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# SIGNALIZATION AND SAFETY



## A Study of the Safety Effects of Signalizing Intersections on Colorado State Highways

Richard G. Sarchet, P.E., Colorado DOT

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## ABSTRACT

## Safety and Signalization

### Safety Effects of Signalizing Intersections on Colorado State Highways Richard Sarchet, P.E., Colorado Department of Transportation

Presentation will discuss a systematic before and after accident history analysis for 112 intersections on the Colorado State Highway system which became signalized. Topics will include:

- Reasons for Signalization
- Site Selection
- Data Collection
- Description of the Analysis
- Safety Effects
  - Attributes Considered
  - Increase/Decreased/Unchanged Locations, by Attribute
  - Confidence Intervals
    - Attributes Improved
    - Attributes Made Worse
    - Consideration of Volume
      - Attributes Reduced Relative to Volume
      - Attributes Increased Relative to Volume

The presentation will discuss the general conclusions regarding the safety of signalization and recommendations for countermeasures and alternatives.

#### **Biographical Information**

Richard Sarchet is a Senior Safety Analyst in the Safety Engineering and Analysis Group, Headquarters Safety and Traffic Engineering Branch of the Colorado Department of Transportation. He is also a Graduate Research Assistant in Transportation Safety at the University of Colorado at Denver and a Colorado Registered Professional Engineer. He has over 10 years experience in various aspects of traffic safety and highway geometrics.

Submitted By Richard Sarchet, P.E. Safety Engineering and Analysis Group Colorado Department of Transportation 4201 East Arkansas Avenue, EP770 Denver, CO 80222 Phone 303-512-5103 FAX 303-757-9219 E-mail richard.sarchet@dot.state.co.us

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### 1. Introduction

Traffic Signals are ubiquitous. They've been in use seemingly forever and everybody knows why we have them: They improve safety and reduce delay by providing for the orderly flow of traffic. Or is it that they improve safety at the expense of some increased delay? Maybe they reduce delay ... do they improve safety? This report investigates that question: "Does signalizing an intersection improve safety." Specifically this report considers the accident history at 112 intersections on Colorado State Highways before and after they became signalized.

## 2. Review of Extant Literature

The review of literature focused on studies of changes in crashes after installing signals and guidance concerning installing signals.

The ITE *Traffic Engineering Handbook*<sup>1</sup> has the following to say in the introduction of the Traffic Control Signals chapter,

The general public harbors many misunderstandings concerning the application of traffic signals and the likely results of their installation at a specific location. Traffic signals, which are seen by many people as the cure for every traffic problem, are believed to eliminate collisions and congestion, to reduce operation speeds, and to make every intersection a safe place for children to cross the street and for adults to drive. Politicians often see installation of a traffic signal as a means to keep the public happy, to generate votes, or to reward influential supporters.

Traffic Engineers know that a traffic signal is not a panacea and can actually contribute to collisions, congestion, delay, and speeding. Traffic Engineers must balance the potential benefits and drawbacks of signalization against often unreasonable public demands and emotions.

That's a good summary of the prevailing views.

The most recent study of change in crashes after installation of traffic signals discovered in the literature search was performed by Thomas and Smith of Iowa State University in 2001<sup>2</sup>. Among other things they reviewed 16 locations where signals were installed. They found that right-angle crashes decreased at all but one location. The fact that all 16 locations experienced "right angle" crashes in the 3 year before period suggests that the existence of right angle accidents might have been a criteria either for inclusion in the study or for installation of a signal. The study fails to address regression to mean. The study also found that rear end crashes increased on average, more than tripling from 7 to 23 at one location, and left turn crashes typically increased as well. They did find that the overall crash frequency decreased.

The *Manual on Uniform Traffic Control Devices*<sup>3</sup> (MUTCD) establishes criteria for the installation of traffic control signals, including 8 "warrants", at least one of which must be met before installation of a traffic signal. The MUTCD standard also cautions "The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

Following are the titles and brief descriptions of the eight warrants.

#### Warrant 1, Eight-Hour Vehicular Volume

This warrant is applied when either there is a large volume of intersecting traffic (Condition A) or where the volume on a major street is so heavy that traffic on a minor intersecting street is unreasonably delayed or endangered when crossing or entering the major street (Condition B). There are tables of volumes for the major and minor approaches for each condition. If the volumes measured on the streets exceed the volumes in the tables for at least 8 individual hours (not necessarily 8 consecutive hours) for either condition then the warrant is met. In addition the warrant is met if the volumes measured exceed 80% of the volumes required to meet both Condition A and Condition B, even if neither

condition is met alone. Finally the traffic volumes required to meet the conditions of the warrant may be reduced to 70% of the original values if the major road speeds are over 40 MPH and/or the intersection is in a small town (less than 10,000 population).

#### Warrant 2, Four-Hour Vehicular Volume

This warrant is applied when a large volume of intersection traffic is the primary consideration. This warrant uses a graph with minor street hourly volume on one axis and major street hourly volume on the other. There are different curves plotted for different numbers of lanes on the major and minor streets. If the points representing four separate hours within a day fall above the appropriate curve the warrant is met. This warrant also has a second graph with the curves plotted at 70% of the volumes in the first graph. If the major road speed is over 40 MPH or the intersection is in a small town the second graph is used.

#### Warrant 3, Peak Hour

This warrant is applied at unusual locations where the minor street traffic experiences unacceptable delay crossing or entering the major street during at least one hour of a typical day. Examples of such locations would be adjacent to manufacturing plants or large office buildings which discharge or attract large volumes of traffic over a short period. There are two categories of criteria which may be met to satisfy this warrant. Category A requires that there be an average of at least 4 vehicles (5 vehicles for a 2-lane approach) waiting to enter or cross from one approach on the minor street for at least and hour, that the volume of traffic on that approach be at least 100 vehicles per hour (150 vph for 2-lane approach) and that the total number of vehicles using the intersection in the hour exceed 800 vehicles (650 vehicles for a "T" intersection). Category B uses a graph similar to the one described in Warrant 2 above, with higher volumes required for a point to be above the curve, but only one hour need to fall above the curve to meet the Category B requirement. Once again there is a second graph with lower volumes (70%) for speeds over 40 MPH or small towns. If either Category A or B criteria is met then the warrant is satisfied.

#### Warrant 4, Pedestrian Volume

This warrant is applied where the traffic volume on a major street causes unacceptable delay to pedestrians trying to cross the street. This warrant is met if there are at least 100 pedestrians per hour during at least four hours per day, or at least 190 pedestrians in any one hour of a typical day, and during the same time period (four hours or one hour) there are less than 60 gaps per hour in the traffic sufficient for the pedestrians to cross the street. If the average crossing speed of pedestrians at a location is less than 4 feet per second the pedestrian volume required to meet the warrant can be reduced by up to 50%. Pedestrian are expected to use existing signals if there are any within 300 feet along the major street.

### Warrant 5, School Crossing

This warrant is applied when the primary reason for considering a signal is that school children cross the major street. The warrant is met when there is on average less than one adequate gap for students to cross the major street per minute during the time children are crossing, and there are at least 20 students crossing during an hour. Students are expected to use existing signals if there are any within 300 feet alone the major street. Grade-separated (pedestrian overpass or tunnel) crossings and crossing guards are alternatives which must be considered before justifying a signal based on this warrant.

### Warrant 6, Coordinated Signal System

Sometimes, to maintain "platooning" of vehicles so that progressive movement may be provided it is necessary to install a signal at a location where it would not otherwise be needed. This warrant is met where it can be shown that adjacent signals are too widely spaced to provide adequate platooning

#### Warrant 7, Crash Experience

This warrant is applied where severity and frequency of crashes lead to consideration of a signal. For this warrant to be met all the following criteria must be satisfied: Alternatives must be tried with adequate enforcement and observation, and must fail to correct the crash frequency. Five or more broadside and/or pedestrian crashes must have occurred within a one year period. 80% of the volumes necessary to satisfy either Condition A or Condition B of Warrant 1 or 80% of the pedestrian volume necessary to satisfy Warrant 4 must be met.

#### Warrant 8, Roadway Network

Sometimes it is desirable to install a traffic signal to encourage concentration and organization of traffic flow on a roadway network. This warrant is applied at the intersection of two major routes. A major route is one which is part of the principal roadway network for though traffic; or is a rural or suburban highway outside of, entering or traversing a city; or is designated as a major route on an official plan. Where two of these routes intersect the warrant is met if either the intersection has a total (existing or immediately projected) entering volume of 1,000 vehicles in the peak hour of a weekday and 5-year projected volumes that meet warrants 1, 2 or 3; or the intersection has a total (existing or at least 5 hours on Saturday or Sunday.

The MUTCD<sup>3</sup> also notes that, "A traffic signal should not be installed unless an engineering study indicates that installing a traffic signal will improve the overall safety and/or operation of the intersection.", a not very subtle hint that signals do not always improve safety (or operations).

The ITE Traffic Control Devices Handbook<sup>4</sup>, issued by ITE to augment the MUTCD mentions the ability of signals to reduce certain types of crashes, especially right angle crashes, among the advantages of signals, but it also mentions, "Significant increase in the frequency of collisions (especially rear-end collisions)." can be a disadvantage

resulting from improper or unjustified signal control.

In a 1997 study, designed to establish accident reduction factors and expected benefit/cost ratios for a wide variety of safety project types, Voss, of the Kansas Department of Transportation Bureau of Traffic Engineering<sup>5</sup>, found by studying before and after crash data that new traffic signals could be expected to produce a 45% reduction in accidents.

Thus both the studies and the guidance suggest that signalization does improve safety by reducing crash frequency, but that some types of crashes may increase in frequency. The guidance uniformly suggests that safety be considered and that inappropriate or poorly executed signals can degrade safety.

## 3. Analysis Methodology

The analysis made in this study was a simple comparison of the severity and types of accidents reported in three year periods before and after signalization at 112 locations on Colorado State Highways. The number of each crash type and severity at each location was obtained from the Colorado Department of Transportation (CDOT)'s extensive accident records database. The numbers from the 3 year before period were compared to those from the 3 year after period for each location and the change was calculated.

The data for all locations was aggregated and the total change was calculated for each crash type and severity in terms of numbers and percentages.

Counts were made for each crash type and severity showing the number of locations where the total number of crashes meeting a particular description (e.g. Injury or Broadside) increased, the number of locations where they decreased and the number of locations where they were unchanged.

Means were calculated for each crash type and severity for the before and after periods, and for the change. Standard deviation of the change was computed for each crash type and severity.

95% Confidence intervals were calculated for the mean change in number or crashes and the mean percent change of crashes of each type and severity.

Volume data for the State Highway at each location was also recorded for each period (Annualized Average Daily Traffic (AADT) from CDOT's data, for the central year of each three year period). The total percentage change in volume from the before period to the after period was calculated. Note that historic volume information for the crossroad was not available and whether the highway volume is a good surrogate is reasonably debatable. The highway volumes are the best available data so the assumption that the relative change in highway volume is representative of change in total entering volume is made.

Effect of change in volume is accounted for by comparing the percentage change confidence interval limits to the observed change in volume.

Regression to mean error (the tendency of a location where a high frequency of accidents is observed over a particular time period to display less accidents in a following period simply because the high frequency was above average, and not as a result of any particular action or lack thereof) is avoided (or at least minimized) by the selection process, which is explained in detail in the next chapter. Accident history did not contribute to the site selection process (except to the extent that some of the sites may have been signalized *because of* accident history).

## 4. Location Selection and Data Collection

A systematic approach was used in the attempt to include every location on the Colorado State Highway system where a signal was first installed after 1992 and for which 3 years of after accident history data are available in CDOT's database. The method consisted of reviewing the comprehensive video log of all Colorado Highways as recorded in 2000, to determine where traffic signals existed. Then the 1992 video log was reviewed to eliminate signals which existed at that time. The logs for the intervening years were consulted to determine when each particular new signal appeared, thus the "sample" is the entire population. The decision to proceed this way was made because CDOT project records fairly easily identified locations where "signal projects" had taken place, but identifying if the signal replaced an existing signal required looking through the plans for each location.

A video log of all Colorado Highways is created each year, primarily to document pavement condition. A limitation of this method of determining when a signal was installed is that it is only possible to determine that a signal was installed before a particular video was recorded and after the preceding video, but not when exactly. Of course since there are over 9,000 miles of State Highway in Colorado the log is recorded over a period of weeks or months. It is not necessarily done in the same order each year. For this reason it is possible (though unlikely) that for example one signal that first appears in the 1998 video log actually was installed after another that first appeared in the 1999 log. (The "1999" signal was installed in 1998 after its location was recorded, but before the 1998 signals location was recorded.) It is possible to say with certainty that any signal that does appear in the 1998 log didn't exist on January 1, 1998, and any signal that does appear in the 1999 log did exist on January 1, 2000. Table 1 indicates in which year's video log each signal first appears.

Table 1 - Locations

STUDIED SIGNAL LOCATIONS				
Site	Highw	MP	Video	Description
#	ay		Log	
1	2B	11.10	1998	Hwy 2 (Hansen BV) at 64th Ave in Commerce City
2 3	2B 2C	12.37 15.61	1998 1996	Hwy 2 (Hansen BV) at 72nd Ave (and Railroad Crossing) in Commerce City Hwy 2 at 96th Ave in Adams County
3 4	2C 2C	16.96	1996 1994	Hwy 2 at Hwy 44 (104th Ave) in Adams County
5	2D	0.58	1997	Hwy 2 (Sable Road) at Hwy 22 (124th Ave) in Brighton
6	6E	166.00	1995	Hwy 6 at I-70 Business Spur in Eagle County near Edwards
7	7A	0.34	1995 1997	Hwy 7 (South Saint Vrain Ave) at Manford Dr. in Estes Park
8	7B	46.27	1998	Hwy 7 (Broadway) at Old Stage Road/Lee Hill Road in Boulder
9	7B	46.77	1998	Hwy 7 (Broadway) at Violet Avenue in Boulder
10	7B	48.64	1998	Hwy 7 (Broadway) at Cedar Avenue in Boulder
11	7B	48.97	1998	Hwy 7 (Broadway) at Portland Place/Bluff Street in Boulder
12	7B 7C	50.53	1996	Hwy 7 (Canyon Boulevard) at 26th Avenue
13 14	7C 7D	54.92 62.13	1998 1998	Hwy 7 (Arapahoe Avenue) at Cherryvale Road in Boulder Hwy 7 (Baseline Road) at Carr Avenue in Lafayette
14	7D 7D	62.38	1998	Hwy 7 (Baseline Road) at 111th Street/Christopher Street in Lafayette
16	7D	63.22	1998	Hwy 7 (Baseline Road) at 119th Street in Lafayette
17	7D	77.59	1998	Hwy 7 (Bridge Street) at 8th Avenue in Brighton
18	9C	87.17	1998	Hwy 9 (Main Street) at ? near Breckenridge
19	9C	87.80	1998	Hwy 9 (Main Street) at Valley Brook Road/Bikeway near Breckenridge
20	9C	90.25	1998	Hwy 9 at Tiger Road in Summit County (near Frisco)
21	9C	92.89	1996	Hwy 9 at Swan Mountain Road/Bikeway in Summit County near Frisco
22	9C	95.61	1996 1998	Hwy 9 (Summit Boulevard) at ? in Frisco
23	9C 9C	96.70 97.01	1998 1996	Hwy 9 (Summit Boulevard) at Ten Mile Road in Frisco Hwy 9 (Summit Boulevard) at County Road 7 (Dillon Dam) in Frisco
24 25	13B	89.90	1990	Hwy 13 (Yampa Street) at 6th Street in Craig
26 26	10D 13B	90.23	1994	Hwy 13 (Yampa Street) at 9th Street in Craig
27	14C	134.92	1994	Hwy 14 (Riverside) at Linden Street in Fort Collins
27 28	14C	135.13	1994	Hwy 14 (Riverside) at Mountain Ave in Fort Collins
29	14C	137.30	1999	Hwy 14 (Mulberry) at Timberline Road in Fort Collins
30	14C	137.62	1995	Hwy 14 (Mulberry) at Summit View Drive in Fort Collins
31	14C	235.68	1995	Hwy 14 (Main Street) at 13th Avenue in Sterling
32	14C	236.27	1995	Hwy 14 (Main Street) at 6th Avenue in Sterling
33	14C	236.55 0.00	1995	Hwy 14 (Main Street) at 3rd Avenue in Sterling Hwy 15 (Broadway) at Hwy 160 and Hwy 285 in Monte Vista
34 35	15A 15A	0.00	1994 1996	Hwy 15 (Broadway) at 2nd Ave in Monte Vista
36	22A	0.00	1998	Hwy 22 (124th Avenue) at Hwy 2 (Sable Road)
37	24A	297.55	1995	Hwy 24 at Serpentine Road (Cave of the Winds Road) in Manitou Springs
38 39	24G	310.95	1995	Hwy 24 Bypass (Platte Avenue at Amelia Street in Colorado Springs
	30A	11.09	1998	Hwy 30 (6th Avenue) at Laredo Street in Arapahoe County
40	30A	12.59		Hwy 30 (6th Avenue) at Tower Road in Arapahoe County
41	34A	92.60	1995	Hwy 34 (Eisenhower Boulevard) at Redwood Drive in Loveland
42 43	34A	92.76	1995	Hwy 34 (Eisenhower Boulevard) at Madison Avenue in Loveland
43	34A 24B	93.81	1998 1007	Hwy 34 (Eisenhower Boulevard) at Boyd Lake Road in Loveland Hwy 34 (Platte Avenue) at Barlow Road in Fort Morgan
44 45	34B 34D	164.46 5.61	1997 1994	Hwy 34 (Platte Avenue) at Barlow Road in Fort Morgan Hwy 34 Business Route (10th Street) at 59th Avenue in Greeley
45 46	34D 34D	7.22	1994	Hwy 34 Business Route (10th Street) at 39th Avenue in Greeley
47	36B	35.26	1998	Hwy 36 (28th Street) at Glenwood Drive in Boulder
47 48	40A	133.28	1997	Hwy 40 (Lincoln Avenue) at Trafalgar Drive in Steamboat Springs
49	40A	135.12	1997	Hwy 40 (Lincoln Avenue) at Walton Creek Road in Steamboat Springs
49 50 51	40C	288.91	1993	Hwy 40 (Colfax Avenue) at Denver West Boulevard in Denver
51	40C	290.51	1993	Hwy 40 (Colfax Avenue) at Quail Street in Denver
52 53	40C	290.76	1993	Hwy 40 (Colfax Avenue) at Oak Street in Denver
うう 54	40C	291.20	1993 1993	Hwy 40 (Colfax Avenue) at Miller Street in Denver Hwy 42 (95th Street) at Baseline Road in Louisville
54 55	42A 42A	0.96 1.96	1993 1993	Hwy 42 (95th Street) at Baseline Road in Louisville Hwy 42 (95th Street) at South Boulder Road in Louisville

56	42A	2.62	1993	Hwy 42 (95th Street) at Pine Street in Louisville
57	42A	4.86	1993	Hwy 42 at Hwy 287 in Boulder County near Louisville
58	44A	3.74	1998	Hwy 44 (104th Avenue) at McKay Road in Adams County near Thornton
59	44A	4.30	1994	Hwy 44 (104th Avenue) at Riverdale Road in Thornton
60	45A	4.27	1998	Hwy 45 (Pueblo Boulevard) at St. Clair Avenue/Plainview Street in Pueblo
61	50A	220.38	1998	Hwy 50 at County Road 111 in Chaffee County near Poncha Springs
62	50A	285.63	1998	Hwy 50 at County Road 67 in Fremont County near Canon City
63	50A	607.34	1998	Hwy 50 at McCulloch Boulevard in Pueblo County near Pueblo
64	52A :	20.32	1995	Hwy 52 (1st Street) at McKinley Avenue in Fort Lupton
65	52B	86.64	1997	Hwy 52 (Main Street) at 7th Avenue in Fort Morgan
66	53A	0.65	1998	Hwy 53 (Broadway) at 62nd Avenue in Adams County near Denver
67	67B	15.07	1998	Hwy 67 at Hwy 50 in Fremont County near Florence
68	68A	0.27	1998	Hwy 68 (Harmony Road) at John F. Kennedy Parkway in Fort Collins
69	68A	0.63	1994	Hwy 68 (Harmony Road) at Boardwalk Drive in Fort Collins
70	68A	1.00	1994	Hwy 68 (Harmony Road) at LeMay Avenue in Fort Collins
70 71	68A	1.99	1994	Hwy 68 (Harmony Road) at Timberline Road in Fort Collins
71				
72	68A	3.02	1994	Hwy 68 (Harmony Road) at Ziegler Road in Fort Collins
73	72A	3.47	1994	Hwy 72 (64th Avenue) at Gardenia in Arvada
74	74A	1.89	1996	Hwy 74 (Evergreen Parkway) at Soda Creek Road in Jefferson County near
1		1		Bergen Park
75	74A	4.49	1993	Hwy 74 (Evergreen Parkway) at Lewis Ridge Road in Jefferson County near
75	740	4.45	1995	They 14 (Evergreen rankway) at Lewis Muge Road in Senerson County hear
				Bergen Park
76	74A	5.34	1996	Hwy 74 (Evergreen Parkway) at Stage Coach Boulevard in Jefferson County near
77	004	6.66	1005	Dedisse Park Hwy 82 at County Road 114/County Road 154 in Garfield County near Glenwood
//	82A	0.00	1995	Hwy 62 at County Road 114/County Road 154 in Gameid County hear Glenwood
1		1		Springs
78	82A	15.54	1997	Hwy 82 at (Garfield) County Road 100/Missouri Heights Road in Catherine
79	82A	19.07	1995	Hwy 82 at (Eagle) County Road 13 in El Jebel
80	82A	20.95	1995	Hwy 82 at Hwy 82 Business Route (Willits Lane/Two Rivers Road) in Basalt
81	82A	35.28	1997	Hwy 82 at Brush Creek Road in Pitkin County near Aspen
82	83A	56.86	1998	Hwy 83 at Stroh Road in Douglas County near Parker
83	83A	61.86	1998	Hwy 83 (Parker Road) at E-470 EB Ramps in Douglas County near Parker
84	83A	65.86	1998	Hwy 83 (Parker Road) at Caley Avenue in Arapahoe County near Aurora
85	83A	68.29	1995	Hwy 83 (Parker Road) at Temple Drive in Aurora
86	83A :	69.39	1995	Hwy 83 (Parker Road) at Lehigh Ave in Aurora
87	83A	71.45	1998	Hwy 83 (Parker Road) at Lansing Way/Bethany Drive in Aurora
88	85B	185.12	1998	Hwy 85 at Meadows Parkway/Founders Parkway in Douglas County near Castle
1		1		
	055	407.05		Rock
89	85B	187.25	1998	Hwy 85 at Happy Canyon Drive in Douglas County near Castle Rock
90	85B	200.55	1998	Hwy 85 (Sante Fe Drive) at Countyline Road in Littleton
91				
92	86A	1.80	1993	Hwy 86 at Ridge Road in Castle Rock
J <b>L</b>	86A 86A	1.80 15.22		Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth
92 93		1.80	1993	Hwy 86 at Ridge Road in Castle Rock
93	86A 88B	1.80 15.22 18.49	1993 1998 1998	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County
93	86A 88B 90B	1.80 15.22 18.49 88.98	1993 1998 1998 1998 1998	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose
93 94 95	86A 88B 90B 119A	1.80 15.22 18.49 88.98 6.72	1993 1998 1998 1998 1998 1996	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk
93 94 95 96	86A 88B 90B 119A 119A	1.80 15.22 18.49 88.98 6.72 6.97	1993 1998 1998 1998 1998 1996 1998	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk
93 94 95 96 97	86A 88B 90B 119A 119A 121A	1.80 15.22 18.49 88.98 6.72 6.97 23.03	1993 1998 1998 1998 1996 1998 1998 1998	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk Hwy 121 (Wadsworth) at Independence Drive in Westminster
93 94 95 96 97 98	86A 88B 90B 119A 119A 121A 141B	1.80 15.22 18.49 88.98 6.72 6.97 23.03 160.95	1993 1998 1998 1998 1996 1998 1998 1998 1997	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk Hwy 121 (Wadsworth) at Independence Drive in Westminster Hwy 141 (32 Road) at Grand Avenue in Grand Junction
93 94 95 96 97 98 99	86A 88B 90B 119A 119A 121A 121A 141B 145A	1.80 15.22 18.49 88.98 6.72 6.97 23.03 160.95 0.00	1993 1998 1998 1998 1996 1996 1998 1998 1997 1998	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk Hwy 121 (Wadsworth) at Independence Drive in Westminster Hwy 141 (32 Road) at Grand Avenue in Grand Junction Hwy 145 (State Street) at Hwy 160 (Main Street/Mancos Road)) in Cortez
93 94 95 96 97 98	86A 88B 90B 119A 119A 121A 141B	1.80 15.22 18.49 88.98 6.72 6.97 23.03 160.95	1993 1998 1998 1998 1996 1998 1998 1998 1997	Hwy 86 at Ridge Road in Castle Rock Hwy 86 at Elizabeth Street in Elizabeth Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County Hwy 90 (Main Street) at Marine Drive in Montrose Hwy 119 (Clear Creek Street) at Main Street in Black Hawk Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk Hwy 121 (Wadsworth) at Independence Drive in Westminster Hwy 141 (32 Road) at Grand Avenue in Grand Junction
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111	<u>.</u>	287C 342.53	1994	Hwy 287 (College Avenue) at Troutman Parkway in Fort Collins
112		287C 342.81	1994	Hwy 287 (College Avenue) at Boardwalk Drive in Fort Collins

The before period for each location is three calender years, from 4 years before the video log appearance to 2 years before, (e.g. location 1 appeared in 1998 -> before period is January 1, 1994 - December 31, 1996). The after period is three calendar years beginning the year after the video log appearance (e.g. location 1 after period is January 1, 1999 - December 31, 2001). In this manner it is assured that the entire before period is prior to the signalization, the entire after period is with the signal operational and the two periods are of the same duration.

Data accrued along with all other Colorado reported accident data in CDOT's Accident Records Database.

## 5. Analysis

The Appendix contains the entire Excel spreadsheet used in the analysis. The 65 crash types, severities and attributes listed in Table 2 were considered.

### Table 2 - Attributes

Property Damage Only Crashes	
Injury Crashes	
Fatal Crashes	Severity
Persons Injured	
Persons Killed	
Single Vehicle Crashes	
Two Vehicle Crashes	Number of Vehicles Involved
Three or More Vehicle Crashes	
On Roadway	Location

Run Off the Road	
Overturning	
School Age Pedestrian	
Other Pedestrian	
Broadside	
Head On	
Rear End	
Sideswipe (Same Direction)	Turne of Creak
Sideswipe (Opposite Direction)	Type of Crash
Approach Turn (Left Turning)	
Overtaking Turn	
Parked Vehicle	
Bicycle	
Wild Animal	
Fixed Object	
Daylight	
Dawn or Dusk	Lighting
Dark, Lighted	Lighting
Dark, Not Lighted	
Good Weather	
Rain	
Snow, Sleet or Hail	Weather
Fog	
Wind	
Dry	
Wet	Road Condition
Muddy	
Snowy	

Icy	
Slushy	
Passenger Car or Van	
Passenger Car or Van with Trailer	
Pickup Truck or Utility Van	
Pickup Truck or Utility Van with Trailer	
Self Contained Truck Under 10,000 Lbs.	Turpo of Vahiala at Fault
Truck Over 10,000 Lbs. or Bus over 15 Passengers	Type of Vehicle at Fault
Motor Home	
Motorcycle	
Bicycle	
Hit and Run (Vehicle Unknown)	
None Apparent	
Asleep	
Illness	
Inexperience	
Fatigue	Apparent Contributing
Preoccupied	Human Factor
Unfamiliar with Area	
Emotionally Upset	
Evading Law Enforcement	
Physical Disability	
Unimpaired	
Alcohol	
Prescription Drugs or Medication	Driver Impairment
Illegal Drugs	
Alcohol and Drugs	
Total Crashes	

There are other attributes recorded in CDOT's database (e.g. Domestic Animal) but if no crashes involving a particular attribute occurred in the study then that attribute has been excluded from this report.

Once the data was assembled and the columns totaled it was quickly discovered that while the prevailing literature finds crashes decrease after signalization, with a few exceptions, here in Colorado quite the opposite appeared to hold true. In terms of pure total numbers only 14 of 65 attributes showed any decrease.

Fatal Crashes
Persons Killed
School Age Pedestrian
Broadside
Overtaking Turn
Bicycle
Dark, Not Lighted
Motor Home
Motorcycle
Emotionally Upset
Evading Law Enforcement
Physical Disability
Prescription Drugs or Medication
Alcohol and Drugs

Table 3 - Attributes Reduced in Total Occurrence After Signalization

Only two attributes (Bicycle as At Fault Vehicle and Driver under Influence of Illegal Drugs) had an unchanged number of occurrences. The remaining 49 attributes experienced an increased total number of occurrences after signalization.

Next consideration was given to determining whether more locations had experienced an increase or decrease of crashes with each attribute. In the spreadsheet the cells for the after period are color coded as follows: Red if there were more crashes with that attribute at that location in the after period. Green if there were less. Yellow if the number was unchanged. The red (increased), yellow (unchanged) and green (decreased) cells were tallied for each attribute. Then the number of locations where accidents decrease was subtracted from the number of locations where the accidents increased to determine if more locations experienced an increase or a decrease for each attribute. The list of attributes for which more locations experienced a decrease is the same as the list in Table 3, except that Wild Animal crashes replace Bicycle crashes. Locations experiencing increases and decreases were also tallied separately for Urban and Rural locations, in hopes that enlightening differences would appear, but that did not prove to be the case. Several pie-charts were created showing the increased/decreased/unchanged proportions for various attributes and they are also included in the appendix. These are helpful in providing at a glance a general feeling for the effectiveness of signalization as related to a particular accident type.

Figure 1 shows that the locations where the total number of broadside crashes deceased is larger than the number of locations where they increased, but that the number of broadsides was unchanged at a similar proportion of the intersections. This reflects the fact that a significant portion of the locations didn't experience any broadsides in either period.

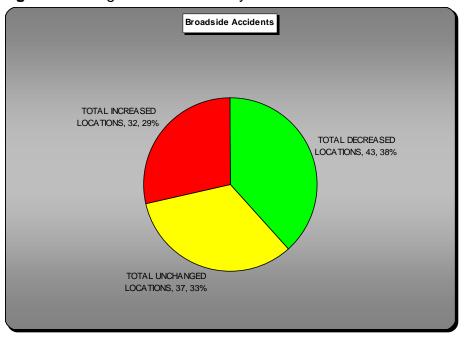


Figure 1 Change in Broadsides by Location

Figure 2 shows that rear end crashes were much more likely to increase than to decrease or remain unchanged.

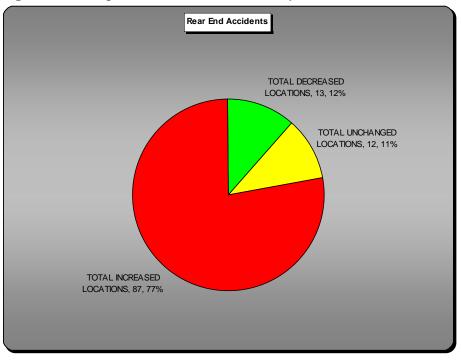


Figure 2 Change in Rear End Crashes by Location

Finally, Figure 3 shows that the total number of reported crashes increased at three quarters of the locations.

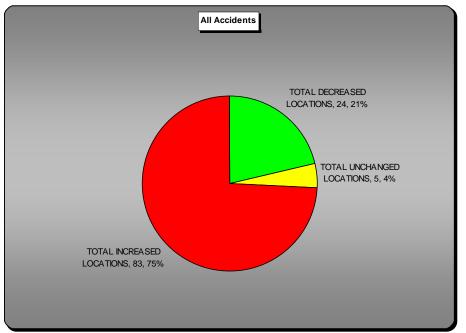


Figure 3 Change in Overall Crashes by Location

At this point the analysis begins to focus on consideration of whether these changes are meaningful, or if they might be random. This process begins with determining the mean number of crashes with a particular attribute per location in the before period, the after period and the mean change. These were determined simply by dividing the totals determined earlier by 112 (the number of locations). Next the standard deviation of the population (since the sample is believed to be the entire population) was determined for the change at all locations for each attribute, using the following formula:

$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

Where sigma = standard deviation, x = population mean and n = the number of locations in the population. Once standard deviation is known a confidence interval can be constructed. If zero is outside the 95% confidence interval for change in a given attribute then the hypothesis that there is no significant change from the before to the after period is rejected. The confidence limits are stated both in terms of change in the number of crashes from before to after and as a percentage increase (decrease shown as negative) from the before period.

Table 4 - Attributes which Decreased (95% Confidence) After Signalization

Attribute	Upper Confidence Limit	UCL %
	(minimum decrease)	
Broadside	-0.07 crashes per location	-2.1%
Overtaking Turn	-0.02 crashes per location	-8.5%
Prescription Drugs or Medication	-0.11 crashes per location	-26.3%

#### Table 5 Attributes which Increased (95% Confidence) After Signalization

Attribute	Lower Confidence Limit	LCL %
	(minimum increase)	
Property Damage Only	3.22 crashes per location	54.5%
Injury Crashes	1.38 crashes per location	41.3%
Persons Injured	1.59 persons per location	27.3%
Single Vehicle	0.04 crashes per location	6.1%
Two Vehicles	3.88 crashes per location	49.9%
Three or More Vehicles	0.52 crashes per location	66.3%
On Roadway	4.56 crashes per location	51.8%
Run Off the Road	0.05 crashes per location	8.8%
Rear End	3.39 crashes per location	125.7%
Sideswipe (Same Direction)	0.03 crashes per location	7.7%
Approach Turn (Left Turning)	1.62 crashes per location	101.1%
Fixed Object	0.04 crashes per location	8.4%
Daylight	3.33 crashes per location	45.8%
Dawn or Dusk	0.07 crashes per location	20.4%

Dark, Lighted	0.79 crashes per location	61.6%
Good Weather	3.67 crashes per location	44.9%
Rain	0.15 crashes per location	38.8%
Snow, Sleet or Hail	0.14 crashes per location	23.3%
Dry Road	3.37 crashes per location	43.9%
Wet Road	0.30 crashes per location	34.4%
Muddy Road	0.02 crashes per location	Undefined, zero before
Passenger Car or Van at Fault	2.67 crashes per location	39.7%
Pickup or Utility Van at Fault	1.03 crashes per location	63.1%
Heavy Truck or Bus at Fault	0.11 crashes per location	51.3%
Hit and Run (Unknown Vehicle at Fault)	0.15 crashes per location	68.4%
No Apparent Human Factor	2.13 crashes per location	33.5%
Driver Inexperience	0.28 crashes per location	60.4%
Driver Preoccupied	0.59 crashes per location	47.7%
Driver Apparently Unimpaired	3.74 crashes per location	48.8%
Driver Impaired by Alcohol	0.01 crashes per location	2.5%
Total Crashes	4.85 crashes per location	52.1%

To this point the effect of increasing traffic over time has been neglected. Traffic volume data (AADT) was included in the CDOT data base and the volumes from the middle year of each before and after period was recorder for this report. The totals for all locations were aggregated and the mean change, in terms of numbers and as a percentage of the before volume was determined. The growth in the highway traffic volumes from the middle of the before period to the middle of the after period averaged 19.30%.

Lacking information for crossroad volumes, the assumption that the frequency of accidents can be expected to be directly proportional to traffic volume (The underlying premiss of all "accident rate" calculations) is presumed to be valid and is used for this report. This leads to the observation that any attribute whose Upper Confidence Limit expressed as a percentage is less than 19.3% can be said to have increased at a less than expected rate, or to have decreased in frequency relative to traffic volume.

Similarly, only those attributes whose Lower Confidence Limit expressed as a percentage is greater than 19.3% can be said to have experienced an increase in frequency greater than that predicted by increasing traffic volume alone.

Table 6 lists the attributes which fall into each of the above categories.

Table 6 - Attributes Effected by Signalization (Considering Traffic Growth)

Attributes Significantly Reduced	Attributes Significantly Increased
Relative to Highway AADT After	Beyond Highway AADT Growth After
Signalization	Signalization
School Aged Pedestrian	Property Damage Only Crashes
Broadside	Injury Crashes
Overtaking Turn	Persons Injured
Motor Home at Fault	2 Vehicles
Driver Impaired by Prescription Drugs or	3 or More Vehicles
Medication	On Roadway
	Rear End
	Approach Turn (Left Turning)
	Daylight
	Dawn or Dusk
	Dark, Lighted
	Good Weather
	Rain
	Snow, Sleet or Hail
	Dry Road
	Wet Road
	Muddy Road
	Passenger Car or Van at Fault
	Pickup or Utility Van at Fault
	Heavy Truck or Bus at Fault
	Hit and Run (Unknown) at Fault
	No Apparent Human Factor
	Driver Inexperience
	Driver Preoccupied
	Driver Apparently Unimpaired
	Total Number of Crashes

## 6. Conclusions and Recommendations

It bears repeating that, according to the MUTCD<sup>3</sup> "The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."

All of the signals in the study satisfied a warrant or warrants, yet the total number of accidents increased at 75% of the locations, and the total number of accidents at all locations increased by 74.6%.

It is apparent that overall, installing a traffic signal is not likely to improve safety. There are a few accident types which are generally improved such as Broadside and Overtaking Turn, but the total number of crashes and Injury crashes are apparently increased, even when additional traffic volume is accounted for. In the study there was a significant increase in 26 of the 65 investigated attributes, while only 5 attributes clearly decreased relative to traffic volume. What is certain is that the signals were installed and the frequencies of occurrence crashes with the various attributes changed. While it doesn't necessarily follow that installing the signals caused the significant changes, absent any other compelling arguments, this does seem to be the most likely explanation. This is mostly bad news.

There is a kernel of good news however; the two accident types which account for the largest increases in total numbers are Rear End and Approach Turn. These two types account for more than 2/3 of the accidents in the after period. These two types together increased by a total of 765 crashes, equaling more than 98% of the increase in the total number of crashes (778). The good news is, very effective and relatively inexpensive (relative to the cost of a traffic signal) countermeasures exist for both types of crashes at signalized intersections. In CDOT's experience approach turn accidents can be reduced 90% or more by implementation of protected-only left turns, which could be added to a

planned signal for only a few hundred dollars. CDOT is currently in the midst of a research project, in conjunction with the University of Colorado at Denver and the Insurance Institute for Highway Safety, investigating the effectiveness of advanced detection with dilemma prevention for reducing rear end accidents. Such detection adds about \$10,000 to the cost of a signal, but preliminary results indicate that the accident reduction may approach 50%. Good signal design, including using 12" LED faces, mast arms in lieu of span wires, back plates to improve observability, and signal heads centered over lanes, can also be expected to reduce rear end crash frequency. In locations where advanced detection is inappropriate, due to close spacing of signals, good signal coordination to produce progression can reduce rear ends.

If approach turn accidents in the after period were reduced 90% and rear ends in the after period were reduced 50% there would have been 801 less total accidents in the after period . . .for a net change of -23 accidents compared to the before period. That's pure speculation, and assumes that none of the locations incorporated any countermeasures to those crash types, but it serves to illustrate the point that the tools are available fix the observed tendency of safety to decline when an intersection on a Colorado State Highway is signalized.

MUTCD<sup>3</sup> recommends that an engineering study should show that safety and/or operation will be improved by the proposed signal. Traffic Engineers must weigh any hoped for operational benefit against the knowledge that in most cases the signal will not improve safety. Traffic Engineers should also explicitly consider all of the methods available to mitigate the undesirable safety effects of proposed signals, including consideration of the possibility that a modern roundabout may be more appropriate. Furthermore, Traffic Engineers should monitor the safety performance of newly signalized intersections and address any problems identified.

#### REFERENCES

1. *Traffic Engineering Handbook, Fifth Edition*, J. Pline, Editor, Institute of Transportation Engineers, Washington, DC, (1999).

2. Thomas, G.V. and D.J. Smith, *Effectiveness of Roadway Safety Improvements*, Center for Transportation Research and Education, Iowa State University, (March 2001)

3. *Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition*, Federal Highway Administration, United States Department of Transportation, Washington, DC, (2003)

**4.** *Traffic Control Devices Handbook*, J. Pline, Editor, Institute of Transportation Engineers, Washington, DC, (2001)

5. Voss, L.G., *Accident Reduction Factors,* Kansas Department or Transportation Bureau of Traffic Engineering, Topeka, KS, (May 1997)

APPENDIX

				STUDIED SIGNAL LOCATIONS
Site #	Highway	MP	Video Log	Desciption
1	2B	11.10	1998	Hwy 2 (Hansen BV) at 64th Ave in Commerce City
2	2B	12.37	1998	Hwy 2 (Hansen BV) at 72nd Ave (and Railroad Crossing) in Commerce City
3	2C	15.61	1996	Hwy 2 at 96th Ave in Adams County
4 5	2C 2D	16.96 0.58	1994 1997	Hwy 2 at Hwy 44 (104th Ave) in Adams County Hwy 2 (Sable Road) at Hwy 22 (124th Ave) in Brighton
6	2D 6E	166.00	1997	Hwy 6 at I-70 Business Spur in Eagle County near Edwards
7	7A	0.34	1997	Hwy 7 (South Saint Vrain Ave) at Manford Dr. in Estes Park
8	7B	46.27	1998	Hwy 7 (Broadway) at Old Stage Road/Lee Hill Road in Boulder
9	7B	46.77	1998	Hwy 7 (Broadway) at Violet Avenue in Boulder
10	7B	48.64	1998	Hwy 7 (Broadway) at Cedar Avenue in Boulder
11	7B	48.97	1998	Hwy 7 (Broadway) at Portland Place/Bluff Street in Boulder
12	7B	50.53	1996	Hwy 7 (Canyon Boulevard) at 26th Avenue
13	7C	54.92	1998	Hwy 7 (Arapahoe Avenue) at Cherryvale Road in Bouler
14 15	7D 7D	62.13 62.38	1998 1998	Hwy 7 (Baseline Road) at Carr Avenue in Lafayette Hwy 7 (Baseline Road) at 111th Street/Christopher Street in Lafayette
15	7D 7D	63.22	1998	Hwy 7 (Baseline Road) at 119th Street in Lafayette
17	7D 7D	77.59	1998	Hwy 7 (Bridge Street) at 8th Avenue in Brighton
18	9C	87.17	1998	Hwy 9 (Main Street) at ? near Breckenridge
19	9C	87.80	1998	Hwy 9 (Main Street) at Valley Brook Road/Bikeway near Breckenridge
20	9C	90.25	1998	Hwy 9 at Tiger Road in Summit County (near Frisco)
21	9C	92.89	1996	Hwy 9 at Swan Mountain Road/Bikeway in Summit County near Frisco
22	9C	95.61	1996	Hwy 9 (Summit Boulevard) at ? in Frisco
23	9C	96.70	1998	Hwy 9 (Summit Boulevard) at Ten Mile Road in Frisco
24	9C	97.01	1996	Hwy 9 (Summit Boulevard) at County Road 7 (Dillon Dam) in Frisco
25 26	13B 13B	89.90 90.23	1994 1994	Hwy 13 (Yampa Street) at 6th Street in Craig Hwy 13 (Yampa Street) at 9th Street in Craig
20	14C	134.92	1994	Hwy 14 (Riverside) at Linden Street in Fort Collins
28	14C	135.13	1994	Hwy 14 (Riverside) at Mountain Ave in Fort Collins
29	14C	137.30	1999	Hwy 14 (Mulberry) at Timberline Road in Fort Collins
30	14C	137.62	1995	Hwy 14 (Mulberry) at Summit View Drive in Fort Collins
31	14C	235.68	1995	Hwy 14 (Main Street) at 13th Avenue in Sterling
32	14C	236.27	1995	Hwy 14 (Main Street) at 6th Avenue in Sterling
33	14C	236.55	1995	Hwy 14 (Main Street) at 3rd Avenue in Sterling
34 35	15A 15A	0.00	1994	Hwy 15 (Broadway) at Hwy 160 and Hwy 285 in Monte Vista
35	15A 22A	0.09	1996 1998	Hwy 15 (Broadway) at 2nd Ave in Monte Vista Hwy 22 (124th Avenue) at Hwy 2 (Sable Road)
37	22A 24A	297.55	1995	Hwy 24 at Serpentine Road (Cave of the Winds Road) in Manitou Springs
38	24G	310.95	1995	Hwy 24 Bypass (Platte Avenue at Amelia Street in Colorado Springs
39	30A	11.09	1998	Hwy 30 (6th Avenue) at Laredo Street in Arapahoe County
40	30A	12.59	1998	Hwy 30 (6th Avenue) at Tower Road in Arapahoe County
41	34A	92.60	1995	Hwy 34 (Eisenhower Boulevard) at Redwood Drive in Loveland
42	34A	92.76	1995	Hwy 34 (Eisenhower Boulevard) at Madison Avenue in Loveland
43	34A	93.81	1998	Hwy 34 (Eisenhower Boulevard) at Boyd Lake Road in Loveland
44 45	34B 34D	164.46 5.61	1997 1994	Hwy 34 (Platte Avenue) at Barlow Road in Fort Morgan Hwy 34 Business Route (10th Street) at 59th Avenue in Greeley
45 46	34D 34D	7.22	1994	Hwy 34 Business Route (10th Street) at 39th Avenue in Greeley
47	36B	35.26	1998	Hwy 36 (28th Steet) at Glenwood Drive in Boulder
48	40A	133.28	1997	Hwy 40 (Lincoln Avenue) at Trafalger Drive in Steamboat Springs
49	40A	135.12	1997	Hwy 40 (Lincoln Avenue) at Walton Creek Road in Steamboat Springs
50	40C	288.91	1993	Hwy 40 (Colfax Avenue) at Denver West Bouldevard in Denver
51	40C	290.51	1993	Hwy 40 (Colfax Avenue) at Quail Street in Denver
52	40C	290.76	1993	Hwy 40 (Colfax Avenue) at Oak Street in Denver
53	40C	291.20	1993	Hwy 40 (Colfax Avenue) at Miller Street in Denver
54 55	42A 42A	0.96	1993 1993	Hwy 42 (95th Street) at Baseline Road in Louisville Hwy 42 (95th Street) at South Boulder Road in Louisville
55 56	42A 42A	2.62	1993	Hwy 42 (95th Street) at South Boulder Road in Louisville
57	42A 42A	4.86	1993	Hwy 42 at Hwy 287 in Boulder County near Louisville
58	44A	3.74	1998	Hwy 44 (104th Avenue) at McKay Road in Adams County near Thornton
59	44A	4.30	1994	Hwy 44 (104th Avenue) at Riverdale Road in Thornton
60	45A	4.27	1998	Hwy 45 (Pueblo Boulevard) at St. Clair Avenue/Plainview Street in Pueblo
61	50A	220.38	1998	Hwy 50 at County Road 111 in Chaffee County near Poncha Springs
62	50A	285.63	1998	Hwy 50 at County Road 67 in Fremont County near Canon City
63	50A	607.34	1998	Hwy 50 at McCulloch Boulevard in Pueblo County near Pueblo
64 65	52A 52B	20.32	1995 1997	Hwy 52 (1st Street) at McKinley Avenue in Fort Lupton Hwy 52 (Main Street) at 7th Avenue in Fort Morgan
66 66	52B 53A	86.64 0.65	1997	Hwy 52 (Main Street) at 7th Avenue in Fort Morgan Hwy 53 (Broadway) at 62nd Avenue in Adams County near Denver
67	67B	15.07	1998	Hwy 67 at Hwy 50 in Fremont County near Florence
<u>,</u>	5.0			

68	68A	0.27	1998	Hwy 68 (Harmony Road) at John F. Kennedy Parkway in Fort Collins
69	68A	0.63	1994	Hwy 68 (Harmony Road) at Boardwalk Drive in Fort Collins
70	68A	1.00	1994	Hwy 68 (Harmony Road) at LeMay Avenue in Fort Collins
70	68A	1.99	1994	
71	68A 68A		1994	Hwy 68 (Harmony Road) at Timberline Road in Fort Collins
72	68A 72A	3.02 3.47		Hwy 68 (Harmony Road) at Ziegler Road in Fort Collins Hwy 72 (64th Avenue) at Gardenia in Arvada
			1994	
74	74A	1.89	1996	Hwy 74 (Evergreen Parkway) at Soda Creek Road in Jefferson County near Bergen Park
75	74A	4.49	1993	Hwy 74 (Evergreen Parkway) at Lewis Ridge Road in Jefferson County near Bergen Park
76	74A	5.34	1996	Hwy 74 (Evergreen Parkway) at Stage Coach Boulevard in Jefferson County near Dedisse Park
77	82A	6.66	1995	Hwy 82 at County Road 114/County Road 154 in Garfield County near Glenwood Springs
78	82A	15.54	1997	Hwy 82 at (Garfield) County Road 100/Missiouri Heights Road in Cathrine
79	82A	19.07	1995	Hwy 82 at (Eagle) County Road 13 in El Jebel
80	82A	20.95	1995	Hwy 82 at Hwy 82 Business Route (Willits Lane/Two Rivers Road) in Basalt
81	82A	35.28	1997	Hwy 82 at Brush Creek Road in Pitkin County near Aspen
82	83A	56.86	1998	Hwy 83 at Stroh Road in Douglas County near Parker
83	83A	61.86	1998	Hwy 83 (Parker Road) at E-470 EB Ramps in Douglas County near Parker
84	83A	65.86	1998	Hwy 83 (Parker Road) at Caley Avenue in Arapahoe County near Aurora
85	83A	68.29	1995	Hwy 83 (Parker Road) at Temple Drive in Aurora
86	83A	69.39	1995	Hwy 83 (Parker Road) at Lehigh Ave in Aurora
87	83A	71.45	1998	Hwy 83 (Parker Road) at Lansing Way/Bethany Drive in Aurora
88	85B	185.12	1998	Hwy 85 at Meadows Parkway/Founders Parkway in Douglas County near Castle Rock
89	85B	187.25	1998	Hwy 85 at Happy Canyon Drive in Douglas County near Castle Rock
90	85B	200.55	1998	Hwy 85 (Sante Fe Drive) at Countyline Road in Littleton
91	86A	1.80	1993	Hwy 86 at Ridge Road in Castle Rock
92	86A	15.22	1998	Hwy 86 at Elizabeth Street in Elizabeth
93	88B	18.49	1998	Hwy 88 (Arapahoe Road) at Lima Street in Arapahoe County
94	90B	88.98	1998	Hwy 90 (Main Street) at Marine Drive in Montrose
95	119A	6.72	1996	Hwy 119 (Clear Creek Street) at Main Street in Black Hawk
96	119A	6.97	1998	Hwy 119 (Clear Creek Street) at Richman Street in Black Hawk
97	121A	23.03	1998	Hwy 121 (Wadsworth) at Indepedendance Drive in Westminster
98	141B	160.95	1997	Hwy 141 (32 Road) at Grand Avenue in Grand Junction
99	145A	0.00	1998	Hwy 145 (State Street) at Hwy 160 (Main Street/Mancos Road)) in Cortez
100	160A	35.19	1998	Hwy 160 at (Montezuma) County Road 24/County Road G (McElmo Junction) in Cortez
101	160A	40.30	1998	Hwy 160 (Mancos Road/Main Street) at Hwy 145 (State Street) in Cortez
102	285D	224.94	1998	Hwy 285 at County Road 72,/County Road 43 in Park County near Pine Junction
103	287A	76.45	1994	Hwy 287 (Main Street) at Stuart Avenue in Lamar
104	287C	292.67	1997	Hwy 287 (Federal Boulevard) at 103rd Ave in Federal Heights
105	287C	301.83	1993	Hwy 287 at Hwy 42 in Boulder County near Louisville
106	287C	306.87	1997	Hwy 287 at Isabelle Road in Boulder County near Lafayette
107	287C	309.39	1997	Hwy 287 at Lookout Road in Boulder County near Lafayette
108	287C	311.42	1997	Hwy 287 at Niwot Road in Boulder County near Longmont
100	287C	336.27	1998	Hwy 287 (Garfield Avenue) at 45th Street in Loveland
110	287C	339.13	1998	Hwy 287 (College Avenue) at Carpenter Road in Fort Collins
110	287C	342.53	1994	Hwy 287 (College Avenue) at Troutman Parkway in Fort Collins
112	287C	342.81	1994	Hwy 287 (College Avenue) at Houtinan' artway in or collins
112	2010	J42.01	1334	

	SEVERITY # of VEHICLES		CRASH TYPE	LIGHT /EATHER
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is         E         I         Before Signalization - Urban         2         B         11.08         11.12         1/1/1994         12/31/15	<b>6 5 1 5 5 7 0</b> 996 8 7 0 11 0 2 11	<b>5 6 6</b>	_ <b>O iõ O iā iž ič iõ iõ i ⊂ O ič iā ≶ i</b> ĭ ] 0   0   0   2   0   3   2   0   6   0   0   0   0   2	E         E         E         E         O         E         S         L           7         1         7         0         15         0         0         0
1         After Signalization - Urban         2         B         11.08         11.12         1/1/1999         12/31/20           1         Change (After-Before)         2         B         11.08         11.12         1/1/1999         12/31/20	001 10 3 0 7 0 2 11 2 -4 0 -4 0 0 0 0	2 -2 0	0         0         0         4         0         2         1         1         3         0         0         0         0         2           0         0         0         2         0         -1         -1         1         -3         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	9         0         3         0         11         1         0         0           2         -1         -4         0         -4         1         0         0
2         Before Signalization - Urban         2         B         12.35         12.39         1/1/1992         12/31/19           2         After Signalization - Urban         2         B         12.35         12.39         1/1/1997         12/31/19	994         18         12         0         14         0         7         22           999         18         9         0         11         0         4         22	26 4 24 3	0 0 2 3 0 13 1 0 3 0 1 1 0 5 0 0 <b>1 5 0 8 2 0 7 0 1 0 0 3</b>	22         1         7         0         28         1         1         0           13         2         11         1         23         2         1         0
2         Change (After-Before)         2         B         12.35         12.39           3         Before Signalization - Urban         2         C         15.59         15.63         1/1/1992         12/3/1/19	0         -3         0         -3         0         -3         0         -9           994         8         9         1         11         1         2         15	1 <mark>-2-1</mark> 1162	0         0         -1         2         0         -5         1         0         4         0         0         -1         0         -2           0         0         0         13         0         1         0         2         0         0         0         0         2         0	-9         1         4         1         -5         1         0         0           13         1         3         1         16         1         1         0
3         After Signalization - Urban         2         C         15.59         15.63         1/1/1997         12/31/19           3         Change (After-Before)         2         C         15.59         15.63         1/1/1997         12/31/19	999 <b>2 5 0 10 0 0 7</b>	<b>70</b>	0         0         0         1         0         1         2         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	4         2         1         0         5         1         0         1           -9         1         -2         -1         -11         0         -1         1
4         Before Signalization - Urban         2         C         16.94         16.98         1/1/1990         12/31/19           4         After Signalization - Urban         2         C         16.94         16.98         1/1/1995         12/31/19	992 7 7 0 15 0 0 13 997 3 2 0 6 0 1 4	14 0 4 1		11     1     1     14     0     0     0       3     0     0     2     4     0     1     0
4         Change (After-Before)         2         C         16.94         16.98           5         Before Signalization - Urban         2         D         0.56         0.6         1/1/1994         12/31/19	-4         -5         0         -9         0         1         -9         9           996         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 </th <th>1 -10 1 ) 0 0</th> <th>0         0         -7         0         -1         0         1         -2         -1         0         0         0         1         -1           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0<th>-8         -1         -1         1         -10         0         1         0           0         0         0         0         0         0         0         0         0</th></th>	1 -10 1 ) 0 0	0         0         -7         0         -1         0         1         -2         -1         0         0         0         1         -1           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <th>-8         -1         -1         1         -10         0         1         0           0         0         0         0         0         0         0         0         0</th>	-8         -1         -1         1         -10         0         1         0           0         0         0         0         0         0         0         0         0
5 After Signalization - Urban 2 D 0.56 0.6 1/1/1999 12/31/20			1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	
6         Before Signalization - Rural         6         E         165.98         166.02         1/1/1992         12/3/1/19           6         After Signalization - Rural         6         E         165.98         166.02         1/1/1996         12/3/1/19				$\begin{array}{cccccccccccccccccccccccccccccccccccc$
6         Change (After-Before)         6         E         165.98         166.02         1///1996         123/178           7         Before Signalization - Rural         7         A         0.32         0.36         1///1992         12/3/192	13 7 0 8 0 -1 17	21 -1 7 0	0         0         0         1         0         7         1         10         0         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         1         10         0         0         1         0         -1         0         0         1         0         2         0         0         0         1         0         2         0         0         1         0         2         0         0         1         0         2         0         0         0         1         0         2         0         0         0         1         0         2         0         0         0         1         0         2         0         0         0         1         0         2         0         0         0         0         0         0         1         0         2         0         0         0         1         0         2         0         0         0         1         0         1         0         1         0         1         0         1         0         1         0         1	10         3         1         -1         11         0         2         0           7         0         0         0         6         0         1         0
7         Before Signalization - Rural         7         A 0.32         0.36         1/1/1992         1/2/31/15           7         After Signalization - Rural         7         A         0.32         0.36         1/1/1998         1/2/31/20           7         Change (After-Before)         7         A         0.32         0.36         1/1/1998         1/2/31/20		7         0           6         2           -1         2	0       0       0       0       4       0       0       0       1       0       2       0       0         0       0       0       3       0       2       0       0       1       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       0       2       0       2       0       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2       0       2	7         0         0         0         6         0         1         0           5         0         2         0         5         0         1         0           2         0         2         0         5         0         1         0
8 Before Signalization - Urban 7 B 46.25 46.29 1/1/1994 12/31/19				$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
8         After Signalization - Urban         7         B         46.25         46.29         1/1/1999         12/31/20           8         Change (After-Before)         7         B         46.25         46.29         1/1/1999         12/31/20           9         Before Signalization - Urban         7         B         46.75         46.79         1/1/1994         12/31/31	-2 -3 0 -5 0 -1 -4	) <u>-5</u> 0	0 -1 0 -5 0 1 0 0 1 0 0 -1 0 0 0 -2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 0 -3 0 -7 2 0 0
9 After Signalization - Urban 7 B 46.75 46.79 1/1/1999 12/31/20	001 2 1 0 2 0 0 3	0 3 0 0 3 0	0         0         0         2         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	2 0 1 0 3 0 0 0 1 0 2 0 2 0 1 0
9         Change (After-Before)         7         B         46.75         46.79           10         Before Signalization - Urban         7         B         48.66         1/1/1994         12/31/19           10         Line Market Signalization - Urban         7         B         48.66         1/1/1994         12/31/19		) 2 0		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
10         After Signalization - Urban         7         B         48.62         48.66         1/1/1999         12/31/20           10         Change (After-Before)         7         B         48.62         48.66         1/1/1999         12/31/20	2 0 0 -1 0 0 1	4 0 2 0	0     0     0     1     0     2     1     0     0     0     0     0     0     0       0     0     0     1     0     2     0     0     -1     0     0     0     0     0	3         0         0         7         3         7         0         0           1         0         0         1         1         1         0         0
11         Before Signalization - Urban         7         B         48.95         48.99         1/1/1994         12/31/19           11         After Signalization - Urban         7         B         48.95         48.99         1/1/1994         12/31/20	996         6         1         0         1         0         2         5           001         5         4         0         5         0         0         7	) 6 1 9 0	0 0 0 1 0 <b>5 0 0 2 0 1 0 0 0</b>	6 0 1 0 5 0 2 0 5 1 3 0 8 1 0 0
11         Change (After-Before)         7         B         48.95         48.99         1           12         Before Signalization - Urban         7         B         50.51         50.55         1/1/1992         12/31/19		2 <u>3</u> -1 3 32 1		-1         1         2         0         3         1         -2         0           26         0         7         0         32         1         0         0
12         After Signalization - Urban         7         B         50.51         50.55         1/1/1997         12/31/19           12         Change (After-Before)         7         B         50.51         50.55	999         10         10         0         12         0         1         15           -16         3         0         4         0         0         -14	20 0 -12 -1	0         0         1         8         0         8         0         0         2         0         0         1         0         0           -1         0         1         -7         0         -2         -3         -1         1         0         0         0         -1         -1	17         0         3         0         17         2         1         0           -9         0         -4         0         -15         1         1         0
13         Before Signalization - Urban         7         C         54.94         1/1/1994         12/31/15           13         After Signalization - Urban         7         C         54.9         54.94         1/1/1999         12/31/20	001 1 7 0 10 0 0 8	2 12 0 8 0	0 0 0 2 0 3 0 0 3 0 0 0 0 0 0	11     0     1     0     12     0     0       8     0     0     0     8     0     0     0
13         Change (After-Before)         7         C         54.9         54.94         54.94           14         Before Signalization - Urban         7         D         62.11         62.15         1/1/1994         12/31/15	-5         1         0         1         0         0         -2         -3           996         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <th><mark>2 -4 0</mark> ) 0 0</th> <th>0         0         0         1         0         0         0         -5         0         0         0         0         0           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0</th> <th>-3         0         -1         0         -4         0         0         0           0         0         0         0         0         0         0         0         0</th>	<mark>2 -4 0</mark> ) 0 0	0         0         0         1         0         0         0         -5         0         0         0         0         0           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	-3         0         -1         0         -4         0         0         0           0         0         0         0         0         0         0         0         0
14         After Signalization - Urban         7         D         62.11         62.15         1/1/1999         12/31/20           14         Change (After-Before)         7         D         62.11         62.15         1/1/1999         12/31/20	2         0         0         0         0         2           2         0         0         0         0         0         2	0 2 0 0 2 0	0       0       0       0       2       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	2         0         0         0         2         0         0         0           2         0         0         0         2         0         0         0
15         Before Signalization - Urban         7         D         62.36         62.4         1/1/1994         12/31/19           15         After Signalization - Urban         7         D         62.36         62.4         1/1/1999         12/31/20	001 16 8 0 15 0 0 23	3 16 1 23 1	0       0       0       0       9       1       0       2       1       0       3       0       1         0       0       0       6       0       12       2       0       2       0       1       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	11     1     5     0     14     0     3     0       20     1     2     1     21     0     2     0
15         Change (After-Before)         7         D         62.36         62.4            16         Before Signalization - Urban         7         D         63.2         63.24         1/1/1994         12/31/15	6         1         0         7         0         -4         13	2 7 0 3 22 1	0         0         0         6         0         3         1         0         0         -1         1         -3         0         -1           0         0         0         10         0         6         1         0         3         1         0         1         0         0         -1	9         0         -3         1         7         0         -1         0           19         0         3         1         18         2         2         0
16         After Signalization - Urban         7         D         63.2         63.24         1/1/1999         12/31/20           16         Change (After-Before)         7         D         63.2         63.24	001         15         6         0         9         0         2         18           7         -8         -1         -17         -1         2         1         -1	20 1 5 -2 0	0     0     0     7     0     10     0     1     1     0     0     0     0     1       0     0     0     -3     0     4     -1     1     -2     -1     0     -1     0     1	16         0         1         3         20         0         0         0           -3         0         -2         2         2         -2         -2         0
17         Before Signalization - Urban         7         D         77.57         77.61         1/1/1994         12/31/15           17         After Signalization - Urban         7         D         77.57         77.61         1/1/1999         12/31/20	996         6         4         0         5         0         1         9           001         19         5         0         6         0         1         22	0 10 0 23 1	0       1       0       6       0       0       1       0       2       0       0       0       0       0         0       1       0       8       0       10       1       0       2       0       0       0       0       1       0	10     0     0     9     1     0     0       21     0     3     0     22     0     1     0
17         Change (After-Before)         7         D         77.57         77.61            18         Before Signalization - Rural         9         C         86.19         1/1/1994         12/31/19	13         1         0         1         0         0         13           996         4         0         0         0         0         2         1	13 1 ) 2 2	0         0         2         0         10         0         0         0         0         0         0         1           0         0         0         1         0         0         1         0         0         0         0         0         1         1	11         0         3         0         13         -1         1         0           3         1         0         0         2         0         2         0
18         After Signalization - Rural         9         C         86.15         86.19         1/1/1999         12/31/20           18         Change (After-Before)         9         C         86.15         86.19         1/1/1999         12/31/20	001 3 0 0 0 0 0 2 -1 0 0 0 0 -2 1	<b>3</b> 0	0         0         1         1         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	3         0         0         0         1         0         2         0           0         -1         0         0         -1         0         0         0
19         Before Signalization - Rural         9         C         87.78         87.82         1/1/1994         12/31/19           19         After Signalization - Rural         9         C         87.78         87.82         1/1/1999         12/31/20		) 5 0 <b>11 1</b>	0         0         0         3         0         1         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	3         1         1         0         3         0         2         0           8         1         2         0         7         0         3         0
19         Change (After-Before)         9         C         87.78         87.82           20         Before Signalization - Rural         9         C         90.23         90.27         1/1/1994         12/3/1/19	2 5 0 6 0 0 5	2 <mark>61</mark> 50	0 0 0 -2 0 8 0 0 1 0 0 0 0 0	5         0         1         0         4         0         1         0           5         0         0         0         3         0         2         0
20         After Signalization - Rural         9         C         90.23         90.27         1/1/1999         12/31/20           20         Change (After-Before)         9         C         90.23         90.27         1/1/1999         12/31/20		8 2 1 3 2	0 0 0 2 0 4 0 0 0 0 0 0 1 2	6         0         3         0         5         0         4         0           1         0         3         0         2         0         2         0
21         Before Signalization - Rural         9         C         92.87         92.91         1/1/1992         12/31/19           21         After Signalization - Rural         9         C         92.87         92.91         1/1/1997         12/31/19	994 2 2 0 3 0 0 4	) 4 0	0 0 0 3 0 0 0 1 0 0 0 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
21         Change (After-Before)         9         C         92.87         92.91           22         Before Signalization - Rural         9         C         95.59         95.63         1/1/1992         12/3/1/15	3         1         0         3         0         0         4           994         0         0         0         0         0         0         0	) <mark>4 0</mark> ) 0 0	0         0         -1         0         6         0         0         -1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	
22         After Signalization - Rural         9         C         95.59         95.63         1/1/1997         12/31/15           22         Change (After-Before)         9         C         95.59         95.63         1/1/1997         12/31/15			0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	
23 Before Signalization - Rural 9 C 96.68 96.72 1/1/1994 12/31/19 23 After Signalization - Rural 9 C 96.68 96.72 1/1/1999 12/31/20	996 5 3 0 5 0 0 8 001 5 6 0 10 0 8	0 8 0		7         0         0         1         6         0         2         0           8         0         3         0         8         1         2         0
23 Change (After-Before) 9 C 96.68 96.72 24 24 Before Signalization - Rural 9 C 96.68 97.73 1/1/1002 12/31/00		3 3 0	0         0         0         0         10         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	
24         Deter Signalization - Rural         9         C 90.99         97.03         11/11997         12/31/15           24         After Signalization - Rural         9         C 90.99         97.03         11/11997         12/31/15           24         Change (After-Before)         9         C 90.99         97.03         11/11997         12/31/15           25         Before Signalization - Urban         13         B         89.88         89.92         11/11991         12/31/15           26         Marc Marchaetta - Urban         13         B         89.88         89.92         10/11911         12/31/15	999 4 4 0 8 0 0 7	8 0	0         0         0         2         0         3         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	<b>7</b> 0 1 0 <b>8</b> 0 0 0
25         Before Signalization - Urban         13         B         89.98         89.92         1/1/1991         12/31/19           25         After Signalization - Urban         13         B         90.99         0.02         1/1/1991         12/31/19	993 11 0 0 0 0 0 10 988 6 0 0 0 0 0 10			
25         Fride Signalization         Oran         13         B         89.88         89.92           26         Perfore Signalization         142         0.0.04         0.0.05         0.0.05         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04         0.0.04 </th <th></th> <th>1 <u>-6 1</u></th> <th>0 0 0 0 0 0 -2 -1 0 -1 0 -2 0 0 1</th> <th>-5 0 0 0 -4 1 -2 0</th>		1 <u>-6 1</u>	0 0 0 0 0 0 -2 -1 0 -1 0 -2 0 0 1	-5 0 0 0 -4 1 -2 0
20         Denore Signalization - Orban         13         B         90.21         90.25         1/1/1991         12/31/15           26         After Signalization - Urban         13         B         90.21         90.25         1/1/1996         12/31/15           26         Design (bits Befray)         12         20         20         1/1/1996         12/31/15	998 2 1 0 1 0 0 0 0 1 998 3 1 0 1 0 1 0 0 3			
Zo         Change (Atter-before)         13         B         90.21         90.25           27         Before Signalization - Urban         14         C         134.9         134.94         1/1/1991         12/31/19           27         Defore Signalization - Urban         14         C         134.94         1/1/1991         12/31/19	993 6 2 0 4 0 1 7 993 6 2 0 4 0 1 7	2 0 ) 8 0	0       0       0       1       0       5       1       0       1       0       3       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       1       0       0       0       1       0       0       0       1       0       0       0       1       0       0       0       0       0       1       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	2         0         0         0         0         1         1         0           6         0         2         0         8         0         0         0
27 Atter Signalization - Urban 14 C 134.9 134.94 1/1/1996 12/31/19	998 12 3 0 5 0 0 12	15 0	0 0 0 3 0 5 2 0 4 0 1 0 0 0	

Г <u></u>	ROAD CONDITION AT FAULT VEHICLE TYPE											HUMAN FACTORS											DRIVER IMPAIRMENT												
								Van er W/Trailer Is (15+pax Is (15+pax											nger 3ment																
								or Van	w/Trailer	Van	Van W/		Bus				nkown				assen				rea	ŧ	Enforce	llitv	,		6		s6n,		
								er Car	Van w/T	tility V	up/Utility v	U10,000#	Truck or	Ъ	sle		Run (U	parent			ed by P	nce		pied	ar w/ A	al Ups	Law E	Disability	pa		s/Meds	Drugs	and Dr	shes	Region
# Sa	p			ddy	уwс		shy	sseng	P.	kup/Utility 1	kup/U	ick, U	Heavy Tr	torhoi	torcyc	Bicycle	and	ne Ap	leep	ess	Distracte	xperie	igue	incoe	familiar	Emotion	vading	sical	Unimpair	Alcohol	Drug	llegal Dr	ohol a	al Cra	CDOT Re aadt
1 Before Signalization - Urban	0 Mil	15	0 <b>Me</b>	0 W n	0 Snov	0 10	<ul> <li>Slusi</li> </ul>	<b>ë</b> 12	0 Cai	3 Pict	0 Pic	o Tru	0 He	0 <b>W</b> 0	<b>0</b>		분	<b>9</b> 12	0 As	ollin	obis	olne	0 Fat	0 Pre	ی 1	0 Em	л Ш О	o Phy	5	allo 4	0 RX		- Alc	15 Total	<b>C B</b> 6 9384
After Signalization - Urban     Change (After-Before)	0	-4	1	0	0	0	0	8 -4	0	4	0 0	0	0	0	0	0	1	7 -5	0	0	0	0	0	0	0 -1	0	0	0	8 -1	2 -2	0	0	0	13 -2	6 10568 1184
2 Before Signalization - Urban 2 After Signalization - Urban	0	23	3	0	1 0	0	0	15 18	0	3	1 0	1 0	3	0	0	0	5	26 18	0	0	1 0	0	0	2	1	0	0	0	15	3 4	0	0	0	27	6 8925 6 11578
Change (After-Before)     Before Signalization - Urban	1 0	-4 15	1	0	-1 1	0	0	3 6	0	0 5	-1 0 0	-1 1 0	-3 5	0	0		-1 0	-8 15	0	0	-1 0 0		1 0 0	0 2	0	0	0	1 0 0	-7 17	1	0	0	-1	-3 18	6 8169 6 6673
After Signalization - Urban     After Signalization - Urban     Change (After-Before)     Before Signalization - Urban	0	6 -9 14	0	0	-1 0	0	0	-3 13	-1 0	4 -1 1	0	-1 0	0 -5 0	0	0	0 0 0	0	-10 13	0 0 0	0 0 0	0	1 0	0	0 -2 0	0 1	0 0 0	0	0	-10 14	-1 0	0	0	0	<mark>-11</mark> 14	6 6673 -1496 6 5030
4 After Signalization - Urban 4 Change (After-Before)	0	-10	0	0	0	1	0	-10	0	1	0	0	0	0	0	0	1	-10	0	0	0	0	0	0	1	0	0	0	-12	1	0	0	0	-9	6 5411 381
5 Before Signalization - Urban 5 After Signalization - Urban		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 6985 6 7262
5 Change (After-Before) 6 Before Signalization - Rural			2	0 0	0 1	0 1	0 0	1 18	0	0	0 0	0 0	0 0	0 0	0 0	0	0 0	0 8	0 0	0 0	0 0	0 5	0 1	1 2	0 2	0 0	0	0		0 2	0	0 0	0 0		277 3 9631
6 After Signalization - Rural 6 Change (After-Before)	0	21 7	1	0	3 2	2	0	22 4 2	0	9 9	0	1	2 2	0	0	1 1	1	18 10	0	0	0	5 0	0 -1	3 1	3	0	0	0	31 15	3 1 0	0	0	0	38 20 7	3 11261 1630
7 Before Signalization - Rural     7 After Signalization - Rural     7 Change (After-Before)	0	6 6 0	0	0	0 0 0	0 1 1	0 0 0	3 5 2	0 0 0	2 0 -2	0 0 0	1 0 -1	0 0 0	0	0 1 1	1 0 -1	0 2 2	2 5 3	0 0 0	0 0 0	0 0 0 0	2 1 -1	0 0 0	1 0 -1	1 0 -1	0 0 0	0	0	6 6 0	0	0 0 0	0 0 0	0	7 8	4 9750 4 10485 735
8 Before Signalization - Urban 8 After Signalization - Urban	0	11	3	0	0	0	0	12	0	2	0	0	0	0	0		0	10 4	0	0	0		0	0	2	1	0	0	10	1	0	0	0	14	4 8152 4 9175
8 Change (After-Before)     9 Before Signalization - Urban	0	-6 3	0	0	1 0	0	0	-7 3	0 0	1	0	0	1 0	0	0	0	0	-6 2	0	0	0 1	1 0	0	2 0	-2 0	-1 0	0	0	-3 3	-1 0	0	0	0	-5 3	1023 4 10342
9 After Signalization - Urban 9 Change (After-Before)	0	2 -1	0	0	0	1	0	0 -3	0	3 3	0 0	0	0	0	0	0	0	2 0	0	0	0 -1	0	0	1	0	0	0	0	2 -1	1 1	0	0	0	3 0	4 12319 1977
10 Before Signalization - Urban 10 After Signalization - Urban	0	2	1	0	0	0	0	2 3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2 4	4 24519 4 26957
10         Change (After-Before)           11         Before Signalization - Urban           11         After Signalization - Urban	0	5		0	0 1 0	0 1 0	0	1 6 7	0	1	0	0	0	0	0	0	0	0 6	0	0 0 0	0 0 0	0	0	2 0 0	0 0 0	0 0 0	0	0	2	0	0	0 0 0	0	2 7	4 22703 4 27933
11         After Signalization - Urban           11         Change (After-Before)           12         Before Signalization - Urban	0	2 30	0	1 0	-1 0	-1 2	0	1 27	0	1 1	0	0	0 2	0	-1 0	0	0	2 28	0 0 0	0	0 0 1	0	0	0 2	0	0	0	1	3 31	-1 1	0	0	0	2 33	4 27933 5230 4 22000
12 After Signalization - Urban 12 Change (After-Before)	0	16 -14	4	0	0	0 -2	0	-10	0	2	0	0	0 -2	0	0	-1	1	-13	1	0	0 -1	0 -1	0	2	1	0	0	0	-12	-1	0	0	0	20 -13	4 28392 6392
13 Before Signalization - Urban 13 After Signalization - Urban	0	7 8		0	0	0	0	10 6	0	2	0	0	0	0	0	0	0	9 6	0	0	0	0	0	3 1	0	0	0	0	12 6	0 1	0	0	0	12 8	4 21104 4 23004
13         Change (After-Before)           14         Before Signalization - Urban		1 0	0	0	0	0	0	-4 0	0	0	0	0	0	0	0		0	-3 0	0	0	0	1	0	-2 0	0	0	0	0	-6 0	1	0	0	1	-4 0	<u>1900</u> 4 15000
14         After Signalization - Urban           14         Change (After-Before)           15         Before Signalization - Urban	0 0 1 0	2 2 12	0	0 0 0	0 0 1	0	0 0 0	1 12	0 0 0	1 2	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 2	0 0 1	2 2 10	0 0 1	0 0 0	0 0 0	0 0 1	0 0 0	0 0 3	0 0 0	0 0 0	0 0 0	0	2 2 13	0 0 2	0 0 0	0 0 0	0	2 2 17	4 13740 -1260 4 15000
15 After Signalization - Urban 15 Change (After-Before)	0	20 8	2	0	2	0	0	15 3	0	4	1	3	0	0	0	0 -2	1	16 6	-1	0	0	2	0	0 -3	1	0	2	0	19 6	2	0	0	0	24	4 13059
16 Before Signalization - Urban 16 After Signalization - Urban	1 0		3	0	1	0	0	19 7	0	3 7	0	0	0 3	0	1	0	0		1	0	0	0	0	1 3	2	0	0	0	20 19	1 1	1 0	0	0	23 21	6 9951 6 14559
16 Change (After-Before) 17 Before Signalization - Urban		1 9	1	0	-1 0	0	0	-12 8	0	4 2	0 0	2	3 0	0	0		1 0	-2 10	0	0	0	0 0	0	2 0	-2 0	0	0	0	-1 9	0	-1 0	0	0	-2 10	4608 6 16205
17 After Signalization - Urban 17 Change (After-Before) 19 Before Signalization Burgel	0	22 13	-1	0	2	0	0	14 6 2	0	6 4 1	1	0	0	0	1	0	2	13 3	0	0	0	2	0	6 6	0	0	0	0	19 10	0	0	0	0	24 14	6 20418 4213
18 Before Signalization - Rural 18 After Signalization - Rural 18 Change (After-Before)	0 0 0	0 1 1	0	0	2 1 -1	2 1 -1	0 0 0	3 2 -1	0 0 0	1 1 0	0 0 0	0	0 0 0	0	0		0 0 0	3 1 -2	0 0 0	0 0 0	0 0 0 0	0 1 1	0 0 0	0 0 0	0 0 0	0 0 0	0	0	2 3	0 0 0	0 0 0	0 0 0	0	4 3 -1	1 6907 1 10183 3276
19 Before Signalization - Rural 19 After Signalization - Rural		3	0	0	0	2	0	3	0	1	0	1	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	5 12	1 15493 1 18641
19         Change (After-Before)           20         Before Signalization - Rural			1		0 2	2 0	0 0	5 4	0 0	1 1	0 0	0 0	0 0	0 0	0 0		1 0	1 3	0 0	0 0	0 0	3 1	0 0	2 0	1 0	0 0	0 0	<b>0</b> 0		0 0	0 0	0 0	0 0	7 5	3148 1 15555
20 After Signalization - Rural 20 Change (After-Before)	0	1	0	0	2	2	0	8	0	1 0	0	0	1	0	0	0	0	3	0	0	0	4	0	1	1	0	0	0	9 6	0	0	0	0	10 5	1 17914 2359
21         Before Signalization - Rural           21         After Signalization - Rural           21         Change (After-Before)	0	3		0	1	0		4	0	0			0			0	0 0 0			0		0	0	0	0 0 0	0			8	0 0 0	0		0	4 8 4	1 14548 1 16550 2002
22 Before Signalization - Rural 22 After Signalization - Rural	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0		0	0		0		0	0	0	1 14220 1 17549
22 Change (After-Before) 23 Before Signalization - Rural	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0 0	0	0		0	0	0	0	0	0		0	0	0	0	3329 1 16826
23 After Signalization - Rural 23 Change (After-Before)	0	5 -1	2	0	-1	1	1 1	9 2	0	2 2	0	0	0	0 -1	0	0	0	5 1	0	0	1 1	1 -1	0	4 2	0	0	0	0	11 3	0	0	0	0	11 3	1 19558 2732
24 Before Signalization - Rural 24 After Signalization - Rural	0	5 8	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	2	0	0	1 0	0	0	4	0	0	0	0	5	0		0	0	8	1 15400 1 20280
24 Change (After-Before) 25 Before Signalization - Urban 25 After Signalization - Urban	0	4	1	0		4		4	0	06	0	0	0	0		0	1			0	0		0		0		0	0		0			0		4880 3 5492
25         After Signalization - Urban           25         Change (After-Before)           26         Before Signalization - Urban	0	-1		0	-2	1 -3 0	0			-4	0		1	0 0 1	0	0 0 0	-1	3 -6 1	0	0 0 0	0	0 -1 0	0	1 0	1 1 0	0 0 0		0	-5	0 0 0	0	0	0	6 -5 1	-509
26 After Signalization - Urban 26 Change (After-Before)		1	1	0	1	0	0	1	0	1 1	0	0	0	0	1	0	0		0	0	0			2	0	0	0	0	2		0		0		3 5251 -649
27 Before Signalization - Urban 27 After Signalization - Urban	0	8		0	0	0	0	5		1	0	0	1	0	0	0	1	4		0	0	0	0	3	1	0	0	0	6	1 0	0	0	0	8	4 12190 4 16404

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site #	notes Highwa <sub>:</sub>	from.	from	to dat	Prope	Injury	Fatal	Killed	1 car 2 cars	3+ car	On Road	Off R	Overt	Scho	Other	Broad	Head	Sides	Sides	Appre	Parke	Bicyc	wild ,	Fixed	Daum	Dark,	Dark,	Good Rain	Snow Fog	
27 28		134.9 134. 35.11 135.	94 15 1/1/199	4 12/31/1996	6 6 5	2			<mark>-1 5</mark> 0 7	3 0	7 7	<mark>0</mark> 0	0	0	-1 0			<mark>3 2</mark> 2 1	0 0	2 0 3 0					8 0 6 0			50 60	1 0 0 0	4
28 28	After Signalization - Urban 14 C Change (After-Before) 14 C	35.11 135. 35.11 135.	15 1/1/1999 15	9 12/31/2001	10 5		0 6 0 0	6 0 <b>6</b>	1 14 1 7	0	14 7	1 1	0	0	0		0	4 1 2 0	0	1 1 -2 1	0	0	0		2 0 6 0		1	14 0 8 0	1 0 1 0	-
29 29	Before Signalization - Urban         14         C           After Signalization - Urban         14         C	37.28 137. 37.28 137.			2 2 29		-	1 0 5 0	0 3 2 41		3 45	0	0	0	0	2 4	_	0 1 22 2		0 0 14 0		0	0		2 0 8 3	0	1	3 0 36 1	0 0 2 1	
29 30	Change (After-Before)         14         C           Before Signalization - Urban         14         C	<b>37.28 137.</b> 137.6 137.	32 64 1/1/199	1 12/31/1993	27 3 7				2 38 0 17		42 19	<b>0</b> 0	0 0	0 0	0 0	2 12		22 1 5 0		14 C 0 C			<b>0</b> 0		63 53	8	0 0	33 1 17 1	2 1 0 1	-
30 30	Change (After-Before) 14 C	137.6 137.0 137.6 137.0	64	6 12/31/1998	8 19 12	9 -3	0 1 0 -1	7 0 10 0	3 24 3 7	-1	26 7	2 2	1 1	0	0	7 -5	0	14 0 9 0	0	3 () 3 ()		0 -1	0	2 2 2 1	3 1 8 -2	4 2 3	0	25 0 8 -1	30 3-1	4
31 31	After Signalization - Urban 14 C	235.66 235 235.66 235			8 0 8 2	_	0 1 0 4		0 1 0 3	0	1 4	0	0	0	0		0	0 0 2 0	0	1 C	-	0	-	0	1 0 3 0	0	0	1 0 4 0	0 0 0 0	
	Change (After-Before)         14         C           Before Signalization - Urban         14         C				2 3 5	2	-	4 0	0 2 0 6	1 1	3 7	0	0	0	0 0		_	<mark>2 0</mark> 1 0	0	0 0 1 0	0	0	-	0 0	2 <u>0</u> 61	0	-	3 0 6 1	0 0 0 0	-
32 32	Change (After-Before) 14 C	236.25 236. 236.25 236.	29		8 7 2	2	0 0	0 0	0 11 0 5	- <u>1</u>	10 3	1	0	0	0	-1	0	3 0 2 0		2 0 1 0	1	1	0	0	0 0 4 -1		0	10 1 4 0	0 0	4
33	After Signalization - Urban 14 C	236.53 236. 236.53 236.			8 4	6	0 8	8 0	0 3 0 10	0	3 10 7	0	0	0	0		0	2 0 3 1	0	0 0 3 0	0	0	0	0	2 0		0	3 0 10 0	0 0	
	Change (After-Before) 14 C Before Signalization - Rural 15 A	236.53 236. 0 0.0		0 12/31/1992		1		1 0	0 7 2 5		7 6	0	0	0	0			1 1 3 2	0	3 0 0 0	0		0	0	7 0 6 0		0	7 0 7 0	0 0	1
34 34 35	After Signalization - Rural 15 A Change (After-Before) 15 A Before Signalization - Rural 15 A	0 0.00 0 0.00 0.07 0.1	2	2 12/31/1997	-4 4 0	0	0 0	1 0 0 0 0 0 0	0 3 -2 -2 0 0	0	3 -3 0	-1	0 0 0	0 -1 0	0 0 0	1	0 0 0 0	0 0 -3 -2 0 0		2 0 2 0 0 0	0	0	0 0 0		3 0 3 0 0 0	-1	0 0 0	3 0 -4 0 0 0	0 0 0 0 0 0	
35	After Signalization - Rural 15 A Change (After-Before) 15 A		1 1/1/199	7 12/31/1994	2	0	0 0	0 0	0 2	0	2	0 0 0	0	0	0	1	0	1 0 1 0	0		0	0	0	0	2 0	0 0	0	2 0 2 0		1
36 36	Before Signalization - Urban 22 A	0 0.0	2 1/1/199	4 12/31/1996 9 12/31/2001	2 6 2	2			0 4		4	0	0	0	0	2		0 0		1 1			0		20 30 9000	0		3 0	0 1	
36	Change (After-Before) 22 A Before Signalization - Urban 24 A	0 0.0	2		4 3 4	1	0 1	1 0	1 4 0 5	0	4 6	1	0	0	0	-1	0	5 1 1 0		0 -1 0 0	0	0	0	0	6 0		-1 0	5 0 6 0	1 -1 0 0	4
37		297.53 297. 297.53 297.			8 <b>5</b>	2	0 3	3 0 2 0	1 6	-1	6	1	0	0	0	0	0	2 2	2		0	0	0	1	4 0 3 1 1 1	3	0	5 1 -1 1	1 0	4
38	Before Signalization - Urban 24 G	310.93 310. 310.93 310.	97 1/1/199 97 1/1/199		B 0				1 0	0	0	1	1	0	0	0		0 0	0		0		0				0	1 0	0 0	1
38 39	Change (After-Before) 24 G	310.93 310. 11.07 11.1	97		1 6 4		0 -1 0 3	2 0	-1 2 0 7	0	2 7	-1 0	-1 0	0	0	0	0	2 0 3 0	0	0 0 1 0	0	0	0	0	2 0	_	0	0 1 6 0	0 0 1 0	4
39 39		11.07 11.1 11.07 11.1			6	0	0 0	0 0	0 6	0	6 -1	0	0	0	0	1	0	3 1 0 1	0	1 C	0	0		0	6 0 0 0	0	0	5 1 -1 1	0 0 -1 0	-
40 40	Before Signalization - Urban 30 A After Signalization - Urban 30 A	12.57 12.6 12.57 12.6				3	0 5 0 4		0 5	0	5 8	0	0	0	0	5		0 0 4 0	0					0	4 1 7 0	0		4 0 6 0	0 0 2 0	-
40 41		12.57 12.6	i1		3 3 5		<mark>0 -</mark>	10 30	1 2 1 6	0	<mark>3</mark> 5	<mark>0</mark> 2	0	0	<mark>0</mark> 0			4 0 2 0		2 0 3 0			0			1 1	0	2 0 6 0	2 0 0 1	1
41 41	After Signalization - Urban 34 A Change (After-Before) 34 A	92.58 92.6 92.58 92.6	2 1/1/199	6 12/31/1998	8 7 2		0 -	2 0 1 0	1 7 0 1	0	7	-1	0	0	0	0		2 0 0 0	0	4 0 1 0		0	0	2	7 1 3 1	0 -3	0	8 0 2 0	0 0	4
42		92.74 92.7 92.74 92.7			8 12 8 <b>13</b>	8 19	0 1		0 16 0 <b>31</b>	4	20 30	0	0	0	0		-	6 1 14 3	0	11 C 8 C		0	0	0 1 1 2		6 5	0 2	18 2 26 4	0 0 1 0	
42 43		92.74 92.7 93.79 93.8			1 6 0		<mark>0 1</mark> 0 1		0 15 0 1	-3 0	10 1	1 0	0 0	0	0 0	2 0		<mark>8 2</mark> 1 0		- <mark>3 (</mark> 0 (		1 0	0 0	1 i 0 ·	<mark>B 2</mark> 1 0	-1 0	2 0	<mark>8 2</mark> 0 1	1 0 0 0	_
43 43	Change (After-Before) 34 A	93.79 93.8 93.79 93.8	3		7 7		0 0 0 -	0 0 1 0	1 5 1 4	1	6 5	1 1	0	0	0	0		1 0 0 0	0	5 0 5 0	0		0	1	6 0 5 0	0	1	5 1 5 0	1 0 1 0	
44 44	After Signalization - Urban 34 B	64.44 164. 64.44 164.			5 4 9 9	3	0 9 1 5	5 1	0 7 0 12	1	8 13	0	0	0	0		0	3 0 2 2	1	2 0 6 0	0	0	0	0 1		1	1 0	8 0 12 1	0 0 0 0	
	Before Signalization - Urban 34 D	64.44         164.4           5.59         5.6				3	-	5 0	0 5 0 5		5 5	0	0	0	0	2	0	-1 2 3 0	0	4 0 0 0	0					0	-1 0	4 1 2 2	0 0 0 0	_
45 45	Change (After-Before) 34 D	5.59 5.6 5.59 5.6	3		6 0	0	0 0	0 0	0 10 0 5	1	11 6	0	0	0	0	0	0	0 2 0		4 0 4 0	0	0	0	0	0 0 6 0	-1		9 -2	0 0	
46		7.2 7.2	4 1/1/199		) 1	0	0 0	0 0	0 1	1	2	0	0	0	0	1	1	0 0 1 0	0	0 0	0	0	0	0	1 0	0	1	1 1 1 0	0 0	
46 47	Before Signalization - Urban 36 B		8 1/1/199			4	-	7 0	0 0 0 14		-1 15	0	0		0			1 0 2 0	0	0 0 1 0	0	0	0	0 1	4 0	) 1		0 -1 12 2		_
47 47		35.24 35.2	8		13 2	4	0 5	2 0 5 0		0	20 5		0	0	1	-6	0	9 1 7 1 0 1	1	0 0 -1 0	0			1	5 0 1 0	4		21 0 9 -2 2 0		
48	Before Signalization - Urban 40 A After Signalization - Urban 40 A	33.26 133	.3 1/1/199	8 12/31/1995	24	2		1 0 3 0	1 3 4 19	2	4 25	1	1	0	0	1	0	0 1 17 1	0	1 ( 2 ( 1 (	0	0	2	1 2 0 2		4	0	3 U 19 3	1 0 4 0	
48	After Signalization - Urban     40     A       Change (After-Before)     40     A       Before Signalization - Urban     40     A       After Signalization - Urban     40     A	135.1 135. 135.1 125	14 1/1/199	3 12/31/1995	21 5 8	0	0 0		0 7	1	21 8 12	0	0	0	0	3	0	4 0	0	1 0	0	0	0	0	6 0	4	0	10 3 1 1 8 0	30 60 60	
49	Change (After-Before) 40 A	135.1 135.	14		5	2	0 2	2 0 2 0	4 4 0 F	-1	4	3	1	0	0	-1	1	3 0 1 0	0		0	0	0	3	5 0		0	7 -1 5 0	0 0 0	
50	Before Signalization - Urban 40 C After Signalization - Urban 40 C Change (After Before) 40 C	288.99 289.0 288.99 289.0 288.99 289.0	03 1/1/198	4 12/31/1991	3 3 2	2	0 7		2 3 2 2	0	5 4	1	1	0	0	2 0	0	3 0 2 0	0		0	0	0	0 4	4 0		1	5 0	0 0	
51	After Signalization - Urban       40       C         Change (After-Before)       40       C         Before Signalization - Urban       40       C         After Signalization - Urban       40       C	290.49 290.	53 1/1/198	9 12/31/1991	16	5	0 6		3 16	2	18	3	0	0	1	9	0	6 0	0	2 0	0	0	0	3 1	6 0	5	0	20 1	0 0 0 0 2 0	-
51	Change (After-Before) 40 C	290.49 290.	53		0	7 4	0 1 0 0	0 0 4 0 9 0	0 3 0 12	4	6 14	1	0	0	-1 0	-3 10	0	6 2 2 0	0	2 0 1 1	0	0	0	1 4	4 2 1 2	1	0	2 3 9 0	2 0 2 0 5 0	
52	Before Signalization - Urban     40     C       After Signalization - Urban     40     C       Change (After-Before)     40     C       Before Signalization - Urban     40     C	290.74 290.	78 1/1/199	4 12/31/1996	5 7 -3	10	0 1	2 0	2 15	-2	15	2	0	0	0	7	0	6 0 4 0	0	2 0	0	0	0	2 1	50	2	0	14 2 5 2	1 0 -4 0	1
53	Before Signalization - Urban 40 C	291.18 291.2	22 1/1/198	9 12/31/1991	9	1 9	0 3	3 0 6 0	1 8 2 10	1	10 11	0	0	0	0	2	0	3 1 1 2	0	1 1	0	0	0	1	B 0 B 0	2	0	9 0	0 0 1 0	-
53 54	After Signalization - Urban         40         C           Change (After-Before)         40         C         1           Before Signalization - Urban         42         A	291.18 291.1 0.94 0.9	22 8 1/1/198	9 12/31/1991	-5 9	8	0 1 1 4	30 41	1 2 0 12	0	1 12	<mark>2</mark> 0	0	0	1	0	0	<mark>-2 1</mark> 1 0	0	5 -1 3 1	0	0	0	0	0 0	3	0	2 1 11 0	1 0 1 0	
	Soloro olgitalization orban 42 A	0.54	5 1/1/130	12/01/1331		- 1	· . ·		- 12	v	14	v	U	U	U	· .	,			~   '		v					5	5	. 0	1

Γ_		ROAD CONDITION AT FAULT VEHICLE TYPE															HUMAN FA	CTORS	8		DRIVER IMPAIRMENT											
							-			Trailer		15+pa)				~				ger					ment							
							or Var	ailer	E	an W/		Bus (				kown				assen			ea	÷	Enforce	ity				sbr		
							Car	T/w	lity Va	lity Va	,000#	ck or	9	ø		n (C	arent			by P <sub>i</sub>	e		ed .w/Ar	Upse	aw En	lisability	a.		Meds gs	and Dri	hes	io
		_		⋧	\$		enger	or Van	:kup/Utility	up/Utility	k, U10,	y Tru	rhom	rcycle	e	and Ru	Appa	đ	ŝ	acted	Jerien Ue		miliar	tional	ing L.	ical D	Ipaire	cohol	rugs/Me al Drugs	hol ar	Cras	T Reg
site #	notes	Wina	Dry Wet	Mudd	Snov	lcy Sluel	Pass	Car	Pickı	Picku	Truc	Heav	Moto	Moto	Bicyc	ΗË	None	Aslee	Illnes	Distr	Inex <sub>I</sub> Fatig	Pren	Unfa	Emoi	Evad	Phys	Unin	Alcol	RX Dı Illega	Alcol	Total	CDO aadt
27 28	Change (After-Before) Before Signalization - Urban	1 1	5 1 7 0	0		0 0 0 0			5 2	0	0	0 1	0 0	0 0	0	0 0	7 4	0	0	0	0 0 0 0	-2 3	0	0	0	0 0	5 7	-1 0	0 0 0 0	0	7 7	4214 4 13299
28 28	After Signalization - Urban Change (After-Before)	0 -1	14 0 7 0	0	0	0 1 0 1	11 7	0	3	0	0	1 0	0	0	0	0	7	0	0	2	2 0 2 0	-1	0	0	0	0	12 5	1	0 0 0 0	0	15 8	4 18074 4775
29 29	Before Signalization - Urban After Signalization - Urban	0	3 0 34 1	0	0	0 0	24	0	1 10	0	0	0 3	0	0	0	0 2	2 28	0	0	0	0 0 3 0	6	0	1	0	0	2 39	0 2	1 0 0 0	0	3 <b>45</b>	4 26437 4 27008
29 30 30	Change (After-Before) Before Signalization - Urban After Signalization - Urban	0	31 1 17 2	0	0	1 1 0 0 3 0		1	9	0	0	3 0	0 0 0	0 0 0	0 0 0	2 0	26 11	0 0 0	0 0 0	0	3 0 0 0 1 0	6	1	0	0	0 0 0	37 17	2	-1 0 0 0 0 0	0	42 19	571 4 19841 4 24935
30 30 31	Change (After-Before) Before Signalization - Urban	0	22 0 5 -2 1 0	0	2	3 0	3	-1 0	2 0	1 0	1	3 0	0	0	0	1 0	18 7 1	0 0 0	0	0	1 0 0 0	-1 0	0	0	1 0	0	25 8 1	3 1 0	0 0 0 0	0	28 9 1	4 24933 5094 4 14300
31 31	After Signalization - Urban Change (After-Before)	0	2 1	0	1	0 0	1	0	1	0	0	1 1	0	0	0	0	2	0	0	0	0 0	0	0	0	0	1	<mark>3</mark> 2	0	0 0	0	4	4 15228 928
32	Before Signalization - Urban After Signalization - Urban	0	6 1 10 1	0	0	0 0	7	0	0	0	0	0	0	0	0	0	5	0	0	0	0 0	2		0	0	0	7 11	0	0 0	0	7	4 16456 4 19112
32 33	Change (After-Before) Before Signalization - Urban	0	4 0 3 0	0	0	0 0	2	0	1 0	0	0	0	0 0	0 0	1 0	0	1	0	0	0	1 0 0 0	1	0	0	0	1 0	4 3	0	0 0 0 0	0	4 3	2656 4 16400
33 33	After Signalization - Urban Change (After-Before)	0	10 0 7 0		0	0 0		0	2 2	0	0	0	0	0	0	0	9 6	0	0	1 1	0 0	0		0	0	0	10 7	0	0 0	0	10 7	4 17749 1349
34 34	Before Signalization - Rural After Signalization - Rural	0	5 1 3 0	0	0	0 0	3	0	0	0	0	2	0	0	0	0	5	0	0	0	1 0 1 0	1	0	0	0	0	6 1	1	0 0	0		5 3383 5 3750
34 35	Change (After-Before) Before Signalization - Rural	0	-2 -1 0 0	0		-1 0 0 0	0		0	0	0	-2 0	0	0	0	0	-4 0	0	0	0	0 0	-1 0	0	0	0	0	-5 0	-1 0	0 0	0	-4 0	367 5 3500
35 35 36	After Signalization - Rural Change (After-Before) Before Signalization - Urban	0 0 0	2 0 2 0 3 0	0	0	0 0 0 0 0 0	1	0 0 0	1 1 1	0 0 0	0 0 0	0	0 0 0	0 0 0	0 0 0	0 0 1	1 1 4	0 0 0	0 0 0	0 0 0	0 0 0 0 0 0	0	0	0 0 0	0	0 0 0 0	0	0 0 1	0 0 0 0 0 0	0 0 0	2 2 4	5 3880 380 6 2018
36 36	After Signalization - Urban Change (After-Before)	0	8 1 5 1	0	0	0 0	6	0	2	0	0	0 0 0	0	0	0	1 0	4	0	0	0	1 0 1 0	1	1	0	0	0	2 5 3	-1	0 0	0	4 9 5	6 2018 6 1987 -31
37	Before Signalization - Urban	0	6 0 4 2			0 0	4	0	2	0	0	0	0	0	0	0	3	0	0	0	0 0	2		0	0	0	6	0	0 0	0	6	2 20330 2 34492
37 38	Change (After-Before) Before Signalization - Urban	0	<mark>-2 2</mark> 1 0	0	0	0 0 0 0	0	0	-1 0	0	0	0	0	0	0	1	<mark>-2</mark> 1	0	0	0	2 0 0 0	0	-1	0	0	0	-2 0	0	0 0 0 0	0	1	14162 2 22050
38 38	After Signalization - Urban Change (After-Before)	0	1 1 0 1	0	0	0 0		0	1 1	0	0	0	0	0	0	0	1 0	0	0	0	0 0	1	0	0	0	0	2 2	0 -1	0 0	0	2	2 29960 7910
39 39	Before Signalization - Urban After Signalization - Urban	0	6 1 5 1	_	0	0 0		0	2	0	0	0	0	1 0	0	0	5 5	0	0	0	0 0	0	0	0	0	0	4 6	0	0 0	0	7 6	6 20433 6 23230
39 40	Change (After-Before) Before Signalization - Urban	0 1	-1 0 5 0	0		0 0	5	0	-2 0	0	0	0	0	-1 0	0	0	0 5	0	0	0	0 0	1	0	0	0	0	2	0	0 0	0	-1 5	2797 6 9781
40 40 41	After Signalization - Urban Change (After-Before) Before Signalization - Urban	-1 0	6 7 1 1 7 0	0 0 0	0	1 0 1 0 0 0	-2	0 0 0	1	0	0	2 2 0	0 0 0	0 0 0	0 0 0	1 1 0	4 -1 6	0 0 0	0 0 0	0 0 0	0 0 0 0 0 0	1	0 0 1	0 0 0	0	0 0 0 0	6 2 7	0 0 0	0 0 0 0 0 0	0	8 3 7	6 10028 247 4 19200
41	After Signalization - Urban Change (After-Before)	0	8 0 1 0	0	0	0 0	5	0	3	0 0 0	0	1 1	0	0	0	0	7	0	0	0	1 0 1 0	0	0	0	0 0 0 0	0	7 0	1	0 0	0	9 2	4 28357 9157
42 42	Before Signalization - Urban	0	16 3 24 5			0 0 2 0	15	0	5	0	0	0	0	0	0	0	15 24	0	0	1	0 0	4	0	0	0	0	18 23	2	0 0	0	20 32	4 19413 4 28005
42 43	Change (After-Before) Before Signalization - Urban	0 0	82 01		0	20 00	7	0	0 1	0 0	1 0	0 0	0 0	0 0	1 0	2 0	9 0	0 0	0 0	-1 0	0 0 0 0	-4 1		0 0	0 0	1 0	5 1	0 0	0 0 0 0	0 0	12 1	8592 4 20987
43 43	After Signalization - Urban Change (After-Before)	0	5 2 5 1	0	0	0 0	4	0	2 1	0	0	0	0	0	0	0	5 5	0	0	0	0 0	0 -1		0	0	0	5 4	0	0 0	0	7 6	4 31198 10211
44 44	Before Signalization - Urban After Signalization - Urban	0	8 0 9 4	0	0	0 0 0 0	7	0	1 3	0	0	3 2	0	0	0	0	7 12	0	0	0	0 0 1 0	0	0	0	0	0	5 13	2	0 0 0 0	0	8 13	4 4670 4 5168
44 45	Change (After-Before) Before Signalization - Urban After Signalization - Urban	0	1 4 4 1	0		0 0	4	0	2	0	0	-1 0	0	0	0	0	5 2	0	0	0	1 0 0 0	-1	0	0	0	0	8 5	-2 0	0 0	0	5	498 4 13878
45 45 46	Change (After-Before) Before Signalization - Urban	-1 0	9 2 5 1 1 1	0	0	0 0 0 0 0 0	-1	0 0 0	6 0	0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	1 0	6 4 1	0 0 0	0 0 0	1 0	0 0 0 0 0 1	2 0 0	0	0 0 0	0 0 0	0 0 0 0	2 2	0 0 0	0 0 0 0 0 0	0	6 2	4 15271 1393 4 22200
46	After Signalization - Urban Change (After-Before)	0	1 0 0 -1	0	0	0 0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0 0	0	0	0	0	0	-1	0	0 0	0	-1	4 22999 799
47	Before Signalization - Urban	1	13 2 18 2	0		0 0	15	0	0	0	0	0	0	0	0	0	12 16	0	0	0	2 0 0 0		0	0	0	0	15 17	0	0 0	0	15 21	4 30169 4 26308
47	Change (After-Before) Before Signalization - Urban	-1 0	5 0		0	0 0		0	3 1	0 1	<mark>0</mark> 0	0	0	0	1 0	1 0	4 4	0	0	1 0	-2 0 0 0	-1 0	1	0	0 0	0	2 4	1 0	0 0 0 0	0	6 4	-3861 3 25000
48 48	After Signalization - Urban Change (After-Before)	0	18 3 15 3	0	-1	3 0 3 0	19 17	0	3 2	-1	0	1 1	0	0	0	1	20 16	0	0	0	2 0 2 0	2	0	0	0	0	23 19	1	0 0	0	26 22	3 25951 951
49	Before Signalization - Urban After Signalization - Urban	0	0 2 6 0	0	1	5 0 3 0	6 10	0	2	0	0	0	0	0	0	0	/	0	0	0	0 0	1	0	0	0	0	11	1	0 0	0	8 15	3 11713
	Before Signalization - Urban	0	5 0	0	2	-2 0 0 0	4 3	0	2	0	0	0	0	0	0	0	3	0	0	0	0 0	1	0	0	0	0 1	3 3	1 1	1 0	0	5	438 6 16100
50	After Signalization - Urban Change (After-Before) Before Signalization - Urban	0	5 0 0 0	0	0	0 0	-1	0	-1	1	0	0	0 0 0	1	0	0	2	0	0	0	0 0	-1	0	0	0	-1	2	-1	0 0 -1 0 10 2	0	0	6 17456 1356 6 20200
	After Signalization - Urban	0	20 6	0	0	1 0 0 0 -1 0	14	1	5	0	1	1	0 0 0	0	1	2	9 20 11	0	0	0	1 0 0 0 -1 0	3	0	0	0	0	19	4	0 0	0	28	6 30200 6 29967 -233
	Before Signalization - Urban	0		0	2	2 0 0 0	12	0	4 1 5	0	0	1	0	0	0	0	/	0	0	2	1 0 0 0	0	0	0	0	-2 0 0	7	1		0	14	6 30231 6 29748
52	Change (After-Before) Before Signalization - Urban	0	6 0	0	-1	-2 0 0 0	-3	1	4	0	0	-1		0	0	1	9	0	0	-2	-1 0 0 1	0	0	0	0	0	7	-1	-6 0	0	3	-483           6         30300
53	After Signalization - Urban Change (After-Before)	0				1 0 1 0								0	0	0	12	0	0	0	0 0	0	0	0	0	0	12	0		0	13	6 29261
	Before Signalization - Urban		9 1	0	1	1 0	10	0	1	0	0	0	0	0	0	1	8	0	0	0	0 1	2	0	0	0	0	7	1	3 0	0	12	4 9968

Γ_								SEVERIT	Υ		# of VEH	IICLES								CRASH	TYPE							LIGHT	Γ	/EA	THER	
4	gs	jhway .	section from milepoint	milepoint	m date	date	operty Damage Only	yury Crash atal Crash	ured	led	är	cars	l Road	f Road	erturn	hool Age Pedstrian	her Pedestrian	oadside	ad On ar End	deswipe (Same Direction)	leswipe (Opposite Dir) Droot - T	ertaking Turn.	rked Vehicle	sycle	ild Animal	ed Object	ylight	wn or Dusk	rk, Lighted	rk, Unlighted	od Weather in	ow, Sleet or Hail g
54	After Signalization - Urban	12 A		<b>2</b> 0.98	<b>2</b> 1/1/1994	<b>2</b> 12/31/1996	13 6	<u> </u>	<u>ت</u> ع	2 1	3 15	ਲ 2	5 18	5 2	ð	°S 0	ð	<u>6</u>	ਜ ਦੇ 1 3	0 Ši	Z Sic	÷ 3	Pa D	Bi	N.	2 2	е 13	eq 1	е 4	ед ( 2 1	2 2 C	<sup>u</sup> S <sup>0</sup>
54 55	Change (After-Before)	42 A	A 0.94 A 1.94	0.98 1.98		12/31/1991	4 4	0		0 0	3 3 2 26		6	2	0 0	0 1	0 0	-1 6	1 2 0 13	0 2	2 2 0 5		0	0	0 0	2 1	6 19			-1 6 0 2	6 <mark>2</mark>	000 10
55		42 A	A 1.94	1.98	1/1/1994	12/31/1996	36 1: 17 4	3 0	22	0	7 38 5 12	4	46 19	3	0	-1	0	4	0 19	6 4	0 13	0	0	1	0	4	36 17	4	9 4	0 3	8 5 2 4	4 1
56		1 42 A	A 2.6 A 2.6	2.64	1/1/1989	12/31/1991	4 2 13 4		4	0	1 5		6	0	1	0	0	1	0 2	1	0 1	0		0	0	0	6 12			0 6	6 0 1 1	
50 57	Change (After-Before)	42 A	A 2.6 A 4.86	2.64 4.9	1/1/1989	12/31/1991	9 2 13 4	2 0	0 4	0	2 7 0 17	2	9 17	2	-1 0	0 0	1	2 0	0 7 0 14	-1 1	0 1 0 2	0	0	0	0	2	6 14	1	2	1 <u></u>	5 <u>1</u> 41	4 0 1 0
57	After Signalization - Urban	42 A	A 4.86	4.9	1/1/1994	12/31/1996	6 26 1 <sup>°</sup> 13 7		15	0	4 31 4 14	2	35 18	2	0	0	1	3	0 23	-1	0 6	1	0	0	0	3	30 16	0	4	3 3	6 0	1 0
58	Before Signalization - Urban	n 44 A	3.72	3.76	1/1/1994	12/31/1996	6 3 5 10 4			0	1 4				0	0	0	2	0 5	0	0 0			0	0	1	7	0	1	0 1	7 0	
50 50	Change (After-Before)	44 A	A 3.72 A 4.28	3.76 4.32	1/1/1990	12/31/1992	7 -1 2 6 6		-1	0 0	-1 8	-1 0	7	-1 1	0	0	0	0	0 6 0 2	1 2	0 0 0 1	0	0	0	0	-1 1	<mark>4</mark> 9	0	1 3	0 8 0 1	5 0 0 1	-1 0 1 0
59	After Signalization - Urban	44 A		4.32	1/1/1995	12/31/1992	13 5	0	9	0	1 17	0	17	1	0	0	0	6	0 4	0	0 7	0	0	0	0	1	13	0	4	1 1	6 0	2 0
60 60			4.25	4.32	1/1/1994	12/31/1996				0	3 16	6 2	18	3	1	0	0	10	0 3	-2 1	0 3	0	0	0	0	3	4 14	0	6	0 1	6 2	0 0
60	Change (After-Before)	45 A	A 4.25 A 4.25	4.29 4.29	1/1/1999	12/31/2001	13 1 <sup>-</sup> 1 2	0	4	0	-3 4	2	6	-3	-1	0	0	-8	0 12	1	0 2	0	0	0	0	-3	7	1	-5	0 2	2 -2	
61			A 220.36 A 220.36	220.4		12/31/1996 12/31/2001	6 3 1 0 2	0	4 6	0	1 3 0 2	0	2	0	0	0	0	0	0 0 0 1	1	0 1	0	0	0	1	0	1	1	0	2 4	4 0	0 0
62			A 285.61 A 285.61		1/1/1994	12/31/1996	-3 1 3 6 6	i 2	14	2	1 12	2 1	-2 13 10	0	0	0 0 0	0	11	0 1 0 3	0	0 0		0	0	0	1	12	1	0	1 1	4 0	0 0
62 63	Change (After-Before)	50 A	A 285.61 A 307.32	285.65		12/31/2001	-1 0	2 0	-5 28	-2 0	-1 -1 0 15		-3 18	-1 0	0	0	0	-7 9	0 3 0 3	0	1 2 0 6	-1 0	0	0	0	-1 0	-5 16	-1		-1 -	4 0 5 1	0 0 0 0 1 1
63 63	After Signalization - Rural		307.32 307.32		1/1/1999	12/31/2001	13 1		18	2	1 17	7	24 6	1	1	0	0	9 1 -8	0 15 0 12	2	0 6	0	0	0	0	0	22	1	2	0 2 -1	2 0 7 1	2 1
64 64	Before Signalization - Urban	1 52 A	A 20.3 A 20.3	20.34	1/1/1991	12/31/1993	3 4 0		0	0	0 4	0		0	0	0	0	0	0 2	1	0 0	0		0	0	0	3	0			4 0	0 0
64 65	Change (After-Before)	52 /	A 20.3 A 20.3 B 86.62	20.34 20.34 86.66	1/1/1990	12/31/1990	-3 2 5 4 6	0 0 6 0		0	0 -2 1 8	: <u>1</u>	-1 10	0	0	0	0	1 5	0 2 0 2	-1 1	0 0 0 1	0	0	0	0	0	-1 6	0	0 4	0 -	1 0 3 1	0 0 1 0
65		52 E	8 86.62	86.66	1/1/1998	12/31/2000	) 4 4	0	6	0	1 6	0	8	0	0	0	1	-4	0 3	-1	0 2	0	0	1	0	0	7	0	4 1	0 8	B 0 0 -1	0 0
66		1 53 A	A 0.63 A 0.63	0.67	1/1/1994	12/31/1996			0	0	0 2	0	2	0	0	0	0	1	0 1	0	0 0	0	0	0	0	0	2	0	0	0 2	2 0	
67 67	Change (After-Before)	53 A	0.63 0.63 3 15.05	0.67	1/1/1999	12/31/2001	6 3 6 0 0	0 0 0		0	0 8 0 0	<u>1</u>	6 0	0	0	0	0	2 0	0 3 0 0	0	0 0 0 0	1	0	0	0	0	4 0	0	1 0	0 4	4 1 0 0	0 0 0 0
67		67 E	3 15.05 3 15.05		1/1/1999	12/31/2001	3 1 3 1	0		0	1 3	0	3	1	0	0	0	0	0 3	0	0 0		0	0	0	1	3		0	1	3 0	0 1
68		1 68 A	A 0.25	0.29	1/1/1994	12/31/1996			0	0	0 1	0	1	0	0	0	0	1	0 0	0	0 0	0		0	0	0	1	0	0	0	1 0	0 0
65 65	Change (After-Before)	68 /	A 0.25 A 0.61	0.29	1/1/1999	12/31/2001	14 1 6 1	0	1	0	2 12 0 7		14	1 0	0	0	0	-1 2	0 8 0 0	1 0	0 5 0 5	0	0	0	0	1 0	9 6	0	5 0	0 1 0 7	<mark>4 0</mark> 7 0	0 0 0 0
69		68 A	A 0.61	0.65	1/1/1995	12/31/1997	18 9 12 8	0	11	0	1 20	) 5	<b>27</b>	0	0	0	1	2	0 15 0 15	0	09	0	0	0	0	0	24 18	-1	3	0 2	1 2 4 2	3 0
70	Before Signalization - Urban	1 68 A	A 0.98	1.02	1/1/1990	12/31/1992			10	0	0 18			0	0	0	0	6	0 6	0	0 7			0	0	0	18	1	1			0 0 2 0
70	Change (After-Before)	68 A	A 0.98 A 1.97	1.02 1.02 2.01	1/1/1990	12/31/1997	20 73 14 13 2 13 6	3 0	21 11	0	0 21 0 21	6 6	26 20	1 0	0	0	0	-1 1	0 20 0 14 0 7	1 0	0 12 0 11		0	0	0	1 0	21 15	-1	6 2	1 2 0 1	0 4 9 0	2 0 2 0
71	After Signalization - Urban	68 A	A 1.97	2.01	1/1/1995	12/31/1997	43 19 30 13	9 0	27	0	2 50	9	60 40	2	1	0	0	9	3 28 3 21	2	0 18	0	0	0	0	1	42 27		12 10	0 5	3 2	5 0
72	Before Signalization - Urban	1 68 A	A 3	3.04	1/1/1990	12/31/1992		0		0	1 0 0 6	0		1	0	0	0	0	0 0	0	0 0	0	0	0	0	1	0			0 3 1 ·	1 0	
72	Change (After-Before)	68 A	A 3.45	3.04 3.49	1/1/1990	12/31/1997	4 3 2 1 3	0 0 0	7	0	-1 6 0 4	2 2 0	8	-1 0	0	0	0	0	0 3 0 1	1 0	0 4 0 0		0	0	0	-1 0	5 4	0		-1 7 0 4	7 0 4 0	0 0 0 0
73	After Signalization - Urban Change (After-Before)	72 A	A 3.45	3.49	1/1/1995	12/31/1997		0	6	0	0 6	0	4 6 2	0	0	0	0	-2	0 5 0 4	0	0 0	0	0	0	0	0	4 5 1	0	0	0 2	5 0 1 0	
7/	Before Signalization - Urban	74 /	1 07	1.01	1/1/1007	12/31/1994	0 3	0	4	0	0 3	0	3	0	0	0	0	0	0 3	0	0 0	0	0	0	0	0	3	0	0	0 3	3 0	0 0
74	Change (After-Before) Before Signalization - Urbar	74 A	A 1.87 A 4.47	1.91 4.51	1/1/1989	12/31/1991	0 -3	3 0 0	-4 1	0	0 -3 2 5	0	-3 6	0	0	0	0	0	0 -3 0 3	0	0 0 0 1	0	0	0	0	0	-3 6	0	0	0 -	3 0 4 0	0 3 0
75	After Signalization - Urban Change (After-Before)	74 A	A 4.47	4.51	1/1/1994	12/31/1996	6 <u>10</u> 6	0	8	0	-2 10		16 10	-1	0	0	0	0	1 9	0	1 5	0	0	0	<b>0</b>	0	14	0	2	0 1	3 0	
76	Before Signalization - Urban	n 74 A	5.32	5.36	1/1/1992	12/31/1994		2 0	1 24	0	0 2	0	2	0	0	0	0	1	0 0	0	0 0	1	0	0	0	0	2	0	0	0 .	1 0	
70	Arter Signalization - Utban Change (After-Before) Before Signalization - Urban Change (After-Before) Before Signalization - Urban Change (After-Before) Before Signalization - Rural After Signalization - Rural After Signalization - Rural Change (After-Before) Before Signalization - Rural After Signalization - Rural	74 A	A 5.32	5.36 6.68	1/1/1991	12/31/1993	12 1 3 10 2	1 0	23 4	0	2 18 1 10	3 3 ) 1	23 12	0	0	0	0	1	0 9 0 0	1	0 11 0 2	-1 1	0	0	2	0	14 10	1	6	1 2 1 1	0 2	0 0
77	After Signalization - Rural Change (After-Before)	82 A	A 6.64	6.68	1/1/1996	12/31/1998	3 10 7 0 5	0	- 11 7	0	3 12	2	15	2	1	0	0	1	0 7	-1	0 6	0	0	0	0 -1	2	15 5	0	2	0 1	4 1 3 0	2 0
78	Before Signalization - Rural	82 A	15.52	15.56	1/1/1993	12/31/1995	5 3 3 0 11 8	0	9	0	0 5	1	6	0	0	0	0	1	0 0	0	0 4	1	0	0	0	0	5	1	0	0 6	6 0 8 0	0 0
78	Change (After-Before) Before Signalization - Purel	82 /	15.52 19.05	15.56 19.00	1/1/1001	12/31/1002	8 5 3 6 4	0	7	0	1 9 0 °	3	12	1	0	0	0	-1 3	0 7 0 4	0	0 7	-1	0	0	0	1	8	0	3	1 1	2 0	0 0
79	After Signalization - Rural	82 /	19.05	19.09	1/1/1996	12/31/1998	8 13 8 7 4	0	10	0	1 16	4	21	0	0	0	0	7	1 5	2	0 5	0	0	0	0	0	9	1	9	0 1	6 2	1 0
80	Before Signalization - Rural	82 /	A 20.93	20.97	1/1/1991	12/31/1993	3 1 2 3 5 2	2 0	4	0	0 3	0	3	0	0	0	0	2	0 0	0	0 1	0	0	0	0	0	3	0	0	0 3	3 0	
80	Change (After-Before)	82 A	20.93	20.97	., ., 1550	.20171090	4 0	0	0	0	0 3	1	4	0	0	0	0	-1	0 4	0	0 1	0	0	0	0	0	1	1	2	0	3 0	1 0

			RO	AD CO	NDITIO	N							EHICLE	TYPE								HUMA	N FACT	ORS					DRIVE	r impair	RMENT				
								-			W/Trailer		(15+pa)				_				ger	5					ment								
								or Van	ailer	Van			Bus (				kown				assen				ea	÷	force	Ą					sőj		
								Car	w/Trailer	lity Va	lity Van	U10,000#	ck or		0		n (Un	arent			by P <sub>6</sub>	ce		pa	w/ Ar	Upse	Law Enfo	<sup>i</sup> isability	U.S.		Meds	ß	ld Dru	hes	ion
	_			ş	\$		ş	enger	or Van	kup/Utility	ıp/Utility	ć, U10	y Tru	torhome	orcycle	sle	and Run	App	đ	s	acted	Derien	e	idnoc	Unfamiliar	tional	ding L.	sical D	paire	lo	Drugs/	ıl Drugs	iol and		T Regior
site <sub>#</sub> notes	Wina	Dry	Wet	Mude	Snowy	lcy	Slusi	Pass	Car	Picku	Pickı	Truc	Heavy	Moi	Mot	Bicycle	Ηit	None	Asleep	Illnes	Distract	Inexµ	Fatig	Preo		Emoi	Evad	Phys	Unin	Alcohol	RX D	Illegal			CDOT aadt
54 After Signalization - Urb 54 Change (After-Before)	0	16 7	2	0	0 -1	1 0	0	13 3	0	2	1 1	0	2 2	0	0	0	1 0	15 7	0	0	0	2 2	0 -1	2 0	0	0	0	0	15 8	2 1	0 -3	0	0	8	4 12124 2156
55 Before Signalization - Urb 55 After Signalization - Urb	-	38	8	0	1	1	0	19 <b>40</b>	0	6	1	0	0	0	0	0	1	10 36	0	0	1	1	1	3 4	0	0	2	0	40	1	10 0	1	0 4	49 4	4 10532 4 12910
55         Change (After-Before)           56         Before Signalization - Urb           56         After Signalization - Urb		15 5	6 1 2	0	-1 0 0	-1 0	0	21 3 13	0	-2 1	0	0 1 0	2 0 0	0	0 1 0	0	0	26 2	0	0 0 0	-1 1	0 2	-1 0	1	3 0	0	-2 0	-3 0 0	25 5 10	0	-10 1 0	-1 0			2378 4 8583 4 10023
So Change (After-Before)     S7 Before Signalization - Urb	0	4 16	2 0	0 0 0	0	3 0	0	10 11	1 0	1 4	0 0 1	-1 1	0	0	-1 0	0	0	4 6	0	0	0	0	0	2 2	1	0	0 5	0	5 9	0	-1 7	0		11	4 10023 1440 4 6000
57 After Signalization - Urb 57 Change (After-Before)	-	35	0	0	1	0	0	28 17	0	<mark>8</mark> 4	-1	0 -1	0	0	0	0	0	24 18	0	0	0	6	1	-1	0 -1	0	0 -5	0	26 17	3	-7	-1	0		4 5852
58 Before Signalization - Ur 58 After Signalization - Urb		7	0	0	0	1	0	7 8	0	1 2	0	0	0 4	0	0	0	0	6 6	1 0	0	0 1	0	0	0 5	1 0	0	0	0	6 13	2	0	0			6 10672 6 19725
58 Change (After-Before) 59 Before Signalization - Url			0 3	1 0	<mark>0</mark> 1	0 0	0 0	1 9	0 0	1 1	0 0	0 0	4 0	0 0	0 0		0 2		-1 0	0 0	1 1	1 1	0 0	5 2	<mark>-1</mark> 1	0	0 0		7 10	-2 0	0 0	0 0	0 1		9053 6 10913
59 After Signalization - Urb 59 Change (After-Before)	0	14 7	2 -1	0	1	0	0	13 4	0	4	0	0	0	0	0	0	-1	13 7	0	0	1	1	0	2	0 -1	0	1	0	15 5	1	0	0	0	6	6 17985 7072
60 Before Signalization - Urb 60 After Signalization - Urb 60 Change (After-Before)	an O	20	2 2 0	0	0 0 0	0	0 0 0	16 17	0 0 0	4	0	0	0 0 0	0 0 0	0	0	0 0 0	17 18	0 0 0	0	0	2 1 -1	0	1	0 0 0	0	0	0	16 21	0	0 0 0	0	0	21 2 24 2 3	2 21593 2 24949 3356
61 Before Signalization - Ru 61 After Signalization - Ru			0	0	0	0	0	1 2 2	0	3 2 0	0	0	0	0	0	0	0	3	0	0	1 0 0		0	1	0	0	0	0	5 4 2	-2 0 0	0	0	0	4	5 6207 5 6208
61 Change (After-Before) 62 Before Signalization - Ru	1	-2 14	0	0 0	0 0	0	0 0	0 11	0 0	-2 3	0 0	0 0	0 0	0 0	0 0	0	0 0	-2 12	0 1	0 0	0	0	0 0	-1 0	1	0	0 0	0 0	-2 13	0	0 0	0	0 -	-2	2 12451
62 After Signalization - Ru 62 Change (After-Before)		9 -5		0	0	1	0	8 -3	0	2 -1	0	0	0	0	0		0	7 -5	0 -1	0	0	0	0	2 2	1 0	0	0	0	8 -5	2 1	0	0	0		2 11558 -893
63 Before Signalization - Ru 63 After Signalization - Ru	al 0	22	2	0	0	1	0	9 13	0	6 10	1	1 0	0	0	0		0	8 11	0	0	0	1	0 1	7 10	0	0	0	0	17 22	1	0	0	2 2		2 8775 2 15638
63 Change (After-Before) 64 Before Signalization - Url		8	-1	0	0	0	0	4	0	4 1	0	-1 0	1 1	0	0		0	3 4	0	0	0	-1 0	1	3	2	0	0	0	5 4	1 0	0	0	2		6863 4 9200
64 After Signalization - Urb 64 Change (After-Before) 65 Before Signalization - Url	0	-1 8	0 0 2	0 0 0	0 0 0	0 0	0 0 0 0	2 0 7	1 1 0	0 -1 2	0 0 0	0 0 0	0 -1 0	0 0 0	0 0 0	0 0 0	0 0 1	-2 10	0 0 0	1 1 0	0 0 0	0 0 0	0 0 0 0	0 0 0	0 0 0	0	0 0 0	0 0 0	2 -2 9	1 1 0	0 0 0	0 0 0		-1	4 14469 5269 4 9781
65 After Signalization - Urb 65 Change (After-Before)		-1	2 0 -2	1	0	0	0	/ 6 -1	0	-1	0	0	0	0	0	0	1	-3	0	0	0	1	0	0	0	0	0	0	-2	0	0	0	0		4 9947 166
66 Before Signalization - Urb 66 After Signalization - Urb	oan 0			0	0	0	0	2 7	0	0	0	0	0	0	0		0	2	0	0	0	0	0	0	0	0	0	0	1 7	0	1	0		2 (	6 11462 6 11777
66 Change (After-Before) 67 Before Signalization - Ru		3 0		0 0	0 0		0 0	5 0	0 0	0 0	0	0 0	0 0	0 0	0 0		0 0	4 0	0 0	0 0	0 0		0 0	1 0	0 0	0	0 0	0 0	<mark>6</mark> 0		-1 0	0		9 0 2	315 2 2479
67 After Signalization - Run 67 Change (After-Before)	0	4	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	2	0	0	0		4	2 2613 134
68 Before Signalization - Urb 68 After Signalization - Urb 68 Change (After-Before)	an O	1 15 14	0	0	0 0 0	0	0 0 0	0 13	0	1 1 0	0 0 0	0	0	0	0	0	0	1 7	0	0	0	0	0	0 4	0	0	0	0	0	0	0 0 0	0	0	16 4	4 23207 4 29520 6313
69 Before Signalization - Urb	-			0	0	0	0	13 3 19	0	4	0	0	1 0 0	0	0 0 0		0	6 6 19	0 0 0	0	0		0	4 0 1	1	0	0	0	14 7 21	0	0	0	0		4 20685 4 23266
69 Change (After-Before) 70 Before Signalization - Ur	1	14	3 2	0 0	3 0	0	0	16 17	0	1 3	0	1 0	0 0	0 0	0	0	0 0	13	0	0	0	2 2 2	0 1	1 2	<mark>-1</mark> 1	0	1 0	0 0	14 18	1 2	1 0	0	0 2	20	4 20517
70 After Signalization - Urb 70 Change (After-Before)		36 18		0	2	1 1	0	35 18	0	8 5	1	0	0	0	0	0	1 1	29 17	0	0	0	3	0 -1	5 3	2	0	0	0	35 17	1 -1	0	1 1	0 4		4 23824 3307
71 Before Signalization - Url 71 After Signalization - Urb	an O	51	4	0	1 3	0	0	13 41	0 1	6 12	0	0	0 5	0	0	0	1	16 43	0	0	0	0	0 1	3 6	0 1	0	1 0	0	18 48	2	0	0	0 (	62 4	4 20303 4 24135
71         Change (After-Before)           72         Before Signalization - Urb           72         After Signalization - Urb				0 0 0	2 0 0		0 0 0	28 0	1 0 0	6 1	0 0 0	1 0 0	5 0 0	0	0 0 0	0	0	27 1	0	0 0 0	0	1 0 0	1 0	3 0	1 0 0	0	-1 0 0	0	30 1 6	1 0 0	0 0 0	0 0 0			3832 4 19972 4 23511
After Signalization - Urb     Change (After-Before)     Sefore Signalization - Urb	0	8 8 4	0 0	0	0	-1 0	0	6 6 4	0	1 0 0	0	0	0	0	0	0	0	5 4 3	0 0 0	0	0	0	0	1 1 1	0	0	0	0	5 4	0	0	0	0	7	4 23511 3539 6 18036
73 After Signalization - Urb 73 Change (After-Before)		4	0	0	0	0	0	4 5 1	0	0	0	0	1 1	0	0	0	0	-2	0	0	0	2	0	2	0	0	0	0	4 5 1	0	0	0	0		6 18133 97
74 Before Signalization - Uri 74 After Signalization - Urb	oan 0	2	1	0	0	0	0	3	0	0	0	0	0	0	0		0	3 0	0	0	0		0	0	0	0	0	0	3	0	0	0	0	3 .	1 16200 1 18605
74 Change (After-Before) 75 Before Signalization - Url	oan 0	4		0	0	1	1	5	0		0	0	0	0	0	0	0	4	0	0	0	0	0	0	1		0	0	6	1	0	0	0	-3 7	2405 1 16620
75 After Signalization - Urb 75 Change (After-Before)	2	11 7	-1	0	2	3 2	-1	6	0	3	0	0		0	0	0	0	10		0	0	1	0	1	-1	0 -1	0	0	9	0	0		0		1219
76 Before Signalization - Urb 76 After Signalization - Urb 78 Change (After Refere)	an 0	1 17 16	0 5	0	1	0	0	2 21	0	0	0	0	0	0	0	0	0	19	0	0	0		0	2	0	0	0	0	22	1	0	0	0 2	25	1 18348 1 20814
76         Change (After-Before)           77         Before Signalization - Ru           77         After Signalization - Ru	ral 0	11	1	0	0	0	0	7	0	4 5 4	0	0	0	0 0 0	0		0	5	0		0	1	0	6	0	0 0 0	0	0	11	0	0	0	0 2	12 3	2466 3 14463 3 17781
77 Change (After-Before) 78 Before Signalization - Ru	0	2	2	0	0	1	0	4	0	-1 0	0	0	1 1	0	0	0	0	4	0	1	0	0	0	0	0	0	0	0	6	0	0	0	-1	5	3318 3 15263
78 After Signalization - Ru 78 Change (After-Before)	al 0 0	17 11	1 1	0	0	0	0	12 7	0	6 6	0	0	1 0	0	0	0	0	12 7	1 1	0	0	1 1	1	3 3	0 -1	0	0	0	17 11	1 1	0	1 1	0 1	19 3 13	3 16118 855
79 Before Signalization - Ru 79 After Signalization - Ru	ral 0 al 0	10 14	0	0	0	0	0	9 11	0 1	1 5	0	0	0	0	0	0	0	7 9	0	0	0	1	1	1 6	0	0	0	0	7 16	2	0	0 1	1 1 0 2	10 3 21 3	3 13123 3 18393
79 Change (After-Before) 80 Before Signalization - Ru	ral 0	4 3		0	0	0		3	0	4 0	0	0	1 0		0 0	0 0	1 0	2 1	0 0	0	0	1 2	0	0	0	0	0	0	9 3	0	0	1 0	-1 1 0	11 3 :	5270 3 12280
80 After Signalization - Ru 80 Change (After-Before)	ai 0 0		0	0	1	0									0	0	0	5 4	0	0	0	0 -2	0	0	0	0	0	0	2 2	0	0	0	0	4	3 17461 5181

	SEVERITY	# of VEHICLES	CRASH TYPE	LIGHT /EATHER
	2		ection) tum)	
2	a ge Or		<sup>9</sup> Pedstria strian (Same Dir (Opposite (Um (Left Turn icle	r r r r r r r r r r r r r r r r r r r
# way ion milepoin ilepoint date	'ty Dam Crash Zash	, p p c	ol Age Pec Pedestria diside End swipe (Opp swipe (Opp awipe (Opp turm oach Turm taking Turn ed Vehicle	Animal ght I Object I or Dusk I or Dusk I unighted I Weather I Weather I Sleet o
site # Highway section mi from milep trom date	Propert Injury C Fatal Cr Injured Killed	1 car 2 cars 3+ cars On Road Off Road	Schoo Other I Broads Broads Rear E Sidesw Sidesw Appro: Overta Parkec Bicycle	Wild Ani Dayright Dayright, Liç Dark, Li, Good W, Un Good W, S. Snow, S.
81         Before Signalization - Rural         82         A         35.26         35.3         1/1/1993         12/31/1995           81         After Signalization - Rural         82         A         35.26         35.3         1/1/1998         12/31/2000	0 <b>27 7</b> 0 <b>11</b> 0	2 26 5 32 2 0	0 <b>1</b> 2 <b>1 20</b> 1 0 <b>4 0 2</b> 0	1     0     12     1     2     1     12     0     4     0       0     2     25     0     8     0     25     0     9     0
81         Change (After-Before)         82         A         35.26         35.3           82         Before Signalization - Urban         83         A         56.84         56.88         1/1/1994         12/31/1996           82         After Signalization - Urban         83         A         56.84         56.88         1/1/1999         12/31/1996		0 4 0 4 0 0		-1         2         13         -1         6         -1         13         0         5         0           0         0         2         1         1         0         4         0         0         0           0         1         25         0         7         0         32         0         0         0
82         Change (After-Before)         83         A         56.84         56.88           83         Before Signalization - Urban         83         A         61.84         61.88         1/1/1994         12/31/1996	24         6         0         8         0           6         11         1         0         1         0	5         23         2         28         1         0           1         9         2         11         1         0	0         0         4         -1         8         2         0         11         0         0         0           0         0         1         0         10         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	0         1         23         -1         6         0         28         0         0         0           0         1         11         0         1         0         11         1         0         0
83         After Signalization - Urban         83         A         61.84         61.88         1/1/1999         1/2/31/2001           83         Change (After-Before)         83         A         61.84         61.88           84         Before Signalization - Urban         83         A         65.84         65.88         1/1/1994         12/31/1996	1         19         2         0         3         0           8         1         0         2         0           6         6         1         0         1         0	5 5 -1 8 1 0	0         0         1         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	1         3         20         1         0         0         16         1         2         0           1         2         9         1         -1         0         5         0         2         0           0         0         6         0         1         0         6         1         0         0
84         After Signalization - Urban         83         A         65.84         65.88         1/1/1999         12/31/2001           84         Change (After-Before)         83         A         65.84         65.88         1/1/1999         12/31/2001	27         15         0         32         0           21         14         0         31         0	1         30         11         42         0         1           1         24         10         35         0         1	0         0         2         0         27         0         0         10         0         1         0           0         0         0         0         22         0         0         10         0         1         0	0         0         31         0         9         2         41         1         0         0           0         0         25         0         8         2         35         0         0         0
85         Before Signalization - Urban         83         A         68.27         68.31         1/1/1991         12/31/1993           85         After Signalization - Urban         83         A         68.27         68.31         1/1/1996         12/31/1998           85         Change (After-Before)         83         A         68.27         68.31         1/1/1996         12/31/1998		5 10 4 14 5 0	0 0 4 0 7 1 0 1 0 0 1	0 2 2 0 2 1 4 0 1 0 0 5 13 4 2 0 17 1 1 0 0 3 11 4 0 0 10 17 0 0
86         Before Signalization - Urban         83         A         69.37         69.41         1/1/1991         12/31/1993           86         After Signalization - Urban         83         A         69.37         69.41         1/1/1991         12/31/1993	3         14         7         0         10         0           8         33         28         0         46         0	1 18 2 20 1 0 4 51 6 57 4 0	0     0     1     0     13     2     0     3     0     1     0       0     0     5     0     28     3     0     19     0     0     0	0         1         18         0         2         1         18         1         2         0           0         4         48         0         11         0         57         0         1         0
86         Change (After-Before)         83         A         69.37         69.41           87         Before Signalization - Urban         83         A         71.43         71.47         1/1/1994         12/31/1996           87         After Signalization - Urban         83         A         71.43         71.47         1/1/1994         12/31/1996	19         21         0         36         0           6         6         6         0         17         0           1         10         5         0         9         0	0 10 2 12 0 0		0         3         30         0         9         -1         39         -1         -1         0           0         0         10         0         1         1         10         1         1         0           0         1         12         0         2         1         144         1         0         0
87         Change (After-Before)         83         A         71.43         71.47           88         Before Signalization - Urban         85         B         185.1         185.14         1/1/1994         12/31/1996	4         -1         0         -8         0           6         7         3         0         6         0	2         3         -2         2         1         0           1         7         1         9         1         0	0         1         -1         2         0         -1         2         0         -1         0           0         0         5         0         2         0         0         1         1         0         0	0         1         2         0         1         0         4         0         -1         0           0         1         7         1         1         7         1         2         0
88         After Signalization - Urban         85         B         185.1         185.14         1/1/1999         1/2/31/2001           88         Change (After-Before)         85         B         185.1         185.14         1/1/1999         1/2/31/2001           89         Before Signalization - Rural 85         B         187.23         187.27         1/1/1/1994         1/2/31/1996	1         12         5         0         9         0           5         2         0         3         0           6         4         0         0         0         0	-1 10 -1 8 -1 0		0         0         10         0         3         3         15         1         0         0           0         -1         3         -1         2         2         8         0         -2         0           0         0         4         0         0         0         4         0         0         0
89         After Signalization - Rural         85         B         187.23         187.27         1/1/1999         12/31/2001           89         Change (After-Before)         85         B         187.23         187.27         1/1/1999         12/31/2001	1 <mark>5 2</mark> 0 <mark>3</mark> 0 1 2 0 3 0	0         6         1         7         0         0           0         3         0         3         0         0         1	0 0 <mark>3</mark> 0 <mark>4</mark> 0 0 0 0 0 0 0 0 0 0 1 0 2 0 0 0 0 0 0 0	0         0         6         1         0         0         6         1         0         0           0         0         2         1         0         0         2         1         0         0
90         Before Signalization - Urban         85         B         200.53         200.57         1/1/1994         12/31/1996           90         After Signalization - Urban         85         B         200.53         200.57         1/1/1999         12/31/2096           90         Change (After-Before)         85         B         200.53         200.57         1/1/1999         12/31/2001			0 0 3 1 3 0 0 1 0 0 0 0 2 0 9 0 0 12 0 0 0 0 0 -1 -1 6 0 0 0 12 0 0 0	0 1 8 0 0 1 9 0 0 0 0 0 19 2 2 0 23 0 0 0 0 -1 11 2 2 -1 14 0 0 0
91         Before Signalization - Urban         86         A         1.78         1.82         1/1/1989         12/31/1991           91         After Signalization - Urban         86         A         1.78         1.82         1/1/1949         12/31/1991           91         After Signalization - Urban         86         A         1.78         1.82         1/1/1994         12/31/1996	1 4 0 0 0 0 6 2 1 0 1 0	<b>0</b> 3 0 <b>3</b> 0 0	0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 2 0 0 0 0 0 0 0 0	1     0     3     0     0     1     4     0     0     0       0     0     3     0     0     0     2     1     0     0
91         Change (After-Before)         86         A         1.78         1.82           92         Before Signalization - Rural         86         A         15.2         15.24         1/1/1994         12/31/1996           92         After Signalization - Rural         86         A         15.2         15.24         1/1/1999         12/31/2001				$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
92         Change (After-Before)         86         A         15.2         15.24           93         Before Signalization - Urban         88         B         18.47         18.61         1/1/1994         12/31/1996           93         After Signalization - Urban         88         B         18.47         18.51         1/1/1994         12/31/1996		0 11 2 13 0 0	0 0 5 1 5 1 0 1 0 0 0	0         -1         -1         0         2         0         1         0         0         0           0         0         10         0         0         3         11         0         2         0           0         1         41         1         4         47         2         1         0
93         Change (After-Before)         88         B         18.47         18.51           94         Before Signalization - Urban         90         B         88.96         89         1/1/1994         12/31/1996	37 6 0 4 0	0 39 4 41 1 0	0 0 2 -1 25 1 0 12 1 0 1	0         1         41         4         1         4         47         2         1         0           0         1         31         4         1         1         36         2         -1         0           0         2         5         1         1         2         7         1         1         0
94         After Signalization - Urban         90         B         88.96         89         1/1/1999         12/31/2001           94         Change (After-Before)         90         B         88.96         89         1           95         Before Signalization - Rural         119         A         6.7         6.74         1/1/1992         12/31/1994	4         0         0         0         0           -2         -3         0         -8         0           4         7         2         0         3         0	-3 -2 0 -2 -3 -2		0         0         1         2         4         0         0         0           0         -2         -4         -1         0         0         -3         -1         -1         0           0         0         6         0         2         1         7         2         0         0
S5         Defore Signalization - Rural         H3         G.7         G.74         H1132         H2371394           95         After Signalization - Rural         H3         A         G.7         G.74         H1192         H2371394           95         Change (After-Before)         H3         A         G.7         G.74         H111927         H23711999           95         Change (After-Before)         H3         A         G.7         G.74         H		0 3 0 3 0 0	0 0 0 0 3 0 0 0 0 0 0	0 0 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
96         Before Signalization - Rural         119         A         6.95         6.99         1/1/1994         12/31/1996           96         After Signalization - Rural         119         A         6.95         6.99         1/1/1994         12/31/2011           96         Change (After-Before)         119         A         6.95         6.99         1/1/1999         12/31/2001		0 3 0 0 0	0 0 1 0 1 0 1 0 0 0 0	0 0 0 0 1 1 2 0 0 0 0 0 0 <b>1 2 0 3</b> 0 0 0 0 0 1 1 1 0 0 0 0
97         Before Signalization - Urban         121         A         23.01         23.05         1/1/1994         12/31/1996           97         After Signalization - Urban         121         A         23.01         23.05         1/1/1999         12/31/2001	6 8 8 0 13 0 1 15 4 0 5 0	1 14 1 16 0 0	0     0     8     0     4     1     0     2     0     0     1       0     0     2     0     14     0     0     1     1     0     0	0         0         12         0         3         1         16         0         0         0           0         0         15         0         4         0         17         2         0         0
97         Change (After-Before)         121 A         23.01         23.05           98         Before Signalization - Urban         141 B         160.93         160.97         1/1/1993         12/31/1995           98         After Signalization - Urban         141 B         160.93         160.97         1/1/1988         12/31/2000				0         0         3         0         1         -1         1         2         0         0           0         3         9         0         1         0         9         1         0         0           0         3         9         0         1         0         9         1         0         0           0         0         8         0         1         0         8         0         1         0         0
98         Change (After-Before)         141         B         160.93         160.97           99         Before Signalization - Urban         145         A         0         0.02         1/1/1994         12/31/1996	2         -2         0         -2         0           6         14         7         0         15         0	-4         4         0         3         -3         0           1         19         1         20         1         2	0         0         2         0         3         0         0         -1         0         0         -1           0         0         16         0         1         1         0         1         0         0         0         0         0         0	0         -3         -1         0         0         0         -1         1         1         0           0         0         18         1         2         0         20         1         0         0
99         After Signalization - Urban         145         A         0         0.02         1/1/1999         1/2/31/2001           99         Change (After-Before)         145         A         0         0.02         1/1/1999         1/2/31/2001           100         Before Signalization - Urban         145         A         0         0.02         1/1/1994         1/2/31/1996	1 6 3 0 5 0 -8 -4 0 -10 0 6 12 5 1 9 1	-1 -10 -1 -11 -1 -2	0         0         1         0         1         0         6         1         0         0           0         0         -15         0         0         -1         0         5         1         0         0           0         0         12         0         1         0         0         4         1         0         0	0         0         9         0         0         0         8         0         0         0           0         0         -9         -1         -2         0         -12         -1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 </td
100         After Signalization - Urban         160         A         35.17         35.21         1/1/1999         12/31/2001           100         Change (After-Before)         160         A         35.17         35.21	1 9 8 0 18 0 -3 3 -1 9 -1	4         11         2         13         4         1           4         -6         1         -5         4         1	0 0 0 1 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         4         9         1         4         3         17         0         0         0           0         4         -3         -1         3         0         0         -1         0         0
101         Before Signalization - Urban         160 A         4.0.28         4/0.32         1/1/1994         12/31/1996           101         After Signalization - Urban         160 A         4.0.28         40.32         1/1/1999         12/31/2001           101         Change (After-Before)         160 A         4.0.28         40.32         1/1/1999         12/31/2001				0 1 2 0 0 0 2 0 0 0 0 0 1 0 1 0 1 0 2 0 0 0 0 -1 0 1 0 0 0 2 0 0 0 0 -1 0 1 0 0 0 0 0 0
102 Before Signalization - Rural 285 D 224.92 224.96 1/1/1994 12/31/1996	6 6 6 0 13 0	1 11 0 11 1 1	0         0         8         0         1         0         0         1         1         0         0           0         0         7         0         0         1         1         0         0           0         0         7         0         0         4         1         0         0           0         0         6         0         6         0         3         0         0	0 0 10 0 2 0 12 0 0 0
102         Change (Atter-Betore)         285         D         224.92         224.93         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012         1012<	2 1 3 0 7 0 7 1 <b>2</b> 0 <b>3</b> 0	1 3 0 3 1 0 0 3 0 3 0 0	0 0 2 0 0 0 0 0 1 0 0 0 0 0 2 0 0 0 1 0 0	0 1 3 0 1 0 4 0 0 0 0 3 0 0 0 3 0 0 0 3
103         Change (After-Before)         287         A         76.45         76.49           104         Before Signalization - Urban         287         C         292.65         292.69         1/1/1993         12/31/1995	0 -1 0 -4 0 5 4 1 0 2 0	-1         0         0         0         -1         0           1         4         0         4         1         0	0         0         -2         0         2         0         0         1         -1         0         0           0         0         2         0         1         0         1         0         0         0         0         0         0         0	0         -1         0         0         -1         0         0         0           0         1         3         0         2         0         4         0         1         0
104         Change (After-Before)         287         C         292.65         292.69           105         Before Signalization - Urban         287         C         301.81         301.85         1/1/1989         12/31/1991	2         0         0         0         0           1         0         1         0         1         0	0 1 0 1 0 0		0 0 1 0 0 0 1 0 0 0
105         After Signalization - Urban         287         C         301.81         301.85         1/1/1994         12/31/1996           105         Change (After-Before)         287         C         301.81         301.85	6 0 <b>2</b> 0 <b>3</b> 0 0 1 0 2 0	0         2         0         2         0         0           0         1         0         1         0         0         0	0         0         0         2         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	0         0         1         0         1         1         0         0           0         0         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0
106         Before Signalization - Urban         287         C         306.85         306.89         1/1/1993         12/31/1995           106         After Signalization - Urban         287         C         306.85         306.89         1/1/1998         12/31/2000           106         Change (After-Before)         287         C         306.85         306.89         1/1/1998         12/31/2000	0         13         10         0         22         0           0         13         10         0         22         0           0         5         0         14         0	4         12         2         14         4         0           1         14         8         22         1         1           -3         2         6         8         -3         1	0     0     5     0     7     0     0     1     1     0     0       0     0     5     1     12     1     1     2     0     0     0       0     0     1     5     1     1     1     2     0     0     0       0     0     0     1     5     1     1     1     1     0     0       0     0     0     0     3     1     0     0     0     0	0         2         14         0         0         3         16         0         1         0           0         0         18         1         4         0         15         4         3         1           0         -2         4         1         4         -3         -1         4         2         1
107         Before Signalization - Rural         287         C         309.37         309.41         1/1/1993         12/31/1995           107         After Signalization - Rural         287         C         309.37         309.41         1/1/1993         12/31/1995	5     4     0     0     0     0       0     5     4     0     11     0	0         4         0         4         0         0           1         6         2         9         0         0	0         0         0         0         3         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	0         0         3         0         1         0         2         2         0         0           0         0         8         0         1         0         7         1         0         0

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81 Before Signalization - Rural	N O	<u>م</u>	<b>Š</b> 4	ž		<del>ت</del> 2	1 1	<b>2</b> 12	<b>5</b> 0	<u>ة</u> 1	<u>.</u>	F 1	<b>ਸ</b> 1	Ŭ 0	0 Wot	<b>1</b>	<u>H</u> 0	2 11	0 <b>As</b>	0	<u>ة</u> 0	<u>4</u> 3	- Fa	2 0	<u>لت</u>	<u>سَ</u>	0	5 16			- Ā	-	3 17263
81 After Signalization - Rural 81 Change (After-Before)	0	17 11	6 2	1	5 2	3	2	22 10	0	8	0 -1	2	1 0	0	0		0	18 7	0	0	0	3	1	9 1 7 1	0	0		31 15	1	0 0		34	3 17985 722
82 Before Signalization - Urban 82 After Signalization - Urban			0	0	0	0		2 23		1	0	0	0	0	0		1	3 28	0	0	0	0	0	0 0	0	0		3 32		0 0	0		1 21181 1 28937
82 Change (After-Before) 83 Before Signalization - Urban	0	27	0	0	0	0	0	21 9	0	5	0	1	0	0	0	0	0	25	0	0	0	1	0	1 0 1 0	0	0	0	29	0	0 0 0 0	0	30	1 20007 7756 1 34202
83 After Signalization - Urban	1	16	2	0	0	0	1	15	0	3	0	0	0	0	0	0	1	9 18	0	0	0	0	0	1 0	0	0	0	10 19	0	0 0	0	21	1 44575
83 Change (After-Before) 84 Before Signalization - Urban		6 5	0 1	0	0		0	6 7		-1 0	0	0	2	0	0	0	0	9 4	0	0	0	-1 0	-1 0	0 0 3 0	0	0		9 7	0	0 0	0	7	6 43213
84 After Signalization - Urban 84 Change (After-Before)	0	37 32	3 2	0	1	-1	0	30 23	0	6 6	0	4	0	0	0	0	1	22 18	0	0	0	3 3	0	12 0 9 0		0	0	34 27	3 3	0 0 0 0	0		6 52024 8811
85 Before Signalization - Urban 85 After Signalization - Urban	0	2 17	2	0	1	0	0	4 14	0	0 2	0	0	0	0	0	0	1	4 11	1	0	0	0 1	0	0 0 3 1	0	0	0	3 12	2	0 0 0 0	0	19	6 28200 6 30934
85 Change (After-Before) 86 Before Signalization - Urban	0		-1 1	0	-1 1	1 2	0		0 1	2 2	0 1	0	1 0	0	0	1 0	-1 0	7 14	0 0	0	0 1	1 1	0	3 1 5 0	0		0	9 20	0	0 0 0 0		21	
86 After Signalization - Urban 86 Change (After-Before)	1	51 34	5 4	0	1 0	-1	1	49 32	0 -1	6 4	2 1	0	3 3	0	0	0	1	37 23	0	0	0 -1	2 1	0	10 4 5 4		0	0	47 27	2 2	0 1 0 1	0		6 52783 4283
87 Before Signalization - Urban 87 After Signalization - Urban	0	10 14	1	0	0	0	1	11 11	0	1 2	0	0	0	0	0	0	0	9 11	0	0	0	1	0	1 0 2 0	0	0	0	11 13	0	0 0		12 15	6 33902 6 46996
87 Change (After-Before) 88 Before Signalization - Urban	0	4 6	0 3	0	0	0	-1 1	0 7	0	1 1	0 0	0 1	0	0 0	0	0	2 1	2 4	0 1	0 0	0 0	-1 0	0 0	1 0 3 2		0	0	2 9	1 0	0 0 0 0			13094 1 7938
88 After Signalization - Urban 88 Change (After-Before)	0	14 8	2 -1	0	0	0	0 -1	11 4	0	4	0	0 -1	0	0	0	0	1 0	13 9	0 -1	0	0	0	0	1 2 -2 0	0	0	0	14 5	1	0 0	0	17	1 20304
89 Before Signalization - Rural 89 After Signalization - Rural		3	1	0	0	0		4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 0 1 0	0	0	0	4		0 0			1 8893 1 16862
89 Change (After-Before) 90 Before Signalization - Urban	0	3 8	0 1	0	0	0	0	1 5	0	1	0	1	0	0	0	0	0	5 4	0	0	0	1	0	-3 0 4 0	0	0	0	3 7	0	0 0 0 0	0	3	7969
90 After Signalization - Urban	0	22	1	0	0	0	0	16	0	6	0	0	0	0	0	0	1	18	0	0	0	2	0	<b>2</b> 0	0	0	0	22	0	0 0	0	23	6 42124
90 Change (After-Before) 91 Before Signalization - Urban	0	14 4	0	0	0	0	0	11 2	0	2	0	0	0	0	0	0	0	14 3	0	0	0	2	0	-2 0 0 0	0	0	0	15 3	0	0 0 1 0	0		14578 1 8700
91 After Signalization - Urban 91 Change (After-Before)	0	-2	1	0	0	0	0	2	0	-1	0	0	0	0	0	0	0	-1	0	0	0	-1	0	1 0 1 0		0	0	3	0	0 0 -1 0	0	-1	1 9586 886
92 Before Signalization - Rural 92 After Signalization - Rural			0	0	1 0	0	0	7	0	1	0	0	0	0	0		0	6 3	0	0	0	1	0	0 2 3 1	0	0	1	7	0	0 0	0	10	1 6667 1 11237
92 Change (After-Before) 93 Before Signalization - Urban	0	2 11	0 1	0	-1 0	0		-3 8	0	2 4	2	0	0	0	0	0	0 1	-3 3	0 1	0 0	0	1 0	0	<mark>3 -1</mark> 9 0	0	0		5 11	-1 0	0 0 0 0	0	13	
93 After Signalization - Urban 93 Change (After-Before)	0	47 36	3 2	0	0	0	0 -1	43 35	0	9 5	0	0	1	0	0	0	0 -1	11 8	0 -1	0	1 1	2 2	0	33 1 24 1	0	0	0	52 41	1 1	0 0 0 0	0		6 64081 16961
94 Before Signalization - Urban 94 After Signalization - Urban	0	6 3	1	0	1	1	0	5 3	0	2	0	0	0	0	0	0	1 0	6 3	0	0	0	1	0	1 0 0 0	0	0	0	5 4	2	0 0		9	3 7821 3 9741
94 Change (After-Before) 95 Before Signalization - Rural		-3 8	0 1	0	-1 0	-1 0	0	-2 5	0	-1 2	0	0 1	0	0 1	0	0	-1 0	-3 7	0	0 0	0	0	0	-1 0 2 0		0	0	-1 8	-2 0	0 0 0 0		-5 9	1920 1 11743
95 After Signalization - Rural 95 Change (After-Before)	0	2 -6	1 0	0	0	0	0	1 -4	0	2	0	0 -1	0	0 -1	0	0	0	0 -7	0	0	0	0	0	3 0 1 0		0	0	2 -6	0	0 0		3 -6	1 11855 112
96 Before Signalization - Rural 96 After Signalization - Rural	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0 0		0	0	2	0	0 0			1 9660 1 6757
96 Change (After-Before) 97 Before Signalization - Urban	0	1 16	0 0	0	0	0	0	1 10	0	-1 4	0 1	0 0	0	0	0	0	0 0	1 13	0 0	0	0 0	-1 1	0 0	0 0 2 0		0	0	0 13	0 2	0 0 0 0			-2903 6 34281
97 After Signalization - Urban 97 Change (After-Before)	0	17	2 2	0	0	0	0	16 6	0	2 -2	0 -1	0	0	0	0	-1	1	<mark>8</mark> -5	0	0	1	2	0	6 0 4 0	0	0	0	17 4	1 -1	0 0	-	19	6 39477 5196
98 Before Signalization - Urban 98 After Signalization - Urban	0	9	1	0			0	5		2	0	1	0	0	1		0	6	1	0	1	1	0	1 0 4 0				8	1	1 0 0 0	0		3 11842 3 14083
98 Change (After-Before) 99 Before Signalization - Urban	0	-1 20	-1 1	0	1	0	0	4 16	0	-2 2	0 2	-1 0	0	0 0	-1 0	-1 0	1	-2 18	-1 0	0	-1 0	-1 0	0	3 0 1 1		0	0	0 19	0 0	-1 0 0 0	0	0	5 7315
99 After Signalization - Urban 99 Change (After-Before)	0	-12	1 0	0	0	0	0	-8	0	-2	-1	0	0	0	0	0	0	6 -12	0	0	0	0	0	<b>3 0</b> 2 -1	0	0	0	-10	0	0 0	0	-12	5 7602 287
100         Before Signalization - Urban           100         After Signalization - Urban		16	2	0	0	0		9	0	7	0		1	0	0	0	1	17	0	0	0	1	0	0 0		0		15 12		0 0	0	18	
100         After Signalization - Orban           100         Change (After-Before)           101         Before Signalization - Urban	0	0	-2	0	0	0	0	0	0	-3	2	0	1	0	0	0	-1	- <u>11</u> 1	1	1	0	-1	0	6 1	0	2	0	-3	3	0 0	0	-1	1734
101 After Signalization - Urban	0	2	0	0		0	0	2	0	0	0	0	0			0	0	2	0		0	0	0	0 0	0	0	0	1	1	0 0	0	2	5 11334
101         Change (After-Before)           102         Before Signalization - Rural           400         After Signalization - Rural	0	12	0	0	0	0	0	8	0		0	0	0		0		0	10	0		0	1	0	-1 0 1 0	0	0		11	0	0 0	0	12	1 6010
102         After Signalization - Rural           102         Change (After-Before)	0	11	1	0	0	1	0	9	0	6	0	0	0	0	0			3	0	0		1	0		0	1	0	11	1	0 0	0	17	1 7733 1723
103         Before Signalization - Urban           103         After Signalization - Urban	0	2	1	0	0	0	0	1	0	1	0	0	0	0	0		0	2	0	0	0	0	0	1 0 0 0	0	0		2	0	0 0	0	3	2 5591 2 6564
103         Change (After-Before)           104         Before Signalization - Urban	0	4	0	0	<b>0</b>	1		4	0		0	0 0		0	0	0	0		0 0		0	0		1 0	0	0	1	3	0 2	0 0	0		6 23100
104 After Signalization - Urban 104 Change (After-Before)	0	6	0	1	0	0	0	6	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0 -1	3 0		0	0		1	0 0	0		6 28502
105 Before Signalization - Urban 105 After Signalization - Urban	0	1			0	0		0	0	1	0	0	0	0	0	0	0		0	0	0	0		0 0	0	0	0	1	0		0	1	6 16525
105         Change (After-Before)           106         Before Signalization - Urban	0	0	1	0	0	0	0	2	0	-1	0	0	0	0	0		0	1	0 0	0	0	0	0	0 0 0 1	0	0		0	1	0 0	0	1	
106         After Signalization         Urban           106         Change (After-Before)         Image: Change (After-Before)	0	14	5	0	1	2		14		7	0	1	0	0	0	0	1	15		0	0		0		0	0	0	19		0 0	0		4 20141
107 Before Signalization - Rural 107 After Signalization - Rural	0	2	2	0	0		0	2	0	2		0	0		0		0	4	0	0		0	0	0 0	0	0		4	0	0 0	0	4	4 8150 4 8662
Anter Signalization - Rural	1	8		U	U	U	0	0	0		U	0	1	U	U	U	U	o	U	U	U		U	0 0	0	U	0	8	0	0 0	0	9	4 8002

RURAL INCREASED LOCATIONS         17         17         1         17         1         10         21         15         21         10         3         0         1         7         3         20         4         3         16         0         2         2         1         8         17         2         20         5         8           URBAN DECREASED LOCATIONS         16         22         4         26         4         22         14         21         19         20         9         2         3         32         6         9         12         5         12         13         3         7         2         18         18         15         21         15         19         17         16         10         10         20         9         2         3         32         6         9         12         5         12         13         3         7         2         18         18         15         21         15         19         17         16           URBAN INCHANGED LOCATIONS         8         10         80         27         7         26         4         30         67         28         68	1		ТГ			1				SEVERIT	Y		# C	of VEHIC	LES									CRASH	H TYPE								LIG	НТ		/EATHE	R		
	$\left[ \right]$							۷ŀ	,										5					rection)	e Dir)	Tum)													
100         Before Syntaction -Numl 2010         311.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         111.4         1	site #	notes	Highway	section from milepoint	to milepoint	from date	to date	Property Damage Or	Injury Crash	Fatal Crash	Injured	Killed	1 car	2 cars	3+ cars	On Road		Overturn	School Age Pedstria	Other Pedestrian	Broadside	Head On	Rear End	Sideswipe (Same Dii	Sideswipe (Opposite	Approach Turn (L <sub>eft</sub>	Overtaking Turn	Parked Vehicle	Bicycle	Wild Animal	Fixed Object	Daylight	Dawn or Dusk	Dark, Lighted	Dark, Unlighted	Good Weather	Rain	Snow, Sleet or Hail	Fog
108       Alter Syntactano - Num       200 C       311 A       11/17/198       12/207/00       5       4       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0      <					000.11																																		0
100         Change (Atter-Betory         27         Change (Atter-Betory         28         Change (Atter-Betory         Change (Atter-Betory)         28											6		0	5	0	5	0							0		0		0			0	4		1					0
100       Before Synchratem: Uben       287 [C       SSS       338.23       111.99       123.109       22       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0     <					-	1/1/1998	12/31/2000				8		1	7	1	8	1							1		2		1			1	6		3					0
100       Atter Synchration       Vite Area       Vite Area <td></td> <td></td> <td></td> <td></td> <td></td> <td>4/4/4004</td> <td>10/01/1000</td> <td></td> <td></td> <td>0</td> <td>2</td> <td></td> <td>_</td> <td>2</td> <td></td> <td>0</td>						4/4/4004	10/01/1000			0	2														_	2													0
100         Change (Alter-Bloor)         287 C         338 28         396.38         v         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0        0        0        0        <						1/1/1994			_	0	0		0		0	2	0				-	0	1		0	1			-	-	0	0		2					0
110       Before Signification - Unional 207 C       3299 11 (338)       151 (1799)       120       17       0       0       1       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <th< td=""><td></td><td></td><td></td><td></td><td>336.29</td><td>1/1/1999</td><td>12/31/2001</td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td>1</td><td>-11</td><td>1</td><td></td><td>•</td><td>-</td><td></td><td>1</td><td></td><td>-</td><td>0</td><td>2</td><td></td><td>-</td><td></td><td></td><td>1</td><td>11</td><td>v</td><td>1</td><td></td><td></td><td></td><td></td><td>0</td></th<>					336.29	1/1/1999	12/31/2001						1		1	-11	1		•	-		1		-	0	2		-			1	11	v	1					0
110       Atter Synalization - Urban 227 C       339 113       310 1       Mar Synalization - Urban 227 C       339 113       310 0       10       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0					330.29	1/1/1004	12/21/1006			0		0		-	0	-	2	1		-		0		-	-	1							0						0
111       Change AlleseBetteris       227       Cl 333 11 330.15       287       Cl 333 11 320.15       Change AlleseBetteris       247       Cl 333 11 320.15       Change AlleseBetteris       247       Cl 333 11 320.15       Change AlleseBetteris       247       Cl 342.51       AlleseBetteris	-				1 330 15				_	0		0			3		2	0						1		5			-		2		2	6			3		1
111       Before Signalization - Ubma (271 G) 242.5 [] 242.5 [] 1/1199 (123/1192 22       7       0       13       0       1       2       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0<			_		1 339 15	1/1/1355	12/31/2001			0		0	-		3		0	-1		0	v			1		4			•		0		2	6			3	•	1
111       Atter Signification - Urban       287       342:51       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       342:55       343:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55       34:55 <td></td> <td></td> <td></td> <td></td> <td>342.55</td> <td>1/1/1990</td> <td>12/31/1992</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td>					342.55	1/1/1990	12/31/1992			0			-		-									1	-								1						0
1112       Detroe Supalization - Uban       287 C       342.81       1/1190       1/12       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0      0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td><td></td><td>3</td><td></td><td>6</td><td></td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td>4</td><td></td><td></td><td>_</td><td></td><td>-</td><td></td><td>3</td><td>-</td><td>5</td><td></td><td></td><td></td><td>2</td><td></td><td>0</td></th<>										0			3		6		3							4			_		-		3	-	5				2		0
1112       Detroe Supalization - Uban       287 C       342.81       1/1190       1/12       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0      0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <th< td=""><td>111</td><td>Change (After-Before)</td><td>287 0</td><td>342.51</td><td>342.55</td><td></td><td></td><td>18</td><td>10</td><td>0</td><td>22</td><td>0</td><td>2</td><td>22</td><td>4</td><td>27</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>6</td><td>3</td><td>0</td><td>16</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>14</td><td>4</td><td>9</td><td>0</td><td>28</td><td>-1</td><td>0</td><td>0</td></th<>	111	Change (After-Before)	287 0	342.51	342.55			18	10	0	22	0	2	22	4	27	1	0	0	0	1	0	6	3	0	16	1	0	0	0	1	14	4	9	0	28	-1	0	0
112       Change (Mare-Bedron)       282       G 42.79       34.283       35       5       0       0       -2       39       3       41       -1       0       0       2       0       77       3       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 </td <td>112</td> <td>Before Signalization - Urban</td> <td>287 0</td> <td>C 342.79</td> <td>342.83</td> <td>1/1/1990</td> <td>12/31/1992</td> <td>11</td> <td>10</td> <td>0</td> <td>25</td> <td>0</td> <td>2</td> <td>13</td> <td>6</td> <td>20</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>7</td> <td>0</td> <td>5</td> <td>0</td> <td>0</td> <td>7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>19</td> <td>0</td> <td>2</td> <td>0</td> <td>19</td> <td>0</td> <td>1</td> <td>0</td>	112	Before Signalization - Urban	287 0	C 342.79	342.83	1/1/1990	12/31/1992	11	10	0	25	0	2	13	6	20	1	0	0	0	7	0	5	0	0	7	0	0	0	0	2	19	0	2	0	19	0	1	0
Dota         Dota         Construction         Construction <th< td=""><td>112</td><td>After Signalization - Urban</td><td>287 0</td><td>342.79</td><td>342.83</td><td>1/1/1995</td><td>12/31/1997</td><td>46</td><td>15</td><td>0</td><td>26</td><td>0</td><td>0</td><td>52</td><td>9</td><td>61</td><td>0</td><td>0</td><td>0</td><td>0</td><td>9</td><td>0</td><td>22</td><td>3</td><td>0</td><td>27</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>52</td><td>3</td><td>6</td><td>0</td><td>54</td><td>4</td><td>1</td><td>0</td></th<>	112	After Signalization - Urban	287 0	342.79	342.83	1/1/1995	12/31/1997	46	15	0	26	0	0	52	9	61	0	0	0	0	9	0	22	3	0	27	0	0	0	0	0	52	3	6	0	54	4	1	0
Total Ahrer	112	Change (After-Before)	287 0	342.79	342.83	1		35	5	0	1	0	-2	39	3	41	-1	0	0	0	2	0	17	3	0	20	0	0	0	0	-2	33	3	4	0	35	4	0	0
Total change         ST         245         4         340         4         4         1         510         72%         113         153         55         400         100         497         266         7         268         7         458         25%         55%         65%         55%         65%         55%         65%         75%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         15%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%         10%								662	373	8	651	8	82	871	87	985	58	13	4	4		9	302		9	179	22	6	13	5		813	39	144	45	916	42	68	4
% Change (mean)         81%         66%         50%         50%         50%         75%         15%         52%         11%         155%         52%         11%         155%         52%         11%         155%         52%         11%         155%         52%         15%         15%         20%         15%         22%         11%         155%         52%         15%         15%         22%         11%         155%         52%         15%         15%         12%         00%         7%         15%         20%         15%         12%         12%         10%         7%         15%         22%         11%         155%         22%         11%         155%         22%         11%         155%         22%         11%         15%         12%         0.05         12%         0.05         12%         0.05         12%         0.05         12%         0.05         12%         0.05         12%         0.05         12%         0.06         12%         0.06         12%         0.06         12%         0.06         12%         0.06         12%         0.06         12%         0.06         12%         0.06         12%         0.06         0.06         0.06         0.06		Total After						1199	618	4	991	4	123	1502	189	1722	89	14	1	9	291	19	799		16	447		10	11	6	83	1359	70	289	42	1534	84	113	7
Mean After         Set         Set         O.07         5.81         O.07         5.81         O.07         5.81         O.07         5.81         O.07         5.81         O.07         5.81         O.07         S.81         O.03         O.04         O.17         T.3         O.62         O.18         O.08         O.07         O.13         O.08         C.10         O.17         T.3         O.62         O.14         O.05         O.17         O.13         O.08         C.14         O.09         O.14         O.02         O.01         O.27         V.83         O.83         O.84         <								537	245	-4	340	-4	41	631	102	737	31	1	-3	5	-80	10	497	26	7	268		4	-2	1		546	31	145	-3	618	42	45	3
Mean After         International and anticological anticological and anticological anticological and anticological and anticological and anticological and anticological anticological and anticological anticolog															117%																								75%
Mean Change (After-Betrop)         4.79         2.19         -0.04         3.04         -0.01         0.27         6.68         0.28         0.29         -0.11         0.04         -0.20         0.01         -0.27         4.88         0.28         1.29         -0.03         5.62         0.04         -0.71         0.09         4.24         0.06         1.29         -0.11         0.04         -0.21         0.06         1.29         0.05         5.78         0.30         5.62         0.30         6.58         0.28         0.29         0.11         0.04         0.02         0.01         0.27         4.88         0.28         1.29         0.03         5.62         0.30         6.58         0.28         0.14         0.56         0.29         0.14         0.56         0.28         0.57         0.58         0.28         0.58         0.28         0.58         0.28         0.58         0.28         0.58         0.28         0.58         0.28         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58         0.58																																							0.04
% of all before accidents       0       63.5%       35.9%       0.8%       -       7.9%       83.5%       8.3%       94.4%       5.6%       1.2%       0.4%       35.6%       0.9%       20.5%       1.2%       0.9%       1.2%       0.9%       1.2%       0.9%       1.2%       0.9%       1.2%       0.9%       1.2%       0.9%       1.2%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.9%       0.11       0.51       0.16       0.16       0.01       0.08       0.99       0.83       0.53       0.37       1.23       8.36       1.11       2.75       0.48       0.32       0.99       0.83       0.49       0.66       0.99       1.05       0.20       0.99       0.83       0.51       0.11       0.51       0.16       0.16																																							0.06
% of all after accidents         %         65.8%         33.9%         0.2%         6.8%         82.5%         10.4%         94.6%         4.9%         0.5%         1.0%         1.0%         3.8%         0.9%         24.5%         0.5%         0.6%         0.3%         4.6%         74.6%         3.8%         15.9%         2.3%         84.2%         4.6%         6.2%            Standard Deviation of Change         8.50         4.39         0.35         7.81         0.35         7.17         9.48         2.14         10.93         1.25         0.49         0.66         1.09         0.47         4.20         0.49         0.38         0.37         1.23         8.36         1.11         2.75         0.66         9.96         1.25         0.49         0.66         0.09         1.05         0.09         0.03         0.60         0.65         1.09         0.47         0.20         0.99         0.35         0.10         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00 <td< td=""><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3.04</td><td>-0.04</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.03</td></td<>			1								3.04	-0.04																											0.03
Image: Normal base in the standard Deviation of Change         8.50         4.39         0.35         7.17         9.48         2.14         10.93         1.25         0.49         0.66         1.09         0.47         4.20         0.49         0.66         1.09         0.47         4.20         0.49         0.66         1.09         0.47         4.20         0.49         0.66         1.09         0.47         4.20         0.49         0.66         1.09         0.47         4.20         0.49         0.66         0.99         0.78         0.09         0.07         0.12         0.56         0.99         0.20         0.23         0.33         0.49         0.66         0.99         0.66         0.99         0.78         0.99         0.07         0.20         0.11         0.78         0.96         0.11         0.00         0.11         0.09         0.78         0.99         0.30         0.06         0.01         0.09         0.78         0.09         0.07         0.20         0.11         0.07         0.23         0.06         0.01         0.00         0.30         0.03         0.03         0.03         0.02         0.12         0.06         0.01         0.03         0.03         0.03         0.03															0.070																								0.4%
99% Conf Radius (Change)         1.57         0.81         0.07         1.46         0.07         0.32         1.76         0.40         2.02         2.3         0.09         0.05         0.66         0.99         1.05         0.09         0.07         0.10         0.07         0.16         1.65         0.08         0.06         0.65         0.09         0.07         0.16         0.07         0.16         1.65         0.01         0.07         0.15         3.17         0.02         0.16         0.05         0.06         0.66         0.09         0.07         0.16         0.08         0.06         0.06         0.07         0.15         3.17         0.02         0.11         0.08         0.06         0.66         0.07         0.16         0.08         0.06         0.66         0.07         0.16         0.02         0.09         0.07         0.01         0.07         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.		% of all after accidents						65.8%	33.9%	0.2%		ļ	6.8%	82.5%	10.4%	94.6%	4.9%	0.8%	0.1%	0.5%	16.0%	1.0%	43.9%	3.8%	0.9%	24.5%	0.5%	0.5%	0.6%	0.3%	4.6%	74.6%	3.8%	15.9%	2.3%	84.2%	4.6%	6.2%	0.4%
99% Conf Radius (Change)         1.57         0.81         0.07         1.46         0.07         0.32         1.76         0.40         2.02         2.3         0.09         0.05         0.66         0.99         1.05         0.09         0.07         0.10         0.07         0.16         1.65         0.08         0.06         0.65         0.09         0.07         0.16         0.07         0.16         1.65         0.01         0.07         0.15         3.17         0.02         0.16         0.05         0.06         0.66         0.09         0.07         0.16         0.08         0.06         0.06         0.07         0.15         3.17         0.02         0.11         0.08         0.06         0.66         0.07         0.16         0.08         0.06         0.66         0.07         0.16         0.02         0.09         0.07         0.01         0.07         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.				Stondord	Deviatio	n of Chong		9 50	4.20	0.25	7.01	0.25	1 74	0.49	2.14	10.02	1.05	0.40	0.16	0.24	2.40	0.40	E 66	1.00	0.47	4.20	0.40	0.20	0.52	0.27	1.00	0.26	4.44	0.75	0.96	0.06	1.04	1.40	0.00
95% Conf Interval Upper (Change)       6.37       3.00       0.03       4.48       0.03       0.60       7.39       1.31       8.61       0.51       0.10       0.00       0.10       0.07       0.18       5.49       0.43       0.15       3.17       0.02       0.11       0.08       0.08       0.06       6.42       0.48       1.80       0.13       7.36       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60       0.60 <td></td> <td>0.28</td>																																							0.28
95% Confidence % Change Upper         3.22         3.2         0.10         1.59         0.01         3.88         0.02         0.08         3.00         1.36         0.00         0.33         0.03         0.01         1.62         0.00         0.33         0.00         0.01         1.62         0.00         0.01         1.03         0.01         0.03         0.01         1.62         0.00         0.01         0.18         0.00         0.03         0.01         0.02         0.01         0.01         0.01         0.01         0.03         0.01         0.02         0.01         0.01         0.01         0.01         0.03         0.01         0.02         0.01         0.01         0.03         0.01         0.02         0.01         0.01         0.03         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.03         0.01         0.02         0.01         0.01         0.03         0.01         0.01         0.01         0.01         0.03         0.01         0.01         0.01         0.03         0.01         0.02         0.01         0.01         0.03         0.01         0.01         0.01         0.01         0.03         0.01         0.01         <							/			0.07		0.07						0.03	0.03	0.00					0.03	2.17		0.07	0.10	0.07					0.10			0.20	0.03
95% Confidence % Change Upper       107.7%       90.1%       41.2%       77.1%       41.2%       93.9%       95.0%       168.2%       97.8%       98.7%       28.5%       224.5%       203.5%       113.2%       195.7%       198.4%       45.5%       198.7%       60.9%       171.8%       104.8%       85.5%       138.6%       140.3%       33.0%       90.0%       161.2%       102.0%       124.5%       203.5%       113.2%       195.7%       198.4%       45.5%       198.7%       60.9%       171.8%       104.3%       88.5%       103.0%       90.0%       161.2%       102.0%       122.45%       203.5%       113.2%       195.7%       198.4%       45.5%       198.7%       60.9%       171.8%       104.3%       88.5%       103.0%       88.6%       70.0%       122.45%       203.5%       113.2%       195.7%       198.4%       45.5%       198.7%       63.4%       49.4%       63.4%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       88.5%       101.1%       101.1	-									-0.10		-0.10						-0.08	-0.06	-0.01					-0.02	1.62		-0.03	-0.12	-0.06					-0.13		0.00	0.00	-0.03
95% Confidence % Change Lower       54.5%       41.3%       ######       27.3%       ######       64.7%       8.8%       70.6%       ######       35.9%       -41.1%       -2.3%       12.57%       7.7%       30.2%       101.1%       ######       ######       ######       46.3%       49.9%       38.8%       23.3%         RURAL DECREASED LOCATIONS       6       3       2       4       2       6       4       3       5       5       0       1       0       4       6       2       1       7       0       2       3       5       5       4       0       3       0       0       1       0       4       6       2       1       7       0       2       3       5       5       0       1       0       1       0       2       3       5       5       4       2       9       1       12       24       26       9       24       3       16       0       2       3       15       8       16       1       10       11       0       4       6       2       1       7       0       2       3       16       12       15       16       1		95%					lige)			41.2%		41.2%			168.2%								203.5%		185.7%								138.6%				161.2%	109.0%	221.3%
RURAL DECREASED LOCATIONS         6         3         2         4         2         6         4         3         5         5         0         1         0         4         2         1         2         0         1         0         4         2         6         4         3         5         5         0         1         0         4         6         2         1         7         0         2         3         5         5         0         1         0         4         6         2         1         7         0         2         3         5         5         4         2         9         6         3         0         11         0         4         6         2         1         7         0         2         3         5         5         4         2         9         6         3         0         1         0         4         3         17         2         10         11         12         24         26         10         11         0         21         13         17         2         13         16         0         2         2         1         13         17         2															66.3%	0							125.7%										20.4%			00.070	38.8%	23.3%	-71.3%
RURAL UNCHANGED LOCATIONS       4       7       24       6       24       11       2       9       1       12       24       26       9       24       3       17       22       10       20       25       23       13       14       5       15       8       16       1       10       11       12       24       26       9       24       3       10       20       25       23       13       14       5       15       8       16       1       10       11       10       21       15       21       10       3       0       17       22       10       20       25       23       23       14       5       15       8       16       1       20       13       3       16       0       2       15       8       17       20       5       3       20       4       3       16       0       2       2       18       16       15       15       8       17       10       17       10       13       3       7       2       18       16       11       10       10       10       16       11       10       10       11	-	007	00011110	101100 70	onungo i	201101		0 1.0 /0	11.070		21.070		0.170	10.070	00.070	01.070	0.070	10.070		00.070		2.070	120.17		00.270	1011170		00.170			0.170	10.070	20.170	011170	10.070	11.070	00.070	20.070	11.070
RURAL UNCHANGED LOCATIONS       4       7       24       6       24       11       2       9       1       12       24       26       9       24       3       17       22       10       20       25       23       14       5       15       8       16       1       10       10       12       24       26       9       24       3       17       22       10       20       25       23       14       5       15       8       16       1       10       10       11       10       12       12       10       3       0       17       23       10       23       12       10       3       0       17       3       20       4       3       16       0       2       15       8       17       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10			RURA	L DECR	EASED	LOCATIO	NS	6	3	2	4	2	6	4	3	5	5	0	1	0	11	0	4	6	2	1	7	0	2	3	5	5	4	2	9	6	3	0	0
RURAL INCREASED LOCATIONS       17       17       1       17       1       10       21       15       21       10       3       0       1       7       3       20       4       3       16       0       2       2       1       8       17       2       20       5       8         URBAN DECREASED LOCATIONS       16       22       4       26       4       22       14       21       19       20       9       2       3       32       6       9       12       5       12       13       3       7       2       18       18       15       21       15       14       14       21       19       20       9       2       3       32       6       9       12       5       12       13       3       7       2       18       18       15       21       15       19       17       16       17       16       17       16       17       17       16       17       12       13       3       7       2       18       18       15       21       15       19       16       12       12       12       12       13       17										24	6		11	2	9	1	12	24	26				3	17		10	20	25	23	23	14	5	15		16		19	19	26
URBAN DECREASED LOCATIONS         16         22         4         26         4         22         14         21         19         20         9         2         3         32         6         9         12         5         12         13         3         7         2         18         18         15         21         15         19         41           URBAN UNCHANGED LOCATIONS         8         10         80         9         7         26         4         30         67         83         9         42         71         12         13         3         7         2         18         18         15         21         15         14         41           URBAN INCREASED LOCATIONS         8         10         80         27         7         26         4         30         67         83         76         28         68         9         42         71         24         64         77         71         80         7         22         17         52         8         34         41           URBAN INCREASED LOCATIONS         61         53         1         50         64         86         25         9         4									17	1			10		15	21																	-			20			1
URBAN INCREASED LOCATIONS 61 53 1 50 1 36 64 38 62 35 9 0 6 25 11 67 31 9 49 8 5 7 3 31 60 48 47 18 58 34 28			URBA	N DECR	EASED	LOCATIO	NS	16		4		4	22					9	2	3	32	6			5	12	13	3	7	2	18	18	15	21	15	19	17	16	3
			URBA	N UNCH	ANGED	LOCATIO	NS	8	10	80	9	80	27	7	26	4	30	67	83	76	28	68	9	42	71	24	64	77	71	80	36	7	22	17	52	8	34	41	77
			URBA	N INCRE	EASED L	OCATION	IS	61	53	1	50	1	36	64	38		35	9	0	6	25	11	67	31	9	49	8	5	7	3		60	48	47	18	58	34	28	5
			TOTA	L DECRI	EASED L	OCATION	NS .	22	25	6	30	6	28	18	24	24	25	9	3	3	43	6	13	18	7	13	20	3	9	5	23	23	19	23	24	25	20	16	3
TOTAL UNCHANGED LOCATIONS 12 17 104 15 104 38 9 35 5 42 91 109 102 37 92 12 59 93 34 84 102 94 103 50 12 37 25 68 9 53 60	-		TOTA	L UNCH/	ANGED L	OCATION	IS	12	17	104	15	104	38	9	35	5	42	91	109	102	37	92	12	59	93	34	84	102	94	103	50	12	37	25	68	9	53	60	103
TOTAL INCREASED LOCATIONS 78 70 2 67 2 46 85 53 83 45 12 0 7 32 14 87 35 12 65 8 7 9 4 39 77 56 64 20 78 39 36	_						-													•									-										6
Locations Increased less locs. Decreased 56 45 -4 37 -4 18 67 29 59 20 3 -3 4 -11 8 74 17 5 52 -12 4 0 -1 16 54 37 41 -4 53 19 20			Locati	ons Incre	eased les	s locs. De	creased	56	45	-4	37	-4	18	67	29	59	20	3	-3	4	-11	8	74	17	5	52	-12	4	0	-1	16	54	37	41	-4	53	19	20	3

				F	ROAD CO	ONDITIO	N					AT F	AULT V	HICLE	TYPE								HUM	AN FACT	ORS					DRIVE	R IMPAII	RMENT					
site #	notes	Wind	Dry	Wet	Muddy	Snowy	lcy	Slushy	Passenger Car or Van	Car or Van w/Trailer	Pickup/Utility Van	Pickup/Utility Van W/Trailer	Truck, U10,000#	Heavy Truck or Bus (15+bax	Motorhome	Motorcy cle	Bicycle	Hit and Run (Unkown)	None Apparent	Asleep	Illness	Distracted by Passenger	lnex perience	Fatigue	Preoccupied	Unfamiliar w/ Area	Emotional Upset	Evading Law Enforcement	Physical Disability	Unimpaired	Alcohol	RX Drugs/Meds	lllegal Drugs	Alcohol and Drugs	Total Crashes	CDOT Region	aadt
107	Change (After-Before)	1	6	-1	0	0	0	0	4	0	-1	0	0	1	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	4	0	0		0	5		512
108	Before Signalization - Rural	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	1	0	0	0	0	5	0	0	0	0	5	4	11643
108	After Signalization - Rural	0	9	0	0	0	0	0	4	0	4	0	0	1	0	0	0	0	4	1	0	0	1	0	3	0	0	0	0	6	3	0	0	0	9	4	19579
108	Change (After-Before)	0	4	0	0	0	0	0	-1	0	4	0	0	1	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	1		0		0			7936
109	Before Signalization - Urban After Signalization - Urban	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	4	25629 29029
109	After Signalization - Urban Change (After-Before)	0	11 9	0	1	0	0	0	8	0	2	0	0	0	0	0	0	0	8 6	0	1	0	0	0	1	0	0	0	0	8	0	0		-1		4	29029 3400
110	Before Signalization - Urban	0	13	0	0	0	0	0	9	0	2	0	0	0	0	1	0	0	7	0	0	1	0	0	3	0	0	1	0	11	1	0	0	-1	10	4	26981
110	After Signalization - Urban	3	26	3	1	1	2	1	23	0	10	0	1	2	0	0	0	0	22	0	0	1	5	0	7	0	0	0	0	34	5	0	0	0	39	4	26387
110	Change (After-Before)	3	13	3	1	1	2	1	14	0	8	0	1	2	0	-1	0	0	15	0	0	0	5	0	4	0	0	-1	0	23	4	0	v	0	26	<u>⊢</u>	-594
111	Before Signalization - Urban	0	20	5	0	1	3	0	26	0	2	0	0	0	0	0	0	1	15	0	1	0	4	0	4	2	1	0	0	27	2	0	0	0	29	4	34740
111	After Signalization - Urban	0	45	8	0	1	2	Ő	43	0	6	0	Ő	1	Ő	Ő	Ő	3	36	0	0	Ő	2	0	2	õ	0	Ő	1	40	0	Ő	Ő	0	57	4	37128
111	Change (After-Before)	0	25	3	0	0	-1		17	0	4	0	0	1	0	0	0	2	21	0	-1	0	-2	0	-2	-2	-1	0	1	13	-2	0	0	0	28		2388
112	Before Signalization - Urban	1	17	2	0	0	1	1	19	0	1	0	0	1	0	0	0	0	18	1	0	0	0	0	2	0	0	0	0	19	2	0	0	0	21	4	37275
112	After Signalization - Urban	2	54	5	0	2	0	0	51	0	6	0	0	1	0	0	0	1	37	0	0	2	3	0	4	1	0	0	0	48	1	0	0	0	61	4	43837
112	Change (After-Before)	1	37	3	0	2	-1	-1	32	0	5	0	0	0	0	0	0	1	19	-1	0	2	3	0	2	1	0	0	0	29	-1	0	0	0	40		6562
	Total Before	12	861	97	0	33	39	6	754	3	183	12	12	23	3	6	7	24	713	9	1	15	52	10	138	32	4	10	8	858	62	48	4	5	1043		1816640
	Total After	18	1435	165	7	50	56	9	1228	7	351	17	23	59	0	5	7	54	1118	8	4	18	110	7	267	42	3	8	7	1473	87	1	4	3	1821		2167255
	Total change	6	574	68	7	17	17	3	474	4	168	5	11	36	-3	-1	0	30	405	-1	3	3	58	-3	129	10	-1	-2	-1	615	25	-47	0	-2	778		350615
		50%	67%	70%	#DIV/0!	52%	44%	50%	63%	133%	92%	42%	92%	157%	-100%	-17%		125%	57%	-11%	300%	20%	112%	-30%	93%	31%	-25%	-20%	-13%	72%	40%	-98%	0%	-40%	75%		19.30%
	Mean Before	0.11	7.69	0.87	0.00	0.29	0.35	0.05	6.73	0.03	1.63	0.11	0.11	0.21	0.03	0.05	0.06	0.21	6.37	0.08	0.01	0.13	0.46	0.09	1.23	0.29	0.04	0.09	0.07	7.66	0.55	0.43		0.04	9.31		16220
	Mean After	0.16	12.81	1.47	0.06	0.45	0.50	0.08	10.96	0.06	3.13	0.15	0.21	0.53	0.00	0.04	0.06	0.48	9.98	0.07	0.04	0.16	0.98	0.06	2.38	0.38	0.03	0.07	0.06	13.15		0.01	0.04	0.03	16.26		19350
		0.05	5.13	0.61	0.06	0.15	0.15	0.03	4.23	0.04	1.50	0.04	0.10	0.32	-0.03	-0.01		0.27	3.62	-0.01	0.03	0.03	0.52	-0.03	1.15	0.09	-0.01	-0.02	-0.01	5.49	0.22	-0.42		-0.02	6.95		3130
	% of all before accidents		82.6%	9.3%	0.0%	3.2%		0.6%	72.3%	0.3%	17.5%	1.2%	1.2%	2.2%	0.3%	0.6%		2.3%		0.9%	0.1%		5.0%	1.0%	13.2%		0.4%		0.8%	82.3%	5.9%	4.6%		0.5%	100.0%		
	% of all after accidents	1.0%	78.8%	9.1%	0.4%	2.7%	3.1%	0.5%	67.4%	0.4%	19.3%	0.9%	1.3%	3.2%	0.0%	0.3%	0.4%	3.0%	61.4%	0.4%	0.2%	1.0%	6.0%	0.4%	14.7%	2.3%	0.2%	0.4%	0.4%	80.9%	4.8%	0.1%	0.2%	0.2%	100.0%	4	
		0.50	0.47	4.07	0.04	0.00	0.05	0.04			0.50	0.40	0.07		0.40	0.00	0.05	0.05	0.00		0.04	0.50	1.00	0.00	0.05	0.04	0.04	0.00	0.45	0.40	1.10	4.00	0.00		44.00	+	$\vdash$
$\vdash$		0.58	9.47	1.67	0.24		0.95	0.34	8.44	0.30	2.53	0.49	0.67	1.17	0.16	0.28		0.65	8.00	0.34	0.21		1.28	0.36	3.05	0.81		0.63	0.45	9.48	1.13			0.30	11.32	┢──┥	$\vdash$
$\vdash$		0.11	1.75	0.31	0.04	0.15	0.18	0.06	1.56	0.05	0.47	0.09	0.12	0.22	0.03	0.05	0.07	0.12	1.48	0.06	0.04	0.10	0.24	0.07	0.56	0.15	0.04	0.12	0.08	1.76	0.21	0.31	0.06	0.06	2.10	┝──┤	<u> </u>
$\vdash$		0.16	6.88 3.37	0.92	0.11	0.30	-0.02	-0.09	5.79 2.67	-0.02	1.97	-0.05	-0.03	0.54	0.00	0.04 -0.06	0.07	0.39	5.10 2.13	0.05	0.07	0.12	0.76	-0.09	1.72 0.59	0.24	0.03	-0.13	-0.09	7.25	0.43	-0.11 -0.73	0.06	0.04	9.04 4.85	┝──┤	<u> </u>
	95%	150.3%	3.37	105.8%	6 #DIV/0!	102.1%	-0.02 6 94.0%	167.4%	86.1%	338.5%	120.5%	126.2%		261.7%	11.6%	81.3%		181.6%	2.13	67.4%	734.7%		162.7%	45.7%	139.3%		-0.05 84.5%		105.0%	3.74 94.6%	78.2%	-0.73		83.7%	97.1%	┼──┼	<u> </u>
$\vdash$		-50.3%	43.9%	34.4%			-6.8%	-67.4%		-71.8%	63.1%		-23.7%	51.3%			######		33.5%	-89.6%		-52.7%			47.7%		#######			48.8%	2.5%		#######	######		+ +	
	3076	00.070	10.070	01.470			0.070	01.470	00.170		00.170	12.070	20.170	01.070				00.470	00.070	00.070		02.170	00.470			2111/0				10.070	2.070				02.170	++	<u> </u>
		0	5	4	0	4	2	0	6	0	6	1	3	1	2	0	1	0	6	1	0	1	5	2	5	3	0	0	0	4	2	0	0	3	5	<u> </u>	<u> </u>
		24	3	14	26	19	16	25	3	26	6	25	20	19	25	26	25	22	3	24	26	23	11	22	7	16	27	26	26	5	18	27		23	1	$\vdash$	
		3	19	9	1	4	9	2	18	1	15	1	4	7	0	1	1	5	18	2	1	3	11	3	15	8	0	1	1	18	7	0	2	1	21	$\square$	
	t i i i i i i i i i i i i i i i i i i i	10	19	15	0	11	14	5	22	3	17	6	7	6	1	5	4	7	22	6	1	9	13	7	19	13	3	5	5	20	21	13	3	2	19		
		64	58	32	79	56	55	74	8	76	15	69	67	56	84	77	76	52	10	75	81	67	36	75	22	57	80	75	74	4	30	71	80	82	4		
		11	8	38	6	18	16	6	55	6	53	10	11	23	0	3	5	26	53	4	3	9	36	3	44	15	2	5	6	61	34	1	2	1	62		
		10	24	19	0	15	16	5	28	3	23	7	10	7	3	5	5	7	28	7	1	10	18	9	24	16	3	5	5	24	23	13	3	5	24		
		88	61	46	105	75		99	11	102	21	94	87	75	109	103	101		13	99	107	90	47	97	29	73	107		100	9	48	98		105	5		
		14	27	47	7	22	25	8	73	7	68	11	15	30	0	4	6	31	71	6	4	12	47	6	59	23	2	6	7	79	41	1	4	2	83		
		4	3	28	7	7	9	3	45	4	45	4	5	23	-3	-1	1	24	43	-1	3	2	29	-3	35	7	-1	1	2	55	18	-12	1	-3	59		

