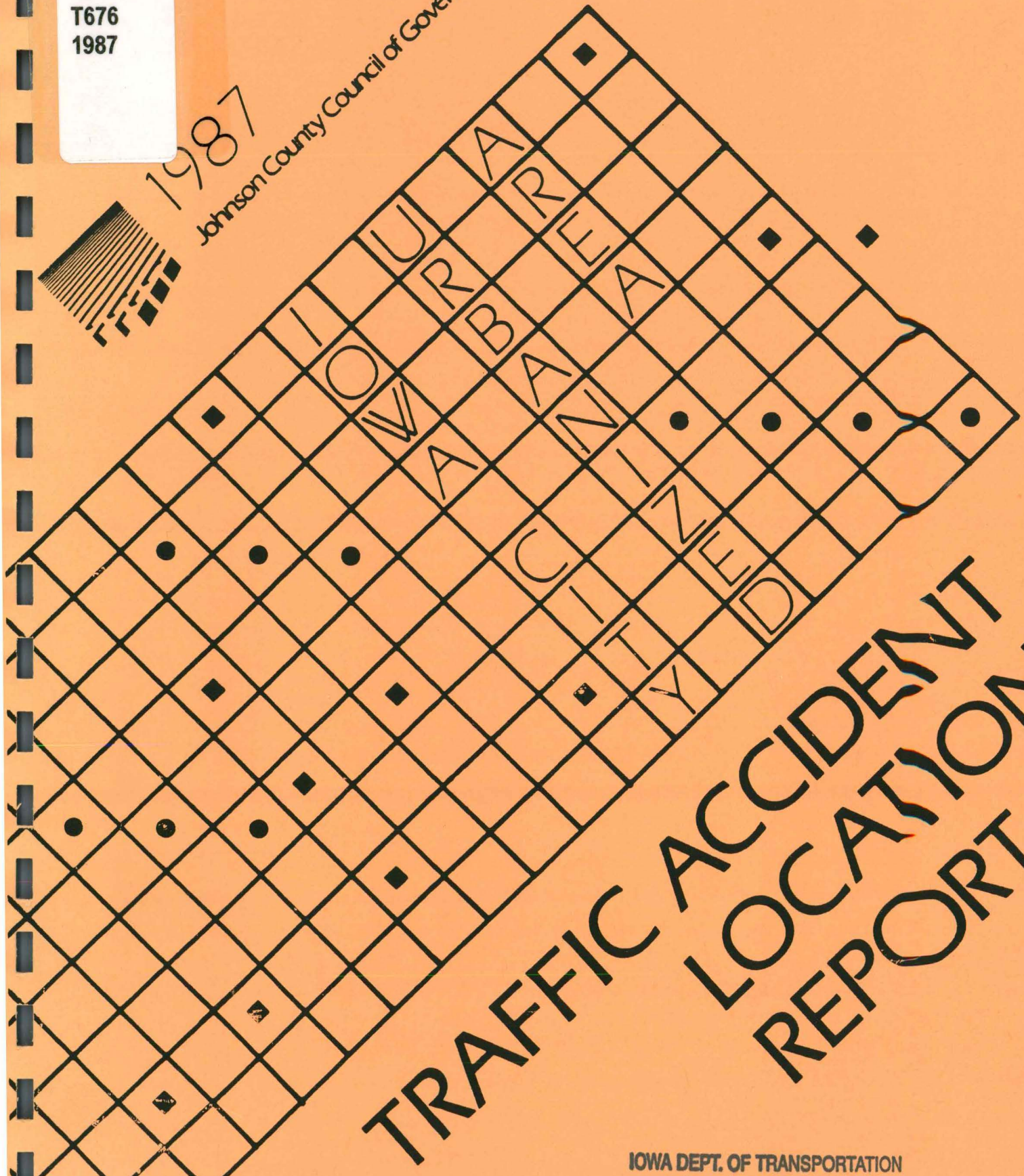
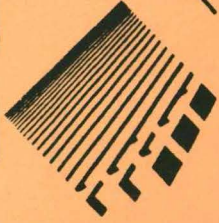


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TRAFFIC ACCIDENT LOCATION REPORT

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Traffic Accident Location Report
for the Iowa City Urbanized Area

December 1987

The Johnson County Council of Governments
Transportation Planning Division

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THIS REPORT DOES NOT CONSTITUTE A STANDARD, SPECIFICATION OR REGULATION

TABLE OF CONTENTS

Introduction..... 1
Evaluation Procedure..... 2
Individual Analysis..... 8
Potential Improvements.....24

INTRODUCTION

Introduction

Traffic accident reduction may be accomplished through several means. One of these is an increased awareness of high accident locations. The following report has been compiled using data from the Iowa Department of Transportation Accident Location Analysis System (ALAS), and identifies the highest accident locations in the Iowa City Urbanized area in 1986. The report is organized as follows:

1. Description of the evaluation process.
2. Identification of the 1986 high accident locations.
3. Analysis of the 15 highest accident locations.
4. Identification of potential improvements for accident reduction.

For the Iowa City locations identified in this report, the ALAS data was checked against the traffic accident data compiled by the City of Iowa City Traffic Engineering Division. There were slight differences in the data, most likely due to keypunch or data processing error. One intersection, Gilbert Street and Highway 6 Bypass, did not appear in the ALAS data. This intersection did appear in the Traffic Engineering Division's accident data, therefore it was included in this report because its ranking put it within the top ten intersection locations in the Urbanized Area.

It is hoped that this report will assist JCCOG member agencies in programming improvements which lead to a reduction in the number of traffic accidents.

EVALUATION PROCEDURE

Evaluation Procedure

The first step in the accident identification process was to generate information on the accident history of all intersections and mid-block locations in the Iowa City Urbanized Area. The Iowa City Urbanized Area as defined by the U.S. Census consists of the contiguous city limits of Iowa City, Coralville and University Heights. All locations with five or more accidents during 1986 were recorded. This resulted in the accident record for 48 intersections and 22 mid-block locations within Iowa City and Coralville. No locations in University Heights met the threshold of five or more accidents.

The data was further synthesized by obtaining information detailing each accident. This data was then evaluated using a three step evaluation process in order to identify the leading accident locations in 1986:

- a. Total number of accidents. A listing of the total number of traffic accidents that occurred in the subject year (1986).
- b. Accident severity. Accidents were categorized according to three types: property damage only, non-fatal, and fatal personal injury. These types of accidents were assigned weighted numerical values of 1, 3 and 12, respectively, then added to give each location a total severity figure for the subject year.
- c. Accident rate. The segment of the methodology which examined the potential hazard of each location is the accident rate. Accident rates are significant in measuring accident experience, since they relate accident frequency to traffic exposure. Accident rates are expressed in terms of accidents per million entering vehicles (MEV) for intersections, and accidents per million vehicle miles (MVM) for roadway mid-block segments. The use of accident rates provides a common denominator for comparison of accident experience between different locations. The intersection accident rate formula is as follows:

$$\frac{2 (\# \text{ accidents}) (1 \times 10^6)}{(\# \text{ of days}) (\text{total ADT entering and leaving int.})}$$

The accident rate formula for roadway mid-block segments is as follows:

$$\frac{(\# \text{ accidents}) (1 \times 10^8)}{(\# \text{ of days}) (\text{ADT}) (\text{segment length in mi.})}$$

Comparing intersection accident rates to mid-block accident rates is difficult since the intersection accident rate is based on number of entering vehicles, and the mid-block accident rate is based on number of vehicle miles. Therefore, the intersection with the highest accident rate received the same score for this criterion as the highest segment, the second highest intersection rate was given the same value as the second highest mid-block rate, etc.

Points were designated for the three criteria (see Table 1) and the locations were ranked according to total points awarded. Tables 2 and 3 list the ten highest accident intersections and five highest accident mid-block locations in the Iowa City Urbanized Area.

These 15 locations represent a total of 225 traffic accidents which occurred in 1986, an increase of 5.7% over 1985. Of the 15 locations, 9 are in Iowa City and 6 are in Coralville.

Figure 1 identifies each of the 15 accident locations in the Urbanized Area.

Table 1
Evaluation Points Awarded to Intersections
During Accident Analysis

<u>Accident Number</u>		<u>Accident Severity</u>		<u>Accident Rate*</u>	
<u>Accidents</u>	<u>Points</u>	<u>Severity</u>	<u>Points</u>	<u>Rate (MEV)</u>	<u>Points</u>
> 29	15	> 56	15	> 3.50	15
27 - 28	14	53 - 56	14	3.26 - 3.49	14
25 - 26	13	49 - 52	13	3.01 - 3.25	13
23 - 24	12	45 - 48	12	2.76 - 3.00	12
21 - 22	11	41 - 44	11	2.51 - 2.75	11
19 - 20	10	37 - 40	10	2.26 - 2.50	10
17 - 18	9	33 - 36	9	2.01 - 2.25	9
15 - 16	8	29 - 32	8	1.76 - 2.00	8
13 - 14	7	25 - 28	7	1.51 - 1.75	7
11 - 12	6	21 - 24	6	1.26 - 1.50	6
9 - 10	5	17 - 20	5	1.01 - 1.25	5
7 - 8	4	13 - 16	4	0.76 - 1.00	4
5 - 6	3	9 - 12	3	0.51 - 0.75	3
3 - 4	2	5 - 8	2	0.26 - 0.50	2
1 - 2	1	1 - 4	1	0.01 - 0.25	1

*Accidents per million entering vehicles

Table 2
Highest Accident Intersections
Iowa City Urbanized Area - 1986

Overall Rank	Location	Total Accidents		Accident Severity		Accident Rate*		Total Score
		#	Score	Sev. Index	Score	Rate	Score	
1	Hwy 6 & 1st Ave/ Mormon Trek Blvd., Coralville	22	11	42	11	4.05	15	37
2	Hwy 6/Hwy 1 & Riverside Dr., Iowa City	20	10	32	8	4.20	15	33
3	I-80 & 1st Ave., Coralville	17	9	29	8	3.81	15	32
4	Mormon Trek Blvd. & Melrose Ave., Iowa City	16	8	26	7	8.60	15	30
5	Hwy 6 & 10th Ave.,	14	7	26	7	3.76	15	29
6	Clinton St. & Market St., Iowa City	14	7	24	6	9.13	15	28
7	Riverside Dr. & Burlington St./ Grand Ave., Iowa City	14	7	18	5	4.59	15	27
7	Hwy 6 & Gilbert St., Iowa City	13	7	25	7	3.14	13	27
9	I-80 & Dubuque St., Iowa City	10	5	22	6	5.12	15	26
9	Governor St. & Burlington St., Iowa City	11	6	19	5	3.97	15	26

*Per million entering vehicles

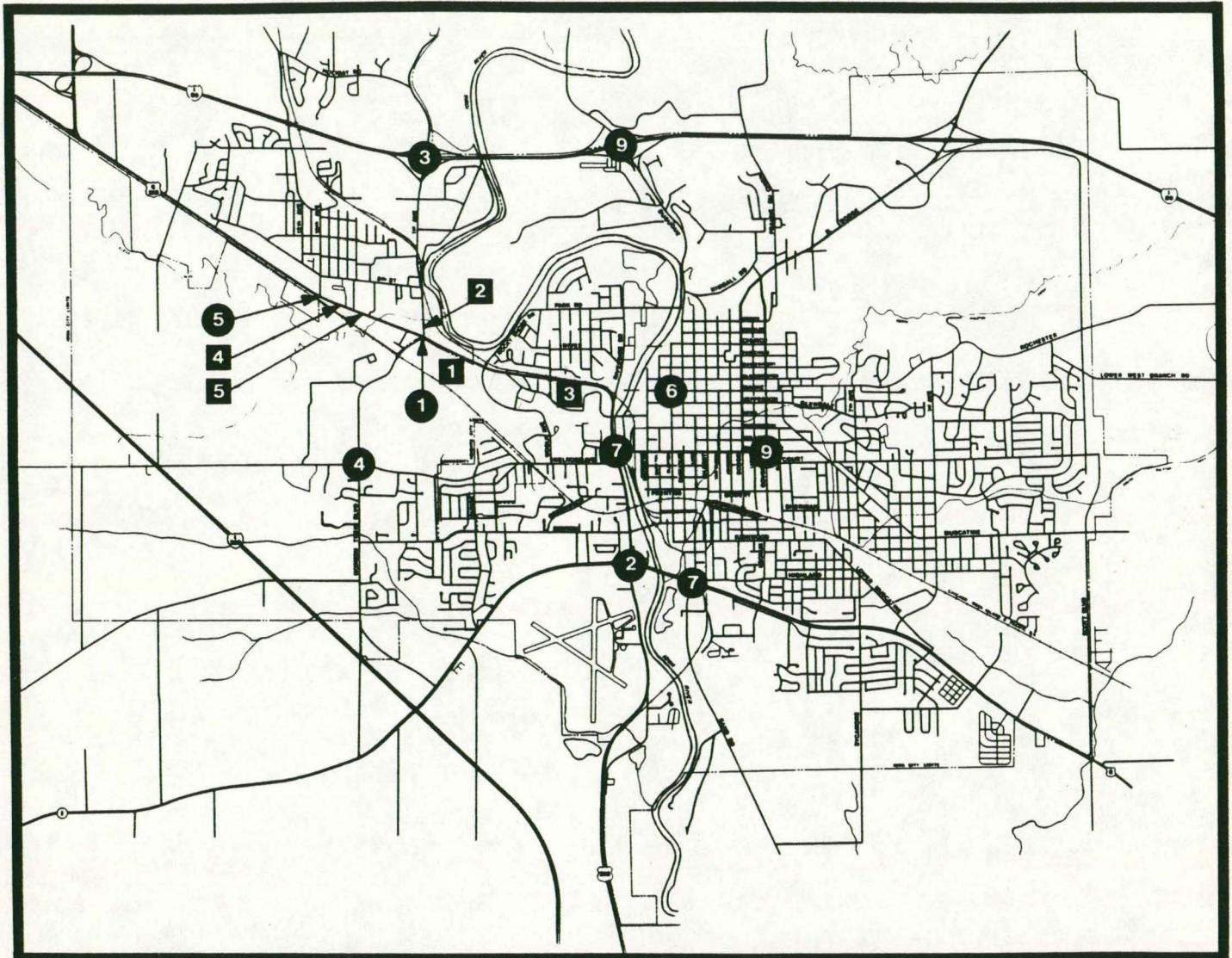
Table 3
Highest Accident Mid-block Locations
Iowa City Urbanized Area - 1986

Overall Rank	Location	Total Accidents		Accident Severity		Accident Rate*		Total Score
		#	Score	Sev. Index	Score	Rate	Score	
1	Hwy 6 between Rocky Shore Dr. & First Ave., Coralville	25	13	45	12	491	15	40
2	First Ave. between Hwy 6 & Clear Creek, Coralville	19	10	25	7	2029	15	32
3	Hwy 6 between Riverside Dr. & Lincoln Ave., Iowa City	9	5	26	7	208	15	27
3	Hwy 6 between 6th Ave. & 10th Ave., Coralville	11	6	23	6	502	15	27
5	Hwy 6 between 4th Ave. & 6th Ave., Coralville	10	5	18	5	1343	15	25

*Per 100 million vehicle miles

Figure 1

Highest Ranked Accident Locations in the Iowa City Urbanized Area - 1986



Intersections

- 1 Hwy. 6 and First Ave./Mormon Trek Blvd. - Coralville
- 2 Hwy. 1/Hwy. 6 and Riverside Dr. - Iowa City
- 3 First Ave. and Interstate 80 - Coralville
- 4 Melrose Ave. and Mormon Trek Blvd. - Iowa City
- 5 Hwy. 6 and Tenth Ave. - Coralville
- 6 Clinton St. and Market St. - Iowa City
- 7 Riverside Dr. and Burlington St./Grand Ave. - Iowa City
- 7 Hwy. 6 and Gilbert St. - Iowa City
- 9 N. Dubuque St. and Interstate 80 - Iowa City
- 9 Burlington St. and Governor St. - Iowa City

Midblock











- 1 Hwy. 6 between Rocky Shore Dr. and First Ave. - Coralville
- 2 First Ave. between Hwy. 6 and Clear Creek - Coralville
- 3 Hwy. 6 between Riverside Dr. and Lincoln Ave. - Iowa City
- 4 Hwy. 6 between Sixth Ave. and Tenth Ave. - Coralville
- 5 Hwy. 6 between Fourth Ave. and Sixth Ave. - Coralville

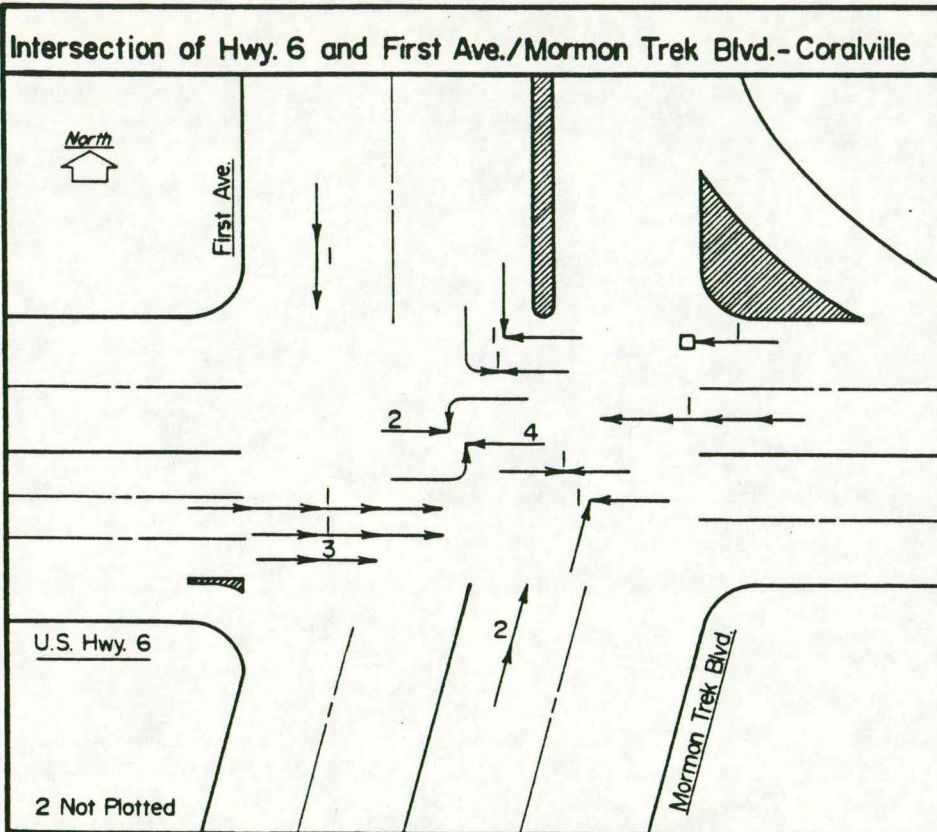
INDIVIDUAL ANALYSIS

Individual Analysis

The following section contains a synopsis of each of the ten highest accident intersections and five highest accident mid-block locations in the Iowa City Urbanized Area in 1986. Each description contains a sketch diagram of the intersection with the 1986 accident history plotted. The accidents are not plotted at the precise location at which they occurred within the intersection. Accidents are plotted at the approximate location of occurrence for the two intersections involving I-80 at 1st Avenue in Coralville and Dubuque Street in Iowa City. The numbers next to the symbols represent the frequency of occurrence in 1986.

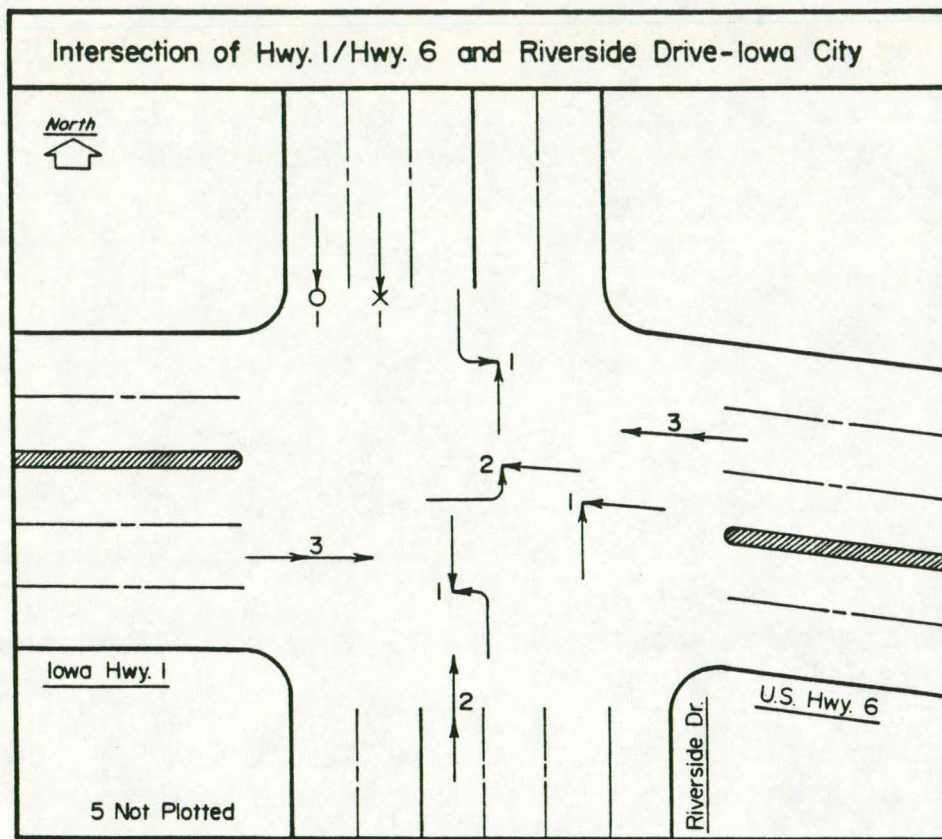
The following collision symbols are used in the diagrams:

<i>Symbol</i>	<i>Collision</i>
	Left Turn
	Broadside (Right Angle)
	Rear End
	Rear End (Backing Vehicle)
	Head On
	Sideswipe (Same Direction)
	Sideswipe (Different Direction)
	Fixed Object
	Pedestrian
	Overturned Vehicle



Intersection of Highway 6 and First Avenue/Mormon Trek Blvd., Coralville. The predominant accident pattern at this intersection was rear end accidents. Rear end (41%) and left-turn (32%) accidents accounted for 73% of the accidents at this intersection. Just over half (54%) of the accidents occurred during daylight hours.

			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			1		3
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	12	54
Personal Injury	10	45	Wet	9	41
Property Damage Only	12	55	Snow/Ice	1	5
Total	<u>22</u>	<u>100</u>	Total	<u>22</u>	<u>100</u>
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Rear end	9	41	Day	16	72
Left turn	7	32	Dusk	3	14
Broadside	2	9	Night	3	14
Unknown	2	9	Total	<u>22</u>	<u>100</u>
Head on	1	4.5			
Fixed Object	1	4.5			
Total	<u>22</u>	<u>100</u>			



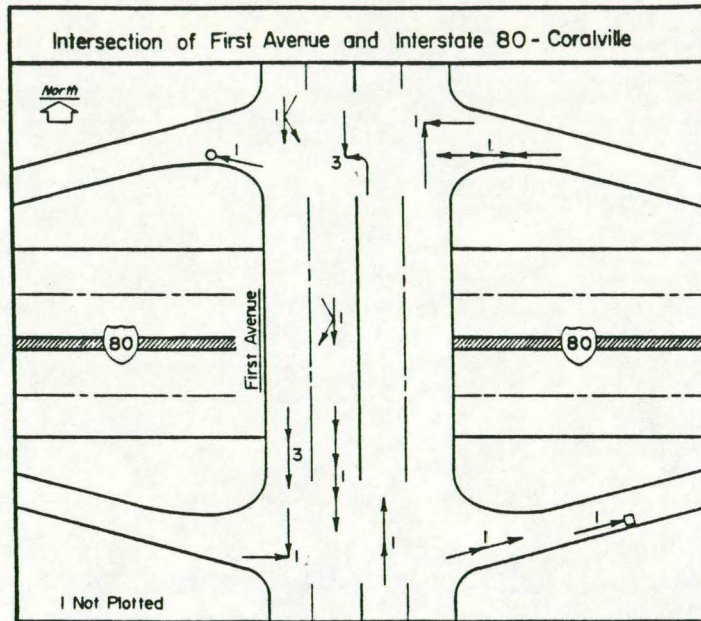
Intersection of Highway 1/Highway 6 and Riverside Drive, Iowa City. Eight of the 20 accidents at this location (40%) involved rear end collisions. There was one accident involving a pedestrian and one non-collision accident involving an over-turned vehicle.

			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			2		*

<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	16	80
Personal Injury	6	30	Wet	2	10
Property Damage Only	14	70	Snow/Ice	1	5
Total	<u>20</u>	<u>100</u>	Other	1	5
			Total	<u>20</u>	<u>100</u>

<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Rear end	8	40	Day	14	70
Unknown	5	25	Dusk	4	20
Left turn	4	20	Night	2	10
Broadside	1	5	Total	<u>20</u>	<u>100</u>
Overturned Vehicle	1	5			
Pedestrian	1	5			
Total	<u>20</u>	<u>100</u>			

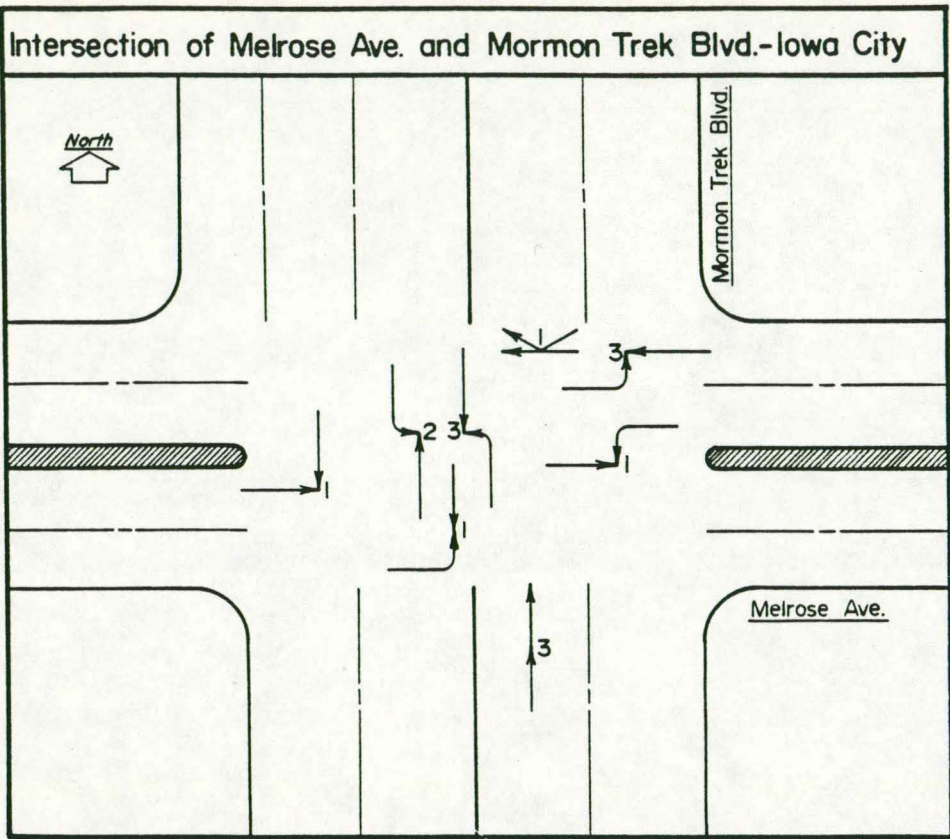
* This intersection was not among the top 10 locations in 1986.



Intersection of First Avenue and I-80, Coralville. All of the accidents at this location, except one, occurred at the entrance or exit ramps. The type of accident with the greatest occurrence was rear end accidents. There were five rear end accidents in 1986 (28%). The diagram above reflects the existing geometrics of the intersection. In 1986 the intersection geometrics were as follows: 2 lanes on First Avenue, no signalization, off-set ramps, and the west-bound I-80 exit ramp to First Avenue had only one lane.

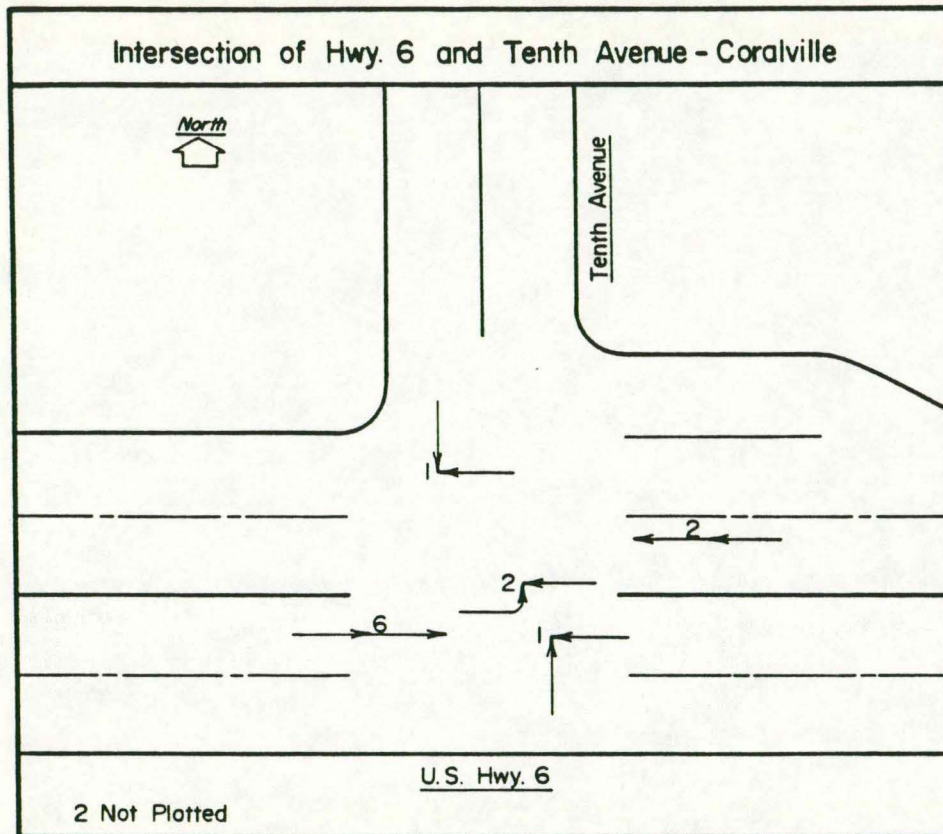
			1987	1986
<u>Rank in Urbanized Area:</u>			3	*
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u> <u>%</u>
Fatal	0	0	Dry	16 94
Personal Injury	6	35	Wet	1 6
Property Damage Only	11	65	Total	17 100
Total	17	100		
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u> <u>%</u>
Rear end	5	29	Day	15 88
Left turn	3	17	Dusk	2 12
Unknown	2	12	Total	17 100
Broadside	2	12		
Backing	1	6		
Rear end	1	6		
Fixed Object	1	6		
Sideswipe	1	6		
Overtaken Vehicle	1	6		
Total	17	100		

*This intersection was not among the top 10 locations in 1986.



Intersection of Melrose Avenue and Mormon Trek Blvd., Iowa City. Left turning accidents comprised 63% of the accidents at this intersection in 1986. 50% of the accidents involved vehicles approaching from the north.

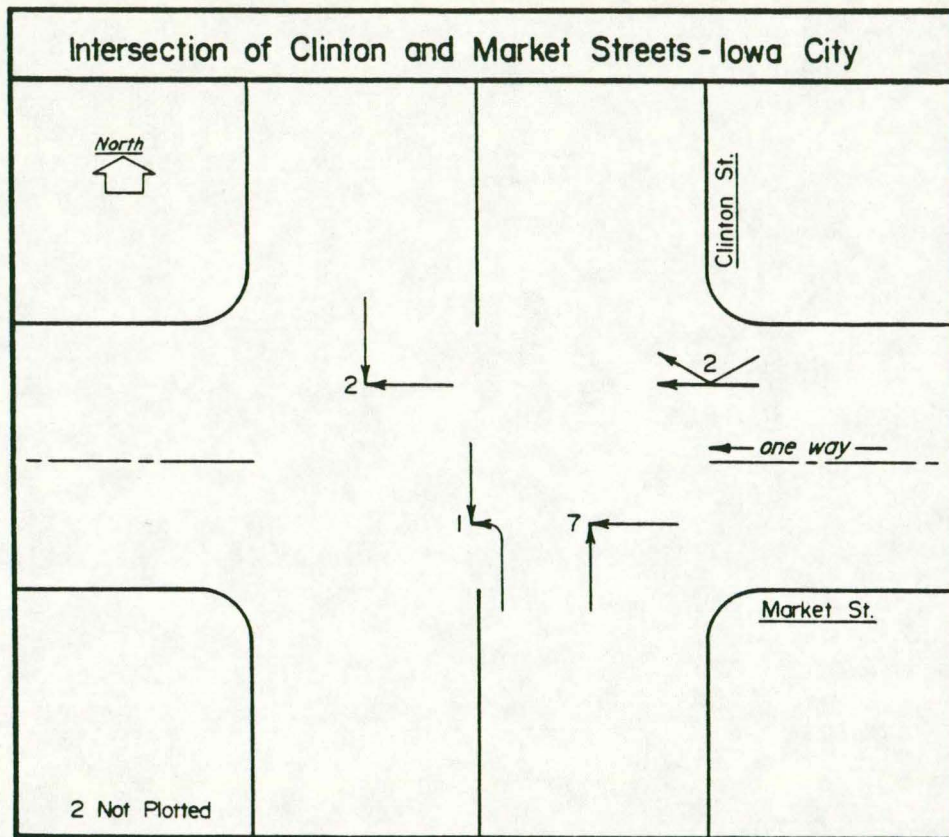
			<u>1987</u>		<u>1986</u>	
<u>Rank in Urbanized Area:</u>			4		1	
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>		<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0		Dry	12	75
Personal Injury	5	31		Wet	1	6
Property Damage Only	11	69		Snow/Ice	3	19
Total	16	100		Total	16	100
<u>Type of Collision</u>	<u>#</u>	<u>%</u>		<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Left turn	10	63		Day	12	75
Rear end	3	19		Dusk	3	19
Broadside	2	12		Night	1	6
Sideswipe	1	6		Total	16	100
Total	16	100				



Intersection of Highway 6 and Tenth Avenue, Coralville. The major type of accident at this intersection was rear end collisions (58%). 58% of the accidents involved vehicles traveling in an eastbound direction.

			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			5		*
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>		<u>Road Surface</u>	<u>#</u> <u>%</u>
Fatal	0	0		Dry	11 79
Personal Injury	6	43		Wet	2 14
Property Damage Only	8	57		Snow/Ice	1 7
Total	<u>14</u>	<u>100</u>		Total	<u>14</u> <u>100</u>
<u>Type of Collision</u>	<u>#</u>	<u>%</u>		<u>Light Conditions</u>	<u>#</u> <u>%</u>
Rear end	8	58		Dawn	1 7
Left turn	2	14		Day	12 86
Broadside	2	14		Night	1 7
Unknown	2	14		Total	<u>14</u> <u>100</u>
Total	<u>14</u>	<u>100</u>			

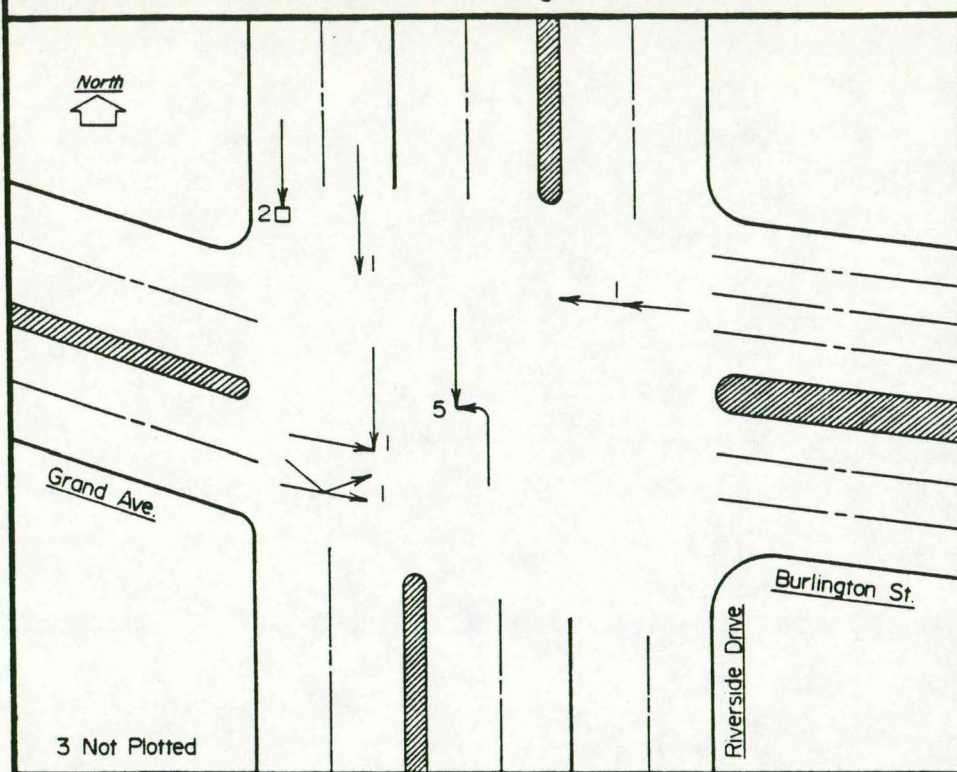
*This intersection was not among the top 10 locations in 1986.



Intersection of Clinton Street and Market Street, Iowa City. 11 of the 14 accidents at this intersection were broadside collisions, seven (64%) of which involved north and westbound vehicles. Half of the accidents involved wet road conditions.

			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			6		5
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	7	50
Personal Injury	5	36	Wet	7	50
Property Damage Only	9	64	Total	14	100
Total	14	100			
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Broadside	11	79	Day	9	64
Sideswipe	2	14	Dusk	4	29
Left turn	1	7	Night	1	7
Total	14	100	Total	14	100

Intersection of Riverside Dr. and Burlington St./Grand Ave.-Iowa City

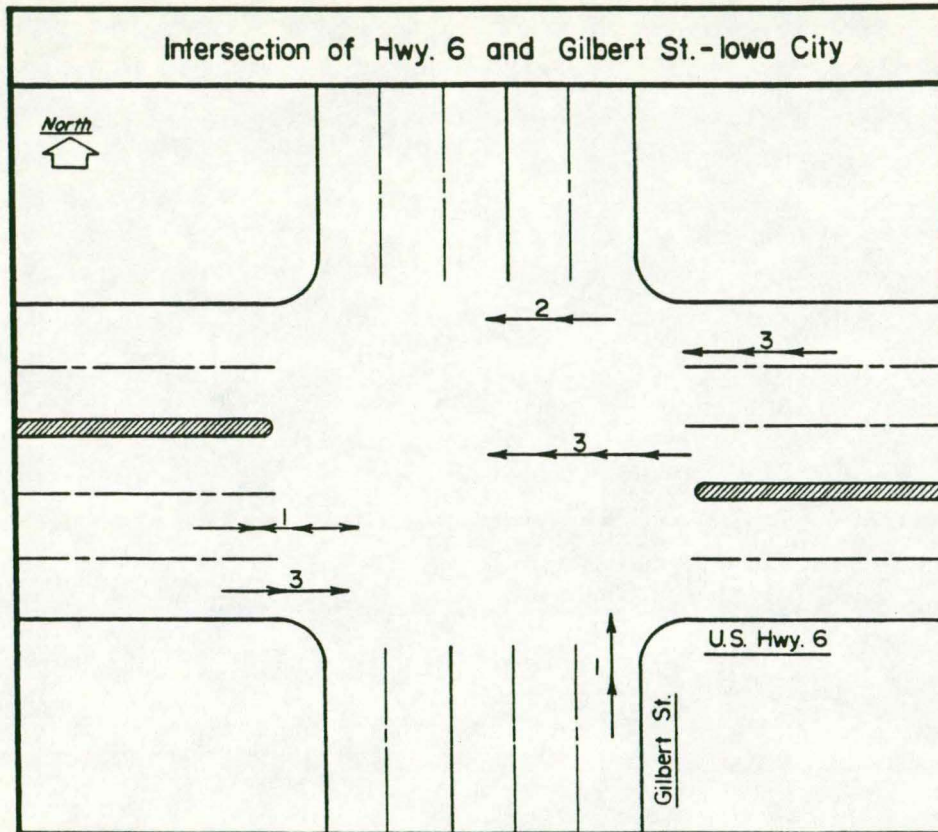


Intersection of Riverside Drive and Burlington Street/Grand Avenue, Iowa City. The predominant accident pattern at this intersection involves left turn collisions (36%). All of the left turn accidents (5) involved vehicles traveling northbound on Riverside Drive, making a left turn onto Grand Avenue. Four accidents involved southbound traffic on Riverside. There were only two accidents involving east and westbound traffic. In 1986, this intersection was open but travel was restricted by construction. Half of the Burlington Street bridge was closed and there was single lane traffic on Burlington Street and Grand Avenue.

	1987	1986
Rank in Urbanized Area:	7	10

Number of Accidents			Road Surface		
	#	%		#	%
Fatal	0	0	Dry	12	86
Personal Injury	2	14	Wet	1	7
	12	86	Snow/Ice	1	7
Total	14	100	Total	14	100

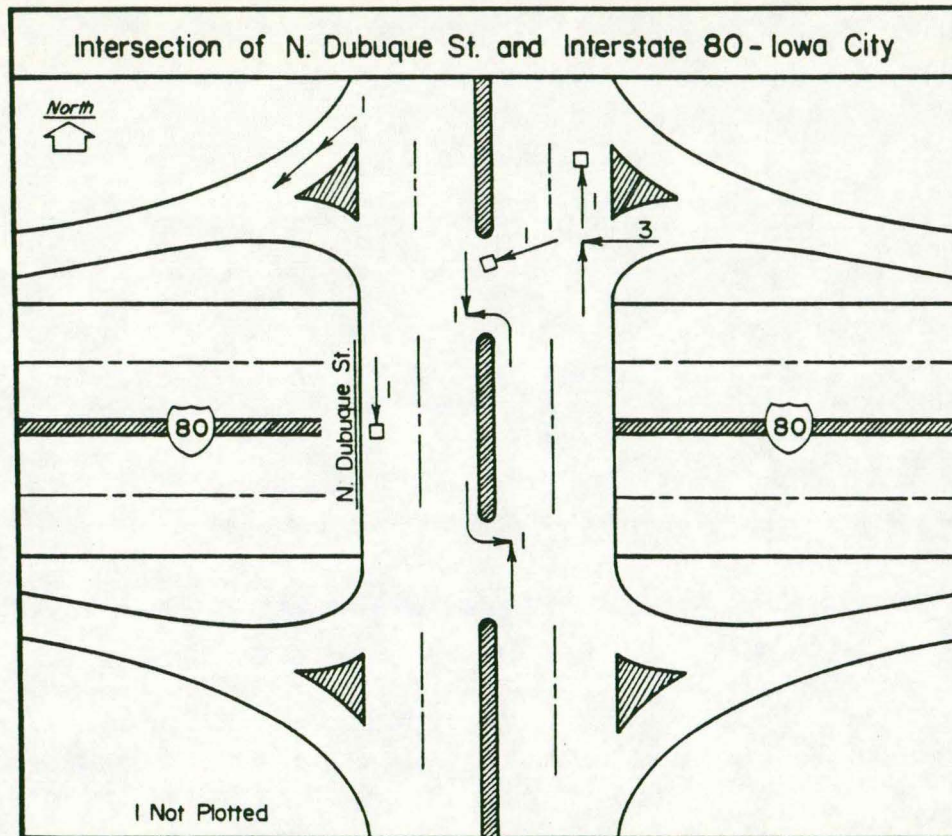
Type of Collision			Light Conditions		
	#	%		#	%
Left turn	5	36	Day	8	57
Rear end	2	14	Dusk	5	36
Fixed Object	2	14	Night	1	7
Unknown	2	14	Total	14	100
Parked vehicle	1	7			
Sideswipe	1	7			
Broadside	1	7			
Total	14	100			



Intersection of Highway 6 Bypass and Gilbert Street, Iowa City

92% of the accidents at this location in 1986 were rear end collisions. Seven accidents involved three or four vehicles. The collisions were split 54% to 46% between night and day accidents, respectively.

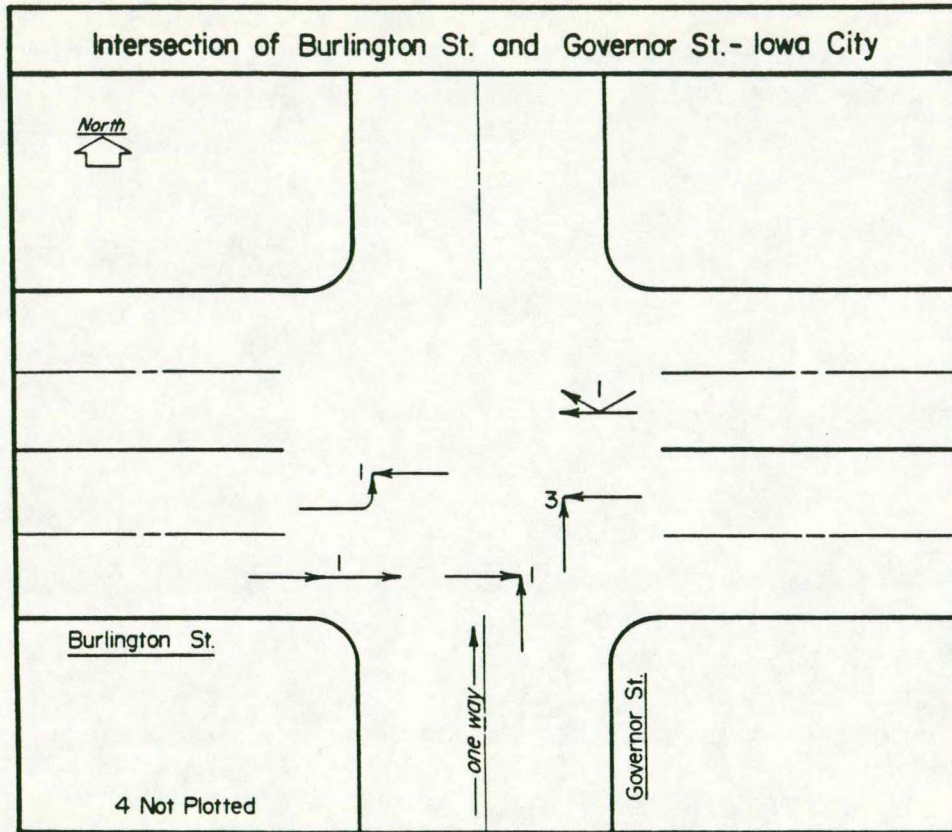
			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			7		2
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	9	69
Personal Injury	6	46	Wet	4	31
Property Damage Only	7	54	Total	<u>13</u>	<u>100</u>
Total	<u>13</u>	<u>100</u>			
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Rear end	12	92	Day	6	46
Backing	1	8	Night	7	54
Total	<u>13</u>	<u>100</u>	Total	<u>13</u>	<u>100</u>



Intersection of I-80 and Dubuque Street, Iowa City. The two most frequently occurring accidents at this location involved broadside collisions and collisions with fixed objects. These two types of accidents accounted for 60% of the total at this location.

		<u>1987</u>	<u>1986</u>		
<u>Rank in Urbanized Area:</u>		9	*		
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	9	90
Personal Injury	6	60	Wet	1	10
Property Damage Only	4	40	Total	<u>10</u>	<u>100</u>
Total	<u>10</u>	<u>100</u>			
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Broadside	3	30	Day	4	40
Fixed Object	3	30	Night	6	60
Left turn	2	20	Total	<u>10</u>	<u>100</u>
Rear end	1	10			
Unknown	1	10			
Total	<u>10</u>	<u>100</u>			

*This intersection was not among the top 10 locations in 1986.

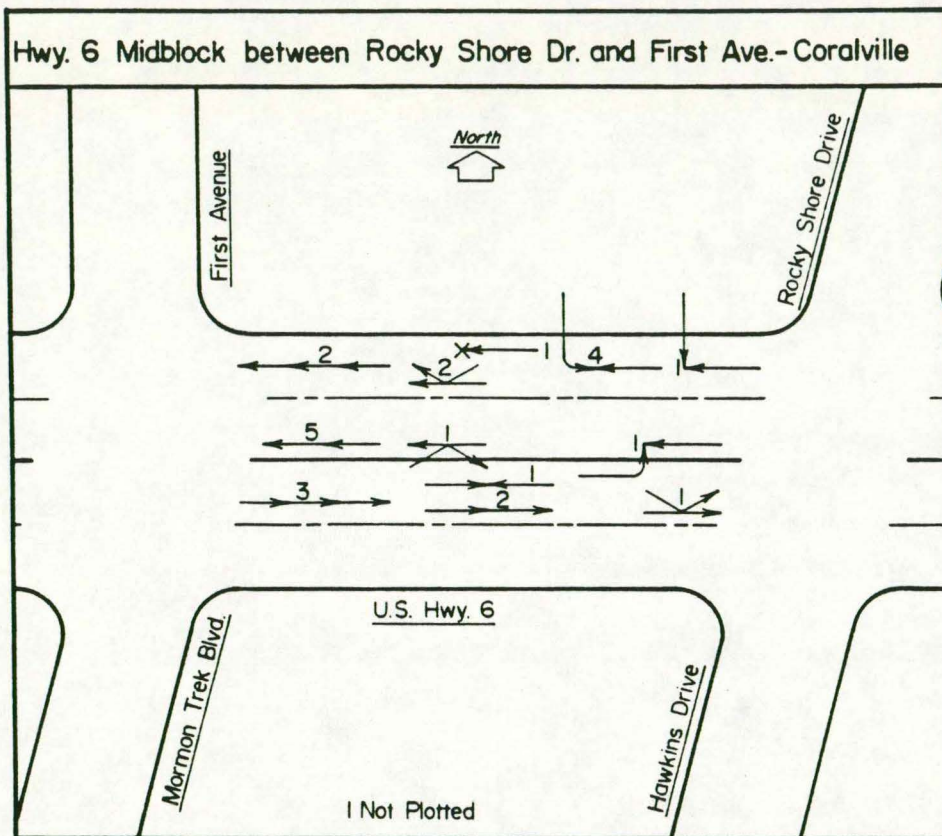


Intersection of Governor Street and Burlington Street, Iowa City. Five of the 11 accidents at this location, 40%, involved broadside collisions. All of the accidents at this intersection occurred during the day.

		<u>1987</u>		<u>1986</u>	
<u>Rank in Urbanized Area:</u>		9		*	
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	0	0	Dry	8	73
Personal Injury	4	36	Wet	2	18
Property Damage Only	7	64	Snow/Ice	1	9
Total	<u>11</u>	<u>100</u>	Total	<u>11</u>	<u>100</u>
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Broadside	5	46	Day	11	100
Unknown	3	27	Total	11	100
Left turn	1	9			
Sideswipe	1	9			
Rear end	1	9			
Total	<u>11</u>	<u>100</u>			

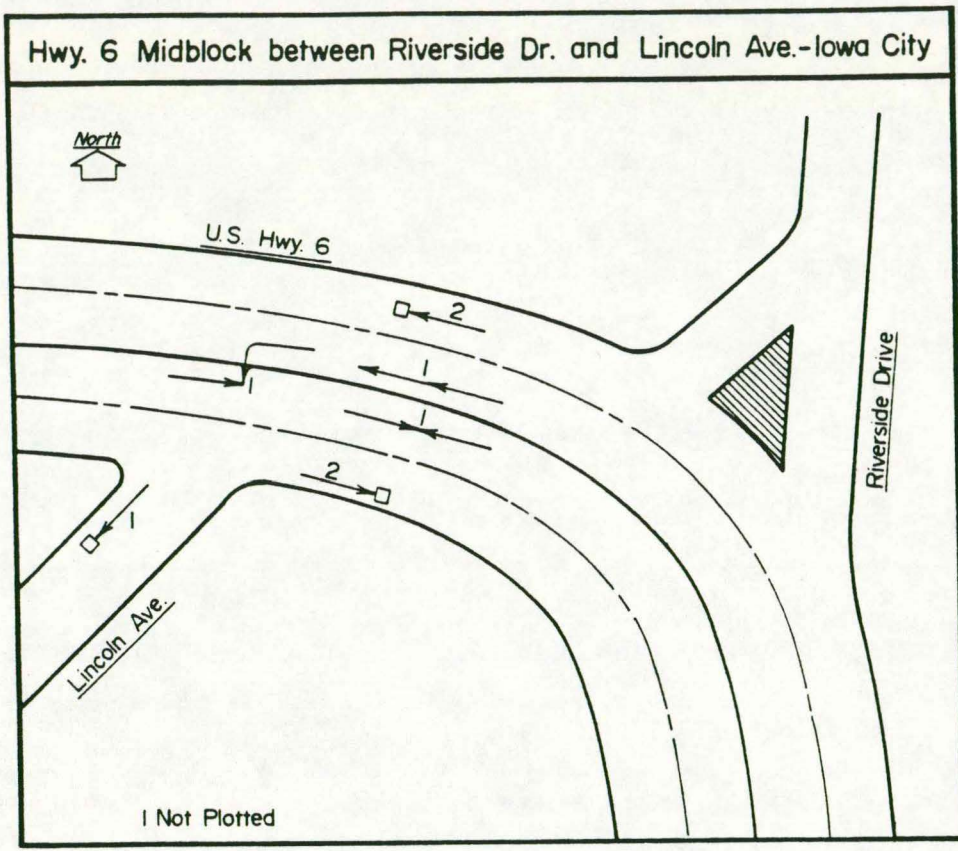
*This intersection was not among the top 10 locations in 1986.

Hwy. 6 Midblock between Rocky Shore Dr. and First Ave.-Coralville



Highway 6 Mid-Block Between Rocky Shore Drive and First Avenue, Coralville. The predominant accident pattern on this segment was rear end collisions (48%). These were split 64% involving westbound vehicles and 36% involving eastbound vehicles. 45% of the rear end accidents involved three vehicles. There are 17 driveways with access to Highway 6 along the north side of this segment; 0 driveways on the south side.

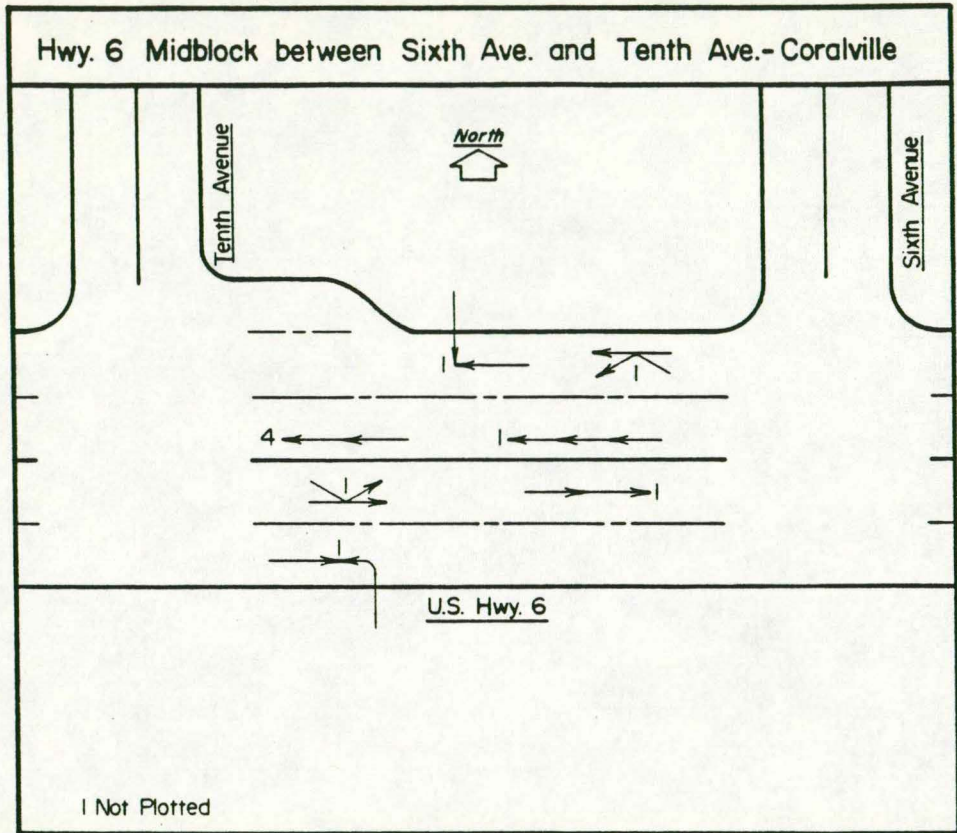
		1987	1986		
<u>Rank in Urbanized Area:</u>		1	1		
<u>Number of Accidents</u>	#	%	<u>Road Surface</u>	#	%
Fatal	0	0	Dry	16	64
Personal Injury	10	40	Wet	8	32
Property Damage Only	15	60	Snow/Ice	1	4
Total	25	100	Total	25	100
<u>Type of Collision</u>	#	%	<u>Light Conditions</u>	#	%
Rear End	12	48	Day	16	64
Left turn	5	20	Dusk	2	8
Sideswipe	4	16	Dark	3	12
Head on	1	4	Night	4	16
Pedestrian	1	4	Total	25	100
Broadside	1	4			
Unknown	1	4			
Total	25	100			



Highway 6 Mid-Block Between Riverside Drive and Lincoln Avenue, Iowa City. The most frequently occurring accident type along this mid-block segment in 1986 was fixed object collisions (56%). The only fatality to occur in the Urbanized Area in 1986 occurred along this segment. There is a single driveway entrance to the VA Hospital along this mid-block segment.

			<u>1987</u>		<u>1986</u>
<u>Rank in Urbanized Area:</u>			3		*
<u>Number of Accidents</u>	<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u>	<u>%</u>
Fatal	1	11	Dry	4	45
Personal Injury	3	33	Wet	3	33
Property Damage Only	5	56	Snow/Ice	1	11
Total	<u>9</u>	<u>100</u>	Other	1	11
			Total	<u>9</u>	<u>100</u>
<u>Type of Collision</u>	<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u>	<u>%</u>
Fixed Object	5	56	Day	6	67
Rear end	1	11	Dusk	1	22
Head on	1	11	Night	2	11
Left turn	1	11	Total	<u>9</u>	<u>100</u>
Unknown	1	11			
Total	<u>9</u>	<u>100</u>			

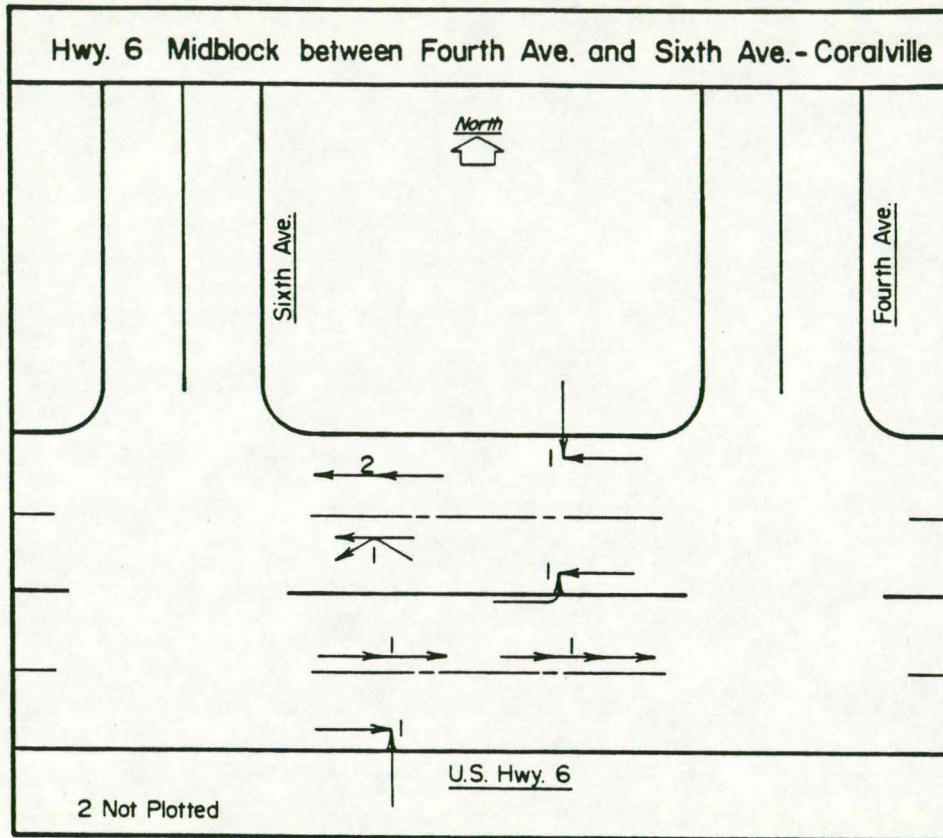
*This segment was not among the top 5 mid-block locations in 1986.



Highway 6 Mid-Block Between Sixth Avenue and Tenth Avenue, Coralville. The accident pattern at this mid-block segment in 1986 involved: rear end collisions (55%); sideswipe collisions (18%); and broadside, left turn, and unknown collisions (27%).

		<u>1987</u>	<u>1986</u>		
<u>Rank in Urbanized Area:</u>		3	*		
<u>Number of Accidents</u>		<u>#</u>	<u>%</u>	<u>Road Surface</u>	<u>#</u> <u>%</u>
Fatal	0	0	Dry	6	55
Personal Injury	6	55	Wet	4	36
Property Damage Only	5	45	Snow/Ice	1	9
Total	<u>11</u>	<u>100</u>	Total	<u>11</u>	<u>100</u>
<u>Type of Collision</u>		<u>#</u>	<u>%</u>	<u>Light Conditions</u>	<u>#</u> <u>%</u>
Rear end	6	55	Day	9	82
Sideswipe	2	18	Night	1	9
Broadside	1	9	Dark	1	9
Left turn	1	9	Total	<u>11</u>	<u>100</u>
Unknown	1	9			
Total	<u>11</u>	<u>100</u>			

*This segment was not among the top 5 mid-block locations in 1986.



Highway 6 Mid-Block Between Fourth Avenue and Sixth Avenue, Coralville. The predominant accident pattern for this segment was rear end collisions (40%). 20% of the collisions involved vehicles exiting from business driveways on the north and south sides of Highway 6. Half of the collisions occurred on a dry road surface and half occurred on a wet road surface.

		1987	1986
<u>Rank in Urbanized Area:</u>		5	*
<u>Number of Accidents</u>	# %	<u>Road Surface</u>	# %
Fatal	0 0	Dry	5 50
Injury	4 40	Wet	5 50
Property Damage Only	6 60	Total	10 100
Total	10 100		
<u>Type of Collision</u>	# %	<u>Light Conditions</u>	# %
Rear end	4 40	Day	9 90
Broadside	2 20	Night	1 10
Unknown	2 20	Total	10 100
Sideswipe	1 10		
Left turn	1 10		
Total	10 100		

*This segment was not among the top 5 mid-block locations in 1986.

POTENTIAL IMPROVEMENTS

Potential Improvements

The focus of this report is on the identification of high accident locations in the Iowa City Urbanized Area. It is intended that this be a first step in action taken to reduce accident frequency. The implementation of accident reduction measures at individual locations should only be taken after careful study of specific locations by traffic engineering professionals.

The following section provides an overview of accident patterns, probable causes, and generalized countermeasures for accident reduction.

<u>Accident Pattern</u>	<u>Probable Cause</u>	<u>General Countermeasure</u>
Right angle collisions at unsignalized intersections	Restricted sight distance	Remove sight obstructions Restrict parking near corners Install/improve street lighting Reduce speed limit on approaches* Install signals (see MUTCD) Install stop signs (see MUTCD) Install warning signs (see MUTCD) Install yield signs (see MUTCD) Channelize intersection
	Large total intersection volume	Install signals (see MUTCD) Reroute through traffic
	High approach speed	Reduce speed limit on approaches* Install rumble strips

*Spot speed study should be conducted to justify speed limit reduction.

<u>Accident Pattern</u>	<u>Probable Cause</u>	<u>General Countermeasure</u>
	Roadway design inadequate	Widen lanes Change from angle to parallel parking Prohibit parking Reroute through traffic
Rear end collisions at unsignalized intersections	Pedestrian crossing	Install/improve signing or marking of pedestrian crosswalk Relocate crosswalk
	Driver not aware of intersection	Install/improve warning signs
	Slippery surface	Overlay pavement Provide adequate drainage Groove pavement Reduce speed limit on approaches* Provide "SLIPPERY WHEN WET" signs
	Large numbers of turning vehicles	Create left- or right-turn lanes Prohibit turns Increase curb radii
Rear end collisions at signalized intersections	Poor visibility of signals	Install/improve advance warning devices Install overhead signals Install 12" signal lenses (see MUTCD) Install visors Install backplates Relocate signals Add additional signal heads Remove obstacles Reduce speed limits on approaches*
	Inadequate signal timing	Adjust amber phase Provide progression through a set of signalized intersections

*Spot speed study should be conducted to justify speed limit reduction.

<u>Accident Pattern</u>	<u>Probable Cause</u>	<u>General Countermeasure</u>
Fixed-object collisions and/or vehicles running off roadway	Slippery pavements	Overlay existing pavement Provide adequate drainage Groove existing pavement Reduce speed limit* Provide "SLIPPERY WHEN WET" signs
	Roadway design inadequate for traffic conditions	Widen lanes Relocate islands Close curb lane
	Poor delineation	Improve/install pavement markings Install roadside delineators Install advanced warning signs
Sideswipe collisions between vehicles traveling in opposite directions or head-on collisions	Roadway design inadequate for traffic conditions	Install/improve pavement markings Channelize intersections Create one-way streets Remove constrictions such as parked vehicles Install median divider Widen lanes
Collisions between vehicles traveling in same direction such as sideswipe, turning or lane changing	Roadway design inadequate for traffic conditions	Widen lanes Channelize intersections Provide turning bays Install/improve pavement lane lines Remove parking
Collisions with parked cars or cars being parked	Large parking turnovers	Prohibit parking Change from angle to parallel parking Reroute through traffic Create one-way streets Create off-street parking Reduce speed limit*

*Spot speed study should be conducted to justify speed limit reduction.

<u>Accident Pattern</u>	<u>Probable Cause</u>	<u>General Countermeasure</u>
Right angle collisions at signalized intersections	Poor visibility of signals	Install advanced warning devices (see MUTCD) Install 12" signal lenses (see MUTCD) Install overhead signals Install visors Install backplates Improve location of signal heads Add additional signal heads Reduce speed limit on approaches*
	Inadequate signal timing	Adjust amber phase Provide all-red clearance phase Add multi-dial controller Install signal actuation Re-time signals Provide progression through a set of signalized intersections
Left-turn collisions at intersections	Large volume of left turns	Provide left turn signal phases Prohibit left turns Reroute left turn traffic Channelize intersection Install stop signs (see MUTCD) Create one-way streets
	Restricted sight distance	Remove obstacles Install warning signs Reduce speed limit on approaches
Fixed-object collisions	Objects near traveled way	Remove obstacles near roadway Install barrier curbing Install breakaway feature to light poles, sign posts, etc. Protect objects with guardrail

*Spot speed study should be conducted to justify speed limit reduction.

<u>Accident Pattern</u>	<u>Probable Cause</u>	<u>General Countermeasure</u>
	Pedestrian crossings	Install/improve signing or marking of pedestrian crosswalks Provide pedestrian "WALK" phase
	Slippery surface	Overlay pavement Provide adequate drainage Groove pavement Reduce speed limit on approaches* Provide "SLIPPERY WHEN WET" signs
	Unwarranted signals	Remove signals (see MUTCD)
	Large turning volumes	Create left- or right-turn lanes Prohibit turns Increase curb radii
Night accidents	Poor visibility	Install/improve street lighting Install/improve delineation markings Install/improve warning signs
Wet pavement accidents	Slippery pavement	Overlay with skid-resistant surface Provide adequate drainage Groove existing pavement Reduce speed limit* Provide "SLIPPERY WHEN WET" signs

*Spot speed study should be conducted to justify speed limit reduction.

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