashes

3. Weekend Crashes:

219	crashes	= 45.4%	of all crashes
55	injury crashes	= 44.7%	of all injury crashes
1	fatal crash	= 50.0%	of all fatal crashes

4. Speed-related Crashes:

    65 crashes   = 13.5% of a all crashes

    21 injury crashes   = 17.1% of all injury crashes

     0 fatal crashes   = 0 % of all fatal crashes

5. Pedestrian Crashes:

     9 crashes   = 1.9% of all crashes

    10 injuries   = 6.0% of all injuries

     0 fatalities   = 0 % of all fatalities

6. Bicycle Crashes:

     6 crashes   = 1.2% of all crashes

     5 injuries   = 3.0% of all injuries

     0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

     8 crashes   = 1.7% of all crashes

     7 injury crashes   = 5.7% of all injury crashes

     0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

     1 crash   = 0.2% of all crashes

     0 occupants injured = 0 % of all injuries

     0 occupants killed   = 0 % of all fatalities

9. Fixed Object Crashes:

   130 crashes   = 27.0% of all crashes

    32 injury crashes   = 26.0% of all injury crashes

     2 fatal crashes   = 100.0% of all fatal crashes

Montgomery County

Linear Projections

I. <u>General Information</u>

Total Number of Crashes   =   877

Number of Fatal Crashes   =   9

Number of Fatalities   =   9

Number of Injury Crashes   =   376

Number of Injuries   =   562

Severity Ratio   =   .6511

Number of Registered Vehicles = 40,984

II. <u>Specific Problems</u>

1. Reported Alcohol-related Crashes:

    173 crashes   = 19.7% of all crashes

     95 injury crashes   = 25.3% of all injury crashes

      4 fatal crashes   = 44.4% of all fatal crashes

2. Nighttime Crashes:

    347 crashes   = 39.6% of all crashes

    159 injury crashes   = 42.3% of all injury crashes

      6 fatal crashes   = 66.7% of all fatal crashes

3. Weekend Crashes:

    436 crashes   = 49.7% of all crashes

    182 injury crashes   = 48.4% of all injury crashes

      6 fatal crashes   = 66.7% of all fatal crashes

4. Speed-related Crashes:

75	crashes	=	8.6%	of all crashes
36	injury crashes	=	9.6%	of all injury crashes
3	fatal crashes	=	33.3%	of all fatal crashes

5. Pedestrian Crashes:

6	crashes	=	0.7%	of all crashes
7	injuries	=	1.2%	of all injuries
0	fatalities	=	0 %	of all fatalities

6. Bicycle Crashes:

6	crashes	=	0.7%	of all crashes
6	injuries	=	1.1%	of all injuries
0	fatalities	=	0 %	of all fatalities

7. Motorcycle Crashes:

24	crashes	=	2.7%	of all crashes
23	injury crashes	=	6.1%	of all injury crashes
0	fatal crashes	=	0 %	of all fatal crashes

8. School Bus Crashes:

1	crash	=	0.1%	of all crashes
0	occupants injured	=	0 %	of all injuries
0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

319	crashes	=	36.4%	of all crashes
162	injury crashes	=	43.1%	of all injury crashes
4	fatal crashes	=	44.4%	of all fatal crashes

Patrick County

Linear Projections

I. General Information

Total Number of Crashes   =   274

Number of Fatal Crashes   =   3

Number of Fatalities   =   3

Number of Injury Crashes   =   120

Number of Injuries   =   188

Severity Ratio   =   .6971

Number of Registered Vehicles = 14,518

II. Specific Problems

    1. Reported Alcohol-related Crashes:

              61   crashes   =   22.3% of all crashes

              30   injury crashes =   25.0% of all injury crashes

               2   fatal crashes =   66.7% of all fatal crashes

    2. Nighttime Crashes:

             110   crashes   =   40.1% of all crashes

              49   injury crashes =   40.8% of all injury crashes

               1   fatal crash   =   33.3% of all fatal crashes

    3. Weekend Crashes:

             149   crashes   =   54.4% of all crashes

              68   injury crashes =   56.7% of all injury crashes

               1   fatal crash   =   33.3% of all fatal crashes

4. Speed-related Crashes:

      32 crashes   = 11.7% of all crashes

      11 injury crashes   =   9.2% of all injury crashes

       1 fatal crash   = 33.3% of all fatal crashes

5. Pedestrian Crashes:

       0 crashes   =   0 % of all crashes

       0 injuries   =   0 % of all injuries

       0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

       0 crashes   =   0 % of all crashes

       0 injuries   =   0 % of all injuries

       0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

       7 crashes   =   2.6% of all crashes

       6 injury crashes   =   5.0% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

       2 crashes   =   0.7% of all crashes

       0 occupants injured =   0 % of all injuries

       0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

     120 crashes   = 43.8% of all crashes

      61 injury crashes   = 50.8% of all injury crashes

       2 fatal crashes   = 66.7% of all fatal crashes

Pittsylvania County

Linear Projections

I. General Information

Total Number of Crashes	=	924
Number of Fatal Crashes	=	9
Number of Fatalities	=	9
Number of Injury Crashes	=	375
Number of Injuries	=	539
Severity Ratio	=	.5931
Number of Registered Vehicles	=	50,171

II. Specific Problems

1. Reported Alcohol-related Crashes:

175 crashes   = 18.9% of all crashes

98 injury crashes   = 26.1% of all injury crashes

5 fatal crashes   = 55.6% of all fatal crashes

2. Nighttime Crashes:

389 crashes   = 42.1% of all crashes

173 injury crashes   = 46.1% of all injury crashes

3 fatal crashes   = 33.3% of all fatal crashes

3. Weekend Crashes:

485 crashes   = 52.5% of all crashes

205 injury crashes   = 54.7% of all injury crashes

8 fatal crashes   = 88.9% of all fatal crashes

4. Speed-related Crashes:

        90 crashes   =   9.7% of all crashes

        41 injury crashes   = 10.9% of all injury crashes

         4 fatal crashes   = 44.4% of all fatal crashes

5. Pedestrian Crashes:

        14 crashes   =   1.5% of all crashes

        10 injuries   =   1.9% of all injuries

         4 fatalities   = 44.4% of all fatalities

6. Bicycle Crashes:

         3 crashes   =   0.3% of all crashes

         3 injuries   =   0.6% of all injuries

         0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

        20 crashes   =   2.2% of all crashes

        20 injury crashes   =   5.3% of all injury crashes

         0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

         3 crashes   =   0.3% of all crashes

         2 occupants injured =   0.4% of all injuries

         0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

      367 crashes   = 39.7% of all crashes

      174 injury crashes   = 46.4% of all injury crashes

         4 fatal crashes   = 44.4% of all fatal crashes

Pulaski County

Linear Projections

I. General Information

Total Number of Crashes	=	473
Number of Fatal Crashes	=	4
Number of Fatalities	=	4
Number of Injury Crashes	=	209
Number of Injuries	=	318
Severity Ratio	=	.6808
Number of Registered Vehicles	=	25,674

II. Specific Problems

    1. Reported Alcohol-related Crashes:

86	crashes	= 18.2%	of all crashes
51	injury crashes	= 24.4%	of all injury crashes
1	fatal crash	= 25.0%	of all fatal crashes

    2. Nighttime Crashes:

176	crashes	= 37.2%	of all crashes
90	injury crashes	= 43.1%	of all injury crashes
1	fatal crash	= 25.0%	of all fatal crashes

    3. Weekend Crashes:

226	crashes	= 47.8%	of all crashes
106	injury crashes	= 50.7%	of all injury crashes
2	fatal crashes	= 50.0%	of all fatal crashes

4. Speed-related crashes:

38	crashes	=	8.0% of all crashes
25	injury crashes	=	12.0% of all injury crashes
3	fatal crashes	=	75.0% of all fatal crashes

5. Pedestrian Crashes:

4	crashes	=	0.8% of all crashes
5	injuries	=	1.6% of all injuries
0	fatalities	=	0 % of all fatalities

6. Bicycle Crashes:

4	crashes	=	0.8% of all crashes
4	injuries	=	1.3% of all injuries
0	fatalities	=	0 % of all fatalities

7. Motorcycle Crashes:

14	crashes	=	3.0% of all crashes
10	injury crashes	=	4.8% of all injury crashes
0	fatal crashes	=	0 % of all fatal crashes

8. School Bus Crashes:

2	crashes	=	0.4% of all crashes
1	occupant injured	=	0.3% of all injuries
0	occupants killed	=	0 % of all fatalities

9. Fixed Object Crashes:

192	crashes	=	40.6% of all crashes
95	injury crashes	=	45.5% of all injury crashes
2	fatal crashes	=	50.0% of all fatal crashes

Radford City

Linear Projections

I. General Information

Total Number of Crashes   =   205

Number of Fatal Crashes   =   1

Number of Fatalities   =   1

Number of Injury Crashes   =   91

Number of Injuries   =   127

Severity Ratio   = .6244

Number of Registered Vehicles = 7,848

II. Specific Problems

1. Reported Alcohol-related Crashes:

        41 crashes   = 20.0% of all crashes

        19 injury crashes = 20.9% of all injury crashes

         1 fatal crash   = 100.0% of all fatal crashes

2. Nighttime Crashes:

        61 crashes   = 29.8% of all crashes

        30 injury crashes = 33.0% of all injury crashes

         1 fatal crash   = 100.0% of all fatal crashes

3. Weekend Crashes:

       101 crashes   = 49.3% of all crashes

        49 injury crashes = 53.8% of all injury crashes

         1 fatal crash   = 100.0% of all fatal crashes

4. Speed-related Crashes:

33	crashes	=	16.1%	of all crashes
19	injury crashes	=	29.9%	of all injury crashes
1	fatal crash	=	100.0%	of all fatal crashes

5. Pedestrian Crashes:

4	crashes	=	2.0%	of all crashes
5	injuries	=	3.9%	of all injuries
1	fatality	=	100.0%	of all fatalities

6. Bicycle Crashes:

5	crashes	=	2.4%	of all crashes
5	injuries	=	3.9%	of all injuries
0	fatalities	=	0 %	of all fatalities

7. Motorcycle Crashes:

5	crashes	=	2.4%	of all crashes
5	injury crashes	=	5.5%	of all injury crashes
0	fatal crashes	=	0 %	of all fatal crashes

8. School Bus Crashes:

0	crashes	=	0 %	of all crashes
0	occupants injured	=	0 %	of all injuries
0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

63	crashes	=	30.7%	of all crashes
26	injury crashes	=	28.6%	of all injury crashes
1	fatal crash	=	100.0%	of all fatal crashes

Roanoke City

Linear Projections

I. General Information

Total Number of Crashes = 2,546

Number of Fatal Crashes = 9

Number of Fatalities = 9

Number of Injury Crashes = 739

Number of Injuries = 1,042

Severity Ratio = .4128

Number of Registered Vehicles = 74,670

II. Specific Problems

1. Reported Alcohol-related Crashes:

443 crashes = 17.4% of all crashes

183 injury crashes = 24.8% of all injury crashes

6 fatal crashes = 66.7% of all fatal crashes

2. Nighttime Crashes:

855 crashes = 33.6% of all crashes

268 injury crashes = 36.3% of all injury crashes

8 fatal crashes = 88.9% of all fatal crashes

3. Weekend Crashes:

1,137 crashes = 44.7% of all crashes

362 injury crashes = 49.0% of all injury crashes

5 fatal crashes = 55.6% of all fatal crashes

4. Speed-related Crashes:

        330 crashes   = 13.0% of all crashes

        125 injury crashes   = 16.9% of all injury crashes

          4 fatal crashes   = 44.4% of all fatal crashes

5. Pedestrian Crashes:

         31 crashes   = 1.2% of all crashes

         30 injuries   = 2.9% of all injuries

          2 fatalities   = 22.2% of all fatalities

6. Bicycle Crashes:

         20 crashes   = 0.8% of all crashes

         18 injuries   = 1.7% of all injuries

          0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

         55 crashes   = 2.2% of all crashes

         46 injury crashes   = 6.2% of all injury crashes

          1 fatal crash   = 11.1% of all fatal crashes

8. School Bus Crashes:

          6 crashes   = 0.2% of all crashes

          3 occupants injured = 0.3% of all injuries

          0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

        636 crashes   = 25.0% of all crashes

        189 injury crashes   = 25.6% of all injury crashes

          2 fatal crashes   = 22.2% of all fatal crashes

Roanoke County

Linear Projections

I. General Information

Total Number of Crashes   =   1,107

Number of Fatal Crashes   =   7

Number of Fatalities   =   8

Number of Injury Crashes   =   404

Number of Injuries   =   577

Severity Ratio   =   .5285

Number of Registered Vehicles = 64,184

II. Specific Problems

1. Reported Alcohol-related Crashes:

        190 crashes   = 17.2% of all crashes

         98 injury crashes   = 24.3% of all injury crashes

          2 fatal crashes   = 28.6% of all fatal crashes

2. Nighttime Crashes:

        415 crashes   = 37.5% of all crashes

        167 injury crashes   = 41.3% of all injury crashes

          3 fatal crashes   = 42.9% of all fatal crashes

3. Weekend Crashes:

        535 crashes   = 48.3% of all crashes

        201 injury crashes   = 49.8% of all injury crashes

          3 fatal crashes   = 42.9% of all fatal crashes

4. Speed-related Crashes:

       127 crashes   = 11.5% of all crashes

        54 injury crashes = 13.4% of all injury crashes

         4 fatal crashes   = 57.1% of all fatal crashes

5. Pedestrian Crashes:

         8 crashes   = 0.7% of all crashes

         8 injuries   = 1.4% of all injuries

         0 fatalities   = 0 % of all fatalities

6. Bicycle Crashes:

         3 crashes   = 0.3% of all crashes

         3 injuries   = 0.5% of all injuries

         0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

        18 crashes   = 1.6% of all crashes

        15 injury crashes = 3.7% of all injury crashes

         0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

         6 crashes   = 0.5% of all crashes

         0 occupants injured = 0 % of all injuries

         0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

       375 crashes   = 33.9% of all crashes

       170 injury crashes = 42.1% of all injury crashes

         4 fatal crashes   = 57.1% of all fatal crashes

Salem City

Linear Projections

I. General Information

Total Number of Crashes   =   516

Number of Fatal Crashes   =   2

Number of Fatalities   =   2

Number of Injury Crashes   =   194

Number of Injuries   =   260

Severity Ratio   =   .5078

Number of Registered Vehicles   = 19,430

II. Specific Problems

1. Reported Alcohol-related Crashes:

            64   crashes   =   12.4% of all crashes

            28   injury crashes   =   14.4% of all injury crashes

             1   fatal crash   =   50.0% of all fatal crashes

2. Nighttime Crashes:

           116   crashes   =   22.5% of all crashes

            50   injury crashes   =   25.8% of all injury crashes

             0   fatal crashes   =   0 %   of all fatal crashes

3. Weekend Crashes:

           216   crashes   =   41.9% of all crashes

            87   injury crashes   =   44.8% of all injury crashes

             2   fatal crashes   = 100.0% of all fatal crashes

4. Speed-related Crashes:

      83 crashes   = 16.1% of all crashes

      30 injury crashes   = 15.5% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

       5 crashes   =   1.0% of all crashes

       4 injuries   =   1.5% of all injuries

       0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

      11 crashes   =   2.1% of all crashes

      11 injuries   =   4.2% of all injuries

       0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

       9 crashes   =   1.7% of all crashes

       8 injury crashes   =   4.1% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

       1 crash   =   0.2% of all crashes

       0 occupants injured =   0 % of all injuries

       0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

     110 crashes   = 21.3% of all crashes

      42 injury crashes   = 21.6% of all injury crashes

       0 fatal crashes   =   0 % of all fatal crashes

APPENDIX B

District 7
Linear Projections

District 7

Linear Projections

I. General Information

Total Number of Crashes   =   27,774

Number of Fatal Crashes   =   139

Number of Fatalities   =   157

Number of Injury Crashes   =   10,900

Number of Injuries   =   15,604

Severity Ratio   =   .5675

Number of Registered Vehicles = 766,786

II. Specific Problems

1. Reported Alcohol-related Crashes:

        5,160 crashes   = 18.6% of all crashes

        2,686 injury crashes = 24.6% of all injury crashes

           55 fatal crashes = 39.6% of all fatal crashes

2. Nighttime Crashes:

       10,180 crashes   = 36.7% of all crashes

        4,396 injury crashes = 40.3% of all injury crashes

           82 fatal crashes = 59.0% of all fatal crashes

3. Weekend Crashes:

       12,480 crashes   = 44.9% of all crashes

        5,075 injury crashes = 46.6% of all injury crashes

           75 fatal crashes = 54.0% of all fatal crashes

4. Speed-related Crashes:

3,454	crashes	=	12.4%	of all crashes
1,633	injury crashes	=	15.0%	of all crashes
41	fatal crashes	=	29.5%	of all crashes

5. Pedestrian Crashes:

698	crashes	=	2.5%	of all crashes
700	injuries	=	4.5%	of all injuries
25	fatalities	=	16.0%	of all fatalities

6. Bicycle Crashes:

617	crashes	=	2.2%	of all crashes
621	injuries	=	4.0%	of all injuries
5	fatalities	=	3.2%	of all fatalities

7. Motorcycle Crashes:

946	crashes	=	3.4%	of all crashes
816	injury crashes	=	7.5%	of all injury crashes
15	fatal crashes	=	10.8%	of all fatal crashes

8. School Bus Crashes:

96	crashes	=	0.3%	of all crashes
36	occupants injured	=	0.2%	of all injuries
0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

5,714	crashes	=	20.6%	of all crashes
2,178	injury crashes	=	20.0%	of all injury crashes
45	fatal crashes	=	32.4%	of all fatal crashes

Accomock County

Linear Projections

I. General Information

Total Number of Crashes	=	505
Number of Fatal Crashes	=	7
Number of Fatalities	=	8
Number of Injury Crashes	=	194
Number of Injuries	=	298
Severity Ratio	=	.6059
Number of Registered Vehicles	=	25,481

II. Specific Problems

1. Reported Alcohol-related Crashes:

99 crashes	=	19.6%	of all crashes
47 injury crashes	=	24.2%	of all injury crashes
4 fatal crashes	=	57.1%	of all fatal crashes

2. Nighttime Crashes:

206 crashes	=	40.8%	of all crashes
83 injury crashes	=	42.8%	of all injury crashes
5 fatal crashes	=	71.4%	of all fatal crashes

3. Weekend Crashes:

264 crashes	=	52.3%	of all crashes
105 injury crashes	=	54.1%	of all injury crashes
5 fatal crashes	=	71.4%	of all fatal crashes

4. Speed-related Crashes:

    53 crashes   = 10.5% of all crashes

    27 injury crashes   = 13.9% of all injury crashes

     2 fatal crashes   = 28.6% of all fatal crashes

5. Pedestrian Crashes:

     8 crashes   = 1.6% of all crashes

     5 injuries   = 1.7% of all injuries

     3 fatalities   = 42.9% of all fatalities

6. Bicycle Crashes:

     4 crashes   = 0.8% of all crashes

     3 injuries   = 1.0% of all injuries

     0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

    12 crashes   = 2.4% of all crashes

    12 injury crashes   = 6.2% of all injury crashes

     0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

     4 crashes   = 0.8% of all crashes

     0 occupants injured = 0 % of all injuries

     0 occupants killed   = 0 % of all fatalities

9. Fixed Object Crashes:

    202 crashes   = 40.0% of all crashes

     90 injury crashes   = 46.4% of all injury crashes

     3 fatal crashes   = 42.9% of all fatal crashes

Chesapeake City

Linear Projections

I. **General Information**

Total Number of Crashes	=	2,637
Number of Fatal Crashes	=	19
Number of Fatalities	=	23
Number of Injury Crashes	=	1,125
Number of Injuries	=	1,594
Severity Ratio	=	.6132
Number of Registered Vehicles	=	88,678

II. **Specific Problems**

1. Reported Alcohol-related Crashes:

455	crashes	= 17.3%	of all crashes
270	injury crashes	= 24.0%	of all injury crashes
6	fatal crashes	= 31.6%	of all fatal crashes

2. Nighttime Crashes:

1,012	crashes	= 38.4%	of all crashes
457	injury crashes	= 40.6%	of all injury crashes
9	fatal crashes	= 47.4%	of all fatal crashes

3. Weekend Crashes:

1,234	crashes	= 46.8%	of all crashes
519	injury crashes	= 46.1%	of all injury crashes
8	fatal crashes	= 42.1%	of all fatal crashes

4. Speed-related Crashes:

        218 crashes   =   8.3%   of all crashes

        114 injury crashes   =   10.1%   of all injury crashes

          4 fatal crashes   =   21.1%   of all fatal crashes

5. Pedestrian Crashes:

         70 crashes   =   2.7%   of all crashes

         71 injuries   =   4.5%   of all injuries

          3 fatalities   =   13.0%   of all fatalities

6. Bicycle Crashes:

         56 crashes   =   2.1%   of all crashes

         55 injuries   =   3.5%   of all injuries

          1 fatality   =   4.3%   of all fatalities

7. Motorcycle Crashes:

         60 crashes   =   2.3%   of all crashes

         50 injury crashes   =   4.4%   of all injury crashes

          2 fatal crashes   =   10.5%   of all fatal crashes

8. School Bus Crashes:

         14 crashes   =   0.5%   of all crashes

          1 occupant injured   =   0.1%   of all injuries

          0 occupants killed   =   0 %   of all fatalities

9. Fixed Object Crashes:

        830 crashes   =   31.5%   of all crashes

        309 injury crashes   =   27.5%   of all injury crashes

          4 fatal crashes   =   21.1%   of all fatal crashes

Hampton City

Linear Projections

I. General Information

Total Number of Crashes   = 3,198

Number of Fatal Crashes   =   11

Number of Fatalities   =   14

Number of Injury Crashes   = 1,384

Number of Injuries   = 1,946

Severity Ratio   =   .6129

Number of Registered Vehicles = 84,996

II. Specific Problems

1. Reported Alcohol-related Crashes:

    585 crashes   = 18.3% of all crashes

    308 injury crashes   = 22.3% of all injury crashes

      3 fatal crashes   = 27.3% of all fatal crashes

2. Nighttime Crashes:

    1,157 crashes   = 36.2% of all crashes

      515 injury crashes = 37.2% of all injury crashes

        7 fatal crashes = 63.6% of all fatal crashes

3. Weekend Crashes:

    1,468 crashes   = 45.9% of all crashes

      653 injury crashes = 47.2% of all injury crashes

        4 fatal crashes = 36.4% of all fatal crashes

4. Speed-related Crashes:

         476 crashes   = 14.9% of all crashes

         205 injury crashes = 14.8% of all injury crashes

           6 fatal crashes   = 54.5% of all fatal crashes

5. Pedestrian Crashes:

          68 crashes   =   2.1% of all crashes

          69 injuries   =   3.5% of all injuries

           0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

          62 crashes   =   1.9% of all crashes

          59 injuries   =   3.0% of all injuries

           1 fatality   =   7.1% of all fatalities

7. Motorcycle Crashes:

         118 crashes   =   3.7% of all crashes

         105 injury crashes =   7.6% of all injury crashes

           2 fatal crashes   = 18.2% of all fatal crashes

8. School Bus Crashes:

           6 crashes   =   0.2% of all crashes

           1 occupant injured = 0.1% of all injuries

           0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

         726 crashes   = 22.7% of all crashes

         290 injury crashes = 21.0% of all injury crashes

           5 fatal crashes   = 45.5% of all fatal crashes

Newport News City

Linear Projections

I. <u>General Information</u>

Total Number of Crashes = 3,556

Number of Fatal Crashes = 12

Number of Fatalities = 16

Number of Injury Crashes = 1,334

Number of Injuries = 1,958

Severity Ratio = .5551

Number of Registered Vehicles = 96,345

II. <u>Specific Problems</u>

1. Reported Alcohol-related Crashes:

	570	crashes	=	16.0%	of all crashes
	307	injury crashes	=	23.0%	of all injury crashes
	7	fatal crashes	=	58.3%	of all fatal crashes

2. Nighttime Crashes:

1,113	crashes	=	31.3%	of all crashes
502	injury crashes	=	37.6%	of all injury crashes
8	fatal crashes	=	66.7%	of all fatal crashes

3. Weekend Crashes:

1,498	crashes	=	42.1%	of all crashes
585	injury crashes	=	43.9%	of all injury crashes
9	fatal crashes	=	75.0%	of all fatal crashes

4. Speed-related Crashes:

478	crashes	=	13.4%	of all crashes
229	injury crashes	=	17.2%	of all injury crashes
4	fatal crashes	=	33.3%	of all fatal crashes

5. Pedestrian Crashes:

83	crashes	=	2.3%	of all crashes
83	injuries	=	4.2%	of all injuries
3	fatalities	=	18.8%	of all fatalities

6. Bicycle Crashes:

75	crashes	=	2.1%	of all crashes
74	injuries	=	3.8%	of all injuries
0	fatalities	=	0 %	of all fatalities

7. Motorcycle Crashes:

119	crashes	=	3.3%	of all crashes
104	injury crashes	=	7.8%	of all injury crashes
0	fatal crashes	=	0 %	of all fatal crashes

8. School Bus Crashes:

16	crashes	=	0.4%	of all crashes
2	occupants injured	=	0.1%	of all injuries
0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

583	crashes	=	16.4%	of all crashes
239	injury crashes	=	17.9%	of all injury crashes
4	fatal crashes	=	33.3%	of all fatal crashes

Norfolk City

Linear Projections

I. General Information

Total Number of Crashes	=	7,663
Number of Fatal Crashes	=	33
Number of Fatalities	=	36
Number of Injury Crashes	=	2,991
Number of Injuries	=	4,241
Severity Ratio	=	.5581
Number of Registered Vehicles	=	153,346

II. Specific Problems

1. Reported Alcohol-related Crashes:

1,530	crashes	=	20.0%	of all crashes
788	injury crashes	=	26.3%	of all injury crashes
13	fatal crashes	=	39.4%	of all fatal crashes

2. Nighttime Crashes:

2,844	crashes	=	37.1%	of all crashes
1,236	injury crashes	=	41.3%	of all injury crashes
23	fatal crashes	=	69.7%	of all fatal crashes

3. Weekend Crashes:

3,329	crashes	=	43.4%	of all crashes
1,372	injury crashes	=	45.9%	of all injury crashes
15	fatal crashes	=	45.5%	of all fatal crashes

4. Speed-related Crashes:

  961 crashes   = 12.5% of all crashes

  452 injury crashes = 15.1% of all injury crashes

    7 fatal crashes   = 21.2% of all fatal crashes

5. Pedestrian Crashes:

  247 crashes   = 3.2% of all crashes

  251 injuries   = 5.9% of all injuries

    8 fatalities   = 22.2% of all fatalities

6. Bicycle Crashes:

  176 crashes   = 2.3% of all crashes

  179 injuries   = 4.2% of all injuries

    3 fatalities   = 8.3% of all fatalities

7. Motorcycle Crashes:

  326 crashes   = 4.3% of all crashes

  284 injury crashes = 9.5% of all injury crashes

    6 fatal crashes   = 18.2% of all fatal crashes

8. School Bus Crashes:

   19 crashes   = 0.2% of all crashes

   17 occupants injured = 0.4% of all injuries

    0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

 1,368 crashes   = 17.9% of all crashes

  501 injury crashes = 16.8% of all injury crashes

    7 fatal crashes   = 21.2% of all fatal crashes

Northampton County

Linear Projections

I. General Information

Total Number of Crashes   =   243

Number of Fatal Crashes   =   6

Number of Fatalities   =   6

Number of Injury Crashes   =   84

Number of Injuries   =   138

Severity Ratio   = .5926

Number of Registered Vehicles = 9,974

II. Specific Problems

   1. Reported Alcohol-related Crashes:

              52 crashes   = 21.4% of all crashes

              19 injury crashes = 22.6% of all injury crashes

               1 fatal crash   = 16.7% of all fatal crashes

   2. Nighttime Crashes:

             103 crashes   = 42.4% of all crashes

              33 injury crashes = 39.3% of all injury crashes

               2 fatal crashes   = 33.3% of all fatal crashes

   3. Weekend Crashes:

             131 crashes   = 53.9% of all crashes

              40 injury crashes = 47.6% of all injury crashes

               5 fatal crashes   = 83.3% of all fatal crashes

4. Speed-related Crashes:

	32	crashes	=	13.2%	of all crashes
	13	injury crashes	=	15.5%	of all injury crashes
	2	fatal crashes	=	33.3%	of all fatal crashes

5. Pedestrian Crashes:

	5	crashes	=	2.1%	of all crashes
	4	injuries	=	2.9%	of all injuries
	1	fatality	=	16.7%	of all fatalities

6. Bicycle Crashes:

	2	crashes	=	0.8%	of all crashes
	2	injuries	=	1.4%	of all injuries
	0	fatalities	=	0 %	of all fatalities

7. Motorcycle Crashes:

	3	crashes	=	1.2%	of all crashes
	2	injury crashes	=	2.4%	of all injury crashes
	0	fatal crashes	=	0 %	of all fatal crashes

8. School Bus Crashes:

	2	crashes	=	0.8%	of all crashes
	1	occupant injured	=	0.7%	of all injuries
	0	occupants killed	=	0 %	of all fatalities

9. Fixed Object Crashes:

	83	crashes	=	34.2%	of all crashes
	24	injury crashes	=	28.6%	of all injury crashes
	1	fatal crash	=	16.7%	of all fatal crashes

Poquoson City

Linear Projections

I. General Information

Total Number of Crashes   =   88

Number of Fatal Crashes   =   1

Number of Fatalities   =   1

Number of Injury Crashes   =   40

Number of Injuries   =   50

Severity Ratio   = .5795

Number of Registered Vehicles = 7,965

II. Specific Problems

1. Reported Alcohol-related Crashes:

    24 crashes   = 27.3% of all crashes

    17 injury crashes = 42.5% of all injury crashes

     1 fatal crash   = 100.0% of all fatal crashes

2. Nighttime Crashes:

    43 crashes   = 48.9% of all crashes

    22 injury crashes = 55.0% of all injury crashes

     1 fatal crash   = 100.0% of all fatal crashes

3. Weekend Crashes:

    51 crashes   = 58.0% of all crashes

    27 injury crashes = 67.5% of all injury crashes

     1 fatal crash   = 100.0% of all fatal crashes

4. Speed-related Crashes:

       14 crashes   =   15.9% of all crashes

        4 injury crashes   =   10.0% of all injury crashes

        1 fatal crash   = 100.0% of all fatal crashes

5. Pedestrian Crashes:

        3 crashes   =   3.4% of all crashes

        4 injuries   =   8.0% of all injuries

        0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

        1 crash   =   1.1% of all crashes

        1 injury   =   2.0% of all injuries

        0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

        2 crashes   =   2.3% of all crashes

        2 injury crashes   =   5.0% of all injury crashes

        0 fatal crashes   =   0 % of all fatal crashes

8. School Bus Crashes:

        2 crashes   =   2.3% of all crashes

        0 occupants injured =   0 % of all injuries

        0 occupants killed   =   0 % of all fatalities

9. Fixed Object Crashes:

       36 crashes   =   40.9% of all crashes

       18 injury crashes   =   45.0% of all injury crashes

        1 fatal crash   = 100.0% of all fatal crashes

Portsmouth City

Linear Projections

I. General Information

Total Number of Crashes   =   2,131

Number of Fatal Crashes   =   4

Number of Fatalities   =   .4

Number of Injury Crashes   =   964

Number of Injuries   =   1,422

Severity Ratio   =   .6692

Number of Registered Vehicles = 64,128

II. Specific Problems

1. Reported Alcohol-related Crashes:

        339   crashes   = 15.9% of all crashes

        186   injury crashes = 19.3% of all injury crashes

          0   fatal crashes =   0 % of all fatal crashes

2. Nighttime Crashes:

        669   crashes   = 31.4% of all crashes

        340   injury crashes = 35.3% of all injury crashes

          2   fatal crashes = 50.0% of all fatal crashes

3. Weekend Crashes:

        927   crashes   = 43.5% of all crashes

        437   injury crashes = 45.3% of all injury crashes

          2   fatal crashes = 50.0% of all fatal crashes

4. Speed-related Crashes:

      250 crashes   = 11.7% of all crashes

      119 injury crashes   = 12.3% of all injury crashes

        0 fatal crashes   =   0 % of all fatal crashes

5. Pedestrian Crashes:

       73 crashes   = 3.4% of all crashes

       73 injuries   = 5.1% of all injuries

        0 fatalities   =   0 % of all fatalities

6. Bicycle Crashes:

       74 crashes   = 3.5% of all crashes

       75 injuries   = 5.3% of all injuries

        0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

       47 crashes   = 2.2% of all crashes

       40 injury crashes   = 4.1% of all injury crashes

        1 fatal crash   = 25.0% of all fatal crashes

8. School Bus Crashes:

        9 crashes   = 0.4% of all crashes

        3 occupants injured = 0.2% of all injuries

        0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

      368 crashes   = 17.3% of all crashes

      136 injury crashes   = 14.1% of all injury crashes

        3 fatal crashes   = 75.0% of all fatal crashes

Virginia Beach City

Linear Projections

I. General Information

Total Number of Crashes	=	7,103
Number of Fatal Crashes	=	32
Number of Fatalities	=	34
Number of Injury Crashes	=	2,504
Number of Injuries	=	3,509
Severity Ratio	=	.4988
Number of Registered Vehicles	=	211,048

II. Specific Problems

1. Reported Alcohol-related Crashes:

1,377	crashes	= 19.4%	of all crashes
669	injury crashes	= 26.7%	of all injury crashes
14	fatal crashes	= 43.8%	of all fatal crashes

2. Nighttime Crashes:

2,763	crashes	= 38.9%	of all crashes
1,081	injury crashes	= 43.2%	of all injury crashes
17	fatal crashes	= 53.1%	of all fatal crashes

3. Weekend Crashes:

3,279	crashes	= 46.2%	of all crashes
1,202	injury crashes	= 48.0%	of all injury crashes
21	fatal crashes	= 65.6%	of all fatal crashes

4. Speed-related Crashes:

   883 crashes   = 12.4% of all crashes

   420 injury crashes = 16.8% of all injury crashes

     8 fatal crashes = 25.0% of all fatal crashes

5. Pedestrian Crashes:

   135 crashes   =   1.9% of all crashes

   135 injuries   =   3.8% of all injuries

     6 fatalities   = 17.6% of all fatalities

6. Bicycle Crashes:

   167 crashes   =   2.4% of all crashes

   173 injuries   =   4.9% of all injuries

     0 fatalities   =   0 % of all fatalities

7. Motorcycle Crashes:

   240 crashes   =   3.4% of all crashes

   199 injury crashes =   7.9% of all injury crashes

     4 fatal crashes = 12.5% of all fatal crashes

8. School Bus Crashes:

    21 crashes   =   0.3% of all crashes

    10 occupants injured =   0.3% of all injuries

     0 occupants killed =   0 % of all fatalities

9. Fixed Object Crashes:

  1,345 crashes   = 18.9% of all crashes

   485 injury crashes = 19.4% of all injury crashes

    11 fatal crashes = 34.4% of all fatal crashes

York County

Linear Projections

I. General Information

Total Number of Crashes   =   650

Number of Fatal Crashes   =   14

Number of Fatalities   =   15

Number of Injury Crashes   =   280

Number of Injuries   =   448

Severity Ratio   =   .7123

Number of Registered Vehicles = 24,825

II. Specific Problems

1. Reported Alcohol-related Crashes:

    129 crashes   = 19.8% of all crashes

     75 injury crashes = 26.8% of all injury crashes

      6 fatal crashes   = 42.9% of all fatal crashes

2. Nighttime Crashes:

    270 crashes   = 41.5% of all crashes

    127 injury crashes = 45.4% of all injury crashes

      8 fatal crashes   = 57.1% of all fatal crashes

3. Weekend Crashes:

    299 crashes   = 46.0% of all crashes

    135 injury crashes = 48.2% of all injury crashes

      5 fatal crashes   = 35.7% of all fatal crashes

4. Speed-related Crashes:

      89 crashes   = 13.7% of all crashes

      50 injury crashes   = 17.9% of all injury crashes

       7 fatal crashes   = 50.0% of all fatal crashes

5. Pedestrian Crashes:

       6 crashes   = 0.9% of all crashes

       5 injuries   = 1.1% of all injuries

       1 fatality   = 6.7% of all fatalities

6. Bicycle Crashes:

       0 crashes   = 0 % of all crashes

       0 injuries   = 0 % of all injuries

       0 fatalities   = 0 % of all fatalities

7. Motorcycle Crashes:

      19 crashes   = 2.9% of all crashes

      18 injury crashes   = 6.4% of all injury crashes

       0 fatal crashes   = 0 % of all fatal crashes

8. School Bus Crashes:

       3 crashes   = 0.5% of all crashes

       1 occupant injured = 0.2% of all injuries

       0 occupants killed = 0 % of all fatalities

9. Fixed Object Crashes:

     173 crashes   = 26.6% of all crashes

      86 injury crashes   = 30.7% of all injury crashes

       6 fatal crashes   = 42.9% of all fatal crashes

APPENDIX C

Priority Ranks

Table C-1

District 2

Reported Alcohol Priority

Locality	Rank of No. of Reported Alcohol Fatal and Injury Crashes	Rank of Reported Alcohol Fatal and Injury Crash Rate	Rank Sum	Reported Alcohol Priority
Alleghany Co.	14	1	15	6
Amherst Co.	12	8.5	20.5	10
Appomattox Co.	18	11	29	17
Bedford City	22	17.5	39.5	21
Bedford Co.	10	19	29	16
Botetourt Co.	13	6	19	9
Campbell Co.	2	2	4	1
Clifton Forge	24	21	45	24
Covington	25	25	50	25
Craig Co.	23	15.5	38.5	19
Danville	7	3.5	10.5	3
Floyd Co.	20	21	41	22
Franklin Co.	8.5	3.5	12	4
Giles Co.	17	15.5	32.5	18
Henry Co.	8.5	17.5	26	14
Lynchburg	5.5	11	16.5	8
Martinsville	21	24	45	23
Montgomery Co.	5.5	8.5	14	5
Patrick Co.	15	11	26	15
Pittsylvania Co.	3	13	16	7
Pulaski Co.	11	14	25	12
Radford	19	6	25	13
Roanoke City	1	6	7	2
Roanoke Co.	4	21	25	11
Salem	16	23	39	20

Table C-2

District 7

Reported Alcohol Priority

Locality	Rank of No. of Reported Alcohol Fatal and Injury Crashes	Rank of Reported Alcohol Fatal and Injury Crash Rate	Rank Sum	Reported Alcohol Priority
Accomack Co.	8	9	17	8
Chesapeake	5	6	11	5
Hampton	4	2	6	3
Newport News	3	3	6	2
Norfolk	1	1	2	1
Northampton Co.	9	10	19	10
Poquoson	10	8	18	9
Portsmouth	6	7	13	7
Va. Beach	2	5	7	4
York Co.	7	4	11	6

Table C-3

District 2

Nighttime Priority

Locality	Rank of No. of Nighttime Fatal and Injury Crashes	Rank of Nighttime Fatal and Injury Crash Rate	Rank Sum	Nighttime Priority
Alleghany Co.	14	1	15	6
Amherst Co.	10	4.5	14.5	5
Appomattox Co.	17	6	23	14
Bedford City	23	23	46	24
Bedford Co.	12	18	30	16
Botetourt Co.	11	4.5	15.5	10
Campbell Co.	5	7	12	3
Clifton Forge	24	20	44	23
Covington	25	25	50	25
Craig Co.	22	8	30	17
Danville	8.5	3	11.5	2
Floyd Co.	21	22	43	21
Franklin Co.	8.5	2	10.5	1
Giles Co.	20	24	44	22
Henry Co.	7	16	23	13
Lynchburg	4	11.5	15.5	8
Martinsville	18	17	35	19
Montgomery Co.	6	9.5	15.5	9
Patrick Co.	15.5	15	30.5	18
Pittsylvania Co.	2	13.5	15.5	7
Pulaski Co.	13	13.5	26.5	15
Radford	19	9.5	18.5	11
Roanoke City	1	11.5	12.5	4
Roanoke Co.	3	20	23	12
Salem	15.5	20	35.5	20

Table C-4

District 7

Nighttime Priority

Locality	Rank of No. of Nighttime Fatal and Injury Crashes	Rank of Nighttime Fatal and Injury Crash Rate	Rank Sum	Nighttime Priority
Accomack Co.	8	8.5	16.5	8
Chesapeake	5	5	10	5
Hampton	3	2	5	2
Newport News	4	5	9	4
Norfolk	1	1	2	1
Northampton Co.	9	8.5	17.5	9
Poquoson	10	10	20	10
Portsmouth	6	5	11	7
Va. Beach	2	7	9	3
York Co.	7	3	10	6

Table C-5

District 2

Weekend Priority

Locality	Rank of No. of Weekend Fatal and Injury Crashes	Rank of Weekend Fatal and Injury Crash Rate	Rank Sum	Weekend Priority
Alleghany Co.	16	5	21	10
Amherst Co.	10	3	13	4
Appomattox Co.	17	6	23	11
Bedford City	23	20.5	43.5	23
Bedford Co.	12	20.5	32.5	18
Botetourt Co.	11	2	13	5
Campbell Co.	4	7	11	3
Clifton Forge	24	23	47	24
Covington	25	25	50	25
Craig Co.	22	13.5	35.5	20
Danville	2	1	3	1
Floyd Co.	21	19	40	21
Franklin Co.	9	8	17	6
Giles Co.	20	22	42	22
Henry Co.	7	18	25	13
Lynchburg	5.5	13.5	19	7
Martinsville	18	15	33	19
Montgomery Co.	8	11.5	19.5	9
Patrick Co.	15	10	25	14
Pittsylvania Co.	3	16.5	19.5	8
Pulaski Co.	13	16.5	29.5	17
Radford	19	4	23	12
Roanoke City	1	9	10	2
Roanoke Co.	5.5	24	29.5	16
Salem	14	11.5	25.5	15

Table C-6

District 7

Weekend Priority

Locality	Rank of No. of Weekend Fatal and Injury Crashes	Rank of Weekend Fatal and Injury Crash Rate	Rank Sum	Weekend Priority
Accomack Co.	8	9	17	8
Chesapeake	5	5	10	6
Hampton	3	2	5	2
Newport News	4	4	8	4
Norfolk	1	1	2	1
Northampton Co.	9	8	17	9
Poquoson	10	10	20	10
Portsmouth	6	3	9	5
Va. Beach	2	6	8	3
York Co.	7	7	14	7

Table C-7

District 2

Excessive Speed Priority

Locality	Rank of No. of Speed-related Fatal and Injury Crashes	Rank of Speed-related Fatal and Injury Crash Rate	Rank Sum	Excessive Speed Priority
Alleghany Co.	15.5	5.5	21	10
Amherst Co.	11	8	19	9
Appomattox Co.	22	18	40	21
Bedford City	20.5	2	22.5	11
Bedford Co.	14	23	37	19
Botetourt Co.	9	4	13	5
Campbell Co.	4	8	12	4
Clifton Forge	24.5	24	48.5	24
Covington	24.5	25	49.5	25
Craig Co.	23	21	44	23
Danville	3	3	6	1
Floyd Co.	18	13	31	18
Franklin Co.	7	10.5	17.5	6
Giles Co.	20.5	21	41.5	22
Henry Co.	5	14	19	8
Lynchburg	2	5.5	7.5	2
Martinsville	15.5	10.5	26	16
Montgomery Co.	10	16	26	15
Patrick Co.	19	21	40	20
Pittsylvania Co.	8	18	26	14
Pulaski Co.	13	15	28	17
Radford	17	1	18	7
Roanoke City	1	8	9	3
Roanoke Co.	6	18	24	12
Salem	12	12	24	13

Table C-8

District 7

Excessive Speed Priority

Locality	Rank of No. of Speed-related Fatal and Injury Crashes	Rank of Speed-related Fatal and Injury Crash Rate	Rank Sum	Excessive Speed Priority
Accomack Co.	8	9	17	9
Chesapeake	6	8	14	7
Hampton	4	2	6	3
Newport News	3	3	6	2
Norfolk	1	1	2	1
Northampton Co.	9	7	16	8
Poquoson	10	10	20	10
Portsmouth	5	6	11	5
Va. Beach	2	5	7	4
York Co.	7	4	11	6

Table C-9

District 2

Pedestrian Crash Priority

Locality	Rank of No. of Pedestrian Crash Fatalities and Injuries	Rank of % of a Locality's Fatalities Caused in Pedestrian Crashes	Rank Sum	Pedestrian Crash Priority
Alleghany Co.	22	19.5	41.5	22
Amherst Co.	13.5	3	16.5	7
Appomattox Co.	10.5	10.5	21	8
Bedford City	13.5	1.5	15	6
Bedford Co.	18.5	5.5	24	11.5
Botetourt Co.	13.5	12	25.5	14
Campbell Co.	8.5	13	21.5	9
Clifton Forge	20.5	19.5	40	20.5
Covington	24	19.5	43.5	24
Craig Co.	24	19.5	43.5	24
Danville	2.5	19.5	22	10
Floyd Co.	20.5	19.5	40	20.5
Franklin Co.	16.5	10.5	27	16
Giles Co.	18.5	5.5	24	11.5
Henry Co.	5	7	12	4
Lynchburg	1	9	10	2
Martinsville	6	19.5	25.5	13
Montgomery Co.	8.5	19.5	28	17
Patrick Co.	24	19.5	43.5	24
Pittsylvania Co.	4	4	8	1
Pulaski Co.	13.5	19.5	33	18
Radford	10.5	1.5	12	5
Roanoke City	2.5	8	10.5	3
Roanoke Co.	7	19.5	26.5	15
Salem	16.5	19.5	36	19

Table C-10

District 7

Pedestrian Crash Priority

Locality	Rank of No. of Pedestrian Crash Fatalities and Injuries	Rank of % of a Locality's Fatalities Caused in Pedestrian Crashes	Rank Sum	Pedestrian Crash Priority
Accomack Co.	7	1	8	4
Chesapeake	4	6	10	5
Hampton	6	9	15	8
Newport News	3	3	6	3
Norfolk	1	2	3	1
Northampton Co.	9	5	14	7
Poquoson	10	9	19	10
Portsmouth	5	9	14	6
Va. Beach	2	4	6	2
York Co.	8	7	15	9

Table C-11

District 2

Bicycle Crash Priority

Locality	Rank of No. of Bicycle Crash Fatalities and Injuries	Rank of % of a Locality's Fatalities and Injuries Caused in Bicycle Crashes	Rank Sum	Bicycle Crash Priority
Alleghany Co.	19	19	38	21
Amherst Co.	8	8	16	8
Appomattox Co.	19	16	35	20
Bedford City	23.5	23.5	47	23.5
Bedford Co.	16	19	35	19
Botetourt Co.	13	13	26	12
Campbell Co.	5	9.5	14.5	7
Clifton Forge	19	1	20	11
Covington	23.5	23.5	47	23.5
Craig Co.	23.5	23.5	47	23.5
Danville	3	6	9	4
Floyd Co.	19	11.5	30.5	14
Franklin Co.	13	14.5	27.5	13
Giles Co.	19	14.5	33.5	18
Henry Co.	13	19	32	16
Lynchburg	1	4.5	5.5	1
Martinsville	8	4.5	12.5	6
Montgomery Co.	6	11.5	17.5	9
Patrick Co.	23.5	23.5	47	23.5
Pittsylvania Co.	13	19	32	16
Pulaski Co.	10	9.5	19.5	10
Radford	8	3	11	5
Roanoke City	2	7	9	3
Roanoke Co.	13	19	32	16
Salem	4	2	6	2

Table C-12

District 7

Bicycle Crash Priority

Locality	Rank of No. of Bicycle Crash Fatalities and Injuries	Rank of % of a Locality's Fatalities and Injuries Caused in Bicycle Crashes	Rank Sum	Bicycle Crash Priority
Accomack Co.	7	9	16	7
Chesapeake	6	5	11	6
Hampton	5	6	11	5
Newport News	4	4	8	4
Norfolk	1	3	4	1
Northampton Co.	8	8	16	8
Poquoson	9	7	16	9
Portsmouth	3	1	4	3
Va. Beach	2	2	4	2
York Co.	10	10	20	10

Table C-13

District 2

Motorcycle Crash Priority

Locality	Rank of No. of Motorcycle Fatal and Injury Crashes	Rank of % of a Locality's Fatal and Injury Crashes Involving Motorcycles	Rank Sum	Motorcycle Crash Priority
Alleghany Co.	21.5	22	43.5	22
Amherst Co.	9.5	10	19.5	7
Appomattox Co.	19	16	35	19
Bedford City	20	1	21	9
Bedford Co.	7	4	11	5
Botetourt Co.	13	18	31	18
Campbell Co.	9.5	20	29.5	17
Clifton Forge	24	24	48	24
Covington	24	24	48	24
Craig Co.	21.5	21	42.5	21
Danville	3	5.5	8.5	3
Floyd Co.	24	24	48	24
Franklin Co.	11	18	29	15
Giles Co.	17.5	8	25.5	12
Henry Co.	6	14	20	8
Lynchburg	2	2	4	2
Martinsville	15	7	22	10
Montgomery Co.	4	5.5	9.5	4
Patrick Co.	16	12	28	14
Pittsylvania Co.	5	11	16	6
Pulaski Co.	12	13	25	11
Radford	17.5	9	26.5	13
Roanoke City	1	3	4	1
Roanoke Co.	8	18	36	20
Salem	14	15	29	16

Table C-14

District 7

Motorcycle Crash Priority

Locality	Rank of No. of Motorcycle Fatal and Injury Crashes	Rank of % of a Locality's Fatal and Injury Crashes Involving Motorcycles	Rank Sum	Motorcycle Crash Priority
Accomack Co.	8	6	14	7
Chesapeake	5	8	13	6
Hampton	3	3.5	6.5	3
Newport News	4	3.5	7.5	4
Norfolk	1	1	2	1
Northampton Co.	9.5	10	19.5	10
Poquoson	9.5	7	16.5	9
Portsmouth	6	9	15	8
Va. Beach	2	2	4	2
York Co.	7	5	12	5

Table C-15

District 2

Fixed Object Crash Priority

Locality	Rank of No. of Fixed Object Fatal and Injury Crashes	Rank of Fixed Object Fatal and Injury Crash Rate	Rank Sum	Fixed Object Crash Priority
Alleghany Co.	13	2	15	6
Amherst Co.	11	5.5	16.5	7
Appomattox Co.	16	4	20	10
Bedford City	23	23	46	23
Bedford Co.	9	11	20	9
Botetourt Co.	8	3	11	1
Campbell Co.	5	8	13	4
Clifton Forge	24	24	48	24
Covington	25	25	50	25
Craig Co.	21	1	22	14
Danville	14	20.5	34.5	19
Floyd Co.	19	12	31	17
Franklin Co.	6	5.5	11.5	2
Giles Co.	17	14.5	31.5	18
Henry Co.	7	16	23	15
Lynchburg	10	20.5	30.5	16
Martinsville	20	17.5	37.5	21
Montgomery Co.	4	9	13	3
Patrick Co.	15	7	22	13
Pittsylvania Co.	2	13	15	5
Pulaski Co.	12	10	22	12
Radford	22	14.5	36.5	20
Roanoke City	1	19	20	8
Roanoke Co.	3	17.5	20.5	11
Salem	18	22	40	22

Table C-16

District 7

Fixed Object Crash Priority

Locality	Rank of No. of Fixed Object Fatal and Injury Crashes	Rank of Fixed Object Fatal and Injury Crash Rate	Rank Sum	Fixed Object Crash Priority
Accomack Co.	7	2	9	4
Chesapeake	3	3	6	2
Hampton	4	4	8	3
Newport News	5	6	11	7
Norfolk	1	5	6	1
Northampton Co.	9	7	16	9
Poquoson	10	9	19	10
Portsmouth	6	10	16	8
Va. Beach	2	8	10	6
York Co.	8	1	9	5