

Naive Before and After Analysis

Before Period: December 1, 2005 through February 28, 2010 (4 years 3 months)

Const. Period: March 1, 2010 through May 31, 2010

After Period: June 1, 2010 through August 31, 2014 (4 years 3 months)

Analysis Criteria: *Intersection 1:* Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1409 and SR 1333 approaches.

Intersection 2: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1409 and SR 1363 approaches.

Target Crashes: Frontal Impact Crashes (left-turn, same roadway; left-turn, different roadway; right-turn, same roadway; right-turn, different roadway; head-on; and angle crashes) in the intersection for both intersections

<u>Intersection 1:</u> <u>SR 1409 at SR 1333</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	14	19	+ 35.7 %
Total Severity Index	2.59	2.95	+ 13.9 %
Target Crashes	12	9	- 25.0 %
Target Crash Severity Index	2.85	4.29	+ 50.5 %
Volume (2008, 2012)	10,000	8,900	- 11.0%
Fatal Injury Crashes	0	0	N/A
Class A Injury Crashes	0	0	N/A
Class B Injury Crashes	1	1	0.0 %
Class C Injury Crashes	2	4	+ 100.0 %
Property Damage Only	11	14	+ 27.3 %

<u>Intersection 2:</u> <u>SR 1409 at SR 1363</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	4	11	+ 175.0 %
Total Severity Index	1.00	3.02	+ 202.0 %
Target Crashes	1	7	+ 600.0 %
Target Crash Severity Index	1.00	2.06	+ 106.0 %
Volume (2008, 2012)	7,600	7,800	+ 2.6%
Fatal Injury Crashes	0	0	N/A
Class A Injury Crashes	0	0	N/A
Class B Injury Crashes	0	1	+ 100.0 %
Class C Injury Crashes	0	2	+ 100.0 %
Property Damage Only	4	8	+ 100.0 %

<u>Intersection 1</u> <u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes (Target)	12	9	- 25.0 %
Left-Turn, Same Roadway	1	2	+ 100.0 %
Angle Crashes	10	4	- 60.0 %
Rear End Crashes	2	4	+ 100.0 %

<u>Intersection 2</u> <u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Frontal Impact Crashes (Target)	1	7	+ 600.0 %
Left-Turn, Same Roadway	0	0	N/A
Angle Crashes	1	4	+ 300.0 %
Rear End Crashes	2	2	0.00 %

Overall Summary Results – Intersection 1

Total Crashes:	+ 36 %	(increase)
Total Crash Severity:	+ 14 %	(increase)
Target Crashes:	- 25 %	(reduction)
Target Crash Severity:	+ 51 %	(increase)
Volume:	- 11 %	(reduction)

Additional Summary Results – Intersection 1

Frontal Impact Crashes (Target):	- 25 %	(reduction)
Left-Turn, Same Roadway Crashes:	+ 100 %	(increase)
Angle Crashes:	- 60 %	(reduction)
Rear End Crashes:	+ 100%	(increase)

Overall Summary Results – Intersection 2

Total Crashes:	+ 175 %	(increase)
Total Crash Severity:	+ 202 %	(increase)
Target Crashes:	+ 600 %	(increase)
Target Crash Severity:	+ 106 %	(increase)
Volume:	+ 3 %	(increase)

Additional Summary Results – Intersection 2

Frontal Impact Crashes (Target):	+ 600 %	(increase)
Left-Turn, Same Roadway Crashes:	0 %	(no change)
Angle Crashes:	+ 300 %	(increase)
Rear End Crashes:	0 %	(no change)

Items for Discussion/Concerns

Intersection 1 experienced a 36 % increase in total crashes (14 to 19 crashes) and a 14 % increase in crash severity. Intersection 2 experienced a 175 % increase in total crashes (4 to 11 crashes) and a 202 % increase in crash severity.

The target crashes (Frontal Impact Crashes) at intersection 1 experienced a 25 % decrease (12 to 9 crashes) however it showed a 51 % increase in crash severity. The target crashes (Frontal Impact Crashes) at intersection 2 experienced a 600 % increase (1 to 7 crashes) and a 106 % increase in crash severity.

Intersection 1 experienced a decrease in angle crashes (10 to 4 crashes) while Intersection 2 experienced an increase in angle crashes (1 to 4 crashes).

Data Prepared For

The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Andrew Covington, EI

Work Group/Consultant: AECOM

Date: October 17, 2014

SS# 05-08-223
 Order# 41000030262
 Person County
 BEFORE Period
 Intersection I
 12/1/2005 - 2/28/2010
 4.25 Years

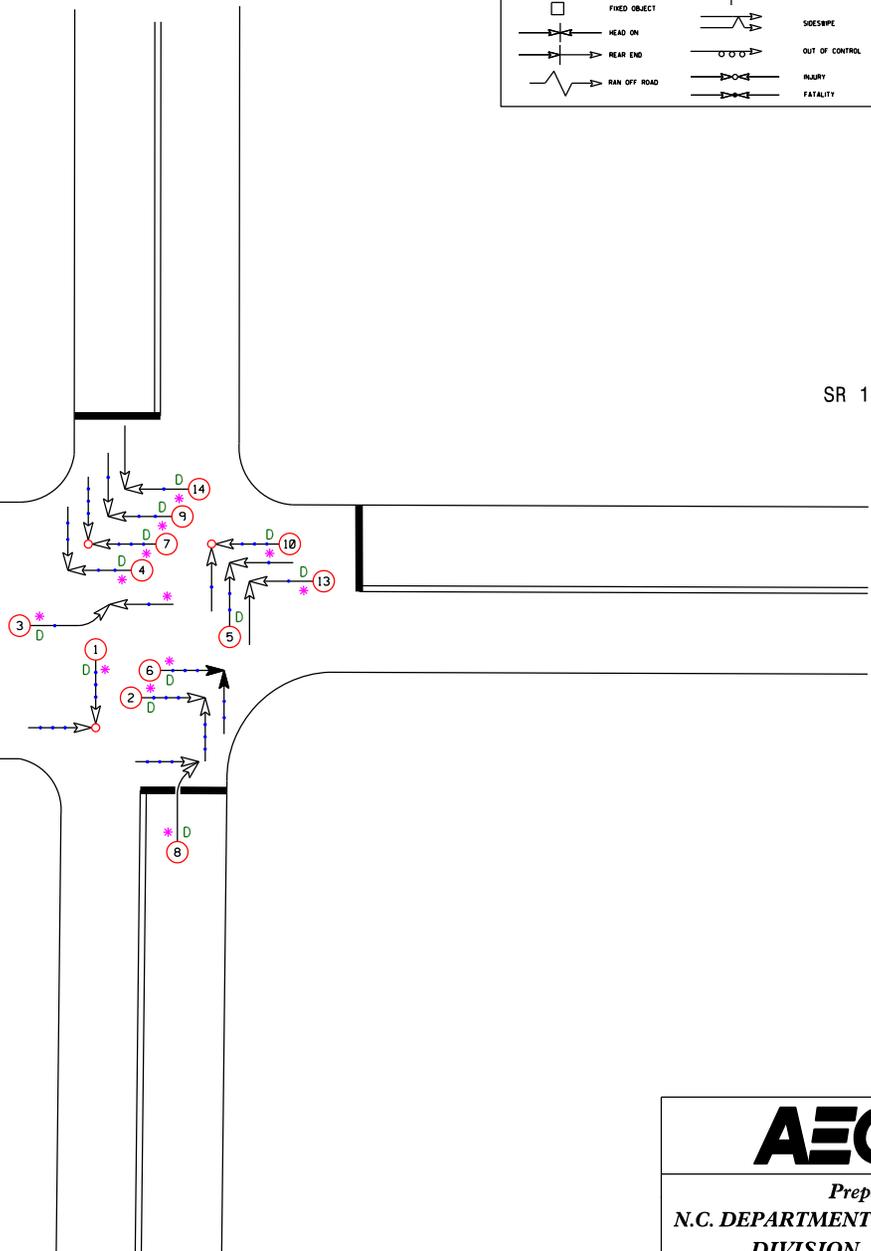
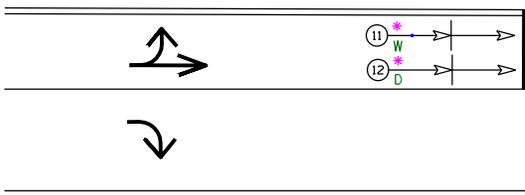
SR 1333 (Chub Lake St)
 35 MPH
 2008 ADT-5,100

LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PARKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	PARKED VEHICLE		SIDESWIPE		30 MPH TO 39		DRY
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		WET
	HEAD ON		HIT AND UP		50 MPH TO 59		ICE OR SNOW
	NEAR END		HURRY		60 MPH TO 69		SPEED UNKNOWN
	RAN OFF ROAD		FATALITY		70 AND UP		ONLY



SR 1409 (Morgan Street)
 35 MPH
 2008 ADT-4,900



SR 1409 (Morgan Street)
 35 MPH
 2008 ADT-4,900

SR 1333 (Chub Lake St)
 35 MPH
 2008 ADT-5,100

SIG ID No. 05-0510 (2 Phase Pre-Timed)

Unknown signal
 configuration during
 before period

Frontal Impact
 Crashes

AECOM

Prepared For:
 N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 TRANSPORTATION MOBILITY and
 SAFETY DIVISION

TRAFFIC SAFETY UNIT

Date: 10-17-2014
 Prepared By: Andrew Covington, EI

SS# 05-08-223
 Order# 41000030262
 Person County
 AFTER Period
 Intersection I
 6/1/2010 - 8/31/2014
 4.25 Years

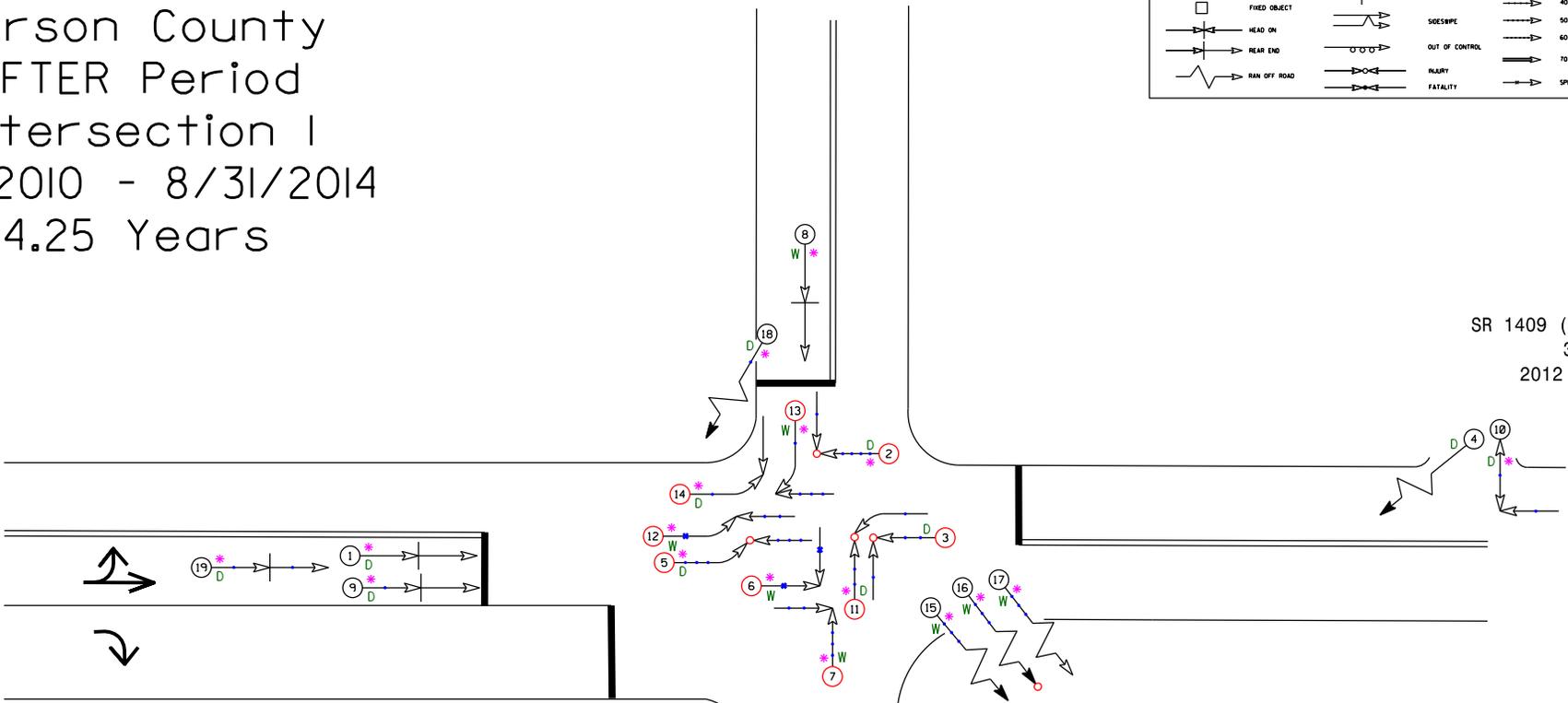
SR 1333 (Chub Lake St)
 35 MPH
 2012 ADT-4,050

LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PARKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	PARKING VEHICLE		SKID SLOPE		30 MPH TO 39		DRY
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		WET
	HEAD ON		TO AND UP		50 MPH TO 59		ICY OR SNOW
	NEAR END		INJURY		60 MPH TO 69		FATALITY
	RAN OFF ROAD		SPEED UNKNOWN		ONLY		



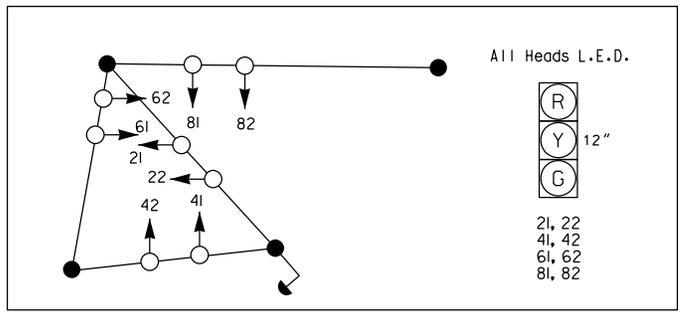
SR 1409 (Morgan Street)
 35 MPH
 2012 ADT-4,800



SR 1409 (Morgan Street)
 35 MPH
 2012 ADT-4,800

SR 1333 (Chub Lake St)
 35 MPH
 2012 ADT-4,050

SIG ID No. 05-0510 (2 Phase Fully Actuated)



Frontal Impact Crashes

AECOM

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 TRANSPORTATION MOBILITY and SAFETY DIVISION

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SS# 05-08-223
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 BEFORE Period
 Intersection 2
 12/1/2005 - 2/28/2010
 4.25 Years

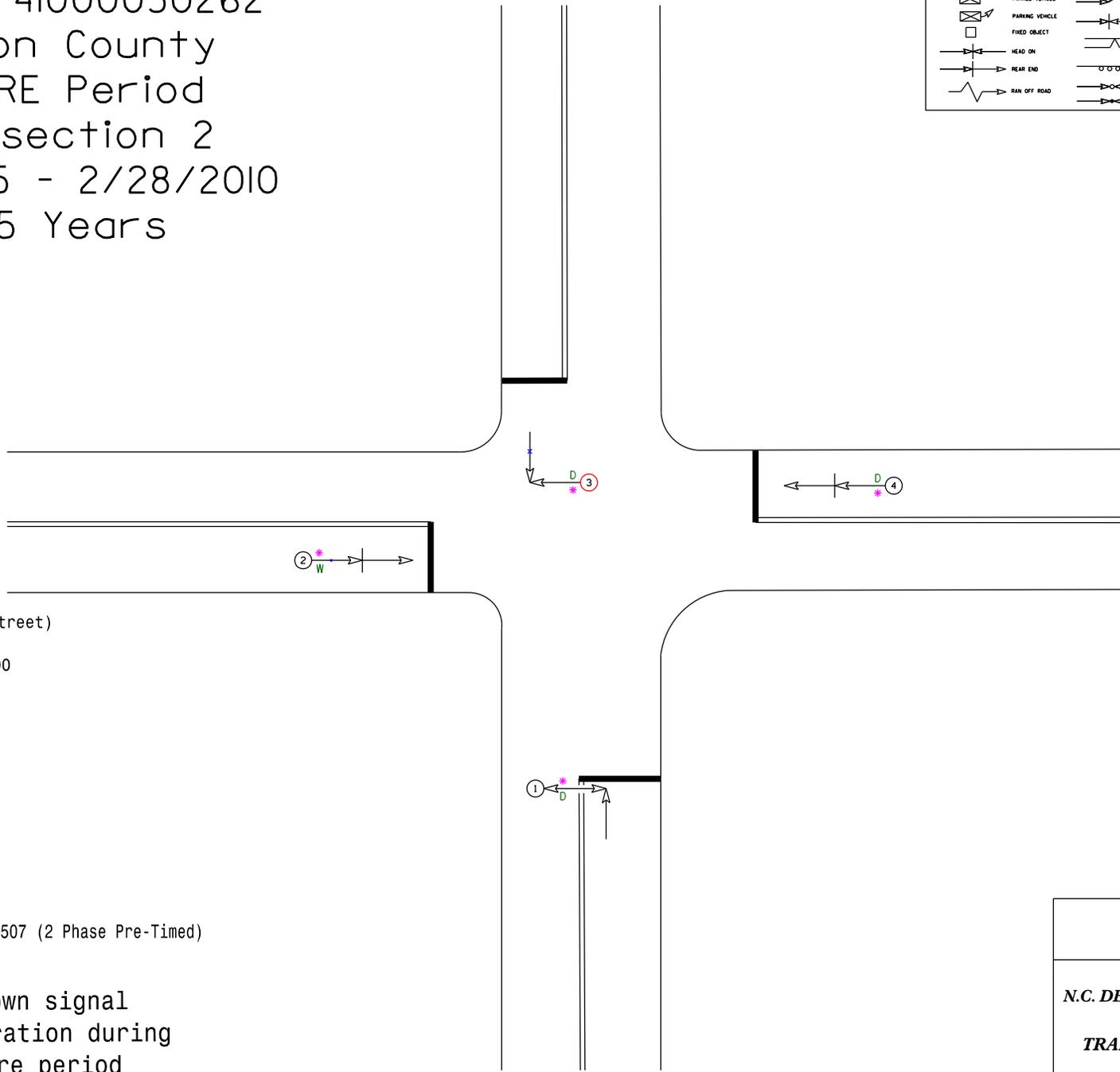
SR 1363 (Reams Ave)
 35 MPH
 2008 ADT-2,650

LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PARKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	PARKED VEHICLE		SLOPESIDE		30 MPH TO 39		DRY
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		WET
	HEAD ON		HURRY		50 MPH TO 59		ICE OR SNOW
	NEAR END		FATALITY		60 MPH TO 69		SPEED UNKNOWN
	RAN OFF ROAD				70 AND UP		ONLY



SR 1409 (Morgan Street)
 35 MPH
 2008 ADT-4,900



SR 1409 (Morgan Street)
 35 MPH
 2008 ADT-4,900

SR 1363 (Reams Ave)
 35 MPH
 2008 ADT-2,650

SIG ID No. 05-0507 (2 Phase Pre-Timed)

Unknown signal
 configuration during
 before period

Frontal Impact
 Crashes

AECOM

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Date: 10-17-2014
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SS# 05-08-223
 Order# 41000030262
 Person County
 AFTER Period
 Intersection 2
 6/1/2010 - 8/31/2014
 4.25 Years

SR 1363 (Reams Ave)
 35 MPH
 2012 ADT-3,000

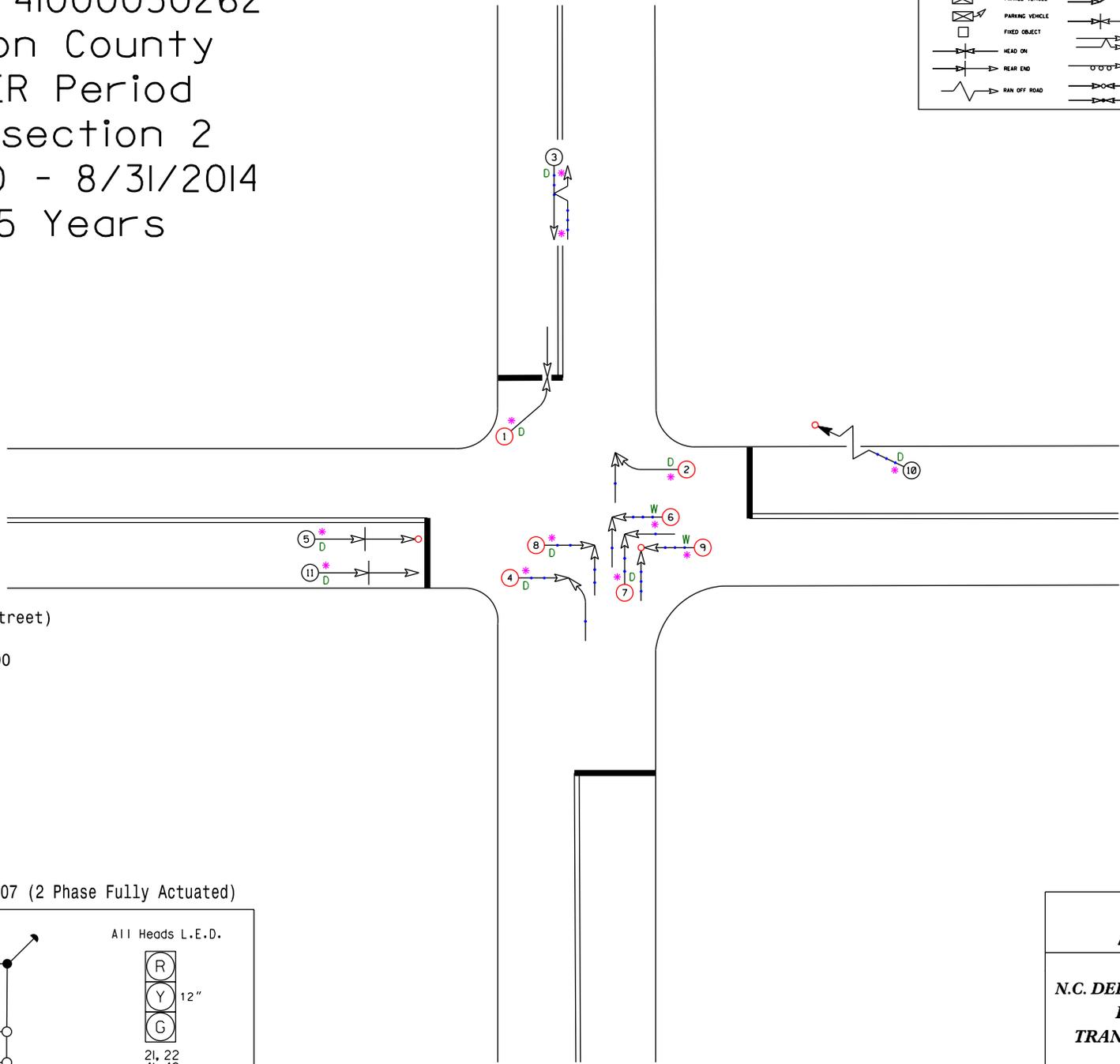
LEGEND

	MOVING VEHICLE		ANGLE		1 MPH OR LESS		PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		TRAIN
	PARKED VEHICLE		BACKING		20 MPH TO 29		DRIVER AT FAULT
	PARKED VEHICLE		SIDESWIPE		30 MPH TO 39		DRY
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		WET
	HEAD ON		HURRY		50 MPH TO 59		ICE OR SNOW
	NEAR END		FATALITY		60 MPH TO 69		SPEED UNKNOWN
	RAN OFF ROAD				70 AND UP		ONLY



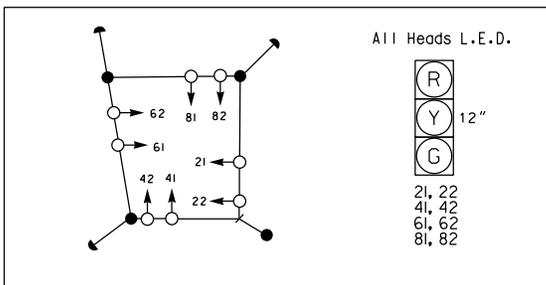
SR 1409 (Morgan Street)
 35 MPH
 2012 ADT-4,800

SR 1409 (Morgan Street)
 35 MPH
 2012 ADT-4,800



SR 1363 (Reams Ave)
 35 MPH
 2012 ADT-3,000

SIG ID No. 05-0507 (2 Phase Fully Actuated)



Frontal Impact Crashes

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