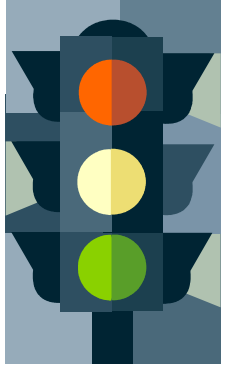
Automated Red Light Camera Enforcement

Presented to: Automated Red Light Enforcement Commission
Date: Tuesday, August 25, 2015

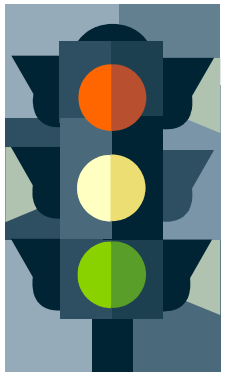


PURPOSE

- Approval of April 7, 2015 minutes
- 2016 Goals and Objective
- Safety Update
- Performance & Program Update

2016 GOALS AND OBJECTIVES

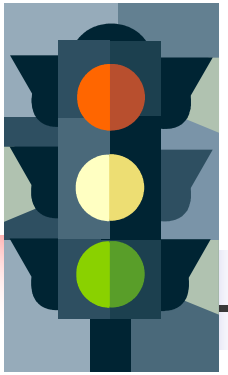
Carmen Garcia, ARC Chair



Commission Duties and Functions

The commission is an advisory body to the city manager and the city council. The defined responsibilities are to:

- Make recommendations related to the automated red light enforcement program;
- Make recommendations relating to the installation and operation of photographic traffic signal enforcement systems in the city;
- Review results of traffic engineering studies for camera-enforced intersections;
- Review the placement of photographic traffic signal enforcement systems to help ensure that enforced intersections are selected without regard to the ethnic or socioeconomic characteristics of the area in which the intersections are located



Proposed 2016 Goals & Objectives

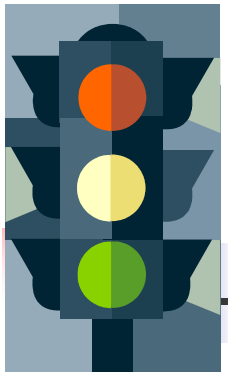
2015 Goals & Objectives

1. Assessment of Camera Locations
2. Marketing and Public Relations
3. Community Engagement
4. Texas Legislative Affairs

1. Create informational material to educate the public about the Safelight Program including online video capability on our website with red light approaches (good and bad).
2. Participate in community events to include school related events.
3. Continue to assess camera locations, by council districts, in conjunction with traffic flow.
4. Revise the current data and statistics reports to show the results of the program.
5. Continue the statutory mandate of the commission and recommend revisions where necessary.

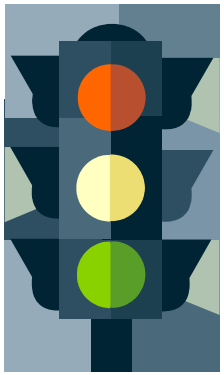
SAFETY REPORT UPDATES

Kirk Houser, Transportation Engineer



Intersection Analysis

- **Detailed Analysis for one intersection**
  - Define the Intent of Analysis
  - Description of Type of Information Desired
  - Clarification on Available Information and Analysis



Safety Report

ACTIVE CAMERA APPROACHES REPORT

ALL Crash Types on Camera Approaches

Quantity	Duration	3 Years Before ALL Types	2 Years Before ALL Types	1 Year Before ALL Types	3 Year Before AVG	1 Year After ALL Types	2 Years After ALL Types	3 Years After ALL Types	4 Years After ALL Types	5 Years After ALL Types	6 Years After ALL Types	7 Years After ALL Types	8 Years After ALL Types	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	89	217	192	166	168	129	124	133	155	159	159	144	146	-20	-11.8%	19	1	13
11 Approaches	6 years (7/1/08 to 6/30/14)	64	86	80	77	57	72	68	53	52	29			55	-22	-28.0%	9	0	2
6 Approaches	5 years (7/1/09 to 6/30/14)	81	53	66	67	72	59	40	25	21				43	-23	-34.9%	3	0	3
13 Approaches	4 years (7/1/10 to 6/30/14)	77	59	70	69	59	47	54	62					56	-13	-19.2%	9	0	4
																	40	1	22

Red Light Related Crashes on Camera Approaches

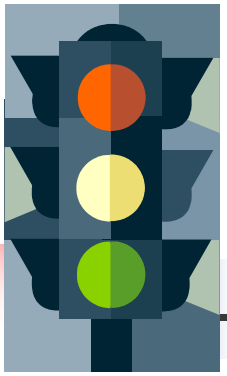
Quantity	Duration	3 Years Before RLR	2 Years Before RLR	1 Year Before RLR	3 Year Before AVG	1 Year After RLR	2 Years After RLR	3 Years After RLR	4 Years After RLR	5 Years After RLR	6 Years After RLR	7 Years After RLR	8 Years After RLR	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	39	107	99	82	58	34	29	29	32	36	44	21	35	-46	-56.7%	21	1	11
11 Approaches	6 years (7/1/08 to 6/30/14)	15	21	17	18	12	12	12	10	3	5			9	-9	-49.1%	9	0	2
6 Approaches	5 years (7/1/09 to 6/30/14)	21	18	13	17	25	14	10	8	8				13	-4	-25.0%	4	0	2
13 Approaches	4 years (7/1/10 to 6/30/14)	14	9	12	12	6	3	9	4					6	-6	-52.9%	8	1	4
																	42	2	19

Rear-End Crashes on Camera Approaches

Quantity	Duration	3 Years Before RE	2 Years Before RE	1 Year Before RE	3 Year Before AVG	1 Year After RE	2 Years After RE	3 Years After RE	4 Years After RE	5 Years After RE	6 Years After RE	7 Years After RE	8 Years After RE	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	21	44	29	31	38	36	37	49	47	51	42	56	45	13	42.0%	8	5	20
11 Approaches	6 years (7/1/08 to 6/30/14)	21	26	25	24	19	29	24	16	22	11			20	-4	-16.0%	5	2	4
6 Approaches	5 years (7/1/09 to 6/30/14)	16	12	8	12	12	9	8	7	3				8	-4	-35.0%	4	0	2
13 Approaches	4 years (7/1/10 to 6/30/14)	36	27	24	29	27	22	24	29					26	-4	-12.1%	5	0	8
																	22	7	34

All Other Crashes on Camera Approaches

Quantity	Duration	3 Years Before RE	2 Years Before RE	1 Year Before RE	3 Year Before AVG	1 Year After RE	2 Years After RE	3 Years After RE	4 Years After RE	5 Years After RE	6 Years After RE	7 Years After RE	8 Years After RE	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	29	66	62	52	72	59	58	55	76	72	73	67	67	14	27.1%	10	1	22
11 Approaches	6 years (7/1/08 to 6/30/14)	28	39	39	35	26	31	32	27	27	13			26	-9	-26.4%	7	1	3
6 Approaches	5 years (7/1/09 to 6/30/14)	44	23	41	36	35	36	22	10	10				23	-13	-37.2%	3	0	3
13 Approaches	4 years (7/1/10 to 6/30/14)	27	23	29	26	26	22	21	29					25	-2	-7.0%	6	0	7
																	26	2	35



Safety Report

ALL CRASH TYPES at ALL APPROACHES

ALL Crash Types at ALL Approaches

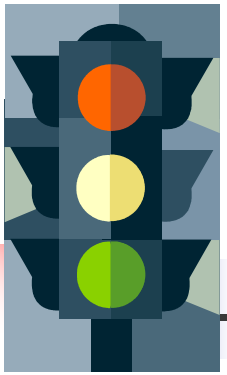
Quantity	Duration	2 Years Before ALL Types	1 Year Before ALL Types	2 Year Before AVG	1 Year After ALL Types	2 Years After ALL Types	3 Years After ALL Types	4 Years After ALL Types	5 Years After ALL Types	6 Years After ALL Types	7 Years After ALL Types	8 Years After ALL Types	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
31 Intersections	8 years (7/1/06 to 6/30/14)	606	528	**567**	509	401	415	450	433	367	412	354	**418**	**-149**	**-26.3%**	23	2	6
10 Intersections	6 years (7/1/08 to 6/30/14)	175	173	**174**	162	166	142	108	118	95			**132**	**-42**	**-24.2%**	8	0	2
6 Intersections	5 years (7/1/09 to 6/30/14)	155	160	**158**	187	152	105	75	77				**119**	**-38**	**-24.3%**	4	0	2
8 Intersections	4 years (7/1/10 to 6/30/14)	146	135	**141**	111	100	133	132					**119**	**-22**	**-15.3%**	4	0	4
																39	2	14

Red Light Related Crashes at ALL Approaches

Quantity	Duration	2 Years Before RLR	1 Year Before RLR	2 Year Before AVG	1 Year After RLR	2 Years After RLR	3 Years After RLR	4 Years After RLR	5 Years After RLR	6 Years After RLR	7 Years After RLR	8 Years After RLR	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
31 Intersections	8 years (7/1/06 to 6/30/14)	259	209	**234**	170	122	106	98	108	100	90	75	**109**	**-125**	**-53.6%**	27	2	2
10 Intersections	6 years (7/1/08 to 6/30/14)	39	44	**42**	45	30	34	22	17	22			**28**	**-13**	**-31.7%**	6	1	3
6 Intersections	5 years (7/1/09 to 6/30/14)	41	37	**39**	54	36	22	8	12				**26**	**-13**	**-32.3%**	5	0	1
8 Intersections	4 years (7/1/10 to 6/30/14)	36	21	**29**	20	12	19	17					**17**	**-12**	**-40.4%**	5	1	2
																43	4	8

Rear-End Crashes at ALL Approaches

Quantity	Duration	2 Years Before RE	1 Year Before RE	2 Year Before AVG	1 Year After RE	2 Years After RE	3 Years After RE	4 Years After RE	5 Years After RE	6 Years After RE	7 Years After RE	8 Years After RE	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
31 Intersections	8 years (7/1/06 to 6/30/14)	140	130	**135**	116	118	115	151	116	106	106	101	**116**	**-19**	**-14.0%**	16	2	13
10 Intersections	6 years (7/1/08 to 6/30/14)	49	41	**45**	41	55	35	28	37	25			**37**	**-8**	**-18.1%**	5	0	5
6 Intersections	5 years (7/1/09 to 6/30/14)	40	24	**32**	34	27	22	19	14				**23**	**-9**	**-27.5%**	5	0	1
8 Intersections	4 years (7/1/10 to 6/30/14)	47	48	**48**	36	38	48	44					**42**	**-6**	**-12.6%**	4	1	3
																30	3	22



Safety Report

INJURIES at ALL APPROACHES

Injuries at ALL Approaches

Quantity	Duration	3 Years Before Injuries	2 Years Before Injuries	1 Year Before Injuries	2 Year Before AVG	1 Year After Injuries	2 Years After Injuries	3 Years After Injuries	4 Years After Injuries	5 Years After Injuries	6 Years After Injuries	7 Years After Injuries	8 Years After Injuries	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
31 Intersections	8 years (7/1/06 to 6/30/14)	267	679	601	**640**	492	378	345	422	327	333	339	321	**377**	**-263**	**-41.2%**	21	5	5
10 Intersections	6 years (7/1/08 to 6/30/14)	159	116	136	**126**	150	128	134	72	80	72			**113**	**-13**	**-10.5%**	7	0	3
6 Intersections	5 years (7/1/09 to 6/30/14)	172	111	127	**119**	175	127	70	55	62				**107**	**-12**	**-10.3%**	2	1	3
8 Intersections	4 years (7/1/10 to 6/30/14)	142	112	106	**109**	85	75	102	114					**87**	**-22**	**-19.9%**	7	0	1
																	37	6	12

Red Light Related Injuries at ALL Approaches

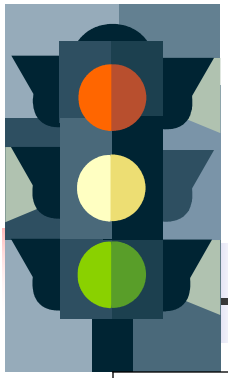
Quantity	Duration	3 Years Before RLR	2 Years Before RLR	1 Year Before RLR	2 Year Before AVG	1 Year After RLR	2 Years After RLR	3 Years After RLR	4 Years After RLR	5 Years After RLR	6 Years After RLR	7 Years After RLR	8 Years After RLR	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
31 Intersections	8 years (7/1/06 to 6/30/14)	80	235	200	**218**	153	97	92	94	74	87	87	96	**98**	**-120**	**-55.1%**	21	4	6
10 Intersections	6 years (7/1/08 to 6/30/14)	41	19	36	**28**	40	20	41	11	16	16			**26**	**-2**	**-6.9%**	5	0	5
6 Intersections	5 years (7/1/09 to 6/30/14)	46	23	33	**28**	47	28	19	12	17				**27**	**-2**	**-5.4%**	4	1	1
8 Intersections	4 years (7/1/10 to 6/30/14)	23	18	15	**17**	5	6	15	16					**9**	**-8**	**-47.5%**	5	2	1
																	35	7	13

Red Light Related Injuries at Camera Approaches

Quantity	Duration	3 Years Before RLR	2 Years Before RLR	1 Year Before RLR	2 Year Before AVG	1 Year After RLR	2 Years After RLR	3 Years After RLR	4 Years After RLR	5 Years After RLR	6 Years After RLR	7 Years After RLR	8 Years After RLR	After AVG	AVG Change	Percent Change	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	27	95	101	**98**	53	29	25	37	25	28	42	22	**34**	**-64**	**-65.2%**	21	0	12
11 Approaches	6 years (7/1/08 to 6/30/14)	19	16	14	**15**	10	7	13	4	2	4			**7**	**-8**	**-52.0%**	7	0	4
6 Approaches	5 years (7/1/09 to 6/30/14)	24	11	9	**10**	26	14	11	7	6				**15**	**5**	**45.0%**	1	1	4
13 Approaches	4 years (7/1/10 to 6/30/14)	8	6	9	**8**	0	3	7	3					**3**	**-4**	**-55.6%**	5	5	3
																	34	6	23

PERFORMANCE & PROGRAM UPDATE

Wendy Nalls, Dallas Police Department



FY 14-15
Quarterly Performance

FY 14-15 Citations				
	OCT	NOV	DEC	1st Qtr. Total
Citations	12,071	9,400	11,556	**33,027**
	JAN	FEB	MAR	2nd Qtr. Total
Citations	10,972	10,238	12,013	**33,223**
	APRIL	MAY	JUNE	3rd Qtr. Total
Citations	13,375	14,837	14,685	**42,897**
	JULY	AUG	SEPT	4th Qtr. In Progress
Citations	11,653			**11,653**
Total YTD				**120,800**

Public Awareness Events Scheduled for FY 14-15

Mayors Back to School Fair

EVENTS

- Chief on the Beat - Carolyn N. Buckhair Elementary School, Dallas, Tx. 5/2015
- Dallas Auto Convention 3/2015
- Mayors Back to School Fair 8/2015
- Mary Kay International Convention 8/2015

Mary Kay International Convention

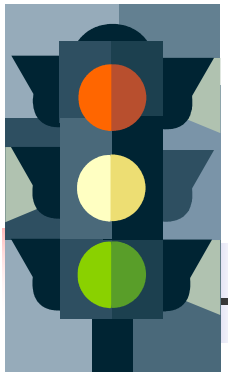
Program Update

- New Camera Installations in Progress
- Top 10 Cities For Red-Light Related Accident Fatalities

Below are the top ten cities that had the highest number of red-light running fatalities between 2004-2013.

1.	HOUSTON, TX	181 Fatalities
2.	PHOENIX, AZ	127 Fatalities
3.	LOS ANGELES, CA	125 Fatalities
4.	LAS VEGAS, NV	105 Fatalities
5.	CHICAGO, IL	99 Fatalities
6.	MIAMI, FL	82 Fatalities
7.	DALLAS, TX	71 Fatalities
8.	PHILADELPHIA, PA	63 Fatalities
9.	TUCSON, AZ	61 Fatalities
10.	DENVER, CO	60 Fatalities

Source: National Coalition for Safer Roads derived from data provided by the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS).



2015 - 2016
Tentative Meeting Dates

Meeting time: 9:30 am – 11:30 am

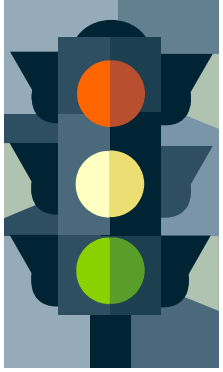
Tuesday, October 20, 2015

Tuesday, January 19, 2016

Tuesday, April 19, 2016

Tuesday, August 2, 2016

Tuesday, October 25, 2016



Appendices

- Response to Questions from April 7, 2015 meeting
- List of ARC Members
- Red Light Camera Map
- Red Light Camera Locations

Memorandum

CITY OF DALLAS

Date 6/29/2015

To Donzell Gibson ; Oscar Ramos
Dallas PD

From Kirk Houser, P.E.
Sr. Program Manager
Department of Street Services – Transportation Operations
Traffic Congestion Management

Subject Red Light Camera Commission Questions from April 7, 2015 meeting

Questions

1. On the Safety Report (see attachment)

a. Can you add a table that provides a category for "Other crashes"? Currently we have RL related on Camera Approaches and RE related on Camera Approaches but these (2) tables together do not add up the figures provided on the "All Crash Types on Camera Approaches". Having this will allow for the "All Crash Types" table to add up to the remaining tables as the existing ones for RL and RE do not add up the total for All crash types on Camera Approaches.

See attached chart.

b. Second, can you provide examples of crash types that will be defined as "Other" which hopefully will define why they are not considered red light related. Make it a footnote on the table.

In Texas, crashes are reported by peace officers on a standardized form: Texas Peace Officer's Crash Report. The data from these forms are input into the statewide Crash Records Information system. The City of Dallas exports the data from CRIS to use in crash analysis for the Safelight program. Staff relies upon information from the database and forms. The peace officer uses witness statements to fill out the form.

Red Light Related crashes:

- Right Angle – T-bone style crashes
- Left Turn (only when one vehicle ran a red light)

Rear End Crashes:

- Only rear end crashes upstream to a signal are counted

Other:

- Side swipe crashes
- Failure to stay in lane

Improper lane change
Right Turn on Green collision with pedestrian
Permissive Left Turn on Green Ball collisions
Collisions caused by Backing Up
Rear End collisions – downstream of intersection
Crossed centerline
Wrong way driving
Vehicle left roadway – hit fixed object

2. Is a Rear End crash considered a Red Light Related Crash?

No. Rear End collisions are tabulated separately from Red Light Related.

3. We have RE crashes broken out separately. Is that because they are considered a consequence of the red light camera and or a side effect?

As a general rule the installation of any traffic signal decreases Right Angle collisions while possibly increasing rear end collisions.

Right angle collisions typically occur when one driver ignores a traffic control device (traffic signal, stop sign, yield sign).

Rear end collisions typically occur when one driver is ignoring the actions of the driver in front.

An unsignalized intersection (2 way stop) might have a Right Angle crash problem. This is one of the conditions that warrant the installation of a traffic signal. Once a signal is installed, the chances for Rear End collisions increase as traffic on the previously free flow street now occasionally have to stop.

Right angle crashes are almost always more serious than Rear End collisions. The benefits of installing a traffic signal and reducing right angle crashes should outweigh the potential for increase in rear end collisions.

A green signal indicated to the driver that they have the right of way. A solid yellow indication at a traffic signal is supposed to warn a driver that their right of way is about to end. The driver has to make a decision. If a signal turns yellow and the driver is far from the upcoming intersection, the driver has an easy decision to make. Most drivers will stop. If a signal turns yellow and the driver is very close to the intersection, the driver usually has an easy decision to make. Most drivers will continue thru the intersection.

Yellow signal timing attempts to factor in the reaction time of the driver, the speed of the vehicle and the average stopping time a vehicle needs. Streets with higher speeds need a higher yellow time.

As mentioned above, when either far from the signal or very close to the signal, the driver

has an easy decision. There is an area in-between called the dilemma zone. If the driver is in this area, their decision is harder. A driver may hesitate. A driver may choose to speed up. A driver may choose to abruptly stop.

If the driver of a second following vehicle is following too closely or not paying attention, they may have a rear end collision with the lead vehicle.

Rear end collisions are almost always the fault of the following driver, regardless of the actions of the lead vehicle driver.

Traffic engineers do try to time yellow lights in a way to minimize the dilemma zone and help drivers make good decisions.

Misunderstanding of the yellow light

There is a common misconception that drivers are not allowed to 'run a yellow light'. The definition of running a red light is entering an intersection by crossing the stop bar after the light is red. There is no violation in crossing the stop bar on yellow. Many drivers do not understand this and may choose more frequently to stop abruptly. This action mixed with following too closely and driver inattention for the following vehicle can increase rear end crashes.

Red light cameras

The misunderstanding of the purpose of the yellow light, plus the added fear of getting a ticket may lead to an increase in sudden braking. Any resulting rear-end crash is caused by the following vehicle's driver not paying attention or following too closely.

Summary:

At all traffic signals,

- Lead driver making wrong decision in dilemma zone and abruptly stopping
- Lead driver misunderstanding meaning of yellow signal

will cause an increase in abrupt stopping.

At red light camera intersections,

- The fear of receiving a ticket mixed with misunderstanding the meaning of the yellow signal,

Can increase abrupt stopping.

All rear end collisions are due to:

- Following driver following too closely
- Following driver inattention

It is important to remember:

Rear end collisions are almost always the fault of the following driver, regardless of the actions of the lead vehicle driver and regardless of the traffic signal.

To answer the question:
The City of Dallas tracks Rear End collisions to see if red light cameras have an effect on rear end collisions.

4. Does the State of Texas specifically ask us to report RE crashes?

   Yes

   If so, do we have it correlated in data analysis and defined the same way in our data as does the State?

   Yes

5. Is it possible to have a worksheet showing the various categories of crash types?

   Motor vehicle drivers have found a near infinite variety of crash combinations. Instead of listing each separately, the Texas Peace Officer's Crash Report breaks things into:

   Sequence of Events
   This data set describes if something was hit and what it was.

   Factors and Conditions
   This data set usually describes an action or other condition, such as
   - Disregard Stop and Go signal
   - Failed to yield right of way – Turning Left
   - 73 Factors total

   Vehicle Defects
   Weather conditions
   Light conditions
   - (Day, Night)

   Surface condition
   - (Dry, Wet, Ice, etc…)

   (Refer to attached code sheets)

   Traffic Engineers look at these datasets, but also look at the angle of the crash. The example list from the answer to Question 1b is pretty comprehensive for what we look at with regards to traffic signals with or without red light cameras.

   - Right Angle – T-bone style crashes
   - Left Turn
   - Rear End

Side swipe crashes
Failure to stay in lane
Improper lane change
Right Turn on Green collision with pedestrian
Collisions caused by Backing Up
Crossed centerline
Wrong way driving
Vehicle left roadway – hit fixed object

6. Please provide an analysis of (1) intersection as the "Safety Report" for the next ARC meeting in August.

Do to the effort required to produce the state mandated annual report to TxDOT, which is due in October, Traffic Engineering staff can produce this analysis at the October meeting instead of the August meeting. Plus clarification of "analysis of 1 intersection" is needed.

CRASHES
ACTIVE LOCATIONS

ALL Crash Types on Camera Approaches

Quantity	Duration	3 Years Before ALL Types	2 Years Before ALL Types	1 Year Before ALL Types	3 Year Before AVG	1 Year After ALL Types	2 Years After ALL Types	3 Years After ALL Types	4 Years After ALL Types	5 Years After ALL Types	6 Years After ALL Types	7 Years After ALL Types	8 Years After ALL Types	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
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11 Approaches	6 years (7/1/08 to 6/30/14)	64	86	80	**77**	57	72	68	53	52	29			**55**	**-22**	**-28.0%**	9	0	2
6 Approaches	5 years (7/1/09 to 6/30/14)	81	53	66	**67**	72	59	40	25	21				**43**	**-23**	**-34.9%**	3	0	3
13 Approaches	4 years (7/1/10 to 6/30/14)	77	59	70	**69**	59	47	54	62					**56**	**-13**	**-19.2%**	9	0	4
																	40	1	22

Red Light Related Crashes on Camera Approaches

Quantity	Duration	3 Years Before RLR	2 Years Before RLR	1 Year Before RLR	3 Year Before AVG	1 Year After RLR	2 Years After RLR	3 Years After RLR	4 Years After RLR	5 Years After RLR	6 Years After RLR	7 Years After RLR	8 Years After RLR	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	39	107	99	**82**	58	34	29	29	32	36	44	21	**35**	**-46**	**-56.7%**	21	1	11
11 Approaches	6 years (7/1/08 to 6/30/14)	15	21	17	**18**	12	12	12	10	3	5			**9**	**-9**	**-49.1%**	9	0	2
6 Approaches	5 years (7/1/09 to 6/30/14)	21	18	13	**17**	25	14	10	8	8				**13**	**-4**	**-25.0%**	4	0	2
13 Approaches	4 years (7/1/10 to 6/30/14)	14	9	12	**12**	6	3	9	4					**6**	**-6**	**-52.9%**	8	1	4
																	42	2	19

Rear-End Crashes on Camera Approaches

Quantity	Duration	3 Years Before RE	2 Years Before RE	1 Year Before RE	3 Year Before AVG	1 Year After RE	2 Years After RE	3 Years After RE	4 Years After RE	5 Years After RE	6 Years After RE	7 Years After RE	8 Years After RE	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	21	44	29	**31**	38	36	37	49	47	51	42	56	**45**	**13**	**42.0%**	8	5	20
11 Approaches	6 years (7/1/08 to 6/30/14)	21	26	25	**24**	19	29	24	16	22	11			**20**	**-4**	**-16.0%**	5	2	4
6 Approaches	5 years (7/1/09 to 6/30/14)	16	12	8	**12**	12	9	8	7	3				**8**	**-4**	**-35.0%**	4	0	2
13 Approaches	4 years (7/1/10 to 6/30/14)	36	27	24	**29**	27	22	24	29					**26**	**-4**	**-12.1%**	5	0	8
																	22	7	34

All Other Crashes on Camera Approaches

Quantity	Duration	3 Years Before RE	2 Years Before RE	1 Year Before RE	3 Year Before AVG	1 Year After RE	2 Years After RE	3 Years After RE	4 Years After RE	5 Years After RE	6 Years After RE	7 Years After RE	8 Years After RE	After AVG	AVG Change	PercentChange	Reduction	No Change	Increase
33 Approaches	8 years (7/1/06 to 6/30/14)	29	66	62	**52**	72	59	58	55	76	72	73	67	**67**	**14**	**27.1%**	10	1	22
11 Approaches	6 years (7/1/08 to 6/30/14)	28	39	39	**35**	26	31	32	27	27	13			**26**	**-9**	**-26.4%**	7	1	3
6 Approaches	5 years (7/1/09 to 6/30/14)	44	23	41	**36**	35	36	22	10	10				**23**	**-13**	**-37.2%**	3	0	3
13 Approaches	4 years (7/1/10 to 6/30/14)	27	23	29	**26**	26	22	21	29					**25**	**-2**	**-7.0%**	6	0	7
																	26	2	35

Numbered Fields on the CR-3 Refer to the Numbered Lists on this Code Sheet. Each list includes the codes that may be entered on the form and the description of each code.

IDENTIFICATION AND LOCATION

1. Roadway System

IH = Interstate
US = US Highway
SH = State Highway
FM = Farm to Market
RR = Ranch Road
RM = Ranch to Market
BI = Business Interstate
BU = Business US
BS = Business State
BF = Business FM
SL = State Loop
TL = Toll Road
AL = Alternate
SP = Spur
CR = County Road
PR = Park Road
PV = Private Road
RC = Recreational Road
LR = Local Road/Street (Street, Road, Ave., Blvd., Pl., Trl., Beach, Alley, Boat Ramp, etc.)

2. Roadway Part

1 = Main/Proper Lane
2 = Service/Frontage Road
3 = Entrance/On Ramp
4 = Exit/Off Ramp
5 = Connector/Flyover
98 = Other (Explain in Narrative)

3. Street Prefix, Direction from Int. or Ref. Marker

N = North
NE = Northeast
E = East
SE = Southeast
S = South
SW = Southwest
W = West
NW = Northwest

4. Street Suffix

RD = Road
ST = Street
DR = Drive
AVE = Avenue
BLVD = Boulevard
PKWY = Parkway
LN = Lane
FWY = Freeway
HWY = Highway
WAY = Way
TRL = Trail
LOOP = Loop
EXPY = Expressway
CT = Court
CIR = Circle
PL = Place
PARK = Park
CV = Cove

VEHICLE, DRIVER, AND PERSONS

5. Unit Description

1 = Motor Vehicle
2 = Train
3 = Pedalcyclist
4 = Pedestrian
5 = Motorized Conveyance
6 = Towed/Trailer
7 = Non-Contact
98 = Other (Explain in Narrative)

6. Vehicle Color

BGE = Beige
BLK = Black
BLU = Blue
BRZ = Bronze
BRO = Brown
CAM = Camouflage
CPR = Copper
GLD = Gold
GRY = Gray
GRN = Green
MAR = Maroon
MUL = Multicolored
ONG = Orange
PNK = Pink
PLE = Purple
RED = Red
SIL = Silver
TAN = Tan
TEA = Teal (green)
TRQ = Turquoise (blue)
WHI = White
YEL = Yellow
98 = Other (Explain in Narrative)
99 = Unknown

7. Body Style

P2 = Passenger Car, 2-Door
P4 = Passenger Car, 4-Door
PK = Pickup
AM = Ambulance
BU = Bus
SB = Yellow School Bus
FE = Farm Equipment
FT = Fire Truck
MC = Motorcycle
SV = Sport Utility Vehicle
PC = Police Car/Truck
PM = Police Motorcycle
TL = Trailer, Semi-Trailer, or Pole Trailer
TR = Truck
TT = Truck Tractor
VN = Van
98 = Other (Explain in Narrative)
99 = Unknown

8. Driver License/ID Type

1 = Driver License
2 = Commercial Driver Lic.
3 = Occupational
4 = ID Card
5 = Unlicensed
98 = Other
99 = Unknown

9. Driver License Class

A = Class A
AM = Class A and M
B = Class B
BM = Class B and M
C = Class C
CM = Class C and M
M = Class M
5 = Unlicensed
98 = Other/Out of State
99 = Unknown

10. Commercial Driver License Endorsements

H = Hazardous Materials
N = Tank Vehicles
P = Passengers
S = School Bus
T = Double/Triple Trailer
X = Tank Vehicle with HazMat
5 = Unlicensed
96 = None
98 = Other/Out of State
99 = Unknown

11. Driver License Restrictions

A = With Corrective Lenses
B = LOFS Age 21 or Over
C = Daytime Only
D = Not to Exceed 45 MPH
E = No Expressway Driving
F = Must Hold Valid Learner Lic. to MM/DD/YY
G = TRC 545.424 Applies until MM/DD/YY
H = Vehicle Not to Exceed 26,000 lbs GVWR
I = Motorcycle Not to Exceed 250 CC
J = Licensed Motorcycle Operator Age 21 or Over in Sight
K = Moped
L = Vehicle w/o Air Brakes – Applies to Vehicles Requiring CDL
M = CDL Intrastate Commerce Only
N = Ignition Interlock Required
O = Occ./Essent. Need DL-No CMV-See Court Order
P = Stated on License
Q = LOFS 21 or Over Vehicle Above Class B
R = LOFS 21 or Over Vehicle Above Class C
S = Outside Rear View Mirror or Hearing Aid
T = Automatic Transmission
U = Applicable Prosthetic Devices
V = Applicable Vehicle Devices
W = Power Steering
X = Vehicle Not to Exceed Class C
Y = Valid TX Vision or Limb Waiver Req'd.
Z = Valid Fed. Vision or Limb Waiver Req'd.
5 = Unlicensed
96 = None
98 = Other/Out of State
99 = Unknown

12. Person Type

1 = Driver
2 = Passenger/Occupant
3 = Pedalcyclist
4 = Pedestrian
5 = Driver of Motorcycle Type Vehicle
6 = Passenger/Occupant on Motorcycle Type Vehicle
98 = Other (Explain in Narrative)
99 = Unknown

13. Seat Position

1 = Front Left
2 = Front Center
3 = Front Right
4 = Second Seat Left
5 = Second Seat Center
6 = Second Seat Right
7 = Third Seat Left
8 = Third Seat Center
9 = Third Seat Right
10 = Cargo Area
11 = Outside Vehicle
13 = Other in Vehicle
14 = Passenger in Bus
16 = Pedestrian, Pedalcyclist, or Motorized Conveyance
98 = Other (Explain in Narrative)
99 = Unknown

14. Injury Severity

A = Incapacitating Injury
B = Non-Incapacitating Injury
C = Possible Injury
K = Killed
N = Not Injured
99 = Unknown

15. Ethnicity

W = White
B = Black
H = Hispanic
A = Asian
I = Amer. Indian/Alaskan Native
98 = Other
99 = Unknown

16. Sex

1 = Male
2 = Female
99 = Unknown

17. Ejected

1 = No
2 = Yes
3 = Yes, Partial
97 = Not Applicable
99 = Unknown

18. Restraint Used

1 = Shoulder and Lap Belt
2 = Shoulder Belt Only
3 = Lap Belt Only
4 = Child Seat, Facing Forward
5 = Child Seat, Facing Rear
6 = Child Seat, Unknown
7 = Child Booster Seat
96 = None
97 = Not Applicable
98 = Other (Explain in Narrative)
99 = Unknown

19. Airbag

1 = Not Deployed
2 = Deployed, Front
3 = Deployed, Side
4 = Deployed, Rear
5 = Deployed, Multiple
97 = Not Applicable
99 = Unknown

20. Helmet Use

1 = Not Worn
2 = Worn, Damaged
3 = Worn, Not Damaged
4 = Worn, Unk. Damage
97 = Not Applicable
99 = Unknown if Worn

21. Solicitation

Y = Solicit
N = No Solicit

22. Alcohol Specimen Type

1 = Breath
2 = Blood
3 = Urine
4 = Refused
96 = None
98 = Other (Explain in Narrative)

23. Drug Specimen Type

2 = Blood
3 = Urine
4 = Refused
96 = None
98 = Other (Explain in Narrative)

24. Drug Test Result

1 = Positive
2 = Negative
97 = Not Applicable
99 = Unknown

25. Drug Category

2 = CNS Depressants
3 = CNS Stimulants
4 = Hallucinogens
6 = Narcotic Analgesics
7 = Inhalants
8 = Cannabis
10 = Disassociative Anesthetics
11 = Multiple Drugs (Explain in Narrative)
97 = Not Applicable
98 = Other Drugs (Explain in Narrative)
99 = Unknown

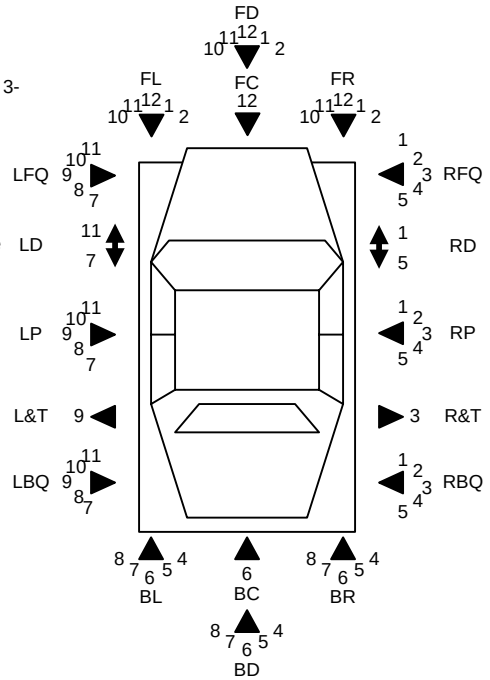
26. Financial Responsibility Type

1 = Liability Insurance Policy
2 = Proof of Liability Insurance
3 = Insurance Binder
4 = Surety Bond
5 = Certificate of Deposit with Comptroller
6 = Certificate of Deposit with County Judge
7 = Certificate of Self-Insurance

27. Vehicle Damage Rating

In most cases, enter in the format XX-ABC-Y, where
XX is the Direction of Force (1-12),
ABC is the Damage Description 2- or 3-letter code),
and Y is the Damage Severity (0-7).

In special cases, use:
VB-1 = vehicle burned, NOT due to collision
VB-7 = vehicle catches fire due to the collision
TP-0 = top damage only
VX-0 = undercarriage damage only
MC-1 = motorcycle, moped, scooter, etc.
NA = Not Applicable (Farm Tractor, etc.)



Numbered Fields on the CR-3 Refer to the Numbered Lists on this Code Sheet. Each list includes the codes that may be entered on the form and the description of each code.

Law Enforcement and TxDOT Use ONLY.
Form CR-3CS 1/1/2010

COMMERCIAL MOTOR VEHICLE

28. Vehicle Operation
1 = Interstate Commerce
2 = Intrastate Commerce
3 = Not in Commerce
4 = Government
5 = Personal

29. Carrier ID Type
1 = US DOT
2 = TxDOT
3 = ICC/MC
96 = None
98 = Other (Explain in Narrative)

30. Roadway Access
1 = Full Access Control
2 = Partial Access Control
3 = No Access Control

31. Vehicle Type
1 = Passenger Car
2 = Light Truck
3 = Bus (9-15)
4 = Bus (>15)
5 = Single Unit Truck 2 Axles 6 Tires
6 = Single Unit Truck 3 or More Axles
7 = Truck Trailer
8 = Truck Tractor (Bobtail)
9 = Tractor/Semi Trailer
10 = Tractor/Double Trailer
11 = Tractor/Triple Trailer
98 = Other (Explain in Narrative)
99 = Unknown Heavy Truck

32. Hazardous Material Class Number
1 = Explosives
2 = Gases
3 = Flammable Liquids
4 = Flammable Solids
5 = Oxidizers and Organic Peroxides
6 = Toxic Materials and Infectious Substances
7 = Radioactive Materials
8 = Corrosive Materials
9 = Miscellaneous Dangerous Goods

33. Cargo Body Style
1 = Bus (9-15)
2 = Bus (>15)
3 = Van/Enclosed Box
4 = Cargo Tank
5 = Flatbed
6 = Dump
7 = Concrete Mixer
8 = Auto Transporter
9 = Garbage Refuse
10 = Grain Chips Gravel
11 = Pole
13 = Intermodal
14 = Logging
15 = Vehicle Towing Another Vehicle
97 = Not Applicable
98 = Other (Explain in Narrative)

34. Trailer Type
1 = Full Trailer
2 = Semi-Trailer
3 = Pole Trailer

35. Sequence of Events
1 = Non-Collision: Ran Off Road
2 = Non-Collision: Jackknife
3 = Non-Collision: Overturn Rollover
4 = Non-Collision: Downhill Runaway
5 = Non-Collision: Cargo Loss Or Shift
6 = Non-Collision: Explosion Or Fire
7 = Non-Collision: Separation of Units
8 = Non-Collision: Cross Median/Centerline
9 = Non-Collision: Equipment Failure
10 = Non-Collision: Other
11 = Non-Collision: Unknown
12 = Collision Involving Pedestrian
13 = Collision Involving Motor Vehicle in Transport
14 = Collision Involving Parked Motor Vehicle
15 = Collision Involving Train
16 = Collision Involving Pedalcycle
17 = Collision Involving Animal
18 = Collision Involving Fixed Object
19 = Collision With Work Zone Maintenance Equipment
20 = Collision With Other Movable Object
21 = Collision With Unknown Movable Object
98 = Other (Explain in Narrative)

FACTORS AND CONDITIONS

36. Factors and Conditions
1 = Animal on Road - Domestic
2 = Animal on Road - Wild
3 = Backed without Safety
4 = Changed Lane when Unsafe
14 = Disabled in Traffic Lane
15 = Disregard Stop and Go Signal
16 = Disregard Stop Sign or Light
17 = Disregard Turn Marks at Intersection
18 = Disregard Warning Sign at Construction
19 = Distraction in Vehicle
20 = Driver Inattention
21 = Drove Without Headlights
22 = Failed to Control Speed
23 = Failed to Drive in Single Lane
24 = Failed to Give Half of Roadway
25 = Failed to Heed Warning Sign
26 = Failed to Pass to Left Safely
27 = Failed to Pass to Right Safely
28 = Failed to Signal or Gave Wrong Signal
29 = Failed to Stop at Proper Place
30 = Failed to Stop for School Bus
31 = Failed to Stop for Train
32 = Failed to Yield ROW – Emergency Vehicle
33 = Failed to Yield ROW – Open Intersection
34 = Failed to Yield ROW – Private Drive
35 = Failed to Yield ROW – Stop Sign
36 = Failed to Yield ROW – To Pedestrian
37 = Failed to Yield ROW – Turning Left
38 = Failed to Yield ROW – Turn on Red
39 = Failed to Yield ROW – Yield Sign
40 = Fatigued or Asleep
41 = Faulty Evasive Action
42 = Fire in Vehicle
43 = Fleeing or Evading Police
44 = Followed Too Closely
45 = Had Been Drinking
46 = Handicapped Driver (Explain in Narrative)
47 = Ill (Explain in Narrative)
48 = Impaired Visibility (Explain in Narrative)
49 = Improper Start from Parked Position
50 = Load Not Secured
51 = Opened Door Into Traffic Lane
52 = Oversized Vehicle or Load
53 = Overtake and Pass Insufficient Clearance
54 = Parked and Failed to Set Brakes
55 = Parked in Traffic Lane
56 = Parked without Lights
57 = Passed in No Passing Lane
58 = Passed on Right Shoulder
59 = Pedestrian FTYROW to Vehicle
60 = Unsafe Speed
61 = Speeding – (Over Limit)
62 = Taking Medication (Explain in Narrative)
63 = Turned Improperly – Cut Corner on Left
64 = Turned Improperly – Wide Right
65 = Turned Improperly – Wrong Lane
66 = Turned when Unsafe
67 = Under Influence – Alcohol
68 = Under Influence – Drug
69 = Wrong Side – Approach or Intersection
70 = Wrong Side – Not Passing
71 = Wrong Way – One Way Road
72 = Cell/Mobile Phone Use
73 = Road Rage
98 = Other (Explain in Narrative)

37. Vehicle Defects
5 = Defective or No Headlamps
6 = Defective or No Stop Lamps
7 = Defective or No Tail Lamps
8 = Defective or No Turn Signal Lamps
9 = Defective or No Trailer Brakes
10 = Defective or No Vehicle Brakes
11 = Defective Steering Mechanism
12 = Defective or Slick Tires
13 = Defective Trailer Hitch
98 = Other (Explain in Narrative)

38. Weather Condition
1 = Clear
2 = Cloudy
3 = Rain
4 = Sleet/Hail
5 = Snow
6 = Fog
7 = Blowing Sand/Snow
8 = Severe Crosswinds
98 = Other (Explain in Narrative)
99 = Unknown

39. Light Condition
1 = Daylight
2 = Dark, Not Lighted
3 = Dark, Lighted
4 = Dark, Unknown Lighting
5 = Dawn
6 = Dusk
98 = Other (Explain in Narrative)
99 = Unknown

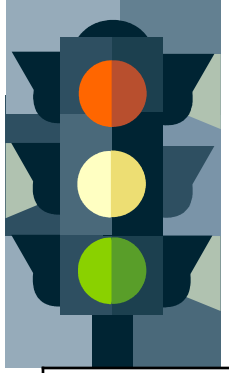
40. Entering Roads
2 = Three Entering Roads – T
3 = Three Entering Roads – Y
4 = Four Entering Roads
5 = Five Entering Roads
6 = Six Entering Roads
7 = Traffic Circle
8 = Cloverleaf
97 = Not Applicable
98 = Other (Explain in Narrative)

41. Roadway Type
1 = Two-Way, Not Divided
2 = Two-Way, Divided, Unprotected Median
3 = Two-Way, Divided, Protected Median
4 = One-Way
98 = Other (Explain in Narrative)

42. Roadway Alignment
1 = Straight, Level
2 = Straight, Grade
3 = Straight, Hillcrest
4 = Curve, Level
5 = Curve, Grade
6 = Curve, Hillcrest
98 = Other (Explain in Narrative)
99 = Unknown

43. Surface Condition
1 = Dry
2 = Wet
3 = Standing Water
4 = Snow
5 = Slush
6 = Ice
7 = Sand, Mud, Dirt
98 = Other (Explain in Narrative)
99 = Unknown

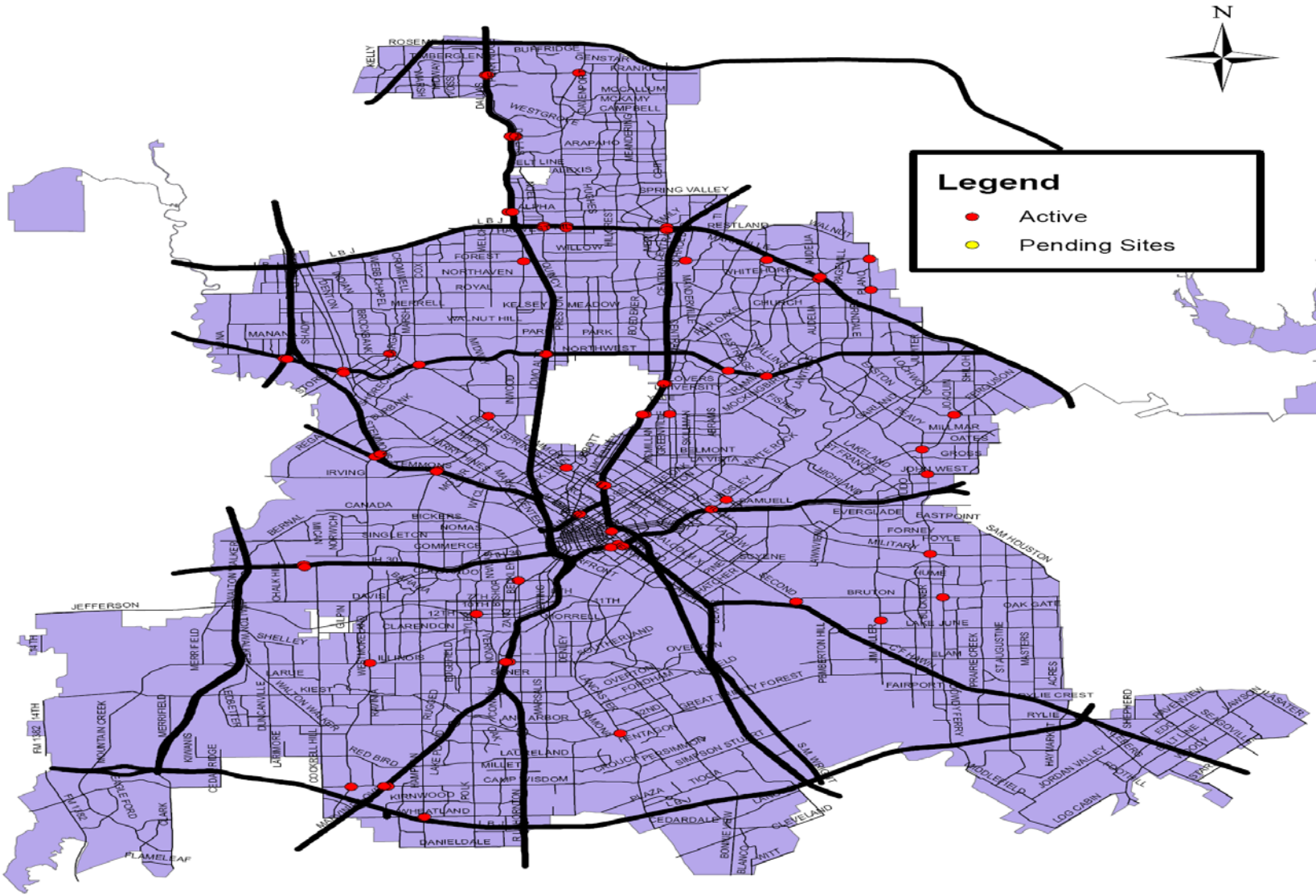
44. Traffic Control
2 = Inoperative (Explain in Narrative)
3 = Officer
4 = Flagman
5 = Signal Light
6 = Flashing Red Light
7 = Flashing Yellow Light
8 = Stop Sign
9 = Yield Sign
10 = Warning Sign
11 = Center Stripe/Divider
12 = No Passing Zone
13 = RR Gate/Signal
15 = Crosswalk
16 = Bike Lane
17 = Marked Lanes
18 = Signal Light With Red Light Running Camera
96 = None
98 = Other (Explain in Narrative)



Councilmember & Commission Appointee

Chair	Carmen R. Garcia	Mayor Mike Rawlings
Vice Chair	Tarek Radjef *	City Council
District 1	Angela Briles	Scotts Griggs
District 2	**VACANT**	Adam Medrano
District 3	Taylor Toynes	Casey Thomas, II*
District 4	**VACANT**	Carolyn King Arnold*
District 5	Jesus A. Rodriguez	Rick Callahan
District 6	**VACANT**	Deputy Mayor Pro Tem Monica Alonzo
District 7	**VACANT**	Tiffinni A. Young*
District 8	Tiffany M. Kamuche	Mayor Pro Tem Erik Wilson*
District 9	Ben Davis Sr.	Mark Clayton*
District 10	**VACANT**	B. Adam McGough*
District 11	Glynn Newman	Lee. M. Kleinman
District 12	Tarek Radjef *	Sandy Greyson
District 13	Wade R. Vache	Jennifer S. Gates
District 14	Matthew N. Gobush	Phillip Kingston
Ex Officio	Kirk Houser	City Designated Representative

Red Light Camera Sites



SafeLight Camera Intersections

#	District	Code	Approach	Notes
1	1	502	N Beckley Ave @ W Colorado Blvd	
2	1	702	S Westmoreland @ Illinois	
3	1	303	W Jefferson Blvd @ S Tyler St	
4	2	804	E RL Throrton Serv S @ S Harwood St	
5	2	603	Graham @ Lindsley Avenue	
6	2	604	Griffin St W @ S St Paul St	
7	2	134	Keller Springs Rd WB @ Knoll Trail Dr	
8	2	813	S Harwood St @ E RL Thornton Serv N	
9	2	801	S Munger Blvd @ Lindsley Ave	
10	2	514	W NW Hwy @ Marsh Ln	
11	3	243	Camp Wisdon EB @ MD Love	
12	3	154	E Ledbetter Dr WB @ Lancaster Rd	
13	3	423	E Ledbetter Dr @ S Lancaster Rd	
14	3	104	W Camp Wisdom Rd @ S Westmoreland Rd	
15	4	273	W Illinois Ave @ RL Thornton Fwy	
16	5	411	S Buckner Blvd @ Bruton Rd	
17	5	412	S Buckner Blvd SB @ Bruton Rd	
18	6	422	Harry Hines Blvd @ N NW Hwy	
19	6	931	Inwood Rd NB @ Stemmons Fwy	
20	6	932	Inwood Rd SB @ Stemmons Fwy	
21	6	612	N Walton Walker Serv W @ W NW Hwy	
22	6	414	W Mockingbird Ln @ N Stemmons Serv E	
23	6	253	W NW Hwy @ N Walton Walker Blvd	

	District	Code	Approach	Notes
24	6	122	Webb Chapel Rd @ Lombardy Ln	
25	7	431	Buckner NB @ Military Pkwy	
26	7	511	N Buckner Blvd @ John West Rd	
27	8	181	Marvin D Love Fwy @ W Camp Wisdom Rd	
28	8	322	S Hampton Rd @ W Wheatland Rd	
29	9	623	E Northwest Hwy EB @ Trammel	
30	9	263	E NW Hwy @ Marsh Ln	
31	9	602	Ferguson Rd SB @ Gus Thomasson Rd	
32	9	133	Ferguson Rd EB @ Peavy Rd	
33	9	913	Garland Rd EB @ N Buckner Blvd	
34	9	914	Garland Rd WB @ N Buckner Blvd	
35	9	911	N Buckner Blvd NB @ Garland Rd	
36	9	233	W Mockingbird Ln @ John Carpenter Fwy	
37	10	123	Forest Ln @ Plano Rd	
38	10	124	Forest Ln @ Schroeder Rd	
39	10	103	Forest Ln EB @ Abrams Rd	
40	10	132	Skillman St NB @ LBJ Fwy	
41	10	231	Skillman St SB @ LBJ Fwy	
42	11	504	Alpha Rd NB @ Dallas Pkwy	
43	11	401	Coit Rd NB @ Banner Dr	
44	11	121	Dallas Pkwy NB @ Keller Springs Rd	
45	12	903	Frankford Rd EB @ Preston Rd	
46	12	234	Frankford Rd WB @ Dallas North Toll Way	
47	12	261	Preston NB @ SBLT at Frankford	
48	12	242	Preston SB @ SBLT at Frankford	
49	13	224	Forest Ln WB @ Inwood Rd	
50	13	904	N NW Hwy @ Dallas North Toll Way	Deactivated Feb 2014
51	13	213	W NW Hwy @ Dallas North Tollway	Deactivated Feb 2014
52	14	203	Commerce St EB @ S Central Expy	
53	14	214	E Lovers Ln WB @ N Central Expy	
54	14	144	E Mockingbird Ln WB @ N Central Serv E	
55	14	614	E NW Hwy @ Avenue E	
56	14	701	Greenville Ave NB @ E Mockingbird Ln	
57	14	501	Lemmon Ave NB @ Oak Lawn Ave	
58	14	211	N Central Expy NB @ E Lovers Ln	
59	14	311	N Central Expy NB @ Lemon Ave	
60	14	131	N Central Serv W NW @ E Mockingbird Ln	