ROAD SAFETY ASSESSMENT UPDATE

WAR-63-PRIORITY PROJECT

(WAR-63-0.83 ODOT PID 105399)

WARREN COUNTY, OHIO

RL RECORD LLC Consultants
and SHA Engineering LLC

for the

Warren County Transportation Improvement District

April 2019
Update June 2019

Initial Assessment

An initial assessment of road traffic safety conditions, crash rates and crash reports was conducted for the whole of the WAR-63 corridor as part of the April 2017 *Scoping Study* (see Attachment A). This work found that the crash rate for the 2013-2015 available data analysis period averaged about 3.75 crashes per MVMT, about 2.3 times the Ohio statewide average rate for same type facilities in that period. For the portion of the overall corridor including the WAR-63 Priority Project, the crash rate in that period was about 3.20 per MVMT, about twice the statewide average in that period.

Updated Review and Assessment

In April 2019, updated crash data was obtained for the WAR-63 Priority Project portion of the overall corridor covering the years 2016-2018 (Ohio DOT Crash Analysis Module Tool). Crash reports were compiled and evaluated, and a project-length crash history diagram was prepared for the Priority Project length (see Attachment B). Data and graphical analyses of crashes were completed, and histograms of crash frequency, distribution, cause, road conditions were prepared (see Attachment C).

For the most recent 3-year period of available data (2016-2018), the crash rate was about 2.37 per MVMT, remaining at about twice the current statewide average for same type facilities, which has declined slightly in the most recent 3-year period compared to the previous 3-year period. In this 2016-2018 period, crashes broke down as follows:

Fatal Crashes	0.8% of total
Injury Crashes	26.2% of total
Property Damage Only Crashes	73.0% of total

Other general attributes of crash occurrences on the WAR-63 Priority Project segment of the overall corridor (cause, distribution, etc) remain essentially unchanged since the 2013-2015 examination.

Most crashes on the WAR-63 Priority Project segment occur during peak traffic periods, speaking to both cause and resultant effect and impacts. High traffic periods have the greatest physical, modal and trip type conflicts, and also the greatest risk for involving multiple vehicles

in cause or impact. The single largest hour for crash occurrence is the 5 to 6 PM period (10.3%), and 57% of all crashes occur in the noon to 7 PM high travel period, often causing extensive backups and delays, or even extended road closures, on the narrow and congested facility.

Crashes are occurring while vehicles are slowing, or stopped in traffic. Rear-end collisions accounted for 55% of crashes in the 2016-2018 period; 25% of all rear end crashes had injuries. Rear end crashes are often the result of unexpected reductions in speed or sight distance. Speed disparity among modes (trucks versus other) is an important and growing causative issue, based on field observations. Distracted driving is a suspected, but not typically reported, contributing factor.

Fixed object crashes were second most common single crash category, at 12% of all crashes; however these produced a high injury rate at 47% of all fixed object crashes. These are "run off the road" crashes, often the result of trying to avoid a rear-end collision, or otherwise a loss of control and lane departure. Clear zone obstacles, including utility poles, culverts, headwalls, and signs, are significant in the corridor.

Sideswipe and angle accidents (combined) produced 16% of all crashes, but only 30% of these were with injury.

Approximately 200 feet of vertical relief occurs along the study corridor, and about 44% of the existing roadway has sections of significant vertical grade of up to 5%. One 830-foot stretch of roadway exhibits grades in excess of 7%. However, only about 22% of all crashes in the corridor occur on these horizontally straight, significant vertical grade and transition sections, indicating that factors other than vertical grade dominate crash distribution and occurrence.

Following rear-end and fixed object and angle crashes, collisions with animals are next most common, accounting for 8% of all reported crashes.. Animal crashes often go unreported if there is no significant damage or injury, so actual frequency is unknown.

Similar to previous examination years, 74% of all crashes were described as "not at an intersection", indicating the likely result of introduction of unexpected maneuvers, including slowing and stopping near congestion queues, disparate speed platoons and access points.

Update on Safety Countermeasures and Relationship to WAR-63 Priority Project

A number of road safety countermeasures were recommended as an outcome of the initial safety assessment (April 2017). A few additional countermeasures have been identified as a product of the Updated Review and Assessment.

Table A below identifies initial and additional safety countermeasures, and how each is being addressed in the WAR-63 Priority Project currently being forwarded for implementation.

TABLE A. Safety Countermeasures for the Project Corridor and Incorporation in the WAR-63 Priority Project

Recommended Countermeasure	From Safety Assessment:		Incorporation in the WAR-63 Priority Project	Remarks
	Initial 2017	Update 2019		
Widen Shoulders – Widen shoulders and clear zones to reduce fixed object accidents, as well as reduce road closures due to accidents.	✓	✓	✓ Priority Project will provide full 8-foot paved safety shoulders, and clear zone improvements.	Major utilitiy pole hazards removal and relocation.
Widen Substandard Lanes – Provide consistent 12 foot lanes, physical and visual (including striping effects)	✓	✓	✓ Priority Project will provide modern standard-width lanes and pavement markings	Profile and clear zone improvements will also achieve safer perceived lane width
Flatten Vertical Curves – Reduce sight and stopping distance problems associated with the vertical profile of the roadway.	✓	✓	✓ Priority Project will provide and improved and safer vertical profile	Multiple lanes and wider shoulders also help mitigate profile related crash risk
Protect Turning Movements Reduce unexpected movements resulting from unprotected access points.	✓	✓	✓ Adopted access management plan and intersections designs will provide protected turn movements	Problem driveways will be consolidated, or eliminated over time.
Traffic Calming –Rumble strips on vertical curves or sight distance locations.	✓	--	X Not recommended/not incorporated	Not practical or effective for improved profile project.
Access Management – Reduce the number of access conflict points.	✓	✓	✓ Adopted access management plan will reduce access point conflicts.	Also aids sustenance of facility capacity and through-put
Enhanced Warning Signage Provide next generation animal crossing warning signs at concentrated crossing zones.	✓	✓	✓ Warning signs will be scheduled in final design and installed as part of project	New low-cost technologies in warning systems and signage may be explored in project procurement.
Way finding – Provide directional signage to reduce driver distraction and speed disparity.	✓	✓	✓ Priority Project will provide improved wayfinding and operational signage	Integration low-cost technologies will be explored in project procurement.

TABLE A. Safety Countermeasures for the Project Corridor and Incorporation in the WAR-63 Priority Project				
Recommended Countermeasure	From Safety Assessment:		Incorporation in the WAR-63 Priority Project	Remarks
	Initial 2017	Update 2019		
Safety Grading – Provide safety grading of ROW embankment to reduce injury hazard	--	✓	✓ Priority Project will provide improved safety grading in all portions of ROW	Possible special safety treatments needed at certain utilities and drainage locations
Safety Median – Provide safety median between opposing lanes	--	✓	✓ Priority Project can or will incorporate safety median of varying performance levels	Safety median section will be explored in project procurement; evaluated for Life Cycle and Benefit-Cost
Technologies – Intersection and Traffic Flow Management – Improve net flow and reduce cross traffic and disparate speed conflicts	--	✓	✓ Priority Project anticipated to incorporate low cost new generation technologies for intersection and flow control and optimization, prioritization	ITFM will be explored in project procurement; will provide safety benefits in maintaining safer traffic flow; may link to VSL, below
Technologies – Smart Roadway Lighting – Use active lighting to improve net visibility and improve safety at key locations	--	✓	✓ Priority Project anticipated to incorporate low cost manageable lighting technologies at key locations; may link to ITRM	SRL will be explored in project procurement; will provide safety benefits from better visibility under changing conditions
Technologies – Variable Speed Limits – Provide active VSL to improve flow and safety, reduce speed conflicts	--	✓	✓ Priority Project anticipated to incorporate Variable Speed Limits with changeable electronic signage, possibly linked to intersection and flow control technologies	VSL will be explored in project procurement; will provide safety benefits in periods of incidents, events congestion, low visibility, or other poor drivability conditions
Technologies – Performance Pavement Design – Provide open graded drainage/high traction pavement design to improve poor weather safety	--	✓	✓ Priority Project anticipated to incorporate Open Graded Friction Course for wet and dry weather traction, control and safety improvement	OGFC is higher first cost but will be explored in project procurement; some tire/pavement noise benefit also antiicapted

List of Attachments

ATTACHMENT A INITIAL SAFETY ASSESSMENT (APRIL 2017 *SCOPING STUDY*)
ATTACHMENT B CRASH DIAGRAM FOR 2016-2018 PERIOD OF ANALYSIS
ATTACHMENT C CRASH DATA FOR 2016-2018 PERIOD OF ANALYSIS

ATTACHMENT A INITIAL SAFETY ASSESSMENT (APRIL 2017 *SCOPING STUDY*)

Agricultural and Related Conflicts

This has historically been a major and looming traffic planning and safety issue: at peak operation, the LCI/WCI complex was generating more than 70 agricultural equipment crossings of SR 63 each day. Ag operations recently have been permanently ceased at the penal institutions. Other farm vehicle activity in the corridor is limited, but does occur, including heavy (and slow) farm-to-market grain trucks during harvest season.

Speed Enforcement

Speed enforcement by motor patrol is not a major presence in the corridor. It is hypothesized that, in large part, there is no safe shoulder area in the system to pull over during enforcement actions.

Emergency Access

Emergency vehicles regularly use SR 63 in responding to calls in the general area and Turtlecreek Township, including responding to crashes on SR 63 itself.

Incident Management

There is no formal incident management support assignment to the corridor. It is noted that most serious/injury crashes shut down or seriously impede the highway for several hours or part of a day due to difficult access and lack of safety shoulder.

Safety

Summary crash information is presented in **Figure A-3** on **Page 26**.

Compiled crash data for the period 2013-2015 is found in **Appendix C**.

Two Safety Integrated Priority Project (SIP) locations are located along the SR 63 Corridor in the study area. The first is located immediately east of Gateway Blvd., outside of the Monroe Corporation line. This is a High Priority Segment. Additionally, a Low Cost Improvement Section is located east of the Markey Rd. Intersection.

Crash Trends

The SR63 Corridor is currently experiencing crash rates at more than twice the statewide average for similar facilities[22]. The average crash rate for the entire 5.4 mile corridor in the 2013-2015 analysis period was 3.75 crashes per Million Vehicle Miles, about 2.2 times the statewide average. Breaking this down further, the rate was 3.20 per MVM west of SR741, and 4.55 per MVM east of SR741. Crash frequency is increasing as traffic volumes increase. This indicates that the facility is approaching its "tipping point", that level where the crash rate increases abruptly due to saturation of the roadway capacity, increased stops and turns, and increased opposing traffic, leaving no margin for driver error. This correlates with a high crash frequency during peak periods. The single largest hour for crash occurrence is the 5 to 6 PM period (12.2%), and more than half of all crashes occur in the noon to 7 PM high travel period.

Crashes are occurring while vehicles are slowing, or stopped in traffic. Rear-end collisions account for 49% of crashes, with "following too closely/failure to provide assured clear distance" also cited in 49% of crashes. Rear end crashes are often the result of unexpected reductions in speed or sight distance.

Geometry plays a role in crash location. Approximately 200 feet of vertical relief occurs along the study corridor. One 830-foot stretch of roadway exhibits grades in excess of 7%. About 31% of all crashes in the study area occur on horizontally straight, vertical grade conditions. Ten crashes occurred at log points 4.12 – 4.22, a sag curve with several drives and limited sight distance.

[22] The 2013 Ohio Statewide average for 2-lane undivided rural highways was 1.68/MVM

After rear end collisions, fixed object "run off the road" crashes, account for the second highest crash frequency type at 17%. These crashes are often the result of trying to avoid a rear-end collision, or loss of control.

Following rear-end and fixed object crashes, angle crashes and collisions with animals are next most common, accounting for 7 and 6% of all reported crashes, respectively. Animal crashes often go unreported if there is no significant damage or injury, so actual frequency is unknown.

While 77% of crashes are described as "not at an intersection", a significant number occurred at several high frequency locations proximal to problematic access points: in the MVG Gaming area, approaching the SR 741 intersection, in high driveway count areas east of SR 741, and in the high access point transition zone to the City of Lebanon. These crash concentrations are likely result of introduction of unexpected maneuvers, including slowing and stopping near access points.

Crashes with injuries or fatalities generally correlate to more severe accidents of greater concern in safety planning. About 26% of all accidents in the SR 63 corridor have injuries (including fatalities). The distribution and clustering of these injury/fatality accidents was examined separately, with the general findings illustrated on **Figure A-3** on **Page 26**. The red ellipses on Figure A-3 indicate where concentrations of the most severe and injury-causing crashes have been occurring, out of proportion to the rest of the corridor.

Contributing Factors and Emerging Issues

Driver Expectations – SR63 has historically functioned as a rural arterial connecting the cities of Lebanon and Monroe. Because of its mostly rural setting and character, the roadway does not exhibit the cues that motorists associate with the need for caution. Narrow shoulders, open ditches, utility poles, adjacent visual encroachments, unpredictable driveways and access points, and confusing lane transitions combine to create a "busy" cognitive condition for motorists, especially those not familiar with the route.

Trip Type and Modal Conflicts – Changes in user mix and and traffic volumes, including the introduction of a significant fraction of heavy truck trips and increased commuter and convenience trips are still travelling on the original two-lane facility, resulting in growing conflicts in travel speed and driver behavior among vehicles.

Access Management – A number of problematic access points, some exacerbated by vertical curve and sight distance conditions exist along the route. Legacy residential drives, institutional entrances with increased ingress/egress volumes, slow moving farm and maintenance vehicles, along with the introduction of drivers not familiar with the area, have amplified the importance of access improvements.

Roadway Geometric Characteristics – Although the roadway is extremely straight with very few horizontal curves, its vertical geometry – significant ups and downs with associated sight distance problems – contributes to unpredictable speeds and driver behavior.

Potential Countermeasures

The following counter-measures could reduce impacts of crashes regardless of long-range strategies or short-term projects selected:

Widen Shoulders – Widening shoulders could reduce the impact of fixed object accidents, as well as reduce road closures due to accidents.

Widen Substandard Lanes – Lane widths in some sections is well less than the standard and driver-expected 12 feet.

Flatten Vertical Curves – Significant sight and stopping distance problems associated with the vertical profile of the roadway exist.

Protect Turning Movements – Alternative intersection designs could reduce unexpected movements resulting from unprotected access points.

Traffic Calming –Rumble strips could reduce speeds on vertical curves.

Access Management – Reducing the number of conflict points should be part of a long-range sustainable solution.

Enhanced Warning Signage – Animals generally develop repeatable habits. Next generation warning signs could identify concentrated crossing zones.

Way finding – Clear directions reduce driver distraction and improve safety.

WARREN COUNTY
Transportation Improvement District

JULY 2016

RL RECORD

STATE ROUTE 63 SCOPING STUDY

SAFETY CONSIDERATIONS

A-3

APPENDIX C

SAFETY AND CRASH DATA

CRASH_SEVERITY	Number	%
Fatal Crash	1	0.3%
Injury Crash	78	25.7%
Property Damage Crash	224	73.9%
Grand Total	303	100.0%

TRAFFIC_CRASH_YEAR	Number	%
2013	95	31.4%
2014	104	34.3%
2015	104	34.3%
Grand Total	303	100.0%

DAY_OF_WEEK	Number	%
Tuesday	58	19.1%
Wednesday	54	17.8%
Friday	45	14.9%
Thursday	45	14.9%
Saturday	39	12.9%
Monday	32	10.6%
Sunday	30	9.9%
Grand Total	303	100.0%

HOUR_OF_DAY	Number	%
0	4	1.3%
1	3	1.0%
2	1	0.3%
3	1	0.3%
4	2	0.7%
5	9	3.0%
6	16	5.3%
7	14	4.6%
8	16	5.3%
9	16	5.3%
10	11	3.6%
11	10	3.3%
12	19	6.3%
13	17	5.6%
14	23	7.6%
15	20	6.6%
16	26	8.6%
17	37	12.2%
18	15	5.0%
19	12	4.0%
20	7	2.3%
21	6	2.0%
22	11	3.6%
23	7	2.3%
Grand Total	303	100.0%

TYPE_OF_CRASH	Number	%
Rear End	147	48.5%
Fixed Object	51	16.8%
Angle	22	7.3%
Animal	18	5.9%
Left Turn	13	4.3%
Sideswipe - Passing	12	4.0%
Sideswipe - Meeting	12	4.0%
Other Non-Collision	11	3.6%
Backing	10	3.3%
Parked Vehicle	2	0.7%
Head On	2	0.7%
Other Object	2	0.7%
Pedestrian	1	0.3%
Grand Total	303	100.0%

WEATHER_CONDITION	Number	%
Clear	157	51.8%
Cloudy	89	29.4%
Rain	32	10.6%
Snow	19	6.3%
Sleet, Hail	2	0.7%
Fog, Smog, Smoke	2	0.7%
Other/Unknown	2	0.7%
Grand Total	303	100.0%

ROAD_CONDITION	Number	%
Road - Dry	225	74.3%
Road - Wet	60	19.8%
Road - Snow	12	4.0%
Road - Ice	5	1.7%
Road Condition Not Stated	1	0.3%
Grand Total	303	100.0%

LIGHT_CONDITION	Number	%
Daylight	209	69.0%
Dark - No Lights	55	18.2%
Dark - Lighted	21	6.9%
Dusk	8	2.6%
Dawn	8	2.6%
Light Not Stated	2	0.7%
Grand Total	303	100.0%

NUMBER_OF_VEHICLES	Number	%
(blank)	303	100.0%
Grand Total	303	100.0%

LOCATION	Number	%
Not An Intersection	234	77.2%
Four-Way Intersection	43	14.2%
T-Intersection	17	5.6%
Driveway/Alley Access	7	2.3%
Y-Intersection	1	0.3%
Unknown	1	0.3%
Grand Total	303	100.0%

CRASH_MONTH_NBR	Number	%
1	29	9.6%
2	19	6.3%
3	20	6.6%
4	24	7.9%
5	21	6.9%
6	21	6.9%
7	22	7.3%
8	21	6.9%
9	26	8.6%
10	39	12.9%
11	27	8.9%
12	34	11.2%
Grand Total	303	100.0%

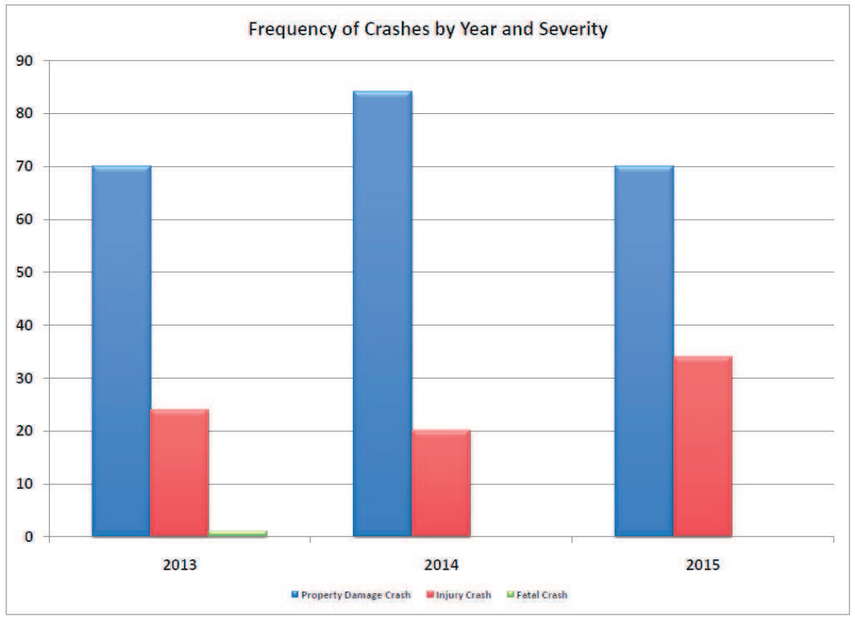
ROAD_CONTOUR	Number	%
Straight - Level	209	69.0%
Straight - Grade	93	30.7%
Curve - Level	1	0.3%
Grand Total	303	100.0%

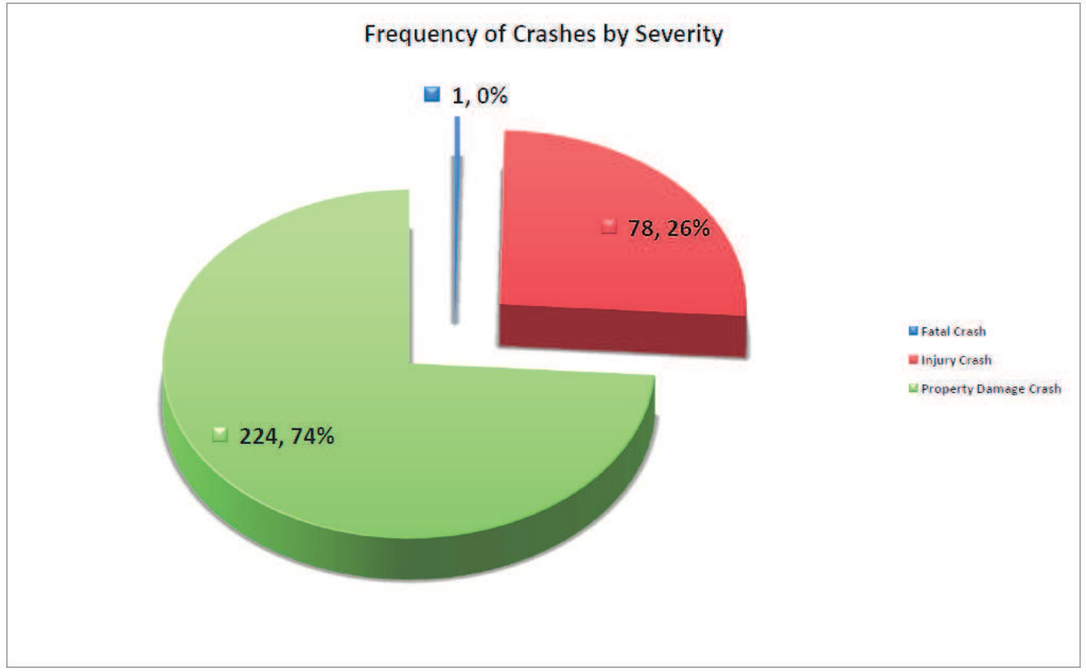
SPECIAL_AREA	Number	%
Unknown or Not in Work Zone	289	95.4%
Activity Area	8	2.6%
Advance Warning Area	4	1.3%
Transition Area	1	0.3%
Before First Work Zone Warning Sign	1	0.3%
Grand Total	303	100.0%

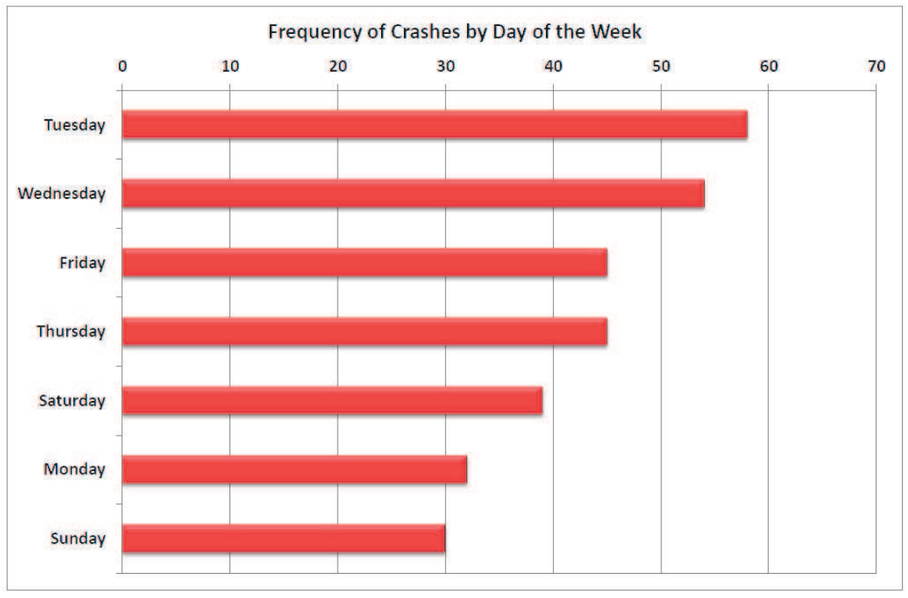
ANIMAL_TYPE	Number	%
Animal Not Stated	285	94.1%
Deer Hit	16	5.3%
Other Animal	2	0.7%
Grand Total	303	100.0%

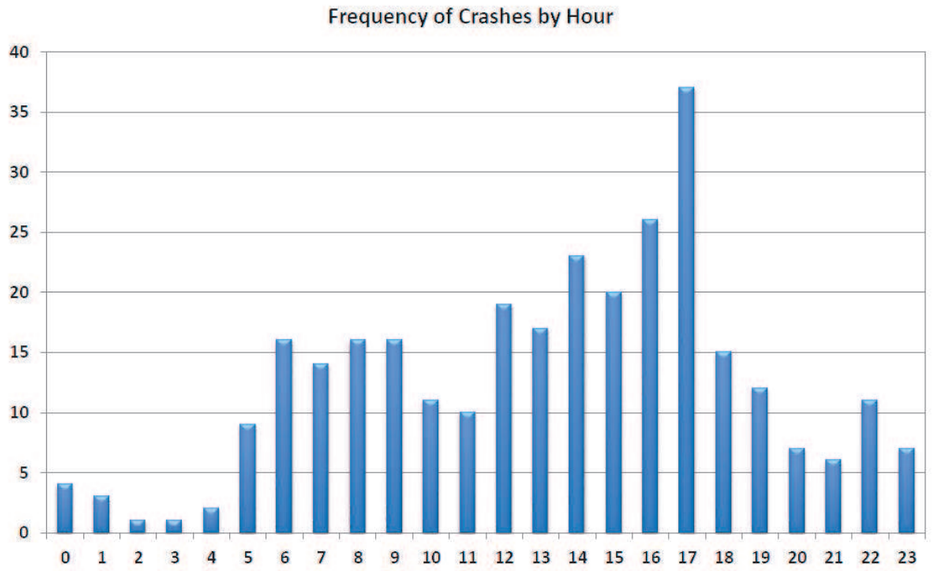
ACTION1	Number	%
Straight Ahead	225	74.3%
Making Left Turn	25	8.3%
Slowing Or Stopped In Traffic	18	5.9%
Backing	10	3.3%
Changing Lanes	6	2.0%
Making Right Turn	6	2.0%
Unknown	4	1.3%
Overtaking/Passing	4	1.3%
Entering Traffic Lane	2	0.7%
Making U-Turn	1	0.3%
Other Motorist Action	1	0.3%
Leaving Traffic Lane	1	0.3%
Grand Total	303	100.0%

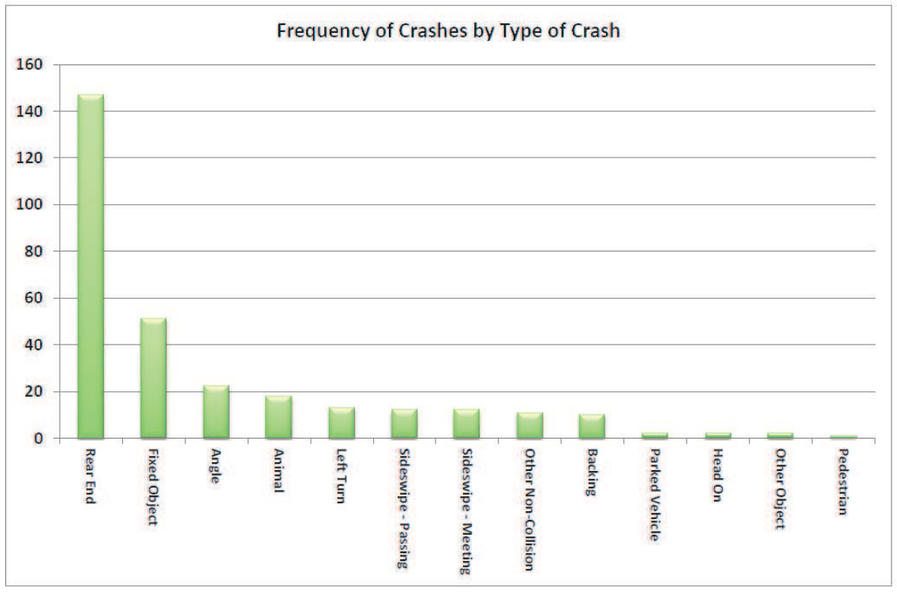
CONTRIBUTING_FACTOR1	Number	%
Followed Too Closely/ACDA	147	48.5%
Improper Lane Change/Passing/Offroad	27	8.9%
Failure To Yield	24	7.9%
None	21	6.9%
Unsafe Speed	15	5.0%
Failure To Control	14	4.6%
Left Of Center	13	4.3%
Improper Backing	7	2.3%
Improper Turn	7	2.3%
Unknown	6	2.0%
Ran Red Light	4	1.3%
Operating Vehicle In Negligent Manner	4	1.3%
Load Shifting/Falling/Spilling	3	1.0%
Swerving To Avoid	3	1.0%
Operating Defective Equipment	3	1.0%
Wrong Side/Wrong Way	1	0.3%
Vision Obstruction	1	0.3%
Other Improper Action	1	0.3%
Ran Stop Sign	1	0.3%
Improper Start From Parked Position	1	0.3%
Grand Total	303	100.0%

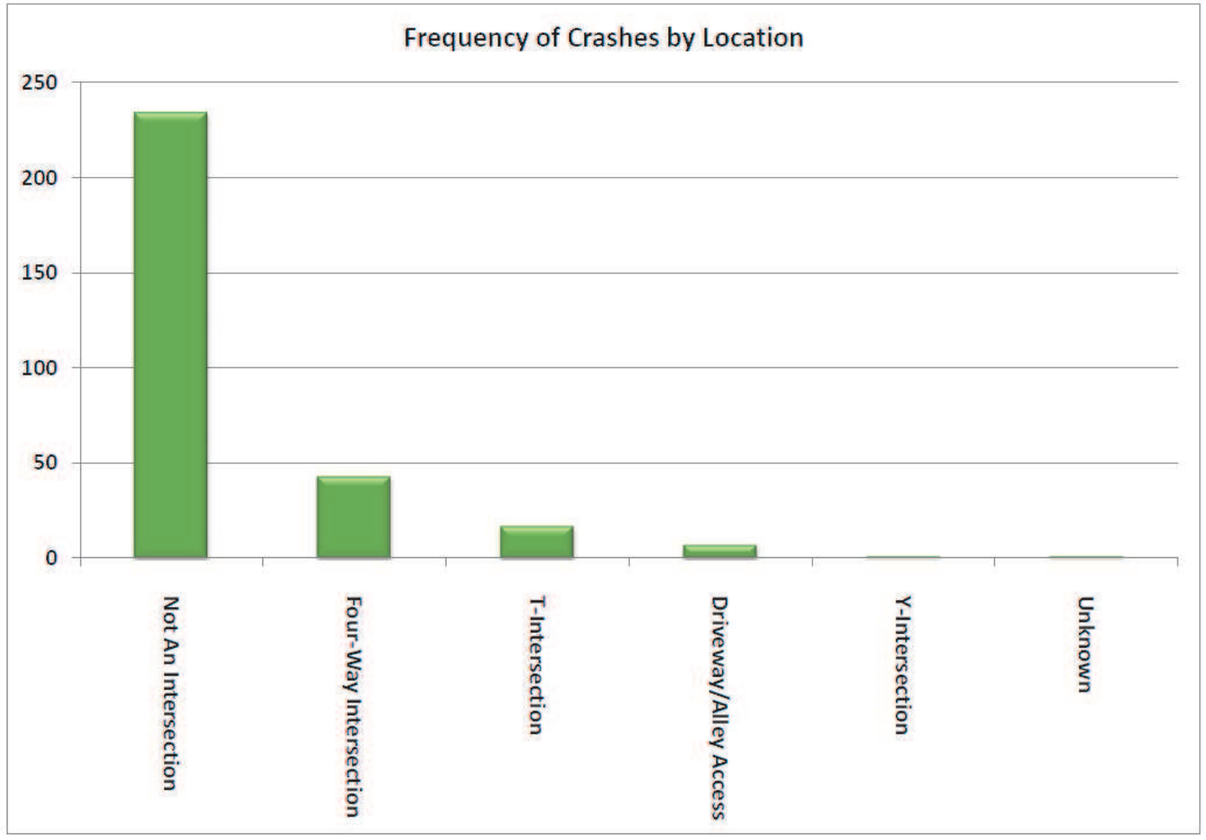


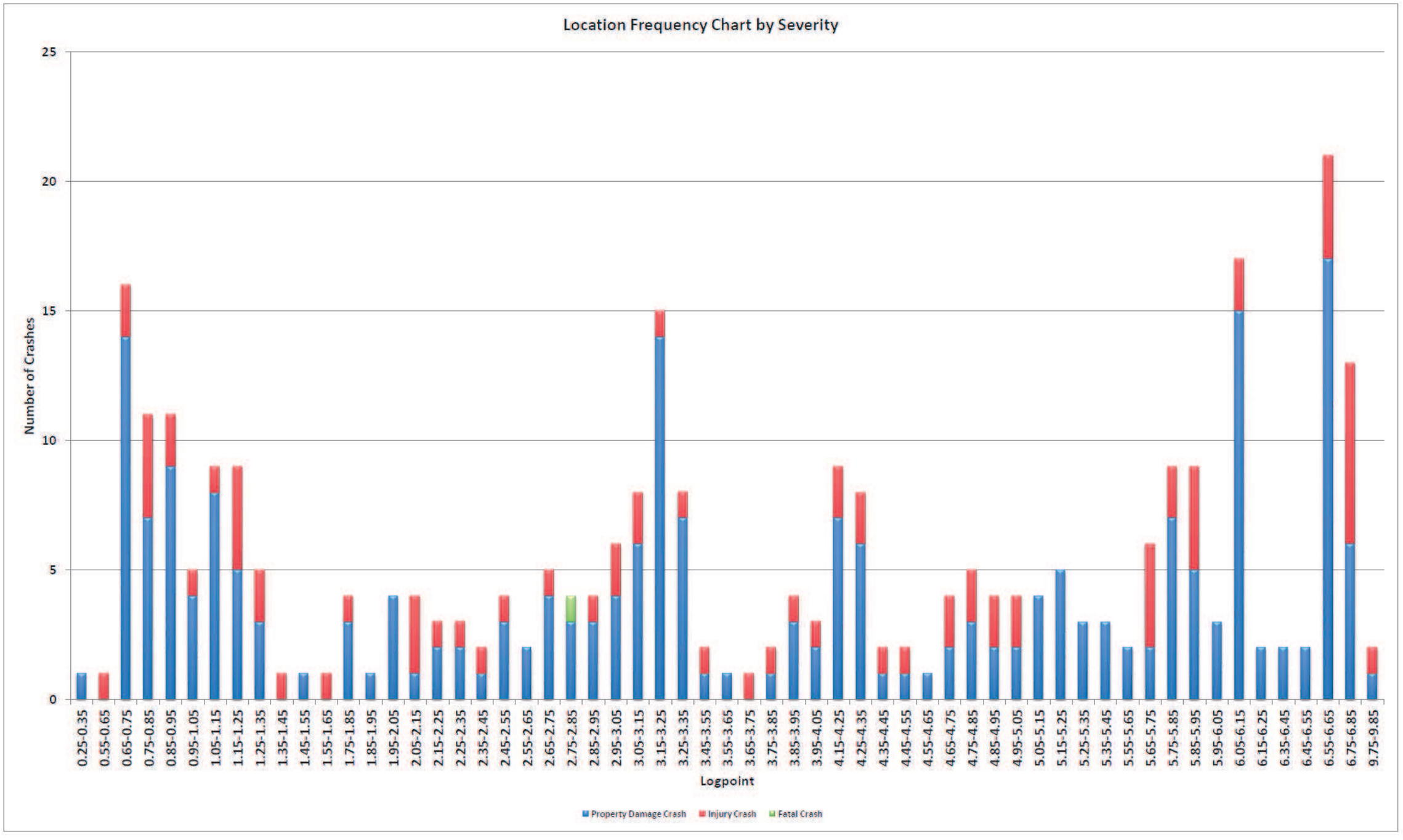




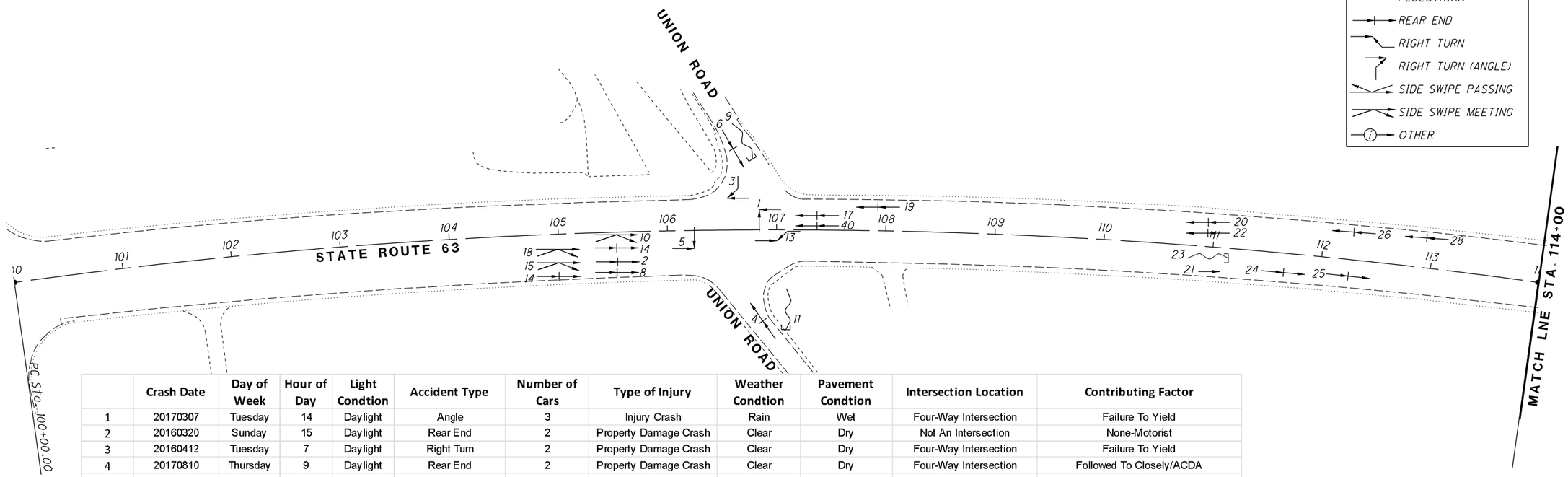

Frequency of Crashes by Hour
40
35
30
25
20
15
10
5
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Frequency of Crashes by Type of Crash
160
140
120
100
80
60
40
20
0
Rear End
Fixed Object
Angle
Animal
Left Turn
Sideswipe - Passing
Sideswipe - Meeting
Other Non-Collision
Backing
Parked Vehicle
Head On
Other Object
Pedestrian


Frequency of Crashes by Location
250
200
150
100
50
0
Not An Intersection
Four-Way Intersection
T-Intersection
Driveway/Alley Access
Y-Intersection
Unknown


Location Frequency Chart by Severity
Number of Crashes
25
20
15
10
5
0
0.25-0.35
0.55-0.65
0.65-0.75
0.75-0.85
0.85-0.95
0.95-1.05
1.05-1.15
1.15-1.25
1.25-1.35
1.35-1.45
1.45-1.55
1.55-1.65
1.75-1.85
1.85-1.95
1.95-2.05
2.05-2.15
2.15-2.25
2.25-2.35
2.35-2.45
2.45-2.55
2.55-2.65
2.65-2.75
2.75-2.85
2.85-2.95
2.95-3.05
3.05-3.15
3.15-3.25
3.25-3.35
3.45-3.55
3.55-3.65
3.65-3.75
3.75-3.85
3.85-3.95
3.95-4.05
4.15-4.25
4.25-4.35
4.35-4.45
4.45-4.55
4.55-4.65
4.65-4.75
4.75-4.85
4.85-4.95
4.95-5.05
5.05-5.15
5.15-5.25
5.25-5.35
5.35-5.45
5.55-5.65
5.65-5.75
5.75-5.85
5.85-5.95
5.95-6.05
6.05-6.15
6.15-6.25
6.35-6.45
6.45-6.55
6.55-6.65
6.75-6.85
9.75-9.85
Logpoint
Property Damage Crash
Injury Crash
Fatal Crash

ATTACHMENT B CRASH DIAGRAM FOR 2016-2018 PERIOD OF ANALYSIS



	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
1	20170307	Tuesday	14	Daylight	Angle	3	Injury Crash	Rain	Wet	Four-Way Intersection	Failure To Yield
2	20160320	Sunday	15	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	None-Motorist
3	20160412	Tuesday	7	Daylight	Right Turn	2	Property Damage Crash	Clear	Dry	Four-Way Intersection	Failure To Yield
4	20170810	Thursday	9	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection	Followed To Closely/ACDA
5	20170910	Sunday	17	Daylight	Angle	2	Injury Crash	Clear	Dry	Not An Intersection	Failure To Yield
6	20171022	Sunday	12	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
8	20160524	Tuesday	9	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
9	20160602	Thursday	17	Daylight	Fixed Object	1	Property Damage Crash	Rain	Wet	Not An Intersection	Unsafe Speed
10	20161220	Tuesday	15	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Four-Way Intersection	Failure To Yield
11	20171113	Monday	12	Daylight	Animal	1	Property Damage Crash	Cloudy	Dry	Four-Way Intersection	Failure To Control
13	20180502	Wednesday	6	Dawn	Left Turn	3	Injury Crash	Clear	Dry	Four-Way Intersection	Failure To Yield
14	20180928	Friday	16	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
15	20180930	Sunday	14	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
17	20161123	Wednesday	11	Daylight	Rear End	2	Property Damage Crash	Cloudy	Wet	Not An Intersection	Followed To Closely/ACDA
18	20170512	Friday	17	Daylight	Sideswipe - Passing	2	Property Damage Crash	Cloudy	Dry	Four-Way Intersection	Improper Lane Change/Passing/Offroad
19	20180608	Friday	13	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection	Unknown
20	20180512	Saturday	14	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	T-Intersection	Followed To Closely/ACDA
21	20170618	Sunday	7	Dawn	Animal	1	Property Damage Crash	Rain	Wet	Not An Intersection	None-Motorist
22	20171205	Tuesday	8	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection	Followed To Closely/ACDA
23	20171209	Saturday	15	Daylight	Fixed Object	1	Injury Crash	Snow	Snow	Not An Intersection	None-Motorist
24	20160509	Monday	16	Daylight	Rear End	2	Injury Crash	Rain	Wet	T-Intersection	Followed To Closely/ACDA
25	20161011	Tuesday	13	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
26	20161128	Monday	23	- Lighted Roa	Rear End	2	Property Damage Crash	Rain	Wet	T-Intersection	Followed To Closely/ACDA
28	20170509	Tuesday	12	Daylight	Rear End	2	Property Damage Crash	Other/Unknown	Wet	Not An Intersection	Followed To Closely/ACDA
40	20160422	Friday	12	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 100+00 TO STA. 114+00

WAR-63-0.83

1
11

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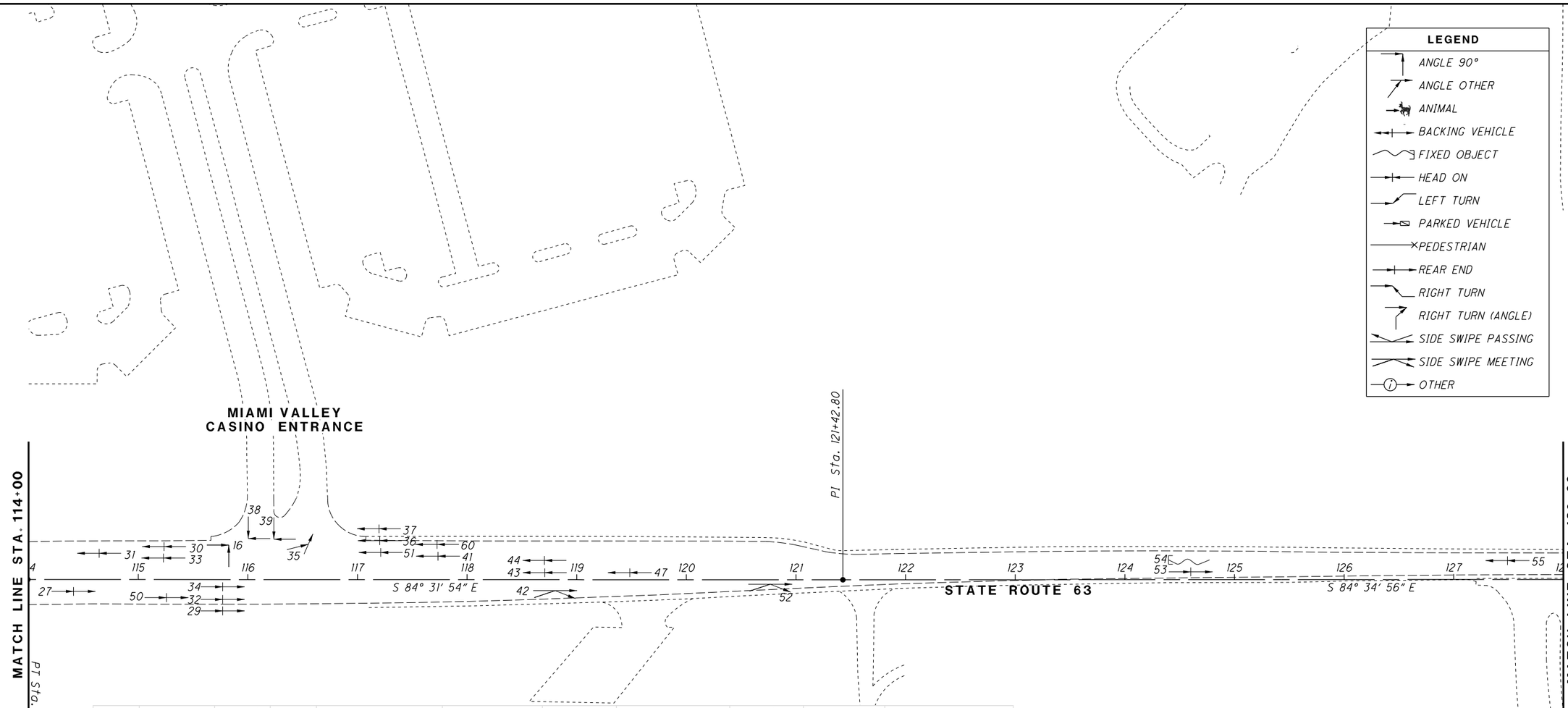

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location
16	20160410	Sunday	19	Dusk	Angle	2	Injury Crash	Rain	Wet	Not An Intersection
27	20160824	Wednesday	12	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	T-Intersection
29	20170627	Tuesday	14	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
30	20180311	Sunday	0	Dark - Lighted Roadway	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
31	20170614	Wednesday	9	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
32	20170923	Saturday	20	Dusk	Rear End	2	Injury Crash	Clear	Dry	T-Intersection
33	20181227	Thursday	14	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
34	20170528	Sunday	22	Dark - Roadway Not Lighted	Rear End	2	Property Damage Crash	Rain	Wet	Driveway/Alley Access
35	20160708	Friday	21	Dark - Lighted Roadway	Left Turn	2	Property Damage Crash	Clear	Dry	T-Intersection
36	20181027	Saturday	14	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	T-Intersection
37	20160304	Friday	20	Dark - Lighted Roadway	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
38	20160917	Saturday	19	Dusk	Right Turn	2	Property Damage Crash	Cloudy	Wet	T-Intersection
39	20170505	Friday	15	Daylight	Angle	2	Property Damage Crash	Cloudy	Dry	T-Intersection
41	20160706	Wednesday	9	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection
42	20160912	Monday	16	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection
43	20161118	Friday	13	Daylight	Rear End	3	Injury Crash	Clear	Dry	Not An Intersection
44	20161123	Wednesday	18	Dark - Roadway Not Lighted	Rear End	2	Injury Crash	Rain	Wet	Not An Intersection
47	20171228	Thursday	15	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	Not An Intersection
50	20170808	Tuesday	18	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection
51	20160406	Wednesday	21	Dark - Lighted Roadway	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
52	20160623	Thursday	12	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection
53	20161115	Tuesday	7	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
54	20170725	Tuesday	7	Daylight	Fixed Object	1	Injury Crash	Clear	Dry	Not An Intersection
55	20160524	Tuesday	17	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	T-Intersection
60	20181214	Friday	19	Dark - Lighted Roadway	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 114+00 TO STA. 128+00

WAR-63-0.83

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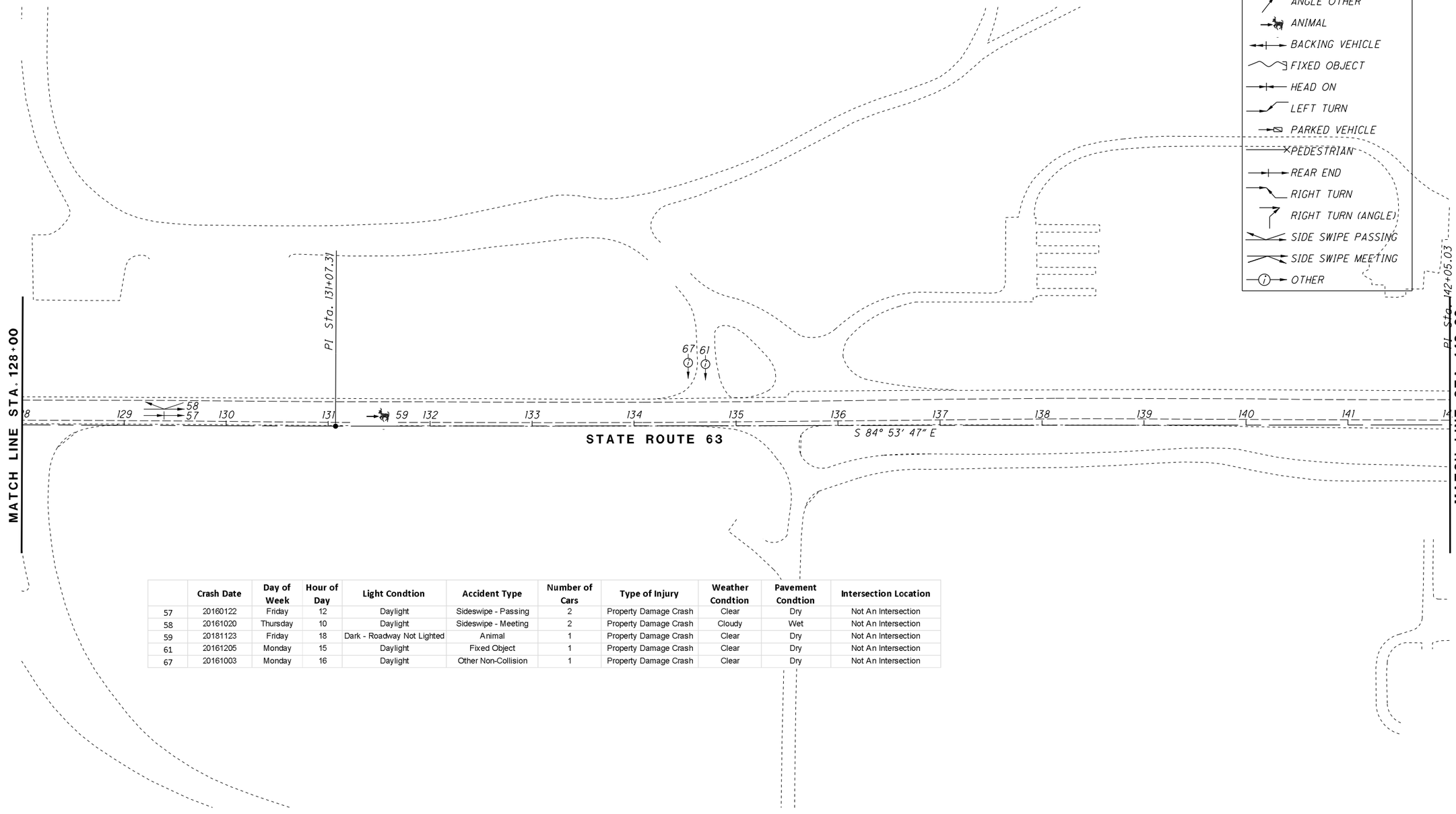

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location
57	20160122	Friday	12	Daylight	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection
58	20161020	Thursday	10	Daylight	Sideswipe - Meeting	2	Property Damage Crash	Cloudy	Wet	Not An Intersection
59	20181123	Friday	18	Dark - Roadway Not Lighted	Animal	1	Property Damage Crash	Clear	Dry	Not An Intersection
61	20161205	Monday	15	Daylight	Fixed Object	1	Property Damage Crash	Clear	Dry	Not An Intersection
67	20161003	Monday	16	Daylight	Other Non-Collision	1	Property Damage Crash	Clear	Dry	Not An Intersection

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 128+00 TO STA. 142+00

WAR-63-0.83

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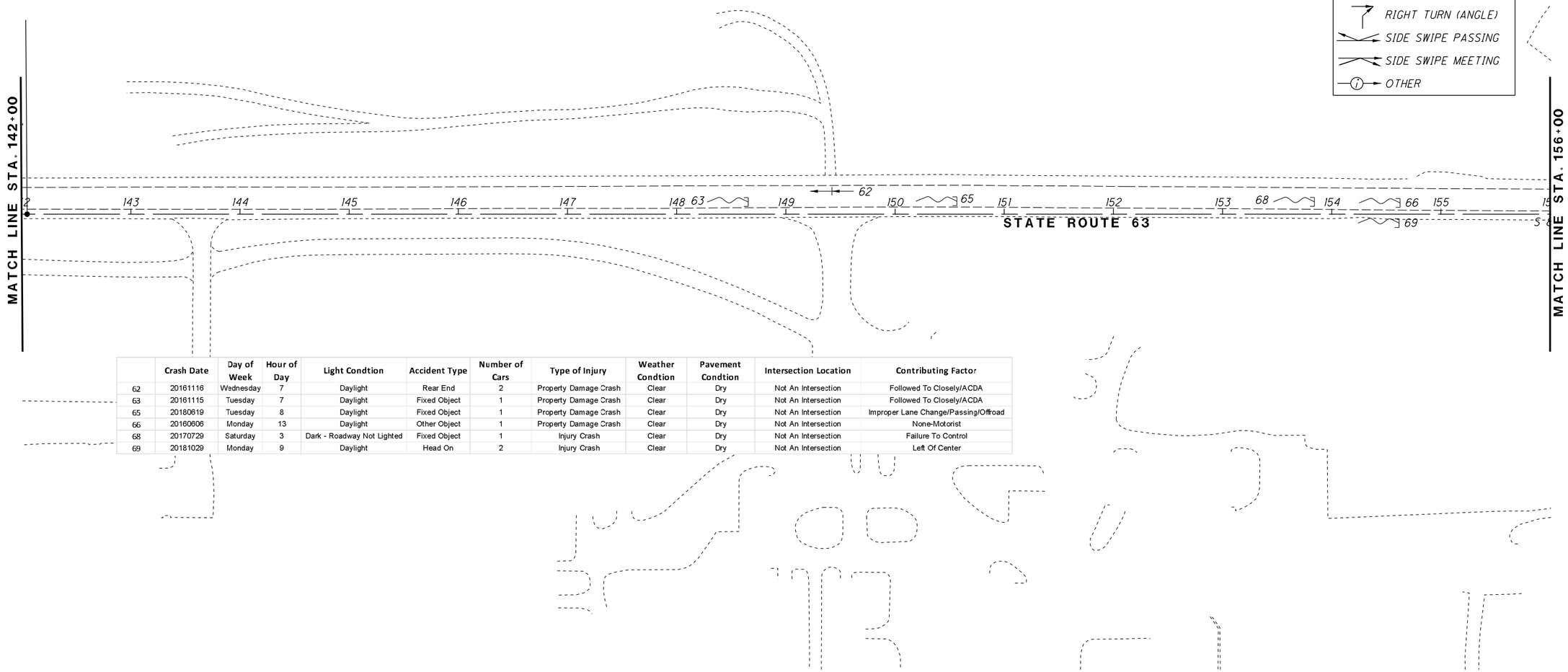

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
62	20161116	Wednesday	7	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
63	20161115	Tuesday	7	Daylight	Fixed Object	1	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
65	20180619	Tuesday	8	Daylight	Fixed Object	1	Property Damage Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
66	20160606	Monday	13	Daylight	Other Object	1	Property Damage Crash	Clear	Dry	Not An Intersection	None-Motorist
68	20170729	Saturday	3	Dark - Roadway Not Lighted	Fixed Object	1	Injury Crash	Clear	Dry	Not An Intersection	Failure To Control
69	20181029	Monday	9	Daylight	Head On	2	Injury Crash	Clear	Dry	Not An Intersection	Left Of Center

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 142+00 TO STA. 156+00

WAR-63-0.83

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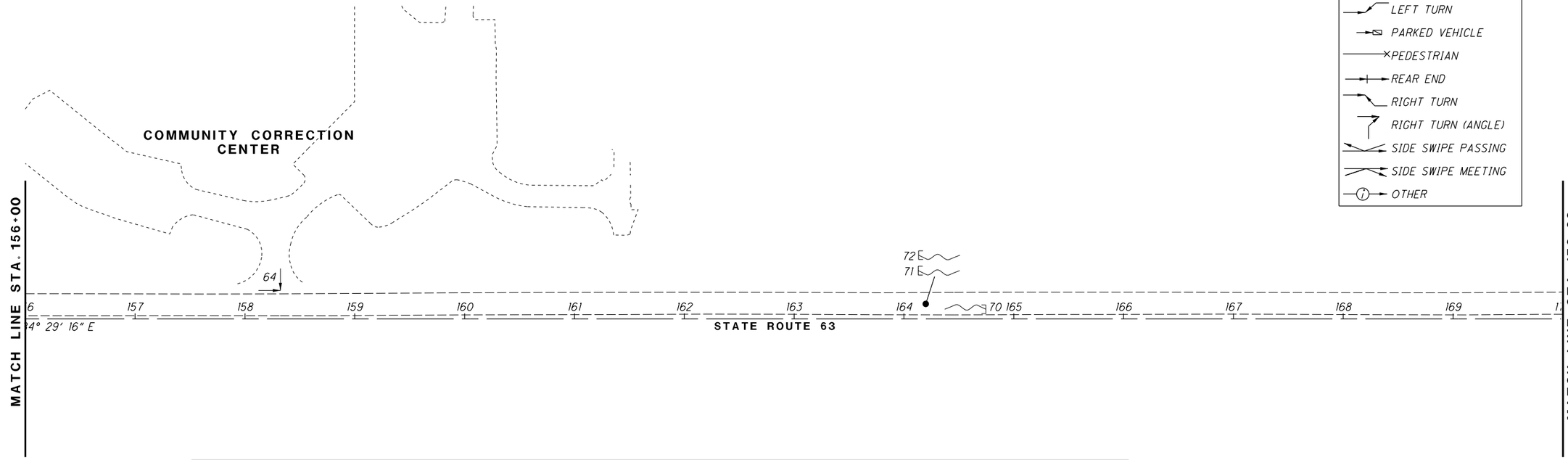

LEGEND

- ANGLE 90°
- ANGLE OTHER
- ANIMAL
- BACKING VEHICLE
- FIXED OBJECT
- HEAD ON
- LEFT TURN
- PARKED VEHICLE
- PEDESTRIAN
- REAR END
- RIGHT TURN
- RIGHT TURN (ANGLE)
- SIDE SWIPE PASSING
- SIDE SWIPE MEETING
- OTHER

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
64	20170407	Friday	16	Daylight	Angle	2	Injury Crash	Clear	Dry	Driveway/Alley Access	Improper Lane Change/Passing/Offroad
70	20170106	Friday	7	Dawn	Fixed Object	1	Property Damage Crash	Cloudy	Wet	Not An Intersection	Followed To Closely/ACDA
71	20170207	Tuesday	10	Daylight	Fixed Object	1	Injury Crash	Cloudy	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
72	20180106	Saturday	1	Dark - Lighted Roadway	Fixed Object	1	Injury Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 156+00 TO STA. 170+00

WAR-63-0.83

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11

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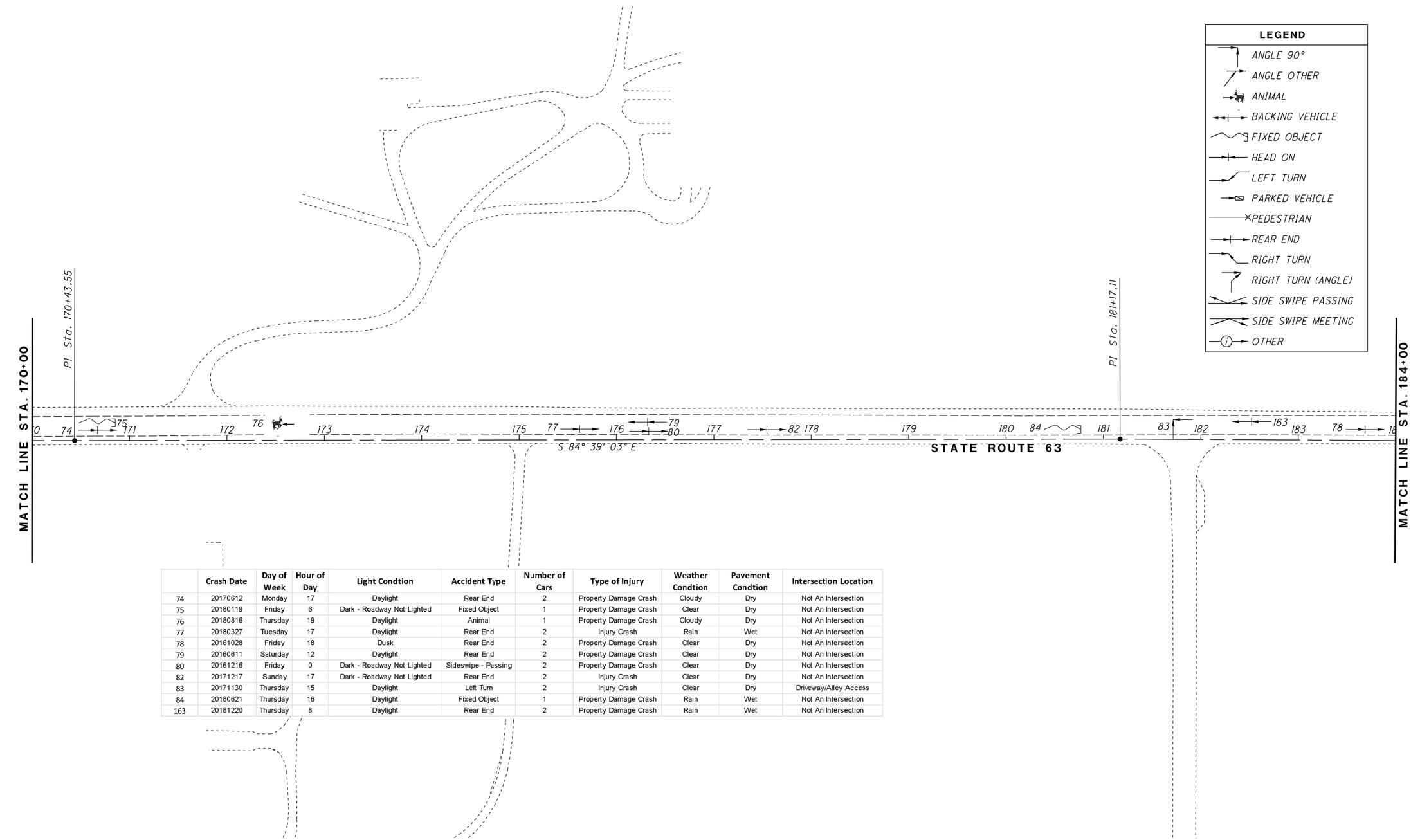

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location
74	20170612	Monday	17	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
75	20180119	Friday	6	Dark - Roadway Not Lighted	Fixed Object	1	Property Damage Crash	Clear	Dry	Not An Intersection
76	20180816	Thursday	19	Daylight	Animal	1	Property Damage Crash	Cloudy	Dry	Not An Intersection
77	20180327	Tuesday	17	Daylight	Rear End	2	Injury Crash	Rain	Wet	Not An Intersection
78	20161028	Friday	18	Dusk	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
79	20160611	Saturday	12	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
80	20161216	Friday	0	Dark - Roadway Not Lighted	Sideswipe - Passing	2	Property Damage Crash	Clear	Dry	Not An Intersection
82	20171217	Sunday	17	Dark - Roadway Not Lighted	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection
83	20171130	Thursday	15	Daylight	Left Turn	2	Injury Crash	Clear	Dry	Driveway/Alley Access
84	20180621	Thursday	16	Daylight	Fixed Object	1	Property Damage Crash	Rain	Wet	Not An Intersection
163	20181220	Thursday	8	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 170+00 TO STA. 184+00

WAR-63-0.83

6
11

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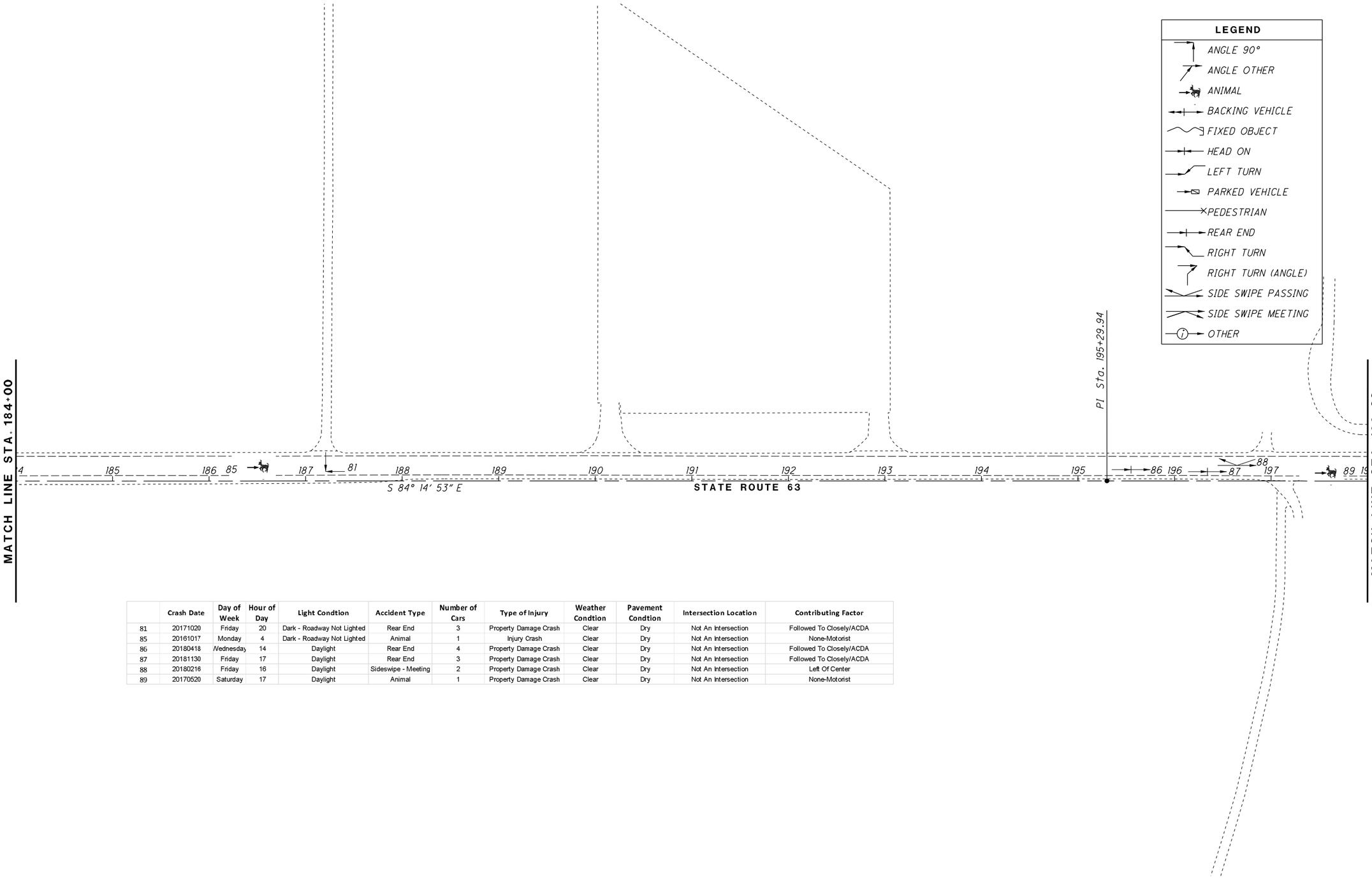

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
81	20171020	Friday	20	Dark - Roadway Not Lighted	Rear End	3	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
85	20161017	Monday	4	Dark - Roadway Not Lighted	Animal	1	Injury Crash	Clear	Dry	Not An Intersection	None-Motorist
86	20180418	Wednesday	14	Daylight	Rear End	4	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
87	20181130	Friday	17	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
88	20180216	Friday	16	Daylight	Sideswipe - Meeting	2	Property Damage Crash	Clear	Dry	Not An Intersection	Left Of Center
89	20170520	Saturday	17	Daylight	Animal	1	Property Damage Crash	Clear	Dry	Not An Intersection	None-Motorist

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 184+00 TO STA. 198+00

WAR-63-0.83

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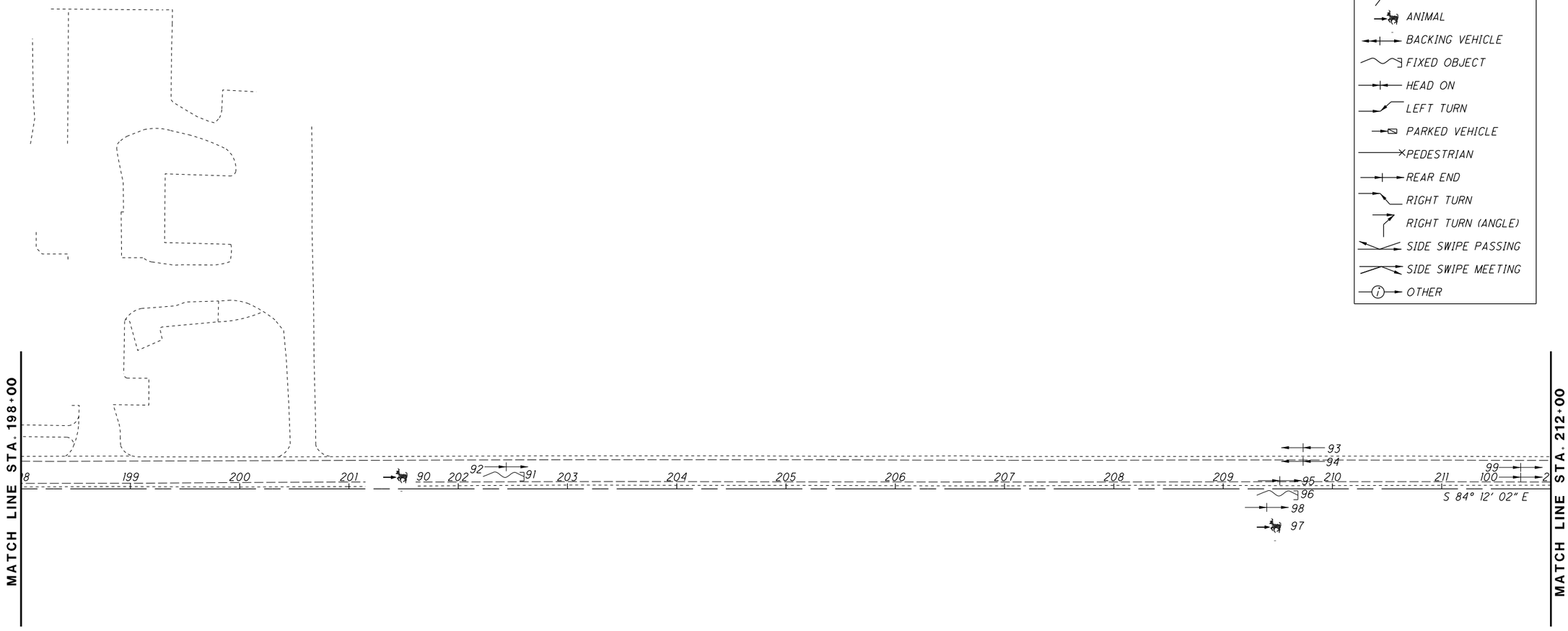

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
90	20161226	Monday	8	Daylight	Animal	1	Property Damage Crash	Rain	Wet	Not An Intersection	None-Motorist
91	20170703	Monday	14	Daylight	Fixed Object	1	Injury Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
92	20180221	Wednesday	7	Dark - Roadway Not Lighted	Sideswipe - Passing	2	Injury Crash	Rain	Wet	Not An Intersection	Followed To Closely/ACDA
93	20160115	Friday	7	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
94	20160801	Monday	18	Daylight	Rear End	4	Injury Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
95	20160811	Thursday	9	Daylight	Rear End	3	Property Damage Crash	Cloudy	Dry	Not An Intersection	Followed To Closely/ACDA
96	20170321	Tuesday	0	Dark - Roadway Not Lighted	Fixed Object	1	Injury Crash	Fog, Smog, Smoke	Wet	Not An Intersection	Improper Lane Change/Passing/Offroad
97	20170402	Sunday	5	Dawn	Animal	1	Property Damage Crash	Clear	Dry	Not An Intersection	None-Motorist
98	20180813	Monday	17	Daylight	Rear End	3	Fatal Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
99	20160801	Monday	18	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
100	20180305	Monday	17	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection	Followed To Closely/ACDA

HORIZONTAL SCALE IN FEET
0 25 50 11

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 198+00 TO STA. 212+00

WAR-63-0.83

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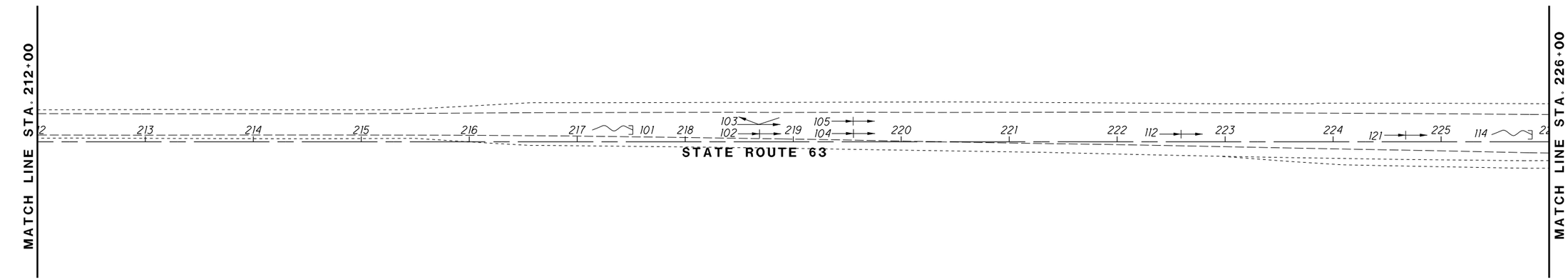

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
101	20170406	Thursday	11	Daylight	Fixed Object	1	Property Damage Crash	Rain	Dry	Not An Intersection	Followed To Closely/ACDA
102	20180714	Saturday	9	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
103	20160809	Tuesday	11	Daylight	Sideswipe - Meeting	2	Property Damage Crash	Cloudy	Dry	Not An Intersection	Left Of Center
104	20181012	Friday	16	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection	Followed To Closely/ACDA
105	20170930	Saturday	17	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection	Followed To Closely/ACDA
112	20170118	Wednesday	7	Dawn	Rear End	3	Injury Crash	Cloudy	Dry	Not An Intersection	Followed To Closely/ACDA
114	20171202	Saturday	11	Daylight	Fixed Object	1	Property Damage Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
121	20170815	Tuesday	16	Daylight	Rear End	2	Injury Crash	Clear	Dry	Four-Way Intersection	Followed To Closely/ACDA

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 212+00 TO STA. 226+00

WAR-63-0.83

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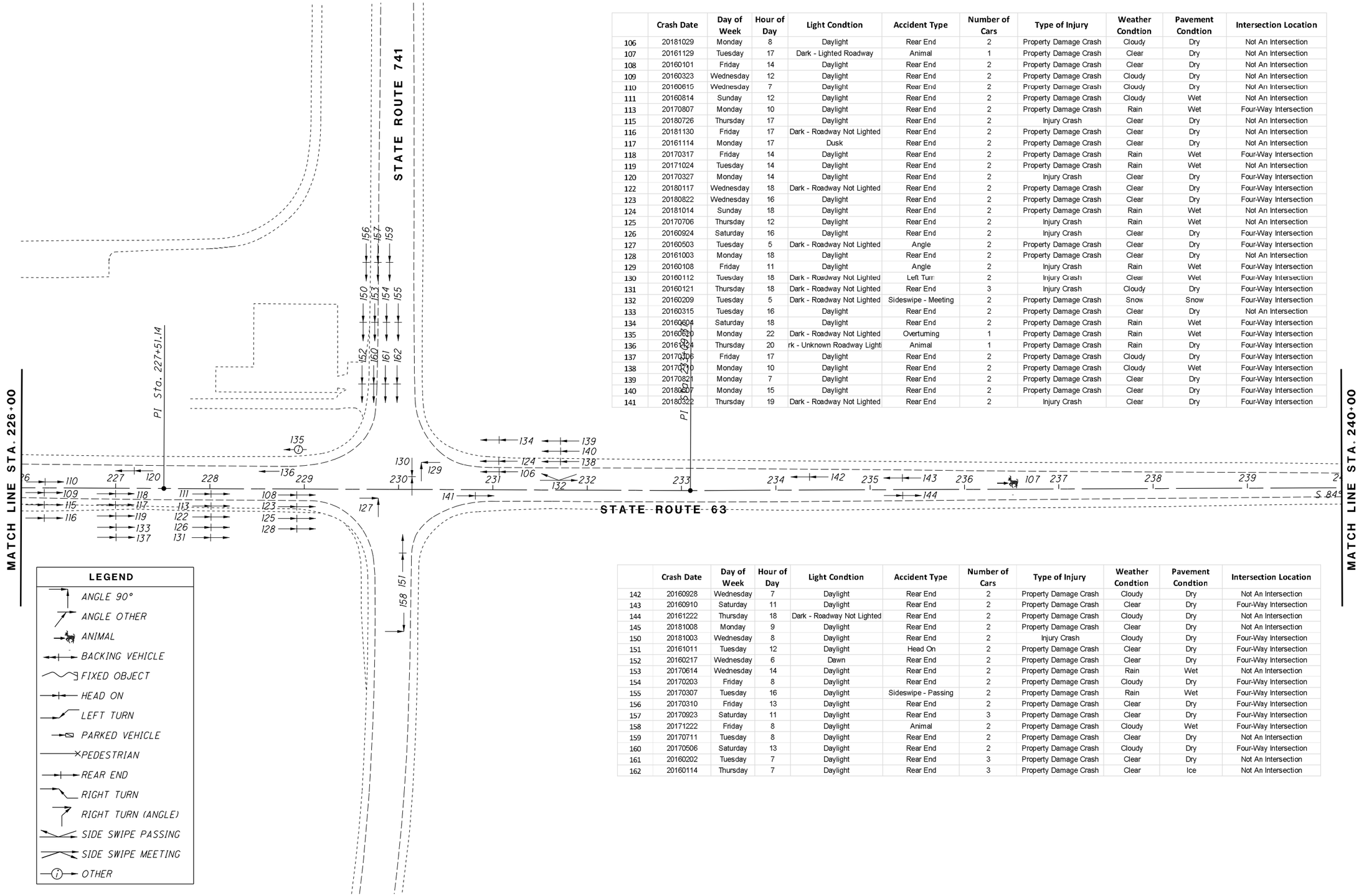

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106	20181029	Monday	8	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
107	20161129	Tuesday	17	Dark - Lighted Roadway	Animal	1	Property Damage Crash	Clear	Dry	Not An Intersection
108	20160101	Friday	14	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
109	20160323	Wednesday	12	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
110	20160615	Wednesday	7	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
111	20160814	Sunday	12	Daylight	Rear End	2	Property Damage Crash	Cloudy	Wet	Not An Intersection
113	20170807	Monday	10	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Four-Way Intersection
115	20180726	Thursday	17	Daylight	Rear End	2	Injury Crash	Clear	Dry	Not An Intersection
116	20181130	Friday	17	Dark - Roadway Not Lighted	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
117	20161114	Monday	17	Dusk	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
118	20170317	Friday	14	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Four-Way Intersection
119	20171024	Tuesday	14	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
120	20170327	Monday	14	Daylight	Rear End	2	Injury Crash	Clear	Dry	Four-Way Intersection
122	20180117	Wednesday	18	Dark - Roadway Not Lighted	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
123	20180822	Wednesday	16	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
124	20181014	Sunday	18	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
125	20170706	Thursday	12	Daylight	Rear End	2	Injury Crash	Rain	Wet	Not An Intersection
126	20160924	Saturday	16	Daylight	Rear End	2	Injury Crash	Clear	Dry	Four-Way Intersection
127	20160503	Tuesday	5	Dark - Roadway Not Lighted	Angle	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
128	20161003	Monday	18	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
129	20160108	Friday	11	Daylight	Angle	2	Injury Crash	Rain	Wet	Four-Way Intersection
130	20160112	Tuesday	18	Dark - Roadway Not Lighted	Left Turn	2	Injury Crash	Clear	Wet	Four-Way Intersection
131	20160121	Thursday	18	Dark - Roadway Not Lighted	Rear End	3	Injury Crash	Cloudy	Dry	Four-Way Intersection
132	20160209	Tuesday	5	Dark - Roadway Not Lighted	Sideswipe - Meeting	2	Property Damage Crash	Snow	Snow	Four-Way Intersection
133	20160315	Tuesday	16	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
134	20160604	Saturday	18	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Four-Way Intersection
135	20160620	Monday	22	Dark - Roadway Not Lighted	Overturning	1	Property Damage Crash	Rain	Wet	Four-Way Intersection
136	20161124	Thursday	20	rk - Unknown Roadway Lighti	Animal	1	Property Damage Crash	Rain	Dry	Four-Way Intersection
137	20170306	Friday	17	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Four-Way Intersection
138	20170710	Monday	10	Daylight	Rear End	2	Property Damage Crash	Cloudy	Wet	Four-Way Intersection
139	20170821	Monday	7	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
140	20180607	Monday	15	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
141	20180322	Thursday	19	Dark - Roadway Not Lighted	Rear End	2	Injury Crash	Clear	Dry	Four-Way Intersection

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location
142	20160928	Wednesday	7	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
143	20160910	Saturday	11	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
144	20161222	Thursday	18	Dark - Roadway Not Lighted	Rear End	2	Property Damage Crash	Cloudy	Dry	Not An Intersection
145	20181008	Monday	9	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
150	20181003	Wednesday	8	Daylight	Rear End	2	Injury Crash	Cloudy	Dry	Four-Way Intersection
151	20161011	Tuesday	12	Daylight	Head On	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
152	20160217	Wednesday	6	Dawn	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
153	20170614	Wednesday	14	Daylight	Rear End	2	Property Damage Crash	Rain	Wet	Not An Intersection
154	20170203	Friday	8	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Four-Way Intersection
155	20170307	Tuesday	16	Daylight	Sideswipe - Passing	2	Property Damage Crash	Rain	Wet	Four-Way Intersection
156	20170310	Friday	13	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Four-Way Intersection
157	20170923	Saturday	11	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	Four-Way Intersection
158	20171222	Friday	8	Daylight	Animal	2	Property Damage Crash	Cloudy	Wet	Four-Way Intersection
159	20170711	Tuesday	8	Daylight	Rear End	2	Property Damage Crash	Clear	Dry	Not An Intersection
160	20170506	Saturday	13	Daylight	Rear End	2	Property Damage Crash	Cloudy	Dry	Four-Way Intersection
161	20160202	Tuesday	7	Daylight	Rear End	3	Property Damage Crash	Clear	Dry	Not An Intersection
162	20160114	Thursday	7	Daylight	Rear End	3	Property Damage Crash	Clear	Ice	Not An Intersection

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 226+00 TO STA. 240+00

WAR-63-0.83

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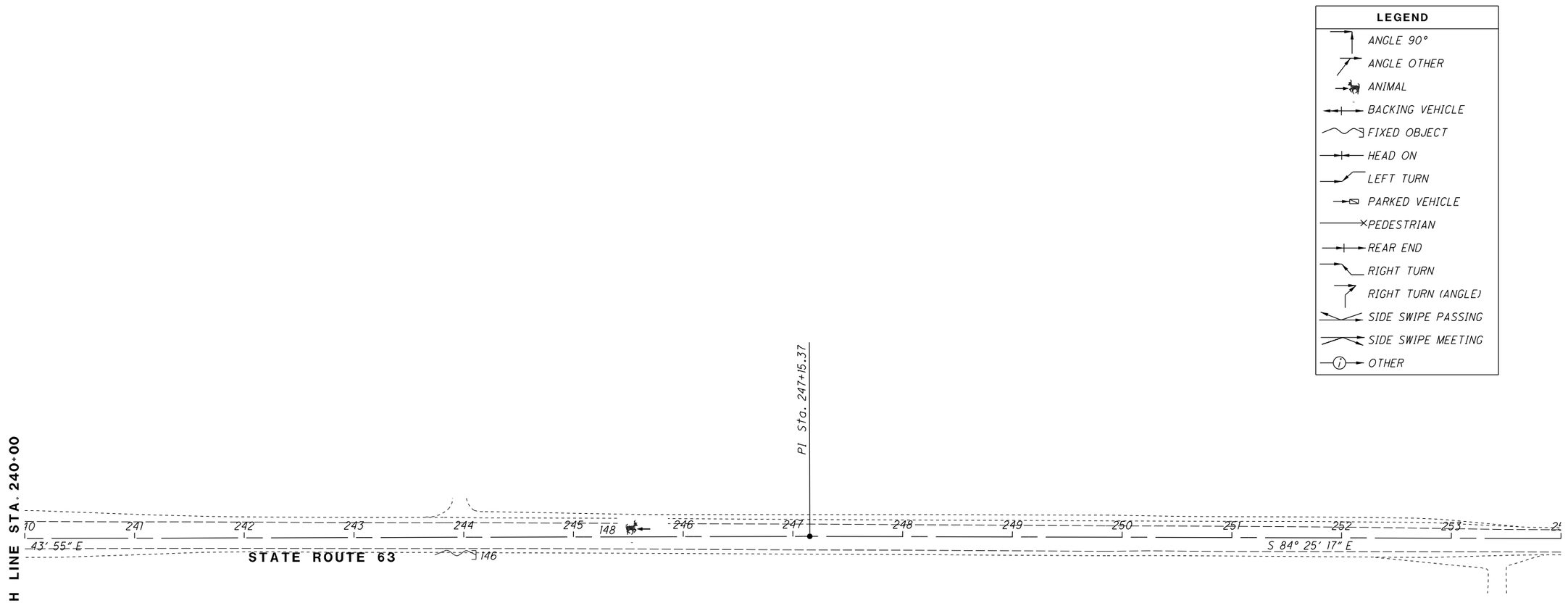


LEGEND

- ANGLE 90°
- ANGLE OTHER
- ANIMAL
- BACKING VEHICLE
- FIXED OBJECT
- HEAD ON
- LEFT TURN
- PARKED VEHICLE
- PEDESTRIAN
- REAR END
- RIGHT TURN
- RIGHT TURN (ANGLE)
- SIDE SWIPE PASSING
- SIDE SWIPE MEETING
- OTHER

	Crash Date	Day of Week	Hour of Day	Light Condtion	Accident Type	Number of Cars	Type of Injury	Weather Condtion	Pavement Condtion	Intersection Location	Contributing Factor
146	20160527	Friday	4	Dark - Roadway Not Lighted	Fixed Object	1	Injury Crash	Clear	Dry	Not An Intersection	Improper Lane Change/Passing/Offroad
148	20170429	Saturday	5	Dark - Roadway Not Lighted	Animal	1	Property Damage Crash	Rain	Wet	Not An Intersection	None-Motorist

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MG
CHECKED JA

STATE ROUTE 63 - COLLISION DIAGRAM
STA. 240+00 TO STA. 256+00

WAR-63-0.83

11
11

Y:\Projectdata\19001_ODOT\Design\Roadway\Sheets\PLAN_CD11-A.dgn Sheet 4/30/2019 5:43:09 PM HP-2016_01

ATTACHMENT C CRASH DATA FOR 2016-2018 PERIOD OF ANALYSIS

WAR-93 PRIORITY PROJECT

	Number
Total	**126**

CRASH_SEVERITY	Number	%
Fatal Crash	**1**	0.8%
Injury Crash	**33**	26.2%
Property Damage Crash	**92**	73.0%
Grand Total	**126**	**100.0%**

TRAFFIC_CRASH_YEAR	Number	%
2016	**48**	38.1%
2017	**44**	34.9%
2018	**34**	27.0%
Grand Total	**126**	**100.0%**

DAY_OF_WEEK	Number	%
Friday	**30**	23.8%
Tuesday	**21**	16.7%
Monday	**19**	15.1%
Saturday	**16**	12.7%
Thursday	**16**	12.7%
Wednesday	**14**	11.1%
Sunday	**10**	7.9%
Grand Total	**126**	**100.0%**

HOUR_OF_DAY	Number	%
00	**3**	2.4%
01	**1**	0.8%
03	**1**	0.8%
04	**2**	1.6%
05	**2**	1.6%
06	**4**	3.2%
07	**10**	7.9%
08	**7**	5.6%
09	**8**	6.3%
10	**5**	4.0%
11	**4**	3.2%
12	**10**	7.9%
13	**6**	4.8%
14	**8**	6.3%
15	**11**	8.7%
16	**9**	7.1%
17	**13**	10.3%
18	**9**	7.1%
19	**6**	4.8%
20	**3**	2.4%
21	**2**	1.6%
22	**1**	0.8%
23	**1**	0.8%
Grand Total	**126**	**100.0%**

TYPE_OF_CRASH	Number	%
Rear End	**69**	54.8%
Fixed Object	**15**	11.9%
Sideswipe - Passing	**13**	10.3%
Animal	**8**	6.3%
Angle	**6**	4.8%
Left Turn	**4**	3.2%
Right Turn	**3**	2.4%
Sideswipe - Meeting	**2**	1.6%
Backing	**2**	1.6%
Parked Vehicle	**1**	0.8%
Head On	**1**	0.8%
Other Object	**1**	0.8%
Other Non-Collision	**1**	0.8%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

SEVERITY	CRASH_SEVERITY		
TRAFFIC_CRASH_YEAR	**Property Damage Crash**	**Injury Crash**	**Fatal Crash**
2016	36	12	0
2017	30	14	0
2018	26	7	1
Grand Total	**92**	**33**	**1**

TRAFFIC_CRASH_YEAR	Fatalities	Incapacitating Injuries
2016	0	0
2017	0	0
2018	1	5
Grand Total	**1**	**5**

TRAFFIC_CRASH_YEAR	INJ_TYPE2_SERIOUS_VISIBLE	INJ_TYPE3_MINOR_VISIBLE	INJ_TYPE4_NO_VISIBLE
2016	0	8	7
2017	0	12	6
2018	5	5	8
Grand Total	**5**	**25**	**21**

WAR-93 PRIORITY PROJECT

WEATHER_CONDITION	Number	%
Clear	75	59.5%
Rain	24	19.0%
Cloudy	23	18.3%
Snow	2	1.6%
Other/Unknown	1	0.8%
Fog, Smog, Smoke	1	0.8%
Grand Total	**126**	**100.0%**

ROAD_CONDITION	Number	%
Dry	91	72.2%
Wet	34	27.0%
Snow	1	0.8%
Grand Total	**126**	**100.0%**

LIGHT_CONDITION	Number	%
Daylight	92	73.0%
Dark - Lighted Roadway	13	10.3%
Dark - Roadway Not Lighted	11	8.7%
Dawn	6	4.8%
Dusk	4	3.2%
Grand Total	**126**	**100.0%**

NUMBER_OF_VEHICLES	Number	%
1	25	19.8%
2	86	68.3%
3	12	9.5%
4	3	2.4%
Grand Total	**126**	**100.0%**

LOCATION	Number	%
Not An Intersection	93	73.8%
Four-Way Intersection	19	15.1%
T-Intersection	10	7.9%
Driveway/Alley Access	3	2.4%
5 Or More Point Intersection	1	0.8%
Grand Total	**126**	**100.0%**

CRASH_MONTH_NBR	Number	%
1	8	6.3%
2	7	5.6%
3	12	9.5%
4	9	7.1%
5	12	9.5%
6	15	11.9%
7	9	7.1%
8	11	8.7%
9	7	5.6%
10	10	7.9%
11	14	11.1%
12	12	9.5%
Grand Total	**126**	**100.0%**

ROAD_CONTOUR	Number	%
Straight Level	108	85.7%
Straight Grade	16	12.7%
Curve Grade	1	0.8%
Curve Level	1	0.8%
Grand Total	**126**	**100.0%**

SPECIAL_AREA	Number	%
(blank)	126	100.0%
Grand Total	**126**	**100.0%**

ANIMAL_TYPE	Number	%
(blank)	126	100.0%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

TYPE_OF_CRASH	CRASH_SEVERITY	Number
Rear End	Property Damage Crash	52
	Injury Crash	16
	Fatal Crash	1
Rear End Total		**69**
Fixed Object	Property Damage Crash	8
	Injury Crash	7
Fixed Object Total		**15**
Sideswipe - Passing	Property Damage Crash	12
	Injury Crash	1
Sideswipe - Passing Total		**13**
Animal	Property Damage Crash	7
	Injury Crash	1
Animal Total		**8**
Angle	Property Damage Crash	1
	Injury Crash	5
Angle Total		**6**
Left Turn	Property Damage Crash	2
	Injury Crash	2
Left Turn Total		**4**
Right Turn	Property Damage Crash	3
Right Turn Total		**3**
Sideswipe - Meeting	Property Damage Crash	2
Sideswipe - Meeting Total		**2**
Backing	Property Damage Crash	2
Backing Total		**2**
Parked Vehicle	Property Damage Crash	1
Parked Vehicle Total		**1**
Head On	Injury Crash	1
Head On Total		**1**
Other Object	Property Damage Crash	1
Other Object Total		**1**
Other Non-Collision	Property Damage Crash	1
Other Non-Collision Total		**1**
Grand Total		**126**

WAR-93 PRIORITY PROJECT

ACTION1	Number	%
Straight Ahead	92	73.0%
Slowing Or Stopped In Traffic	13	10.3%
Changing Lanes	7	5.6%
Making Left Turn	4	3.2%
Making Right Turn	4	3.2%
Backing	2	1.6%
Making U-Turn	2	1.6%
Unknown	1	0.8%
Negotiating A Curve	1	0.8%
Grand Total	**126**	**100.0%**

	Number	%
Total	**126**	**100.0%**

DRIVER_ALCOHOL1	Number	%
No	125	99.2%
Yes	1	0.8%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

CONTRIBUTING_FACTOR1	Number	%
Followed To Closely/ACDA	72	57.1%
Improper Lane Change/Passing/Offroad	13	10.3%
None-Motorist	12	9.5%
Failure To Yield	8	6.3%
Failure To Control	4	3.2%
Improper Turn	3	2.4%
Unknown	3	2.4%
Unsafe Speed	2	1.6%
Stopped Or Parked Illegally	2	1.6%
Improper Backing	2	1.6%
Left Of Center	2	1.6%
Swerving To Avoid	1	0.8%
Ran Red Light	1	0.8%
Other Improper Action	1	0.8%
Grand Total	**126**	**100.0%**

TRAFFIC_CONTROL1	Number	%
Pavement Markings	72	57.1%
Traffic Signal	33	26.2%
No Controls	12	9.5%
Stop Sign	8	6.3%
Other	1	0.8%
Grand Total	**126**	**100.0%**

DRIVER_DRUGS1	Number	%
No	125	99.2%
Yes	1	0.8%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

DIRECTION_FROM1	Number	%
West	**70**	55.6%
East	**44**	34.9%
North	**7**	5.6%
South	**5**	4.0%
Grand Total	**126**	**100.0%**

DIRECTION_TO1	Number	%
East	**67**	53.2%
West	**50**	39.7%
North	**6**	4.8%
South	**2**	1.6%
Southwest	**1**	0.8%
Grand Total	**126**	**100.0%**

POSTED_SPEED1	Number	%
55	**78**	61.9%
50	**35**	27.8%
35	**5**	4.0%
45	**4**	3.2%
65	**1**	0.8%
25	**1**	0.8%
	1	0.8%
5	**1**	0.8%
Grand Total	**126**	**100.0%**

ESTIMATED_SPEED1	Number	%
15	**1**	100.0%
Grand Total	**1**	**100.0%**

VEHICLE_TYPE1	Number	%
Mid Size	**36**	28.6%
Sport Utility Vehicle	**31**	24.6%
Compact	**16**	12.7%
Pickup	**11**	8.7%
Tractor/Semi-Trailer	**10**	7.9%
Full Size	**6**	4.8%
Van	**5**	4.0%
Sub-Compact	**4**	3.2%
Minivan	**3**	2.4%
Unknown Or Hit/Skip	**3**	2.4%
Single Unit Truck Or Van 2 Axle, 6 Tires	**1**	0.8%
Grand Total	**126**	**100.0%**

VEHICLE_TYPE2	Number	%
Sport Utility Vehicle	**32**	25.4%
	25	19.8%
Mid Size	**24**	19.0%
Compact	**11**	8.7%
Pickup	**10**	7.9%
Van	**7**	5.6%
Full Size	**4**	3.2%
Minivan	**4**	3.2%
Tractor/Semi-Trailer	**4**	3.2%
Truck/Tractor (Bobtail)	**2**	1.6%
Single Unit Truck; 3+ Axles	**1**	0.8%
Single Unit Truck Or Van 2 Axle, 6 Tires	**1**	0.8%
Unknown Or Hit/Skip	**1**	0.8%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

TYPE_OF_CRASH	CRASH_SEVERITY	TRAFFIC_CRASH_YEAR	Number
Rear End	**Property Damage Crash**	2016	19
		2017	19
		2018	14
	Injury Crash	2016	9
		2017	4
		2018	3
	Fatal Crash	2018	1
Rear End Total			**69**
Sideswipe - Passing	**Property Damage Crash**	2016	6
		2017	2
		2018	4
	Injury Crash	2018	1
Sideswipe - Passing Total			**13**
Angle	**Property Damage Crash**	2017	1
	Injury Crash	2016	2
		2017	3
Angle Total			**6**
Right Turn	**Property Damage Crash**	2016	2
		2018	1
Right Turn Total			**3**
Fixed Object	**Property Damage Crash**	2016	3
		2017	2
		2018	3
	Injury Crash	2017	6
		2018	1
Fixed Object Total			**15**
Other Object	**Property Damage Crash**	2016	1
Other Object Total			**1**
Other Non-Collision	**Property Damage Crash**	2016	1
Other Non-Collision Total			**1**
Animal	**Property Damage Crash**	2016	1
		2017	4
		2018	2
	Injury Crash	2016	1
Animal Total			**8**
Sideswipe - Meeting	**Property Damage Crash**	2016	1
		2018	1
Sideswipe - Meeting Total			**2**
Parked Vehicle	**Property Damage Crash**	2016	1
Parked Vehicle Total			**1**
Left Turn	**Property Damage Crash**	2016	1
		2017	1
	Injury Crash	2017	1
		2018	1
Left Turn Total			**4**
Backing	**Property Damage Crash**	2017	1
		2018	1
Backing Total			**2**
Head On	**Injury Crash**	2018	1
Head On Total			**1**
Grand Total			**126**

WAR-93 PRIORITY PROJECT

ACTION2	Number	%
Slowing Or Stopped In Traffic	**65**	51.6%
Straight Ahead	**27**	21.4%
	25	19.8%
Making Left Turn	**4**	3.2%
Parked	**4**	3.2%
Unknown	**1**	0.8%
Grand Total	**126**	**100.0%**

CONTRIBUTING_FACTOR2	Number	%
None-Motorist	**98**	77.8%
	25	19.8%
Unknown	**2**	1.6%
Swerving To Avoid	**1**	0.8%
Grand Total	**126**	**100.0%**

WAR-93 PRIORITY PROJECT

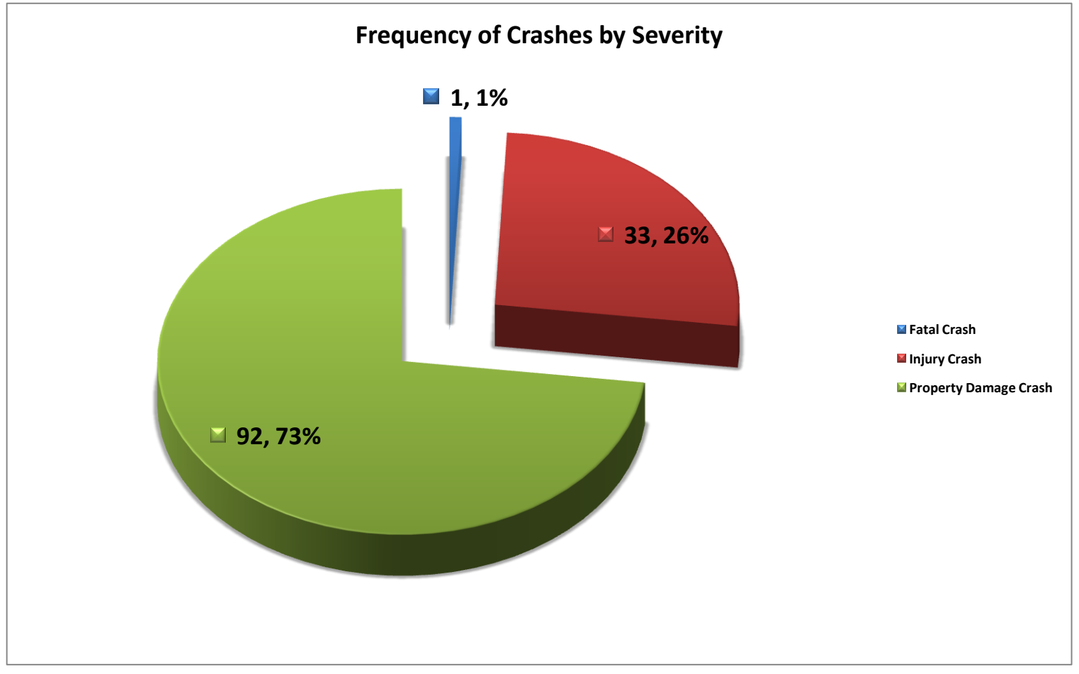
DIRECTION_FROM2	Number	%
West	**56**	44.4%
East	**39**	31.0%
	25	19.8%
North	**4**	3.2%
South	**2**	1.6%
Grand Total	**126**	**100.0%**

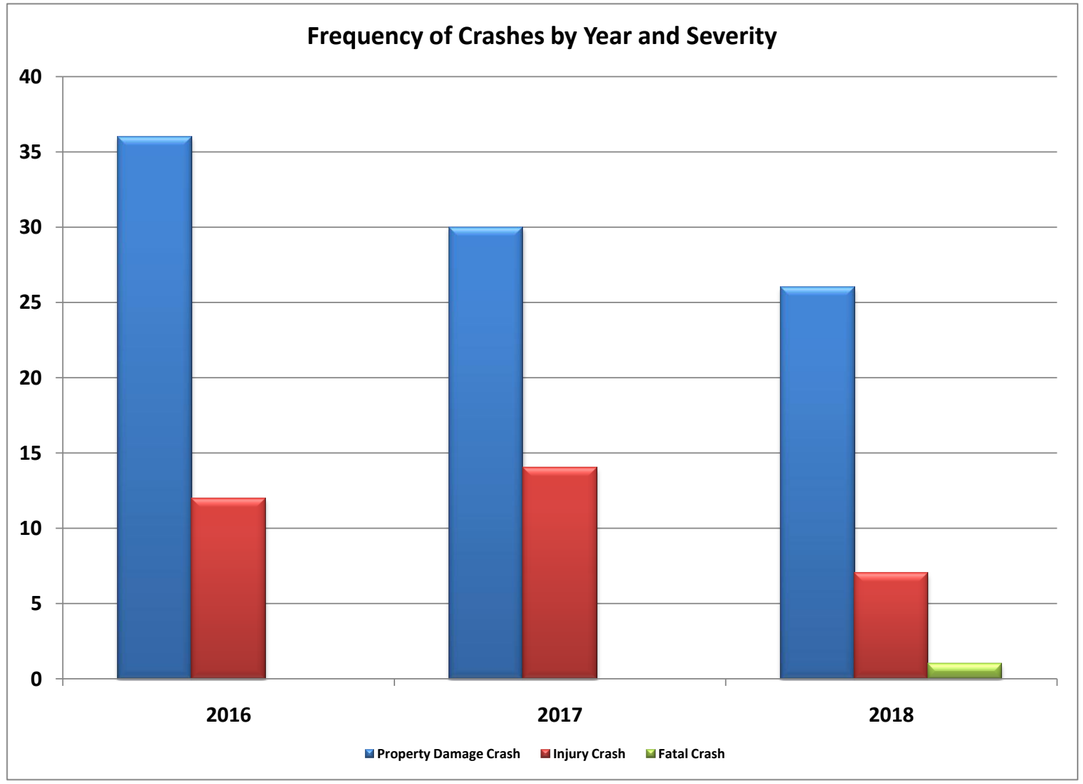
DIRECTION_TO2	Number	%
East	**55**	43.7%
West	**40**	31.7%
	25	19.8%
South	**3**	2.4%
North	**3**	2.4%
Grand Total	**126**	**100.0%**

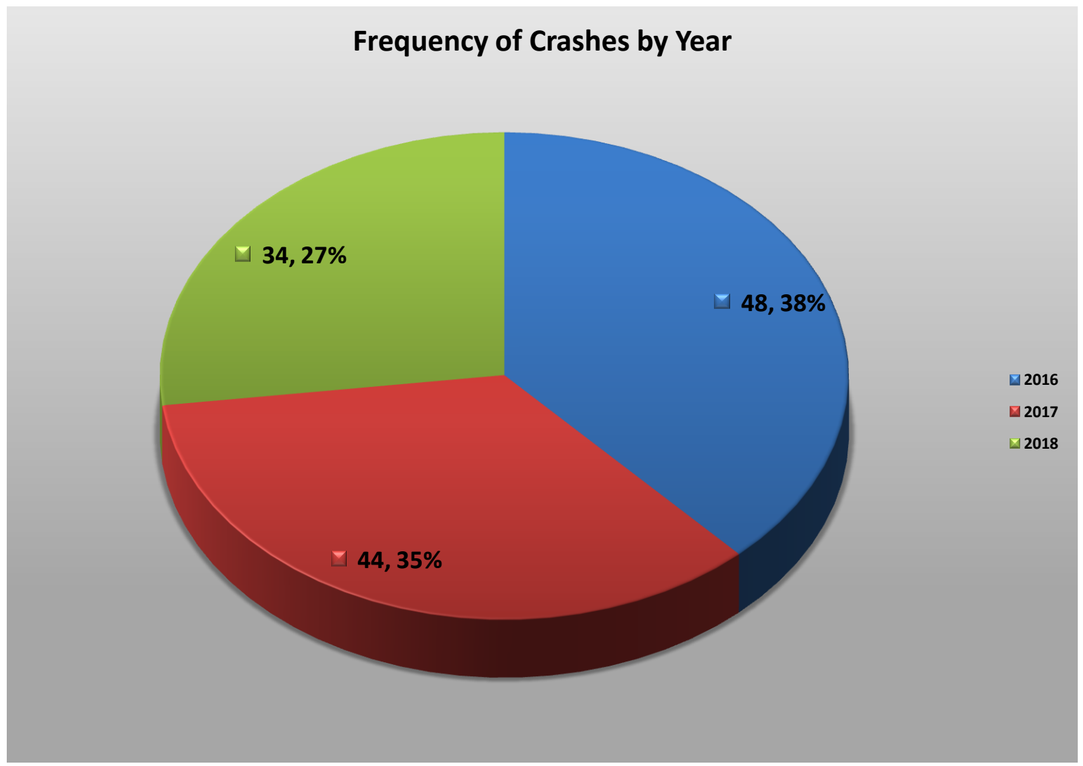
DRIVER_ALCOHOL2	Number	%
(blank)	**126**	100.0%
Grand Total	**126**	**100.0%**

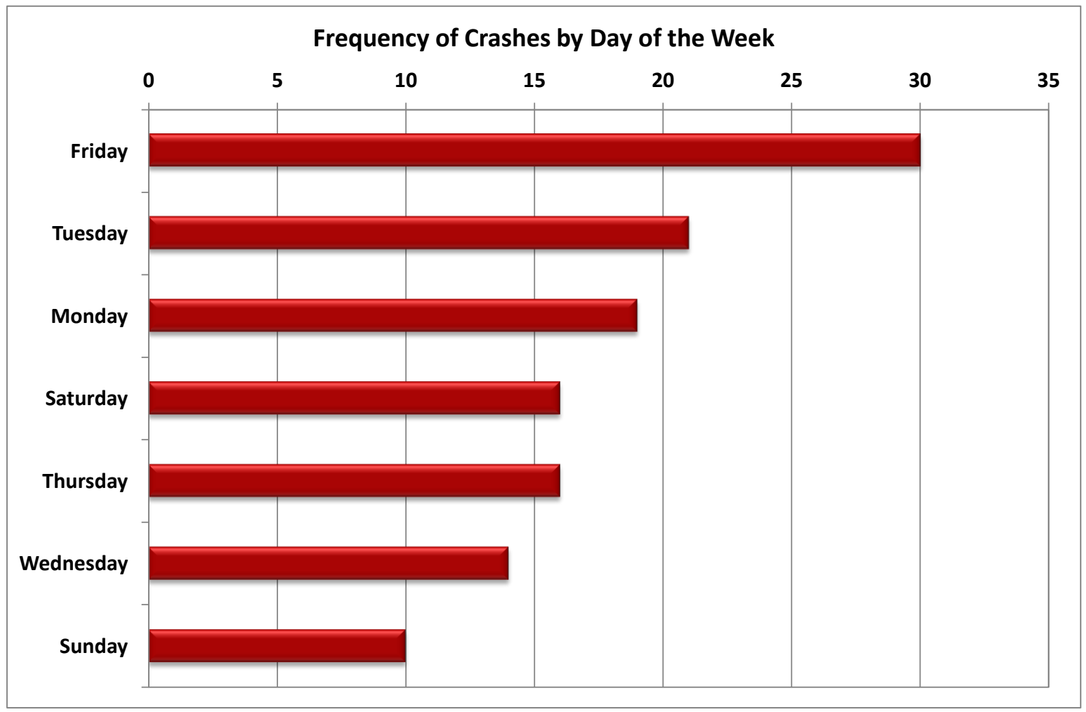
DRIVER_DRUGS2	Number	%
(blank)	**126**	100.0%
Grand Total	**126**	**100.0%**

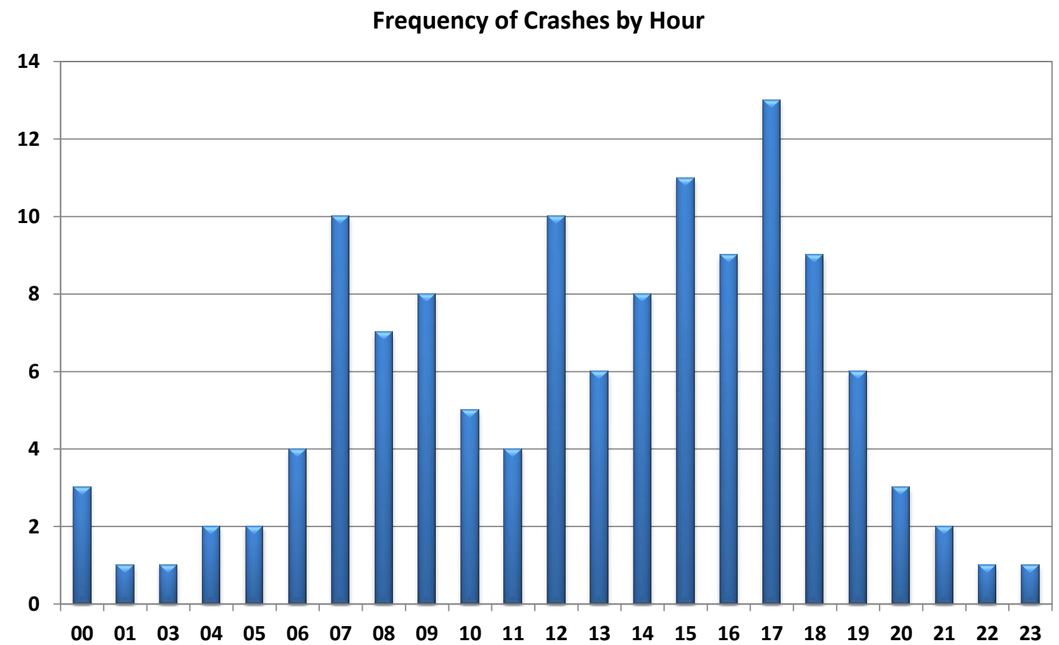
WAR-63 PRIORITY PROJECT

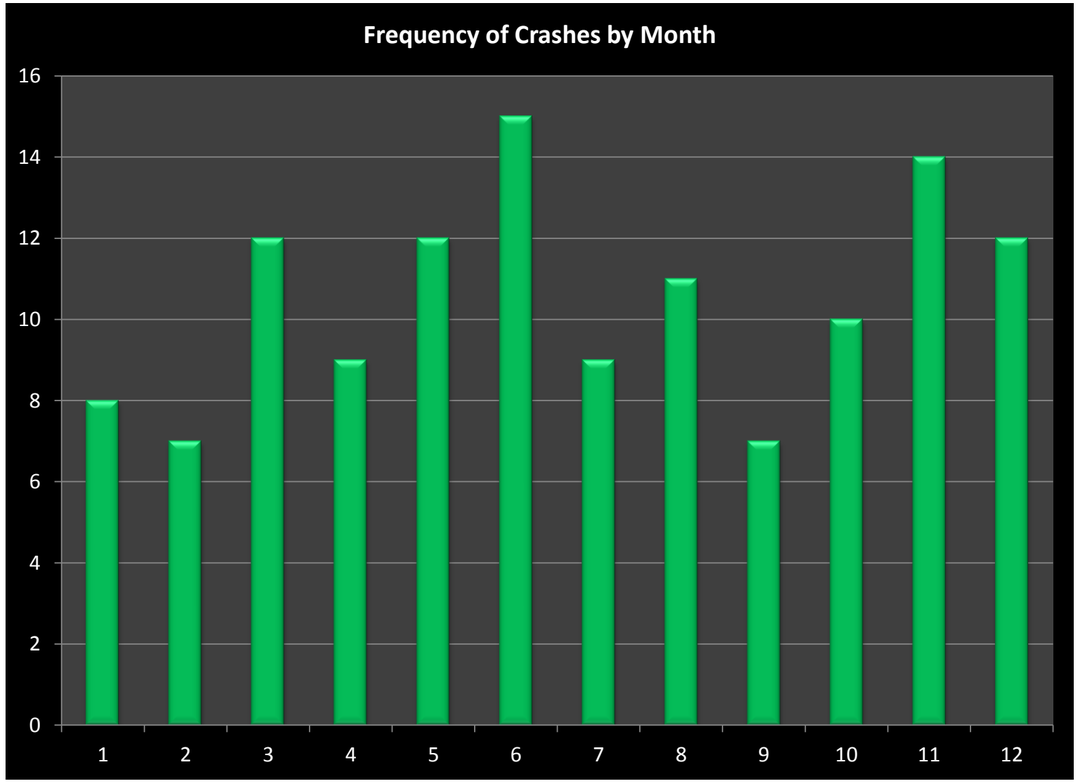





Frequency of Crashes by Year
34, 27%
48, 38%
44, 35%
2016
2017
2018


Frequency of Crashes by Day of the Week
0
5
10
15
20
25
30
35
Friday
Tuesday
Monday
Saturday
Thursday
Wednesday
Sunday


Frequency of Crashes by Hour
14
12
10
8
6
4
2
0
00 01 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Frequency of Crashes by Month
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12
10
8
6
4
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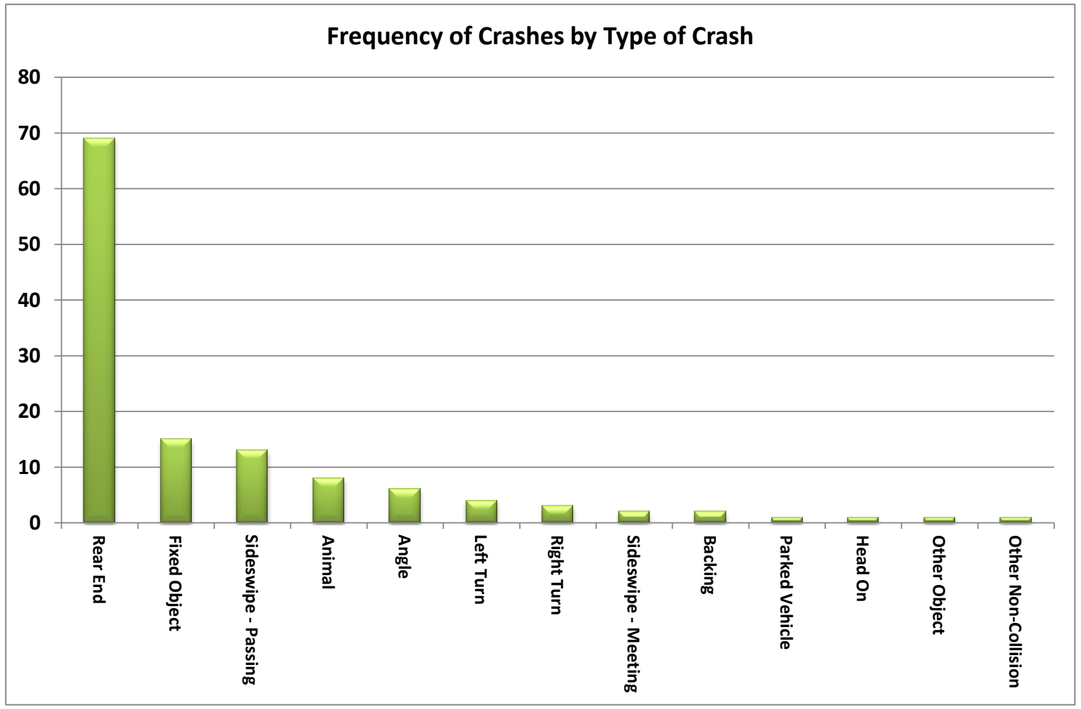
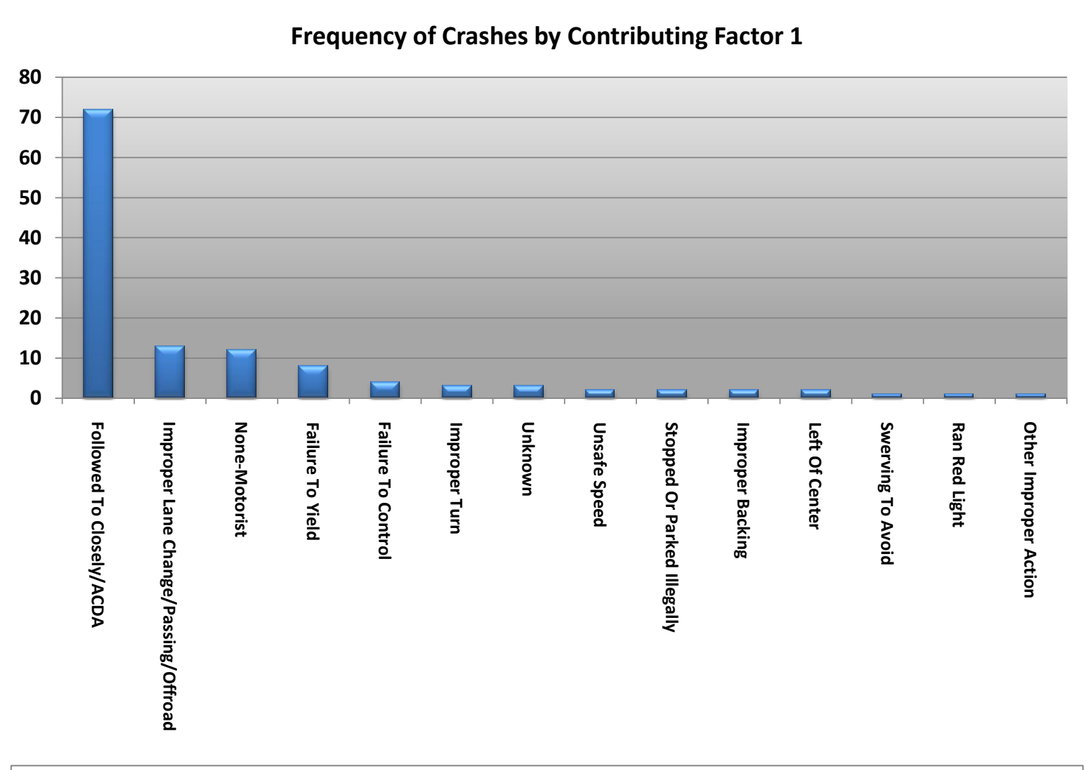
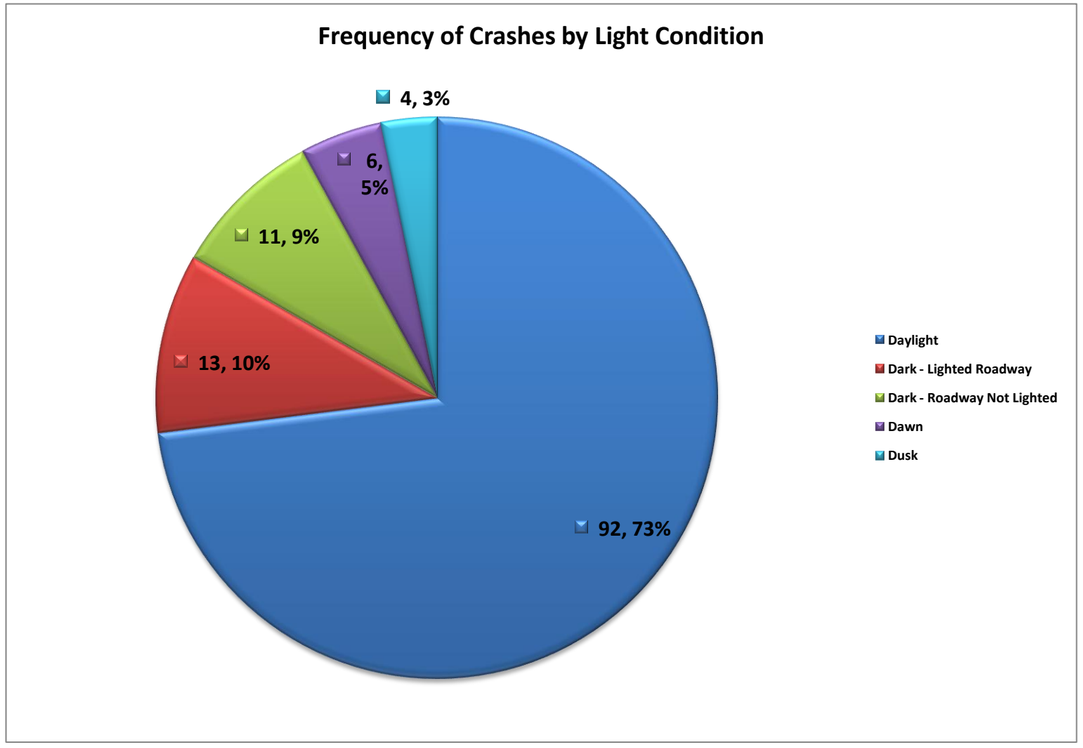
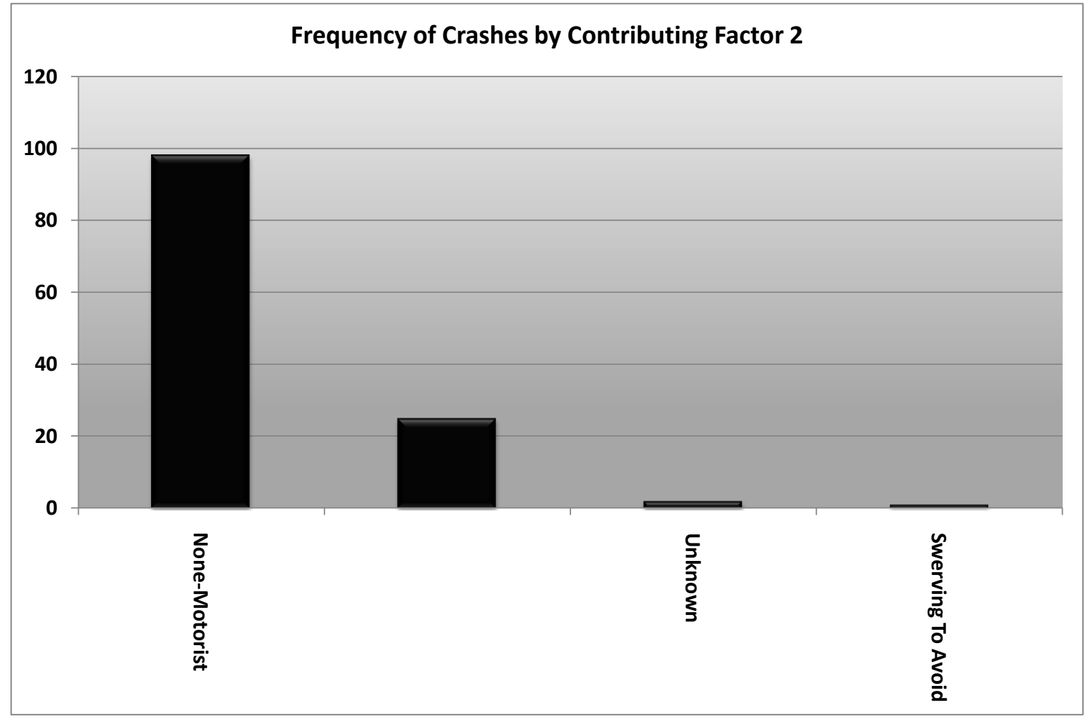
1 2 3 4 5 6 7 8 9 10 11 12

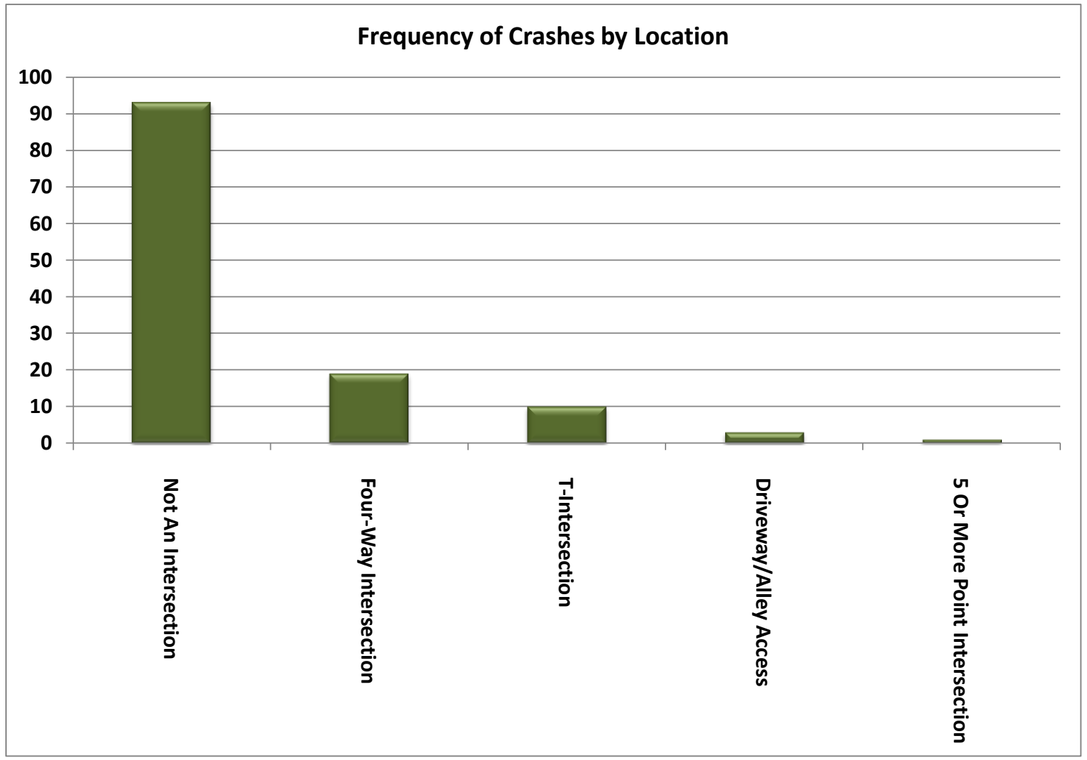


WAR-63 PRIORITY PROJECT

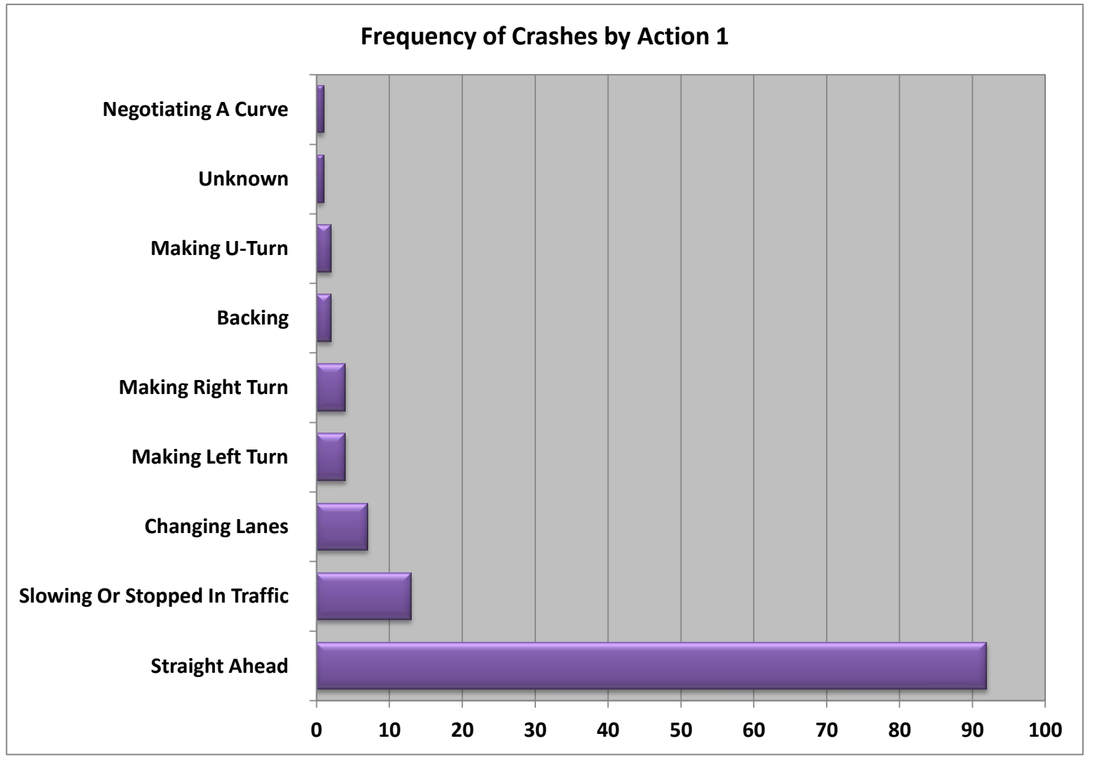


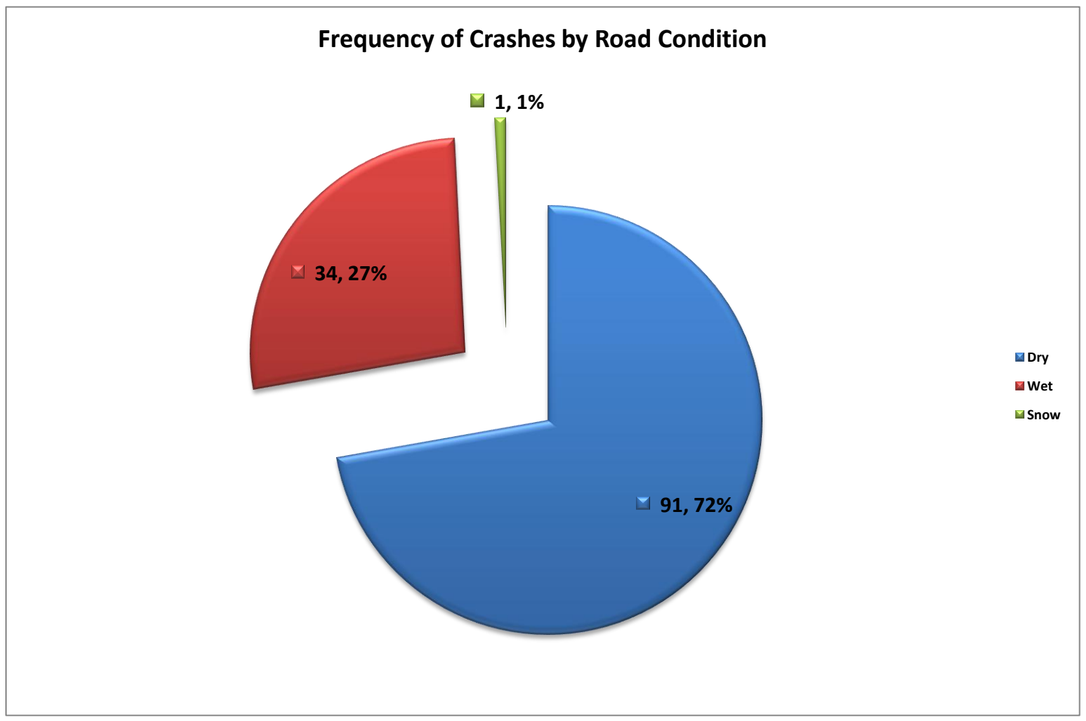


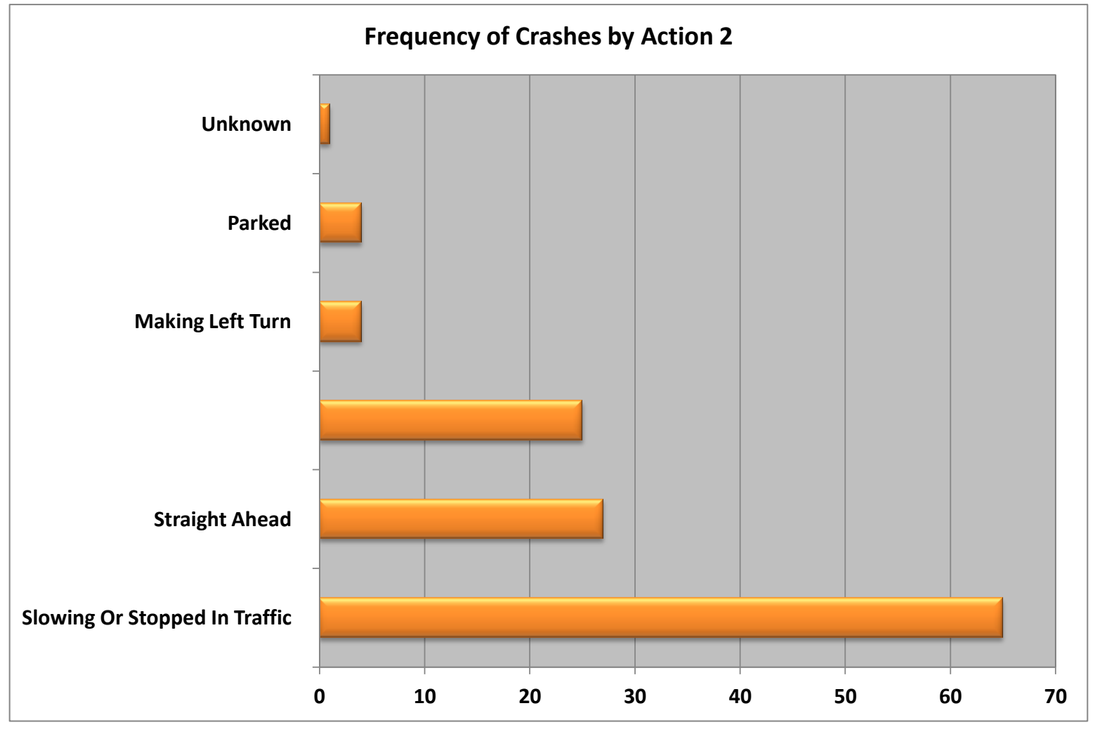


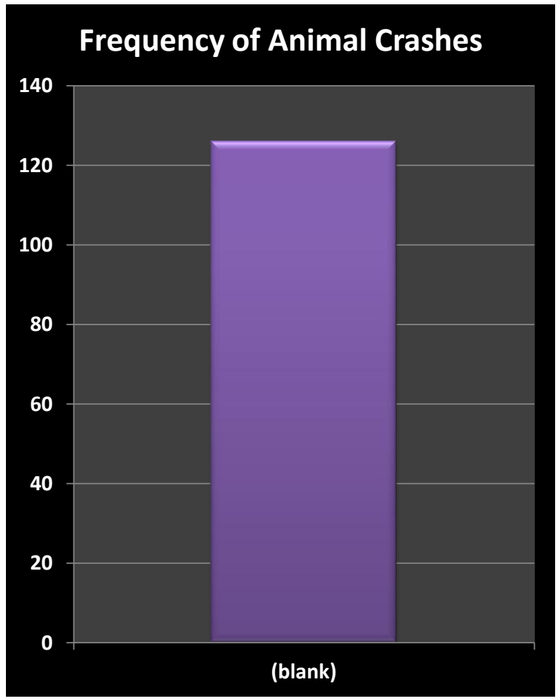


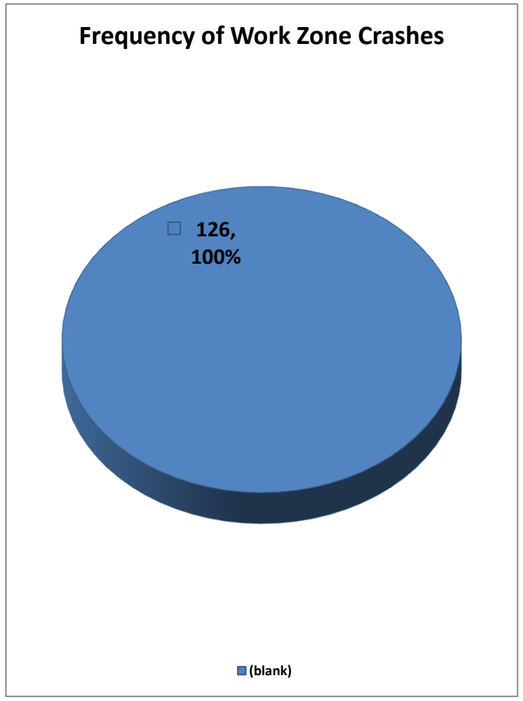
WAR-63 PRIORITY PROJECT



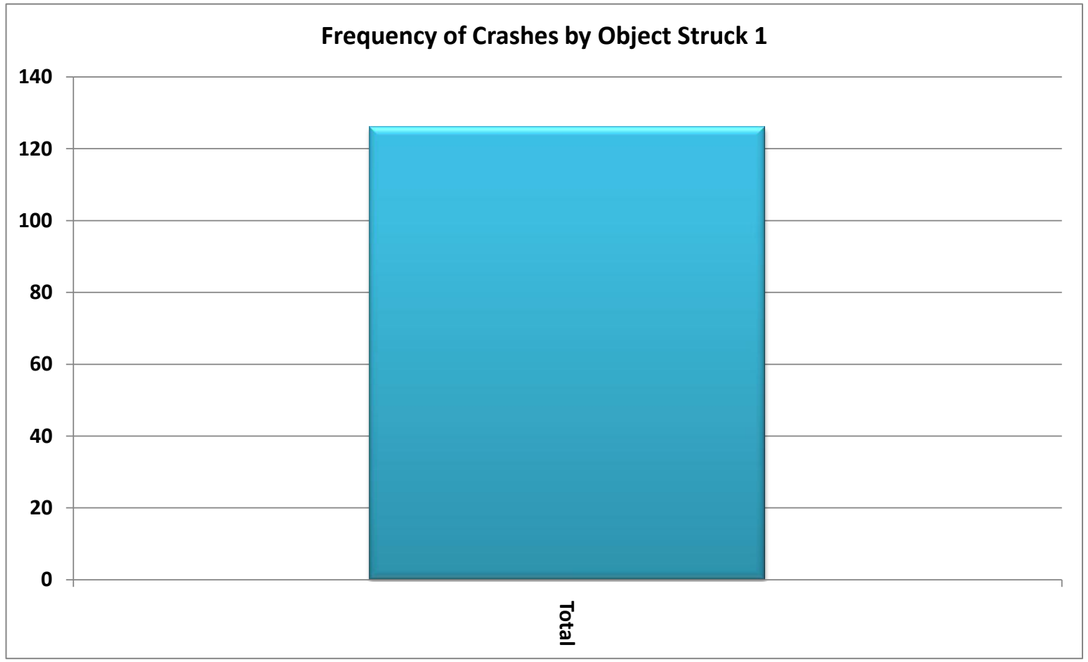


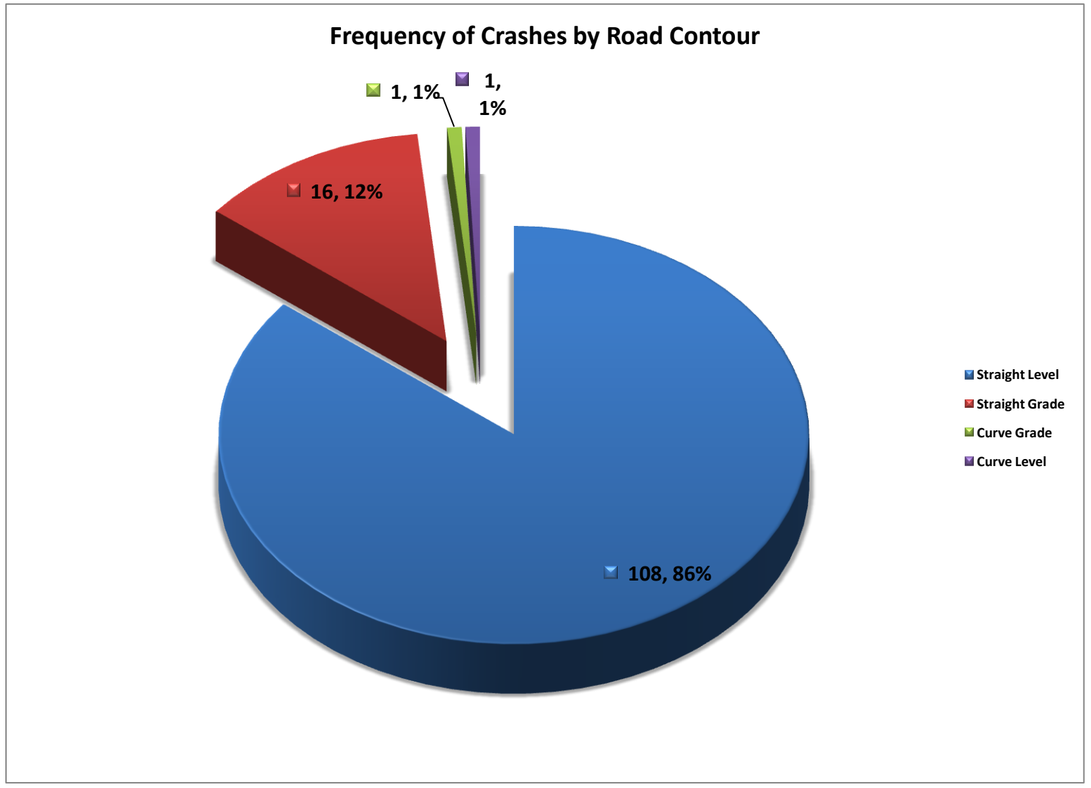


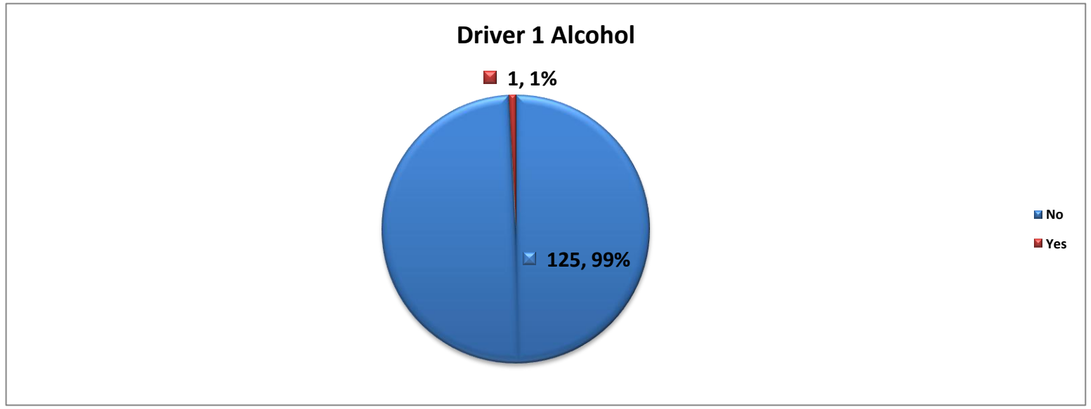




WAR-63 PRIORITY PROJECT

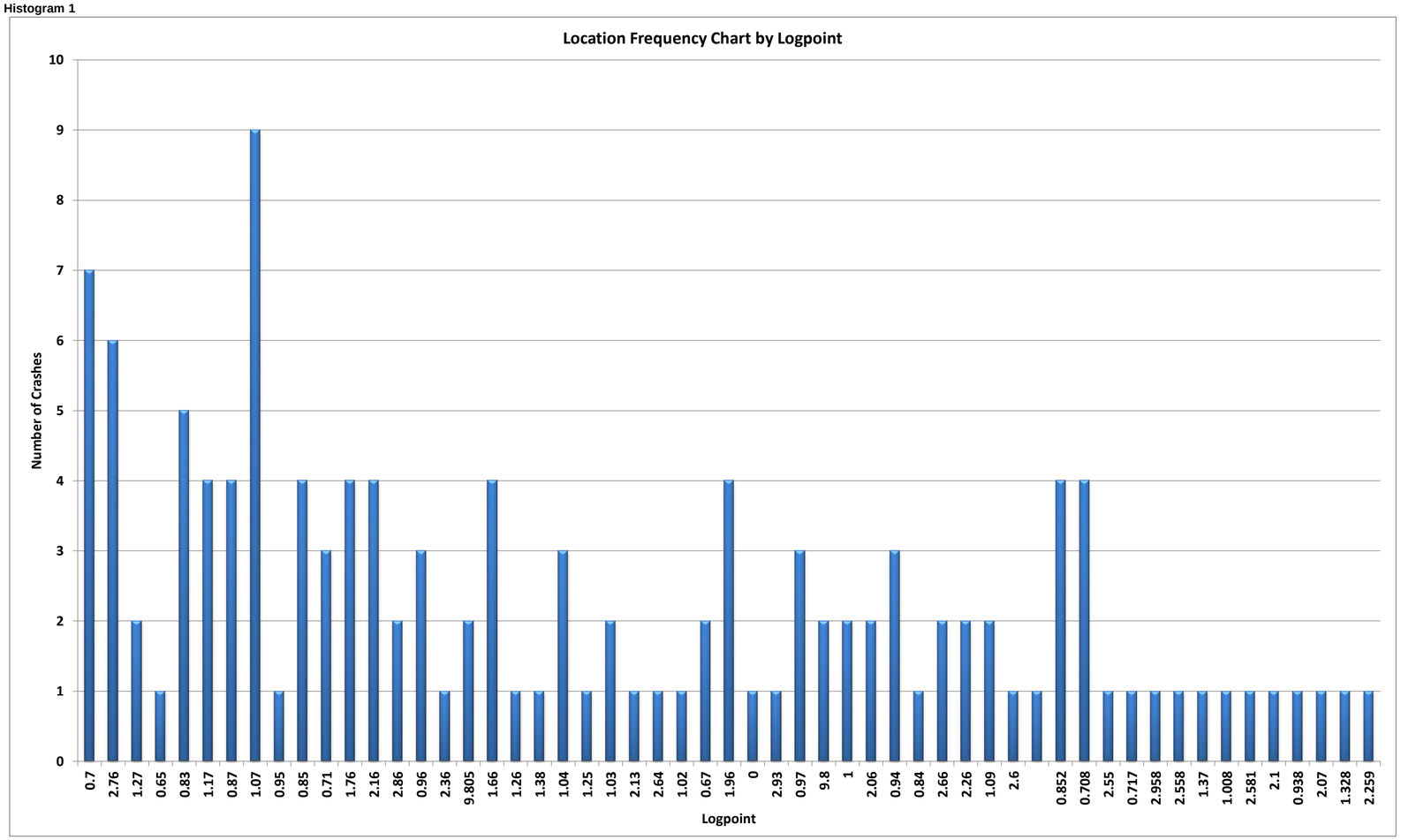






WAR-63 PRIORITY PROJECT

Histogram 1



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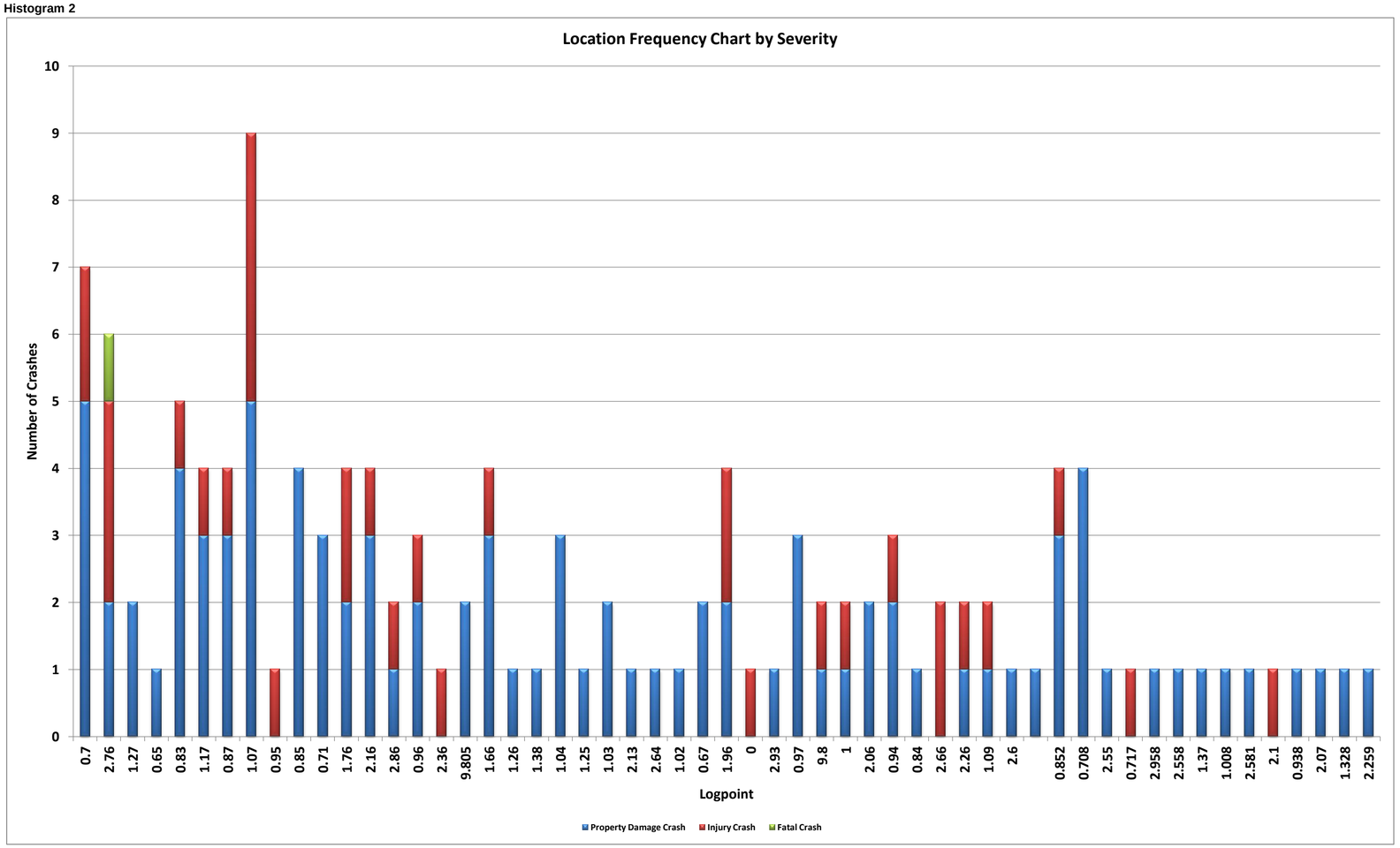
Histogram 2



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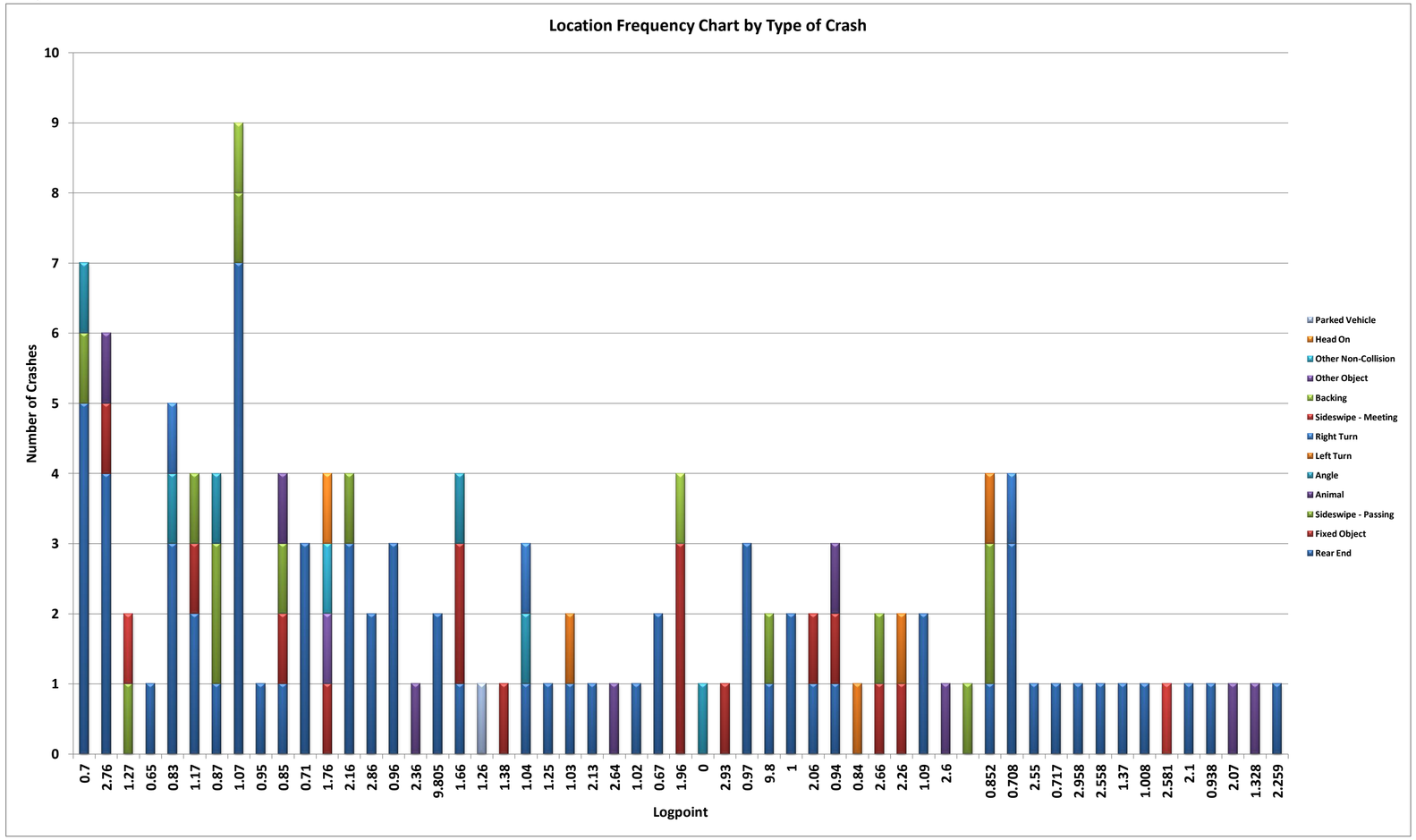
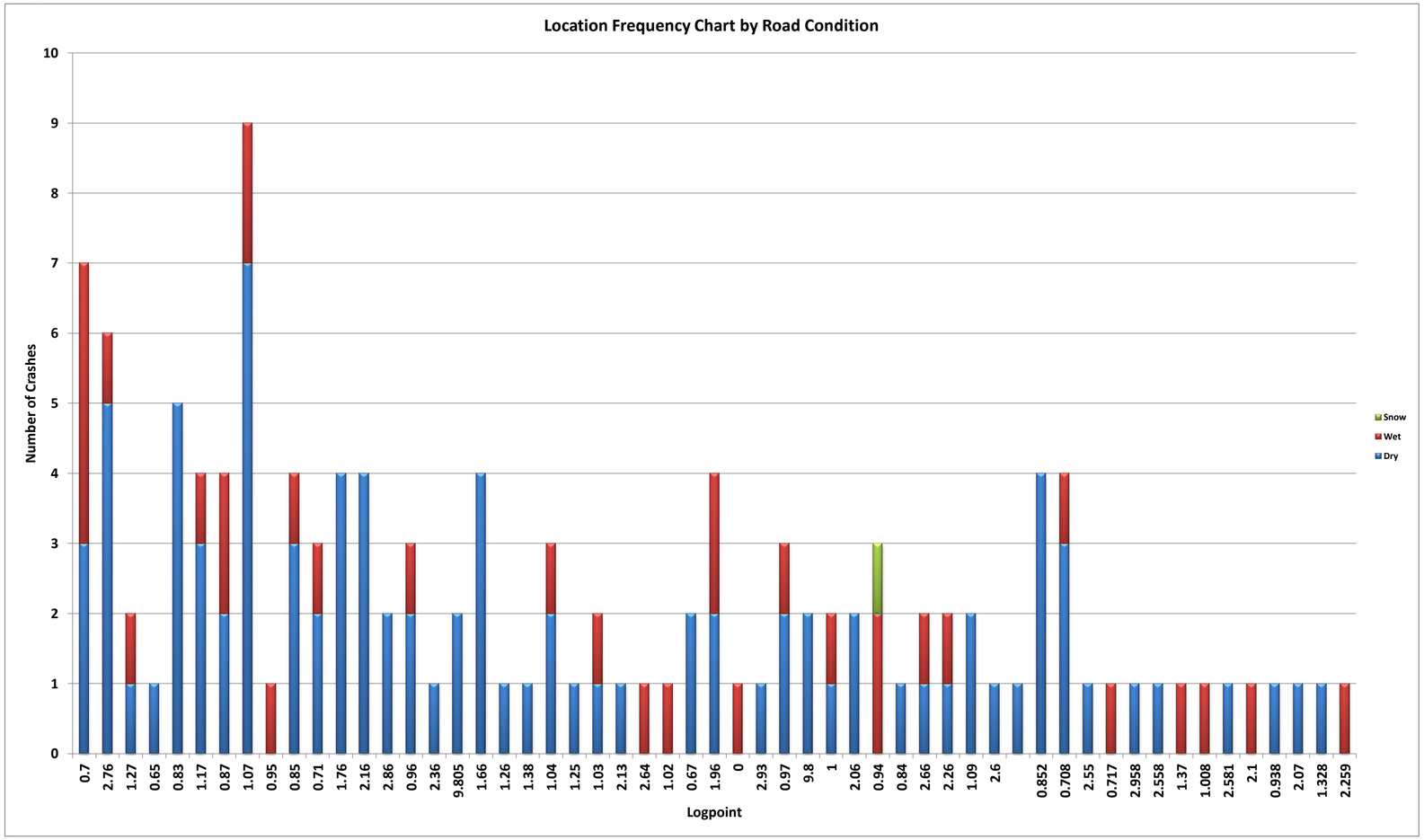
Histogram 3



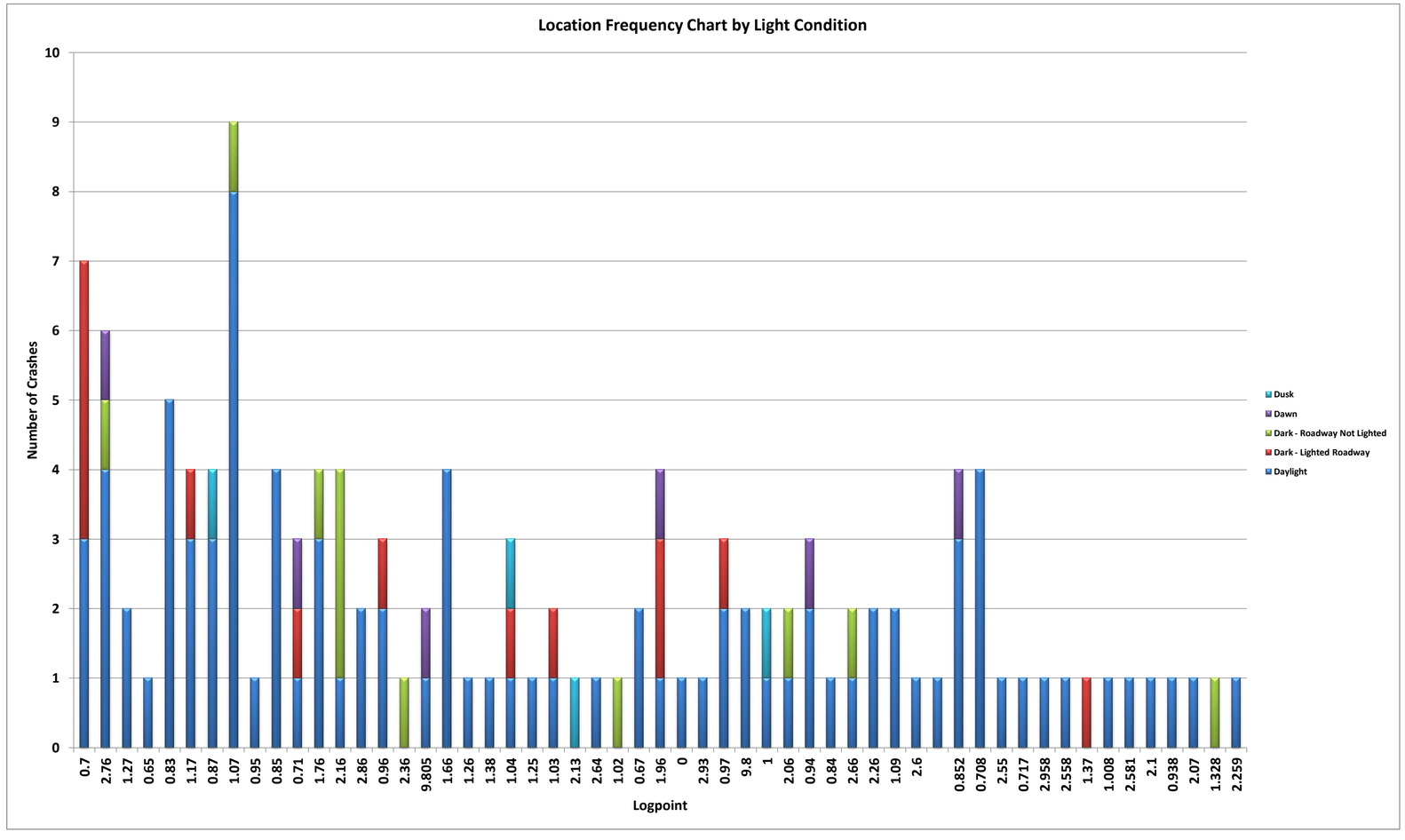
WAR-63 PRIORITY PROJECT

Histogram 4



WAR-63 PRIORITY PROJECT

Histogram 5



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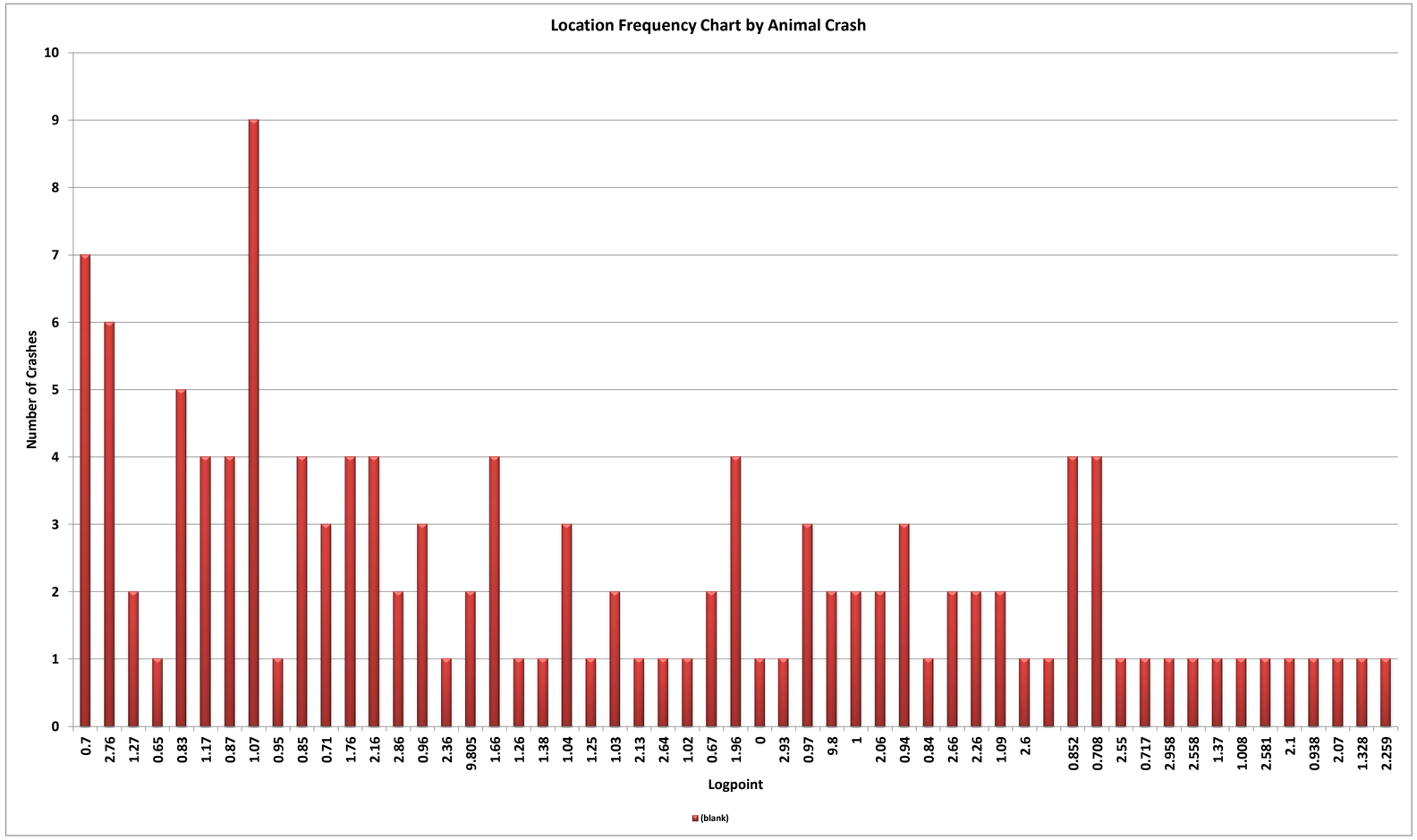
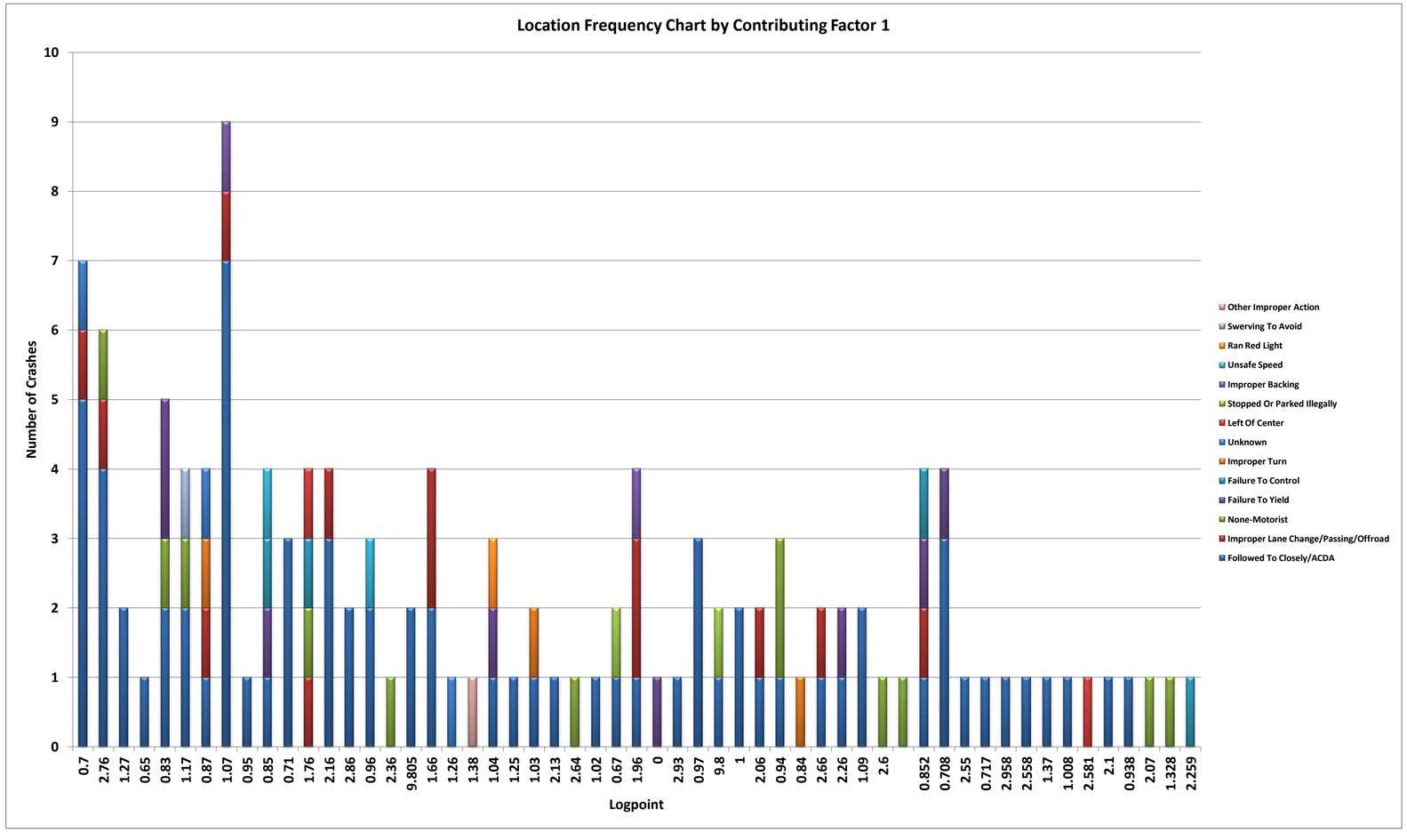
Histogram 6



WAR-63 PRIORITY PROJECT

Histogram 7



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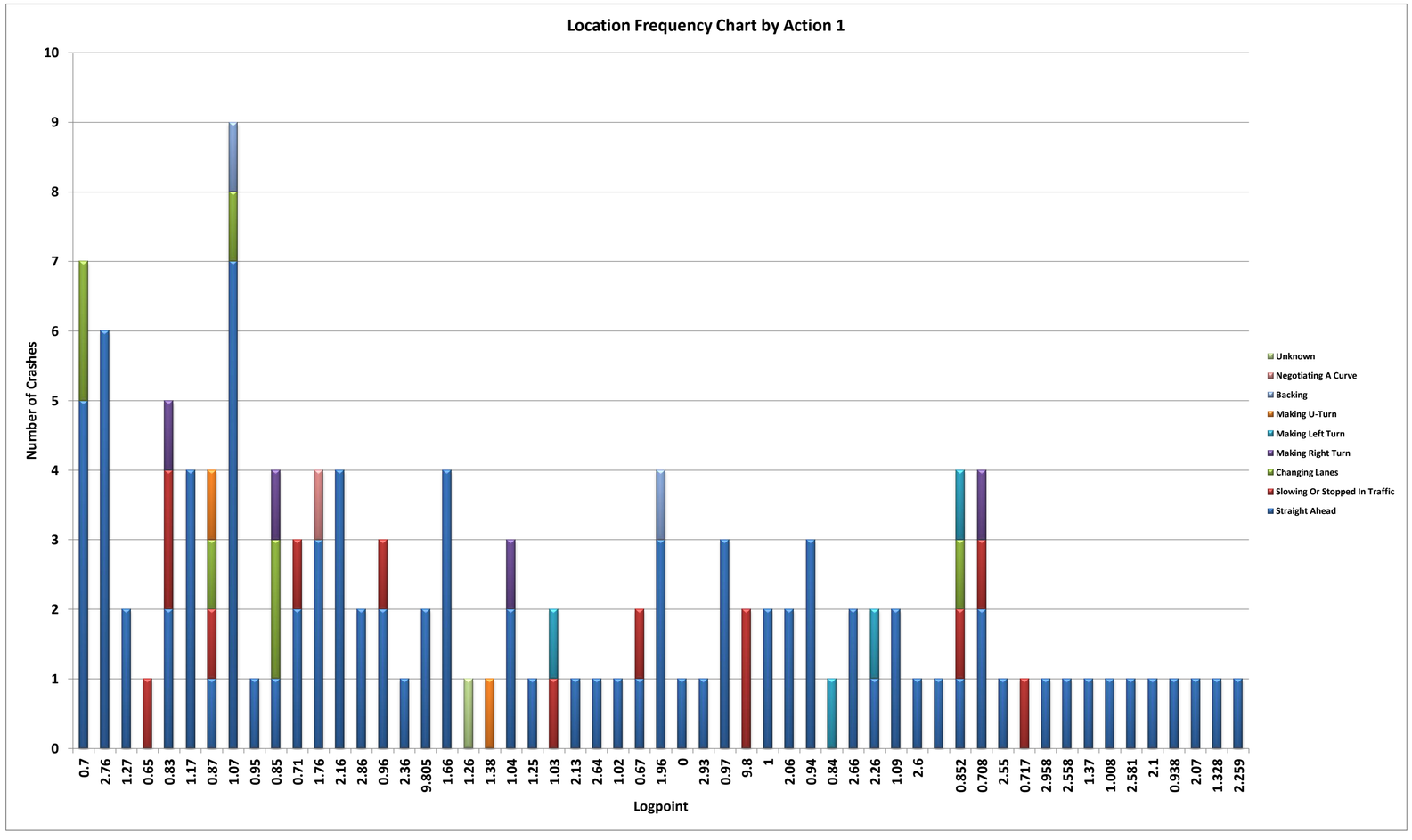
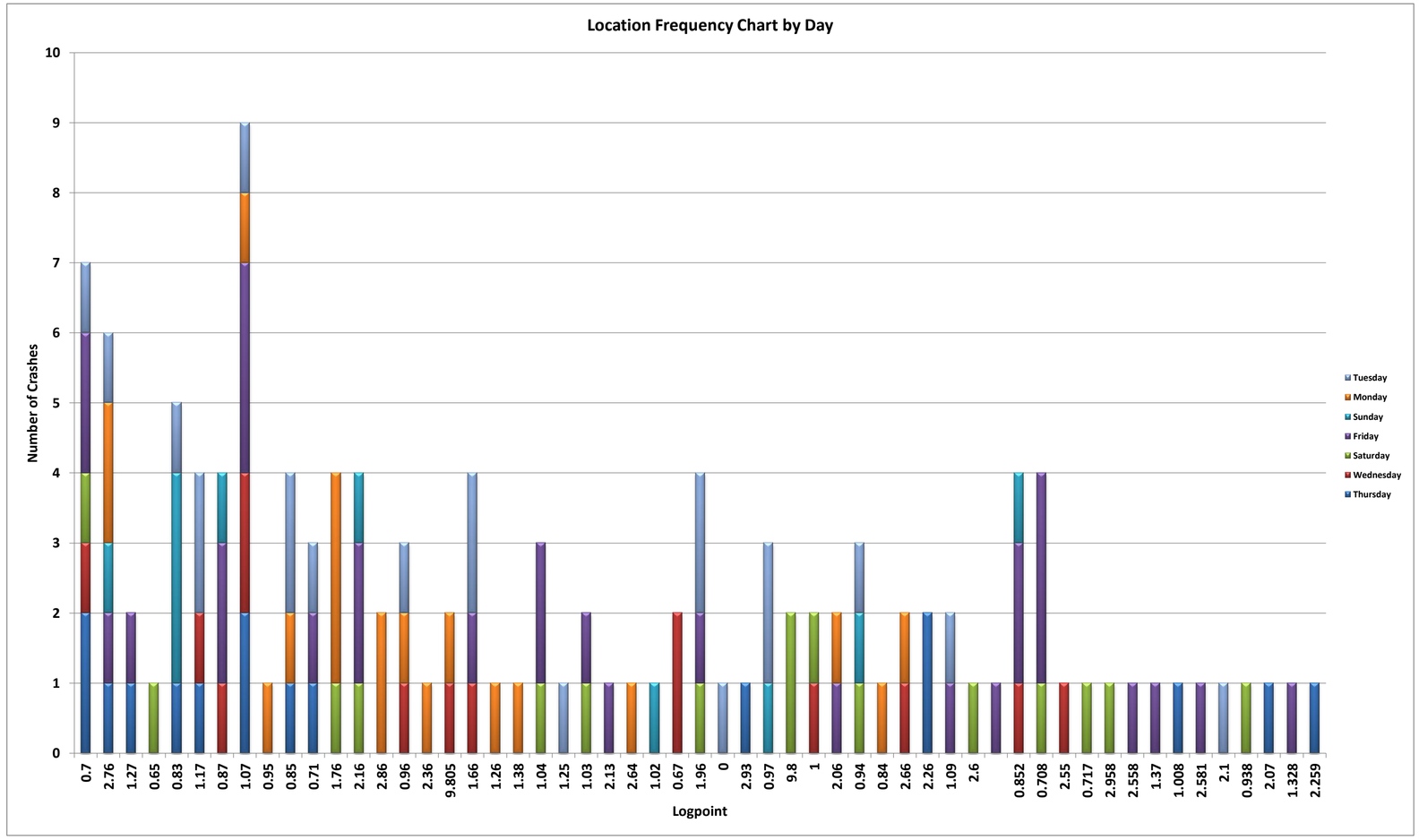
Histogram 8



WAR-63 PRIORITY PROJECT

Histogram 9



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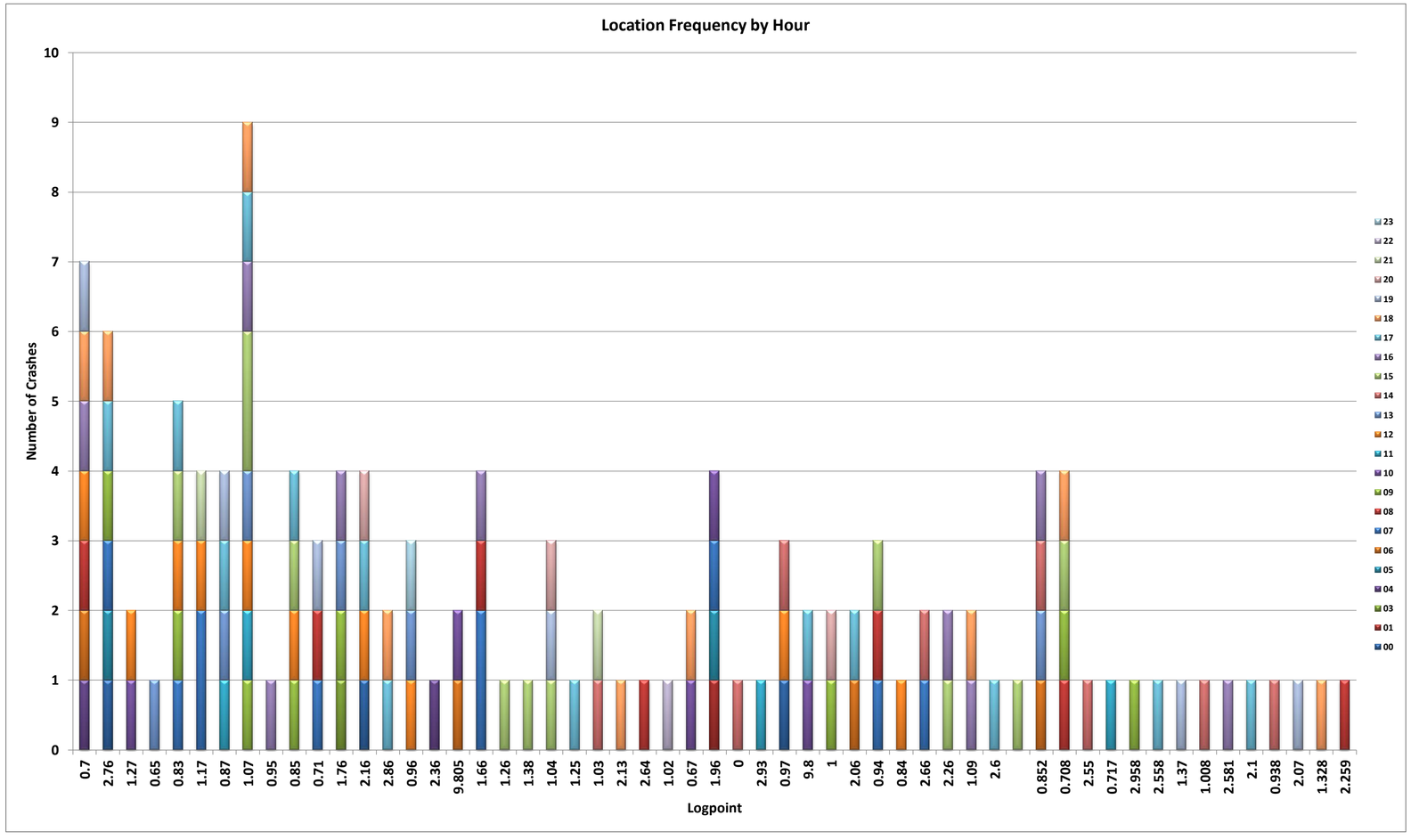
Histogram 10



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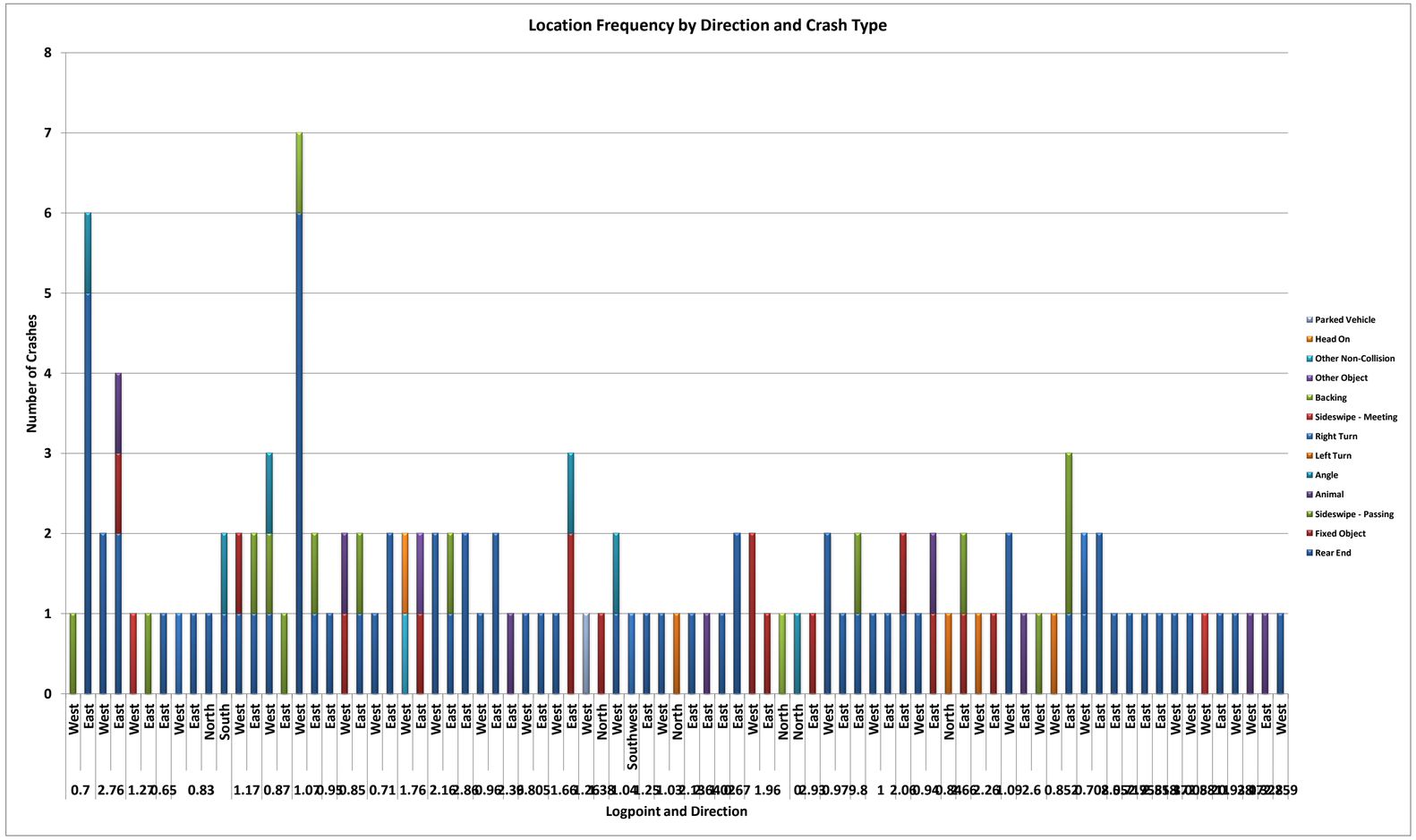
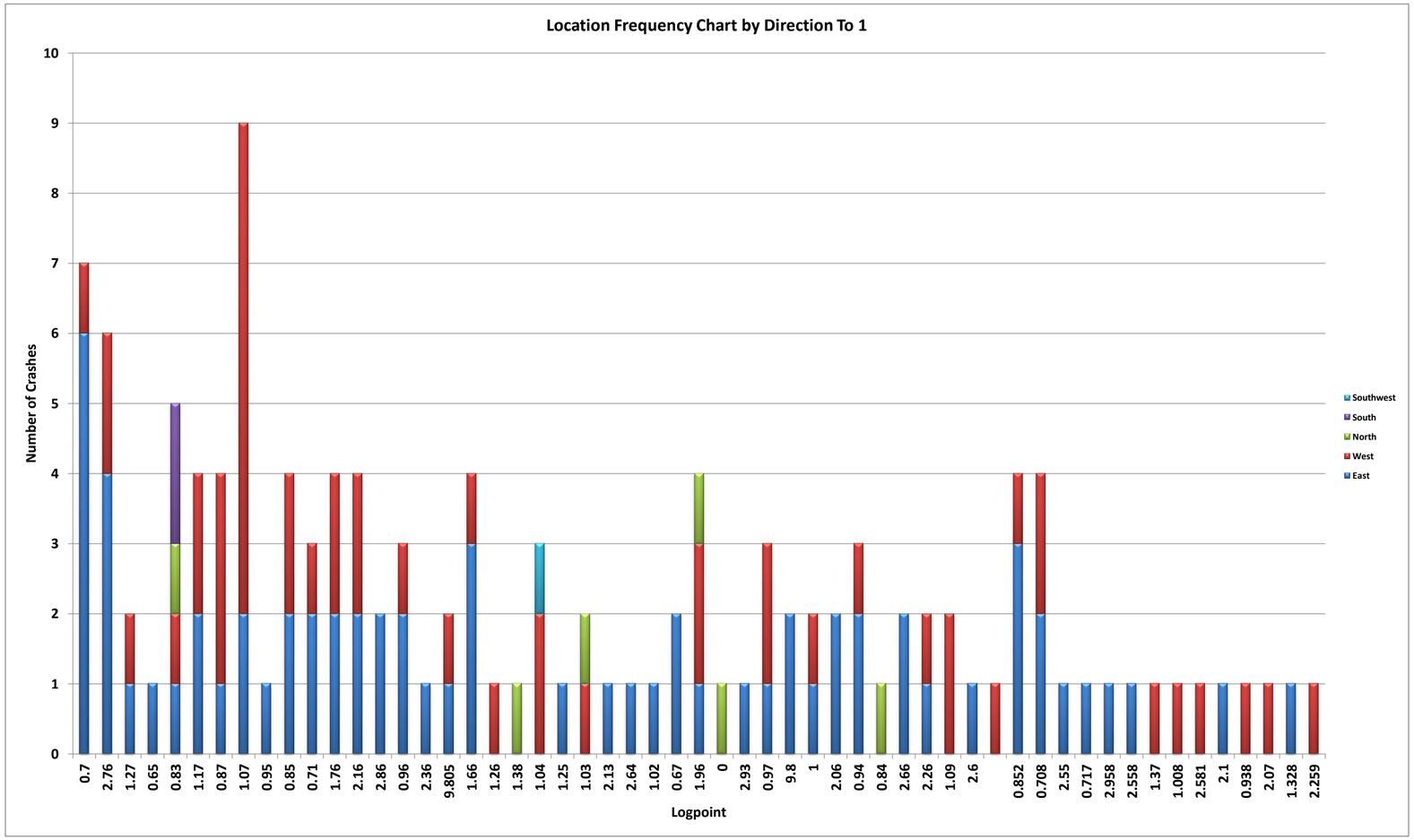
Histogram 11



WAR-63 PRIORITY PROJECT

Histogram 12