Part III: Guidelines for Conducting a Safety Analysis for Transportation Management Plans and Other Work Zone Activities

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PREFACE

These guidelines are for use by Louisiana Department of Transportation and Development (LADOTD) employees, consultants, metropolitan planning organizations (MPOs), and local jurisdictions conducting safety studies and preparing reports. This document is not intended to establish standards or requirements.

These guidelines will be available on LADOTD's website at http://www.dotd.la.gov/planning/highway_safety. The Highway Safety Section will maintain and update these guidelines as needed. If you need more information, please contact the Highway Safety Section at DOTD-HighwaySafety@la.gov.

This document is Part III of IV sets of guidelines for varying levels of consideration of safety.

I. INTRODUCTION

These guidelines are intended to aid transportation professionals in the assessment and management of work zone impacts of their road projects on the state highway system. Understanding work zone impacts is critical to developing effective work zone transportation management plans (TMPs) that provide for safety, mobility, and quality in maintaining, rehabilitating, and rebuilding the state's highways.

One of the key components of understanding work zone impacts is recognizing any pre-existing safety issues and safety implications of potential construction approaches. To identify any pre-existing safety issues, the LADOTD currently uses a descriptive method that utilizes historical crash data for determining patterns or trends in crashes in order to direct resources to locations that may require mitigation to impacts created by a work zone.

A. Background

Before beginning a crash data analysis, it is recommended that the analyst have a general understanding of the project and its impacts to the traveling public. Factors to consider may include but are not limited to accessibility, work hour restrictions (i.e. night work only), lane closures, lane width reductions, construction access issues, speed enforcement, and queuing.

B. Suggested Limits of Analysis

Work zone impacts extend beyond the limits of the construction, so the area beyond the project limits needs to be considered during assessment and management. Engineering judgment should be exercised when determining how far the impacts extend beyond the limits of construction. Factors to consider may include but are not limited to the following:

1. Temporary traffic control;
2. Maximum expected queue;
3. Adjacent interchanges;
4. Major geometric features, such as bridges or horizontal/vertical curvature;
5. Areas with significant recurring congestion;
6. And other areas with potential safety implications.

The entire impact area should be analyzed with the same methodology as the limits of construction.

II. METHODOLOGY

Historical crash data within the impact area should be collected for a minimum of three years (five years is desired if there have been no significant changes to the impact area).Where practical, the crash data should be analyzed by the number, rate, severity, and type of crashes in order to adequately assess current safety performance.

A. Number-Rate Method

Using the historical crash data, calculate the crash rate for each segment and/or intersection to determine if the location is considered abnormal. LADOTD uses the term "abnormal location" which is defined as a location having at least five crashes and twice the statewide average crash rate for its functional classification for intersections and spot locations and at least five crashes per mile and twice the statewide average crash rate for its functional classification for sections. Abnormal listings are developed based on statewide average crash rates for each classification. The statewide average crash rates for segments, intersections, and spots are calculated as needed based on a 3 year running average (see Appendix A). Updated tables are distributed annually and are available upon request to the Highway Safety Section.

1. ***For roadway segments***: When calculating crash rates for segments, non-intersection crashes only are to be considered in the crash data analysis.

   $VMT = L \times AADT \times 365$

   $R_{seg} = (C \times 10^6) / (T \times VMT)$

   Whereas: VMT = vehicle miles traveled

   L = length of segment

   AADT = annual average daily traffic

   R_{seg} = crash rate

   C = total number of crashes

   T = number of analysis years

   When calculating segment crash rates, it is recommended to divide the impact area into homogenous segments by control section log-mile based on functional classification and ADT, as shown in the example Table 1 below. The Surface-Type Log File on LADOTD's intranet (http://engrapps/hwyinfo/tahiwstl/tahiwstl.asp) contains functional classification and ADT for each subsection.

Table 1: Project Limits by Control Section Log-Mile

control section	begin log mile	end log mile	functional class	urban rural	adt
450-08	0	8.52	1-Inter	R	40,800
450-08	8.52	11.37	1-Inter	U	40,800
450-08	11.37	12.1	1-Inter	U	59,300

(Source: LADOTD's Surface-Type Log File)

2. ***For intersections***: When calculating crash rates for intersections, crashes that are located within a 150' radius of the intersection are to be considered in the crash data analysis. See crash data quality section for more information.

    Million Entering Vehicles (MEV) = ADT x 365 / 1,000,000

    Crash Rate (crashes per MEV) = Crashes / MEV

It is recommended to identify the intersection by control section log-mile for each of the intersecting routes. (One option is to obtain a latitude/longitude from a GPS and convert it to control section log-mile using http://engrapps/latlong/latlong.asp. Another option is to use the control section log-mile of the intersection which is available on the Highway Safety Section server - 82MilePostMaps on H00001ms017.)

B. Severity

Using the historical crash data, calculate the severity distribution for total crashes and compare it to the statewide average severity distribution by roadway classification (see Appendix A).

C. Location

The crash data should be sorted by log-mile to identify any location with a concentration of crashes. Mapping of the crashes in conjunction with the project limits may be useful for the development of temporary traffic control plans.

D. Overrepresentation

The crash data should be sorted by type of collision to identify any crash type(s) that may be overrepresented, or proportionally larger than the statewide average for that type of crash and highway classification. Statewide average percentages are calculated using a three year running average for intersection only crashes, non-intersection only crashes, and total crashes (see Appendix A). The analyst should exercise engineering judgment when interpreting comparison charts and account for statistical significance. (For example, if there are 5 right turn crashes out of 2000 total crashes on mainline interstate, the 5 right turn crashes may be discarded even if it may be "overrepresented" based on the percentages. The law enforcement officer working the crash may have inaccurately coded the crash report.)

The crash data should also be screened for overrepresentation in other categories, such as nighttime, run off the road (ROR), or wet weather.

III. INDICATIONS AND COUNTERMEASURES

A crash data analysis is a required component of Level 3 and Level 4 TMPs and potential component of Level 2 TMPs, as outlined in the Engineering Directive and Standard for Transportation Management Plans. The crash data analysis is intended to be a resource for the development of strategies within a transportation management plan. Engineering judgment should be used and all components of the TMP should be considered when developing strategies and/or temporary traffic control plans.

The crash data analysis may provide insight to driver behavior and may consideration of additional countermeasures. The following table provides possible causes and countermeasures related to certain crash types.

Table 1: Possible Causes and Countermeasures by Crash Type

Crash Type	Possible Cause	Countermeasure
Access-related	Left-turning vehicles	Install median
		Install/lengthen left turn lanes
	Improperly located driveway	Move driveway to side street
		Install channelizing islands to define driveway location
		Consolidate adjacent driveways
	Right-turning vehicles	Provide right turn lanes
		Increase width of driveways
		Widen through lanes
		Increase curb radii
	Large volume of through traffic	Move driveway to side street
		Construct a local service road
	Large volume of driveway traffic	Signalize driveway
		Provide accel/decel lanes
		Channelize driveway
	Restricted sight distance	Remove obstruction
	Inadequate lighting	Install lighting
Bridges	Alignment	Realign bridge/roadway
		Install advance warning signs
		Improve delineation
	Narrow roadway	Widen structure
		Improve delineation
		Install signing/signals
	Visibility	Remove obstruction
		Install advance warning signs
		Improve delineation
	Vertical clearance	Rebuild structure/adjust roadway

		grade
		Install advance warning signs
		Improve delineation
		Provide height restriction/warning
	Slippery surface	Resurface deck
		Improve skid resistance
		Improve drainage
		Enhance signing
	Rough surface	Resurface deck
		Rehabilitate joints
		Regrade approaches
	Inadequate barrier system	Upgrade guardrail
		Upgrade approach rail/terminals
		Upgrade bridge - approach rail connections
		Remove hazardous curb
		Improve delineation
Intersection-related	Large volume of left/right turns (from side street)	Widen road
		Channelize intersection
		Install STOP signs
		Install signal/roundabout
		Increase curb radii
	Restricted sight distance	Remove sight obstructions
		Provide adequate channelization
		Provide left/right turn lanes
		Install warning signs
		Install STOP signs
		Install signal/roundabout
		Install advance markings to supplement signs
		Install STOP bars
	Slippery surface	Improve skid resistance
		Improve drainage
	Large volume of turning vehicles	Provide left/right turn lanes
		Increase curb radii
		Install signal/roundabout
	Inadequate lighting	Install lighting
	Lack of adequate gaps	Install signal/roundabout
		Install STOP signs
	Crossing pedestrians	Install/improve ped signing/marking

		Install signal
	Large total intersection volume	Install signal
		Add traffic lane
	Excessive vehicle speed on approaches	Install rumble strips in travel lane
	Inadequate traffic control devices	Upgrade traffic control devices
	Poor visibility of signals	Install/enhance advance warning signs
		Install overhead signals
		Install 12" LED signal lenses
		Install visors/backplates
		Relocate signals to far side of intersection
		Remove sight obstructions
		Add illuminated/retroreflectorized signs
	Unwarranted signals	Remove signals
	Inadequate signal timing	Upgrade signal system timing/phasing
Nighttime	Poor visibility	Install/enhance advance warning signs
		Install/enhance pavement markings
		Install lighting
Overturn	Roadside features	Flatten slopes/ditches
		Relocate drainage facilities
		Extend culverts
		Provide traversable culvert end treatments
		Install/improve traffic barriers
	Inadequate shoulder	Widen shoulder
		Upgrade shoulder surface
		Remove curb/obstruction
	Pavement	Eliminate edge drop-off
		Improve
Pedestrian/Bicycle	Poor visibility	Remove sight obstructions
		Install pedestrian crossing signs and pavement markings
		Install median for refuge
		Add "WALK" phase
		Install lighting
		Install advance warning signs
		Reduce speed limit

		Install/Improve sidewalks/bicycle paths
Railroad	Restricted sight distance	Install/enhance advance warning signs Install/enhance pavement markings Remove sight obstructions Provide preemption Install gates Install lighting
Rear End	Slippery pavement	Improve pavement condition Install high friction surface treatment
	Driver inattention	Provide advance warning signs Eliminate unnecessary signing Install transverse rumble strips
Right Angle (at Unsignalized Intersection)	Restricted sight distance	Install warning signs Install STOP signs Install yield signs Remove sight obstructions Install signal/roundabout Install lighting
Right Angle (at Signalized Intersection)	Poor visibility of signals	Install advance warning signs Install back plates Remove sight obstructions Add signal heads Upgrade to 12" LED heads
	Inadequate signal timing	Provide protected only left turn phase Adjust amber phase Provide all-red clearance interval Install detection Improve coordination
Run off the Road	Slippery pavement/ponded water	Improve pavement condition/skid resistance Improve drainage
	Inadequate road design and/or maintenance	Improve superelevation Improve shoulders Eliminate shoulder drop-off Install/improve traffic barriers Enhance signing

		Widen lanes
		Flatten slopes/ditches
		Improve alignment/grade
		Remove/Reduce/Delineate roadside hazards
	Poor delineation	Install roadside delineators
		Install advance warning signs
		Improve/install pavement markings
	Poor visibility	Increase sign size
		Install lighting
		Evaluate sight distance
Side Swipe or Head-On	Inadequate road design and/or maintenance	Perform necessary road surface repairs
		Install median or guardrail
		Reevaluate no passing zones
		Provide roadside delineators
		Improve alignment/grade
		Widen lanes
		Provide passing lanes
		Improve shoulders
		Install rumble strips
	Excessive vehicle speed	Set speed limit based on speed study
	Inadequate pavement markings	Install/improve centerlines, lane lanes, edge lines
		Install reflectorized markers
	Inadequate signing	Provide advance direction and warning signs
		Add illuminated street name signs
	Superfluous signing	Limit signs to meet standards
Wet Weather	Slippery pavement	Improve pavement condition
		Install high friction surface treatment
		Improve drainage
	Poor visibility	Install raised pavement markers

IV. CRASH DATA QUALITY

Crash data is traffic incident information recorded by various police agencies throughout the State and uploaded to a statewide database, which is maintained by the Louisiana Department of Transportation and Development in conjunction with the Louisiana State University Highway Safety Research Group (LSU HSRG). Crash data listings are available through Crash 1, a user interface developed for easier access of the crash database. In most cases, a crash listing will provide sufficient information to

complete a crash data analysis. However, in some cases it may be necessary to review each individual crash report. LADOTD has been using GPS coordinates to locate crashes to our base map. Before 2008, LADOTD used the control section log mile referencing system.

The crash data file for a given year is open to change until it is officially closed by the LADOTD Highway Safety Section, which is typically one year later. For example, the crash data file for 2008 was not closed until December 31, 2009. This timeframe allows for quality control measures and to allow law enforcement agencies to submit any outstanding crash reports. It is important to note that not all crashes that occur are reported and the crashes that are reported may be reported inadequately. Communication with law enforcement can help identify apparent safety concerns that are not indicated by the crash data. If a project is located within city limits, the local law enforcement agency should be contacted to gather input and support. The Highway Safety Section at LADOTD can assist in contacting the appropriate law enforcement personnel.

A. Data Sampling Size

Because less severe crashes are less likely to appear in crash databases, there is a potential problem of underreporting. Data generated from a small sampling can be misleading because they can be significantly influenced by small variances. A limited amount of data makes this descriptive method of analysis difficult. It is important to exercise engineering judgment when identifying crash patterns. Consultation of a statistician may be beneficial.

B. Confounding Effects

When evaluating the effectiveness of implemented countermeasures, it is often tempting to develop a simplified model with few explanatory variables (for example, using traffic flow as the only explanatory variable in the model). However, as with all traditional statistical estimation methods, leaving out important explanatory variables results in biased parameter estimates that can produce erroneous inferences. This would especially be the case if the omitted variable is correlated with variables included in the specification, which is often the case. For example, if multiple countermeasures were implemented it would be difficult to isolate the effectiveness of one of those countermeasures due to interaction with others.

C. Behavior Elements

Data elements associated with fatal motor vehicle crash reports are usually of very high quality with relatively few missing values. Fatal crashes require investigation of behavioral elements, including but not limited to seatbelt use, speeding, distractions, impairments, etc.

Data elements associated with non-fatal motor vehicle crash reports are usually of lesser quality and behavioral elements are often omitted from the crash report. This leads to underreporting of contributing factors.

D. Intersection Crashes

Law enforcement officers are continuously trained on how to properly fill out a crash report according to their investigation. The level of training for law enforcement personnel varies throughout the state so the interpretation of the uniform crash report may differ across jurisdictions. It is important to note that not all crashes that occur as a result of the intersection will be included within this 150' radius and not all crashes within 150' occurred as a result of the intersection. However, for consistency purposes it is recommended to use the 150' radius.

APPENDIX A: STATEWIDE AVERAGE SAFETY PERFORMANCE

Statewide Average Crash Rates, Segments

Highway Class	Num Sections	Num Crashes Per Yr	Total Miles	Total Mvm Per Yr	Crashes Per Mile Per Yr	Crashes Per Mvm	Fatalities Per Yr	Injuries Per Yr
2-Lane Rural	4486	10322.0	12090.34	9536.09	0.85	1.08	263.3	7043.3
4-Lane Rural	141	153.3	90.05	190.00	1.70	0.81	2.0	108.3
4-Lane Div Rural	304	1372.3	534.76	1975.05	2.57	0.69	30.0	987.7
Interstate Rural	174	3002.0	522.26	5194.40	5.75	0.58	68.0	1892.0
2-Lane Urban	1903	13808.7	2111.87	5900.03	6.54	2.34	112.0	7587.0
4-Lane Urban	476	5291.0	257.14	1529.30	20.58	3.46	12.7	2419.7
4-Lane Div Urban	834	16891.0	748.73	6062.44	22.56	2.79	72.0	7894.0
Interstate Urban	260	8752.0	335.39	6281.37	26.09	1.39	68.0	4271.0
Total	8578	59592.3	16690.54	36668.68	3.57	1.63	628.0	32203.0

(Source: LADOTD Highway Safety Section)

Statewide Average Crash Rates, Intersections

Highway Class	Number Of Locations	Number Of Crashes	Million Vehicles	Crashes Per Location	Acc Per Mv	Number Of Fatalities	Number Of Injuries
2-Lane Rural	54	155.3	135.98	2.88	1.14	0.3	92.3
4-Lane Rural	11	29.3	51.25	2.67	0.57	0.0	25.3
4-Lane Div Rural	41	139.0	264.95	3.39	0.52	0.3	87.3
Interstate Rural	4	11.7	54.31	2.92	0.21	0.0	5.3
2-Lane Urban	634	2425.3	3681.93	3.83	0.66	3.7	1247.7
4-Lane Urban	872	3612.0	6626.06	4.14	0.55	1.7	1942.3
4-Lane Div Urban	1550	7654.0	17260.01	4.94	0.44	9.0	3965.0
Interstate Urban	384	1739.0	11093.26	4.53	0.16	2.0	659.7
Total	3550	15765.6	39167.75	4.44	0.40	17.0	8024.9

(Source: LADOTD Highway Safety Section)

Statewide Average Crash Rates, Spots

Highway Class	Number Of Locations	Number Of Crashes	Million Vehicles	Crashes Per Location	Acc Per Mv	Number Of Fatalities	Number Of Injuries
2-Lane Rural	52	122.3	146.50	2.35	0.84	0.3	74.3
4-Lane Rural	1	2.7	3.47	2.67	0.77	0.0	0.3
4-Lane Div Rural	15	46.0	93.00	3.07	0.49	0.0	22.0
Interstate Rural	94	260.3	1392.55	2.77	0.19	0.0	130.3
2-Lane Urban	662	2157.0	4490.77	3.26	0.48	1.0	923.7
4-Lane Urban	490	1611.3	4154.72	3.29	0.39	0.0	697.3
4-Lane Div Urban	1697	6464.6	22357.91	3.81	0.29	7.0	2588.7
Interstate Urban	923	3732.0	31292.80	4.04	0.12	5.3	1564.7
Total	3934	14396.2	63931.72	3.66	0.23	13.6	6001.3

(Source: LADOTD Highway Safety Section)

Statewide Average Crash Rates, Tenths

Highway Class	Number Of Locations	Number Of Crashes	Million Vehicles	Crashes Per Location	Acc Per Mv	Number Of Fatalities	Number Of Injuries
2-Lane Rural	474	1415.0	1152.94	2.99	1.23	13.3	962.7
4-Lane Rural	28	93.7	104.03	3.35	0.90	0.0	73.3
4-Lane Div Rural	188	725.3	1221.11	3.86	0.59	10.7	529.7
Interstate Rural	384	1117.3	5875.70	2.91	0.19	12.3	632.7
2-Lane Urban	2957	13291.9	14716.75	4.50	0.90	48.0	6839.3
4-Lane Urban	1453	10764.7	10050.20	7.41	1.07	20.7	5352.3
4-Lane Div Urban	3221	28116.3	35744.38	8.73	0.79	74.3	13802.7
Interstate Urban	1402	10603.3	34072.61	7.56	0.31	48.3	4782.0
Total	10107	66127.5	102937.72	6.54	0.64	227.6	32974.7

(Source: LADOTD Highway Safety Section)

Statewide Average Severities

Crashes	Rural two-lane	Rural four-lane	Rural four-lane divided	Rural interstate	Urban two-lane	Urban four-lane	Urban four-lane divided	Urban interstate	Local Roads
Fatal crashes	2.0%	1.1%	1.7%	1.6%	0.6%	0.2%	0.3%	0.5%	0.3%
Injury crashes	41.5%	35.6%	39.2%	34.3%	32.6%	30.1%	29.5%	28.6%	25.5%
PDO crashes	56.5%	63.3%	59.1%	64.1%	66.8%	69.7%	70.1%	70.9%	74.2%
Number of fatalities	2.3%	1.1%	1.9%	1.9%	0.6%	0.2%	0.3%	0.6%	0.3%
Number injured	67.8%	68.3%	71.3%	60.7%	55.1%	50.2%	49.5%	46.9%	39.7%
Total crashes	39343	720	5728	9505	62669	35329	91103	35362	180739

(Source: LADOTD Highway Safety Section)

Statewide Average Percentages by Manner of Collision, Intersection Crashes

Type of Collision (Intersection)	Highway Classification							
	Rural two-lane	**Rural four-lane**	**Rural four-lane divided**	**Rural interstate**	**Urban two-lane**	**Urban four-lane**	**Urban four-lane divided**	**Urban interstate**
A: Non-collision w/ MV	18.58%	3.87%	10.16%	27.56%	6.32%	2.85%	3.24%	9.19%
B: Rear-end	25.02%	23.87%	30.04%	36.61%	35.63%	29.87%	38.78%	53.42%
C: Head-on	1.42%	0.97%	0.56%	0.98%	1.28%	1.00%	0.84%	0.54%
D: Right angle	23.17%	20.97%	29.21%	7.28%	23.98%	24.21%	21.99%	6.48%
E: Left turn Angle	5.30%	5.48%	3.78%	1.77%	3.94%	5.20%	2.43%	0.83%
F: Left turn Opp Dir	5.35%	9.35%	6.22%	1.57%	7.71%	9.20%	8.33%	2.95%
G: Left turn Same Dir	2.72%	3.87%	3.05%	0.79%	2.83%	2.33%	2.39%	0.84%
H: Right turn Angle	1.76%	2.58%	2.00%	1.38%	1.96%	1.96%	2.25%	0.89%
I: Right turn Opp Dir	0.58%	0.65%	0.44%	0.20%	0.68%	0.53%	0.40%	0.12%
J: Side swipe Same Dir	4.05%	3.23%	5.72%	10.83%	4.65%	11.12%	9.02%	13.12%
K: Side swipe Opp Dir	1.76%	0.65%	0.33%	0.79%	1.22%	0.74%	0.74%	0.21%
U: Unknown	10.30%	24.52%	8.50%	10.24%	9.79%	10.99%	9.61%	11.41%
Total crashes:	8080	310	1801	508	20795	18360	39031	8671

(Source: LADOTD Highway Safety Section)

Statewide Average Percentages by Manner of Collision, Non-Intersection Crashes

Type of Collision (Non-Intersection)	Highway Classification							
	Rural two-lane	**Rural four-lane**	**Rural four-lane divided**	**Rural interstate**	**Urban two-lane**	**Urban four-lane**	**Urban four-lane divided**	**Urban interstate**
A: Non-collision w/ MV	57.74%	28.78%	38.12%	48.72%	21.28%	6.26%	8.02%	21.19%
B: Rear-end	16.19%	23.41%	27.93%	26.60%	43.33%	46.18%	51.09%	47.40%
C: Head-on	2.23%	1.46%	1.45%	0.70%	1.85%	0.95%	0.79%	0.56%
D: Right angle	4.73%	7.80%	6.14%	1.64%	9.65%	10.47%	9.92%	1.08%
E: Left turn Angle	2.27%	2.68%	1.35%	0.18%	2.53%	2.40%	1.38%	0.18%
F: Left turn Opp Dir	1.13%	2.44%	0.74%	0.03%	2.67%	2.75%	2.59%	0.22%
G: Left turn Same Dir	0.86%	1.95%	1.17%	0.08%	1.48%	1.74%	1.39%	0.17%
H: Right turn Angle	0.38%	1.46%	0.64%	0.18%	0.96%	1.23%	1.57%	0.21%
I: Right turn Opp Dir	0.08%	0.00%	0.15%	0.01%	0.29%	0.25%	0.18%	0.03%
J: Side swipe Same Dir	3.37%	11.22%	11.46%	16.25%	5.68%	17.46%	14.91%	19.06%
K: Side swipe Opp Dir	3.86%	2.20%	0.81%	0.54%	2.81%	1.08%	0.76%	0.41%
U: Unknown	7.16%	16.59%	10.03%	5.07%	7.48%	9.22%	7.42%	9.48%
Total crashes:	31263	410	3927	8997	41874	16969	52072	26691

(Source: LADOTD Highway Safety Section)

Statewide Average Percentages by Manner of Collision, All Crashes

Type of Collision	Highway Classification							
	Rural two-lane	**Rural four-lane**	**Rural four-lane divided**	**Rural interstate**	**Urban two-lane**	**Urban four-lane**	**Urban four-lane divided**	**Urban interstate**
A: Non-collision w/ MV	49.69%	18.06%	29.33%	47.59%	16.32%	4.49%	5.97%	18.25%
B: Rear-end	18.01%	23.61%	28.60%	27.13%	40.78%	37.71%	45.81%	48.88%
C: Head-on	2.06%	1.25%	1.17%	0.72%	1.66%	0.98%	0.81%	0.56%
D: Right angle	8.51%	13.47%	13.39%	1.95%	14.40%	17.61%	15.09%	2.40%
E: Left turn Angle	2.89%	3.89%	2.11%	0.26%	3.00%	3.86%	1.83%	0.34%
F: Left turn Opp Dir	2.00%	5.42%	2.46%	0.12%	4.35%	6.11%	5.05%	0.89%
G: Left turn Same Dir	1.24%	2.78%	1.76%	0.12%	1.93%	2.04%	1.82%	0.34%
H: Right turn Angle	0.66%	1.94%	1.06%	0.24%	1.29%	1.60%	1.86%	0.38%
I: Right turn Opp Dir	0.19%	0.28%	0.24%	0.02%	0.42%	0.40%	0.27%	0.05%
J: Side swipe Same Dir	3.51%	7.78%	9.65%	15.96%	5.33%	14.16%	12.39%	17.61%
K: Side swipe Opp Dir	3.43%	1.53%	0.66%	0.56%	2.28%	0.90%	0.75%	0.36%
U: Unknown	7.81%	20.00%	9.55%	5.34%	8.24%	10.14%	8.36%	9.95%
Total crashes:	39343	720	5728	9505	62669	35329	91103	35362

(Source: LADOTD Highway Safety Section)

Table 10: 2007-2009 Statewide Average Percentages by Type of Crash, All Crashes

Type of Crash	Highway Classification							
	Rural two-lane	**Rural four-lane**	**Rural four-lane divided**	**Rural interstate**	**Urban two-lane**	**Urban four-lane**	**Urban four-lane divided**	**Urban interstate**
Roadway Departure	41.00%	14.31%	23.03%	39.51%	13.62%	3.12%	4.50%	16.24%
Intersection crashes	20.54%	43.06%	31.44%	5.34%	33.18%	51.97%	42.84%	24.52%
Night crashes	39.02%	26.97%	33.25%	35.03%	26.45%	21.73%	22.53%	27.52%
Alcohol involved	10.52%	5.42%	7.04%	6.85%	6.27%	3.33%	3.49%	3.89%
Wet surface	18.29%	15.14%	17.60%	27.60%	17.13%	15.32%	15.29%	17.77%
Total crashes:	39343	720	5728	9505	62669	35329	91103	35362

(Source: LADOTD Highway Safety Section)

APPENDIX B: EXAMPLES

Federal Aid Project No. 6108(503)

State Project No. 450-08-0057

I-10 (Iberville Parish Line - W. End MS River Bridge)

Control Section 450-08 (Beg Log Mi 0.00, End Log Mi 12.10)

Transportation Management Plan – Safety

Analysis Years 2005 - 2009

This safety analysis is prepared for the Transportation Management Plan (TMP) for State Project No. 450-08-0057. This analysis was conducted by the LADOTD Highway Safety Office with guidance from the FHWA Office of Safety – Louisiana Division.

The Limits of Construction

Initially, the crash data for the limits of construction was collectively analyzed as three data sets based on functional classification and ADT, as shown in Table 1.

Table 1: Functional Classification and AADT

control section	begin log mile	end log mile	functional class	urban rural	adt
450-08	0	8.52	1-Inter	R	40,800
450-08	8.52	11.37	1-Inter	U	40,800
450-08	11.37	12.1	1-Inter	U	59,300

(Source: Highway Needs File)

The crash rates were calculated for each segment and compared to statewide averages to identify any abnormal locations. An abnormal location is defined as a location having at least five crashes and twice the statewide average crash rate for its functional classification. As shown in Table 2, there were no abnormal sections within the project limits.

Table 2: Identification of Abnormal Locations

begin log mile	end log mile	length	classification	ADT	VMT	Crash Rate	2x State Avg
0	8.52	8.52	Rural	40800	126,879,840	0.93	1.16
8.53	11.37	2.84	Urban	40800	42,293,280	1.94	2.78
11.38	12.1	0.72	Urban	59300	15,584,040	1.42	2.78

(Source: LADOTD Crash 1 Program)

The crash data was then categorized by type of crash, including nighttime, in order to identify any areas with potential for improvement. The crash data indicated that nighttime crashes are slightly overrepresented with respect to the statewide average proportion of nighttime crashes to total crashes as shown in Table 3. A nighttime crash is defined as a crash that occurred under dark lighting conditions and is open to interpretation by law enforcement personnel working the crash.

Table 3: Percent Nighttime Crashes of Total Crashes

rural		urban	
state average	**lm 0.00 to lm 8.52**	**state average**	**lm 8.53 to lm 12.1**
35.03%	36.22%	27.52%	33.51%

(Source: LADOTD Crash 1 Program)

Due to overrepresentation of nighttime crashes, the crash data was compiled by time of day and only the crash data corresponding to the work hour restrictions was reviewed. The work hour restrictions as determined from the queue analysis are proposed to be Monday through Friday from 9:00 pm to 5:00 am and Saturday through Sunday from 9:00 pm to 9:00 am. Further investigation of nighttime crashes indicated that non-collision crashes (which includes roadway departure crashes) represented 58.6% of total crashes.

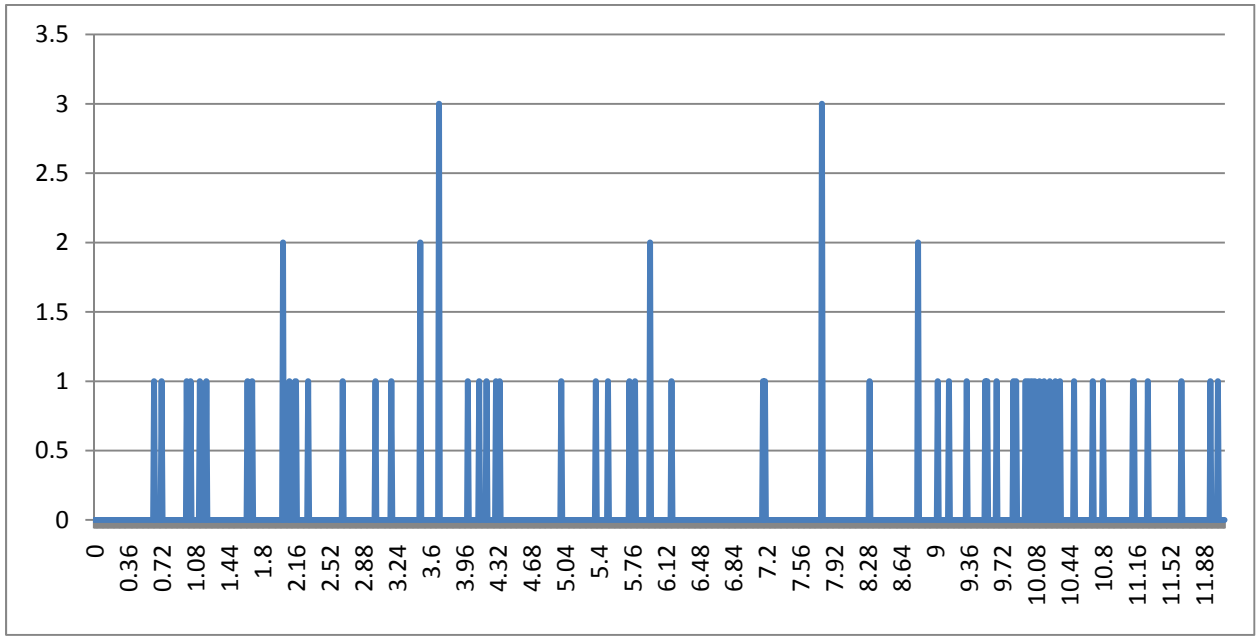
Table 4: Crash data for restricted work hours, by type of collision

	lm 0.00 to lm 8.52			lm 8.53 to lm 12.10		
type of collision	**number of crashes**	**% of total**	**rural state average**	**number of crashes**	**% of total**	**urban state average**
Non Coll	92	68.66%	48.72%	54	46.96%	21.19%
Rear End	22	16.42%	26.60%	26	22.61%	47.40%
S Swipe (sd)	15	11.19%	16.25%	17	14.78%	19.06%
Head on	0	0.00	0.56	1	0.87%	0.56%
Other	4	2.99%	50.70%	12	10.43%	9.48%
Total	134			115		

(Source: LADOTD Crash 1 Program)

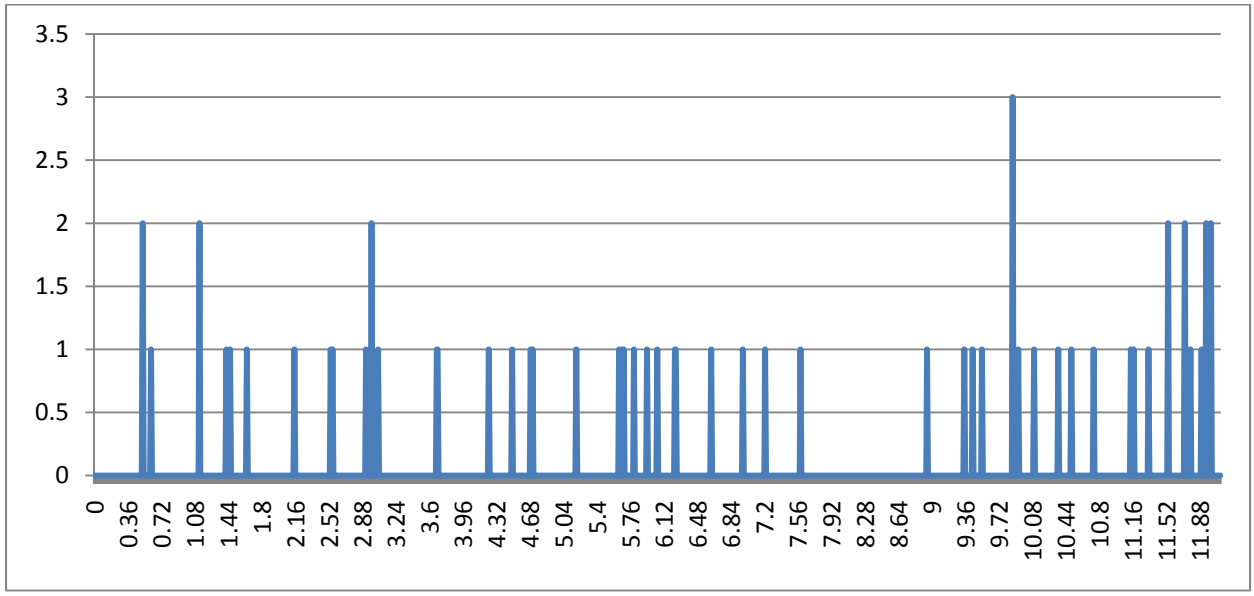
The non-collision crashes that occurred during the work hour restriction time period from 2005 to 2009 within the limits of construction were sorted by logmile to identify any locations with frequent crash occurrences. There were 146 non-collision crashes during this time period. As shown in Figures 1 and 2, there were no locations with a significant crash frequency.

Figure 1: Monday through Friday non-collision crashes by logmile



(Source: LADOTD Crash 1 Program)

Figure 2: Saturday through Sunday non-collision crashes by logmile



(Source: LADOTD Crash 1 Program)

This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from discovery or admission under 23 U.S.C. 409.

Impact Area

The impact area is considered to be the area beyond the limits of construction that experiences impacts from the construction project. This may be where the temporary traffic control begins or where the maximum expected queue ends.

The impact area for eastbound I-10 is defined by the end of the maximum queue which is 1.98 miles west of the limits of construction. From 2005 to 2009, 4 total crashes occurred within the impact area during the weekday restricted work hours and 6 total crashes occurred within the impact area during the weekend restricted work hours.

The impact area for westbound I-10 is defined by the I-10/I-110 split to the limits of construction. The impact area for westbound I-10 was analyzed as three separate sections: west approach of the Mississippi River Bridge, main span, and east approach.

For the west approach from 2005 to 2009, 24 total crashes occurred during the weekday restricted work hours and 11 total crashes occurred during the weekend restricted work hours. Of the 24 crashes occurring during the weekday restricted work hours, 19 were rear end crashes. As indicated in Figure 3, crashes generally tend to occur near the diverge point at the LA 1 exit.

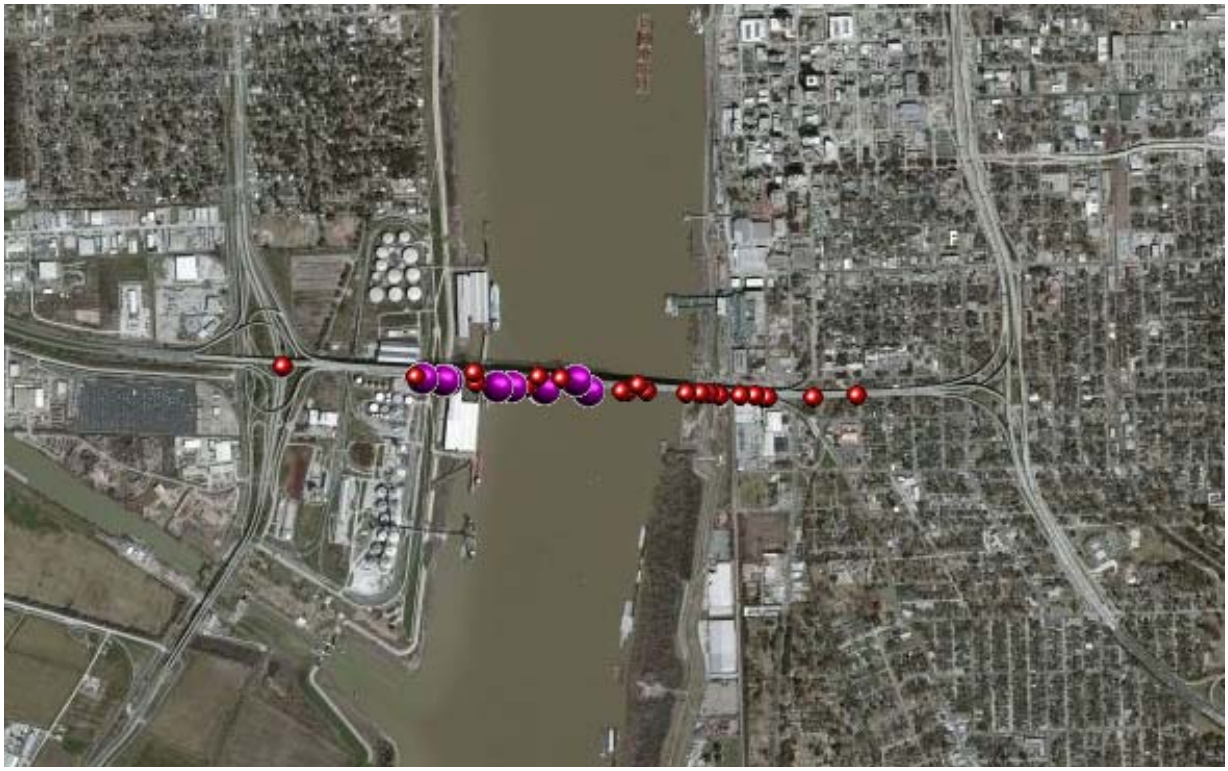
Figure 3: Crash diagram for westbound I-10, west approach, total crashes

(Source: LADOTD Crash 1 program)

The pavement markings at the LA 1 exit will be modified with a plan change under state project no. 737-96-0087 which has already been let and is expected to be completed before construction begins.

For the main span from 2005 to 2009, 11 total crashes occurred during the weekday restricted work hours and 5 total crashes occurred during the weekend restricted work hours. Of the 11 crashes occurring during the weekday restricted work hours, 7 were rear end crashes. As indicated in Figure 4, crashes generally tend to occur on the downgrade approaching the LA 1 exit.

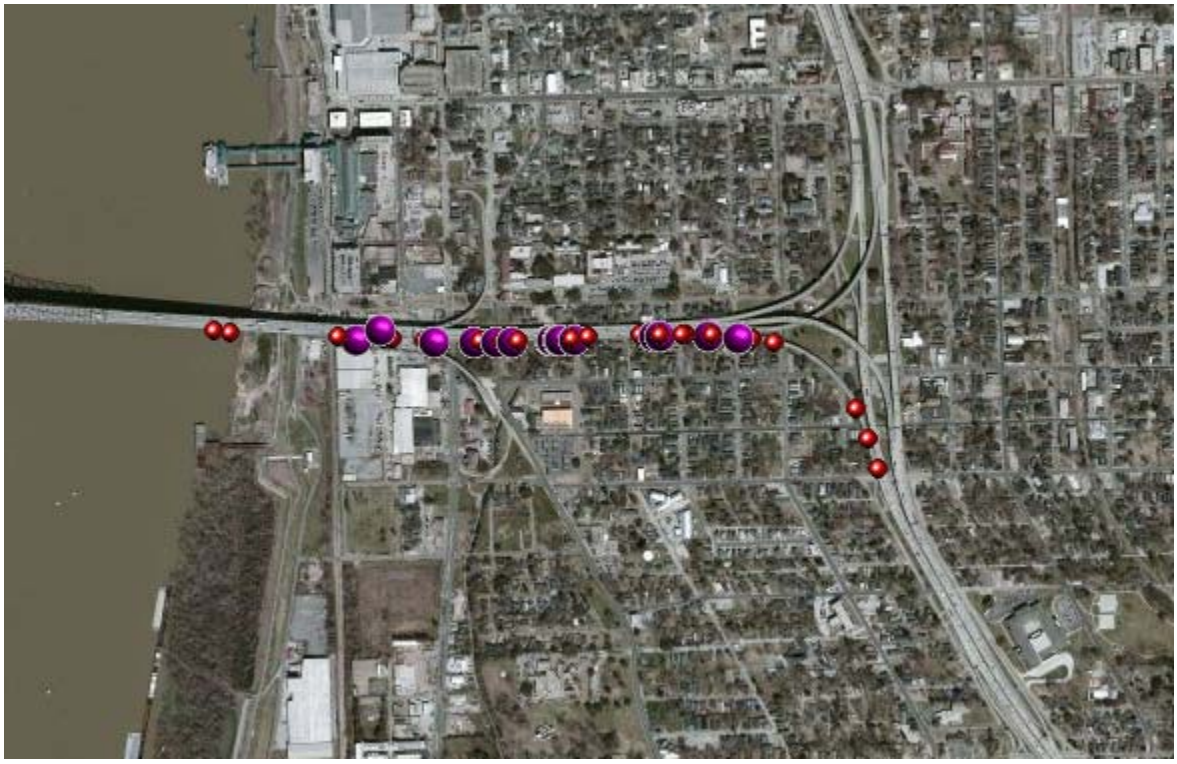
Figure 4: Crash diagram for westbound I-10, main span, total crashes



(Source: LADOTD Crash 1 program)

For the east approach from 2005 to 2009, 18 total crashes occurred during the weekday restricted work hours and 14 total crashes occurred during the weekend restricted work hours. Of the 18 crashes occurring during the weekday restricted work hours, 9 were rear end crashes. As indicated in Figure 5, the crashes generally tend to occur along the upgrade with no discernible pattern.

Figure 5: Crash diagram for westbound I-10, east approach, total crashes



(Source: LADOTD Crash 1 program)

State Project No. H.003407

I-12 (LA 447 to LA 43)

Control Section 454-02 (Beg Log Mi 7.1, End Log Mi 25.1)

Crash Data Analysis 2008 - 2010

This crash data analysis is prepared for state project H.003424 by the LADOTD Highway Safety Office with guidance from the FHWA Office of Safety – Louisiana Division.

The limits of analysis are from control section 454-02 log-mile 7.1 (I-12 at LA 477/Walker Interchange) to control section 454-02 log-mile 25.1 (I-12 at LA 43/Albany Interchange). The impact area was determined to include a half mile beyond the interchanges.

Figure 1: Vicinity Map, Limits of Analysis

The crash data for the entire impact area was compiled by ½ mile segments. The crash rates were calculated for each segment and compared to statewide averages to identify any abnormal locations. An abnormal location is defined as a location having at least five crashes and twice the statewide average crash rate for its functional classification. As shown in Table 1, there were no abnormal sections within the project limits.

Table 1: Identification of Abnormal Locations

control section	begin log mile	end log mile	length	urban rural	adt	level of service	crashes	MVMT	crash rate	2 x state avg
454-02	7.1	7.66	0.56	U	52,600	D-poor	63	10.75144	1.953227	2.78
454-02	7.66	8.2	0.54	U	48,400	D-poor	30	9.53964	1.048258	2.78
454-02	8.2	8.7	0.5	U	48,400	D-poor	16	8.833	0.603796	2.78
454-02	8.7	9.15	0.45	U	48,400	D-poor	11	7.9497	0.461233	2.78
454-02	9.15	9.65	0.5	R	47,100	D-poor	23	8.59575	0.891914	1.16
454-02	9.65	10.15	0.5	R	47,100	D-poor	9	8.59575	0.34901	1.16
454-02	10.15	10.65	0.5	R	47,100	D-poor	3	8.59575	0.116337	1.16
454-02	10.65	11.15	0.5	R	47,100	D-poor	15	8.59575	0.581683	1.16
454-02	11.15	11.65	0.5	R	47,100	D-poor	24	8.59575	0.930692	1.16
454-02	11.65	12.15	0.5	R	47,100	D-poor	22	8.59575	0.853135	1.16
454-02	12.15	12.65	0.5	R	47,100	D-poor	12	8.59575	0.465346	1.16
454-02	12.65	13.15	0.5	R	47,100	D-poor	9	8.59575	0.34901	1.16
454-02	13.15	13.67	0.52	R	47,100	D-poor	15	8.93958	0.55931	1.16
454-02	13.67	14.2	0.53	R	44,600	C-avg	16	8.62787	0.618152	1.16
454-02	14.2	14.7	0.5	R	44,600	C-avg	17	8.1395	0.696193	1.16
454-02	14.7	15.2	0.5	R	44,600	C-avg	4	8.1395	0.16381	1.16
454-02	15.2	15.7	0.5	R	44,600	C-avg	5	8.1395	0.204763	1.16
454-02	15.7	16.2	0.5	R	44,600	C-avg	7	8.1395	0.286668	1.16
454-02	16.2	16.7	0.5	R	44,600	C-avg	20	8.1395	0.819051	1.16
454-02	16.7	17.2	0.5	R	44,600	C-avg	11	8.1395	0.450478	1.16
454-02	17.2	17.7	0.5	R	44,600	C-avg	22	8.1395	0.900956	1.16
454-02	17.7	18.2	0.5	R	44,600	C-avg	12	8.1395	0.491431	1.16
454-02	18.2	18.7	0.5	R	44,600	C-avg	6	8.1395	0.245715	1.16
454-02	18.7	19.2	0.5	R	44,600	C-avg	11	8.1395	0.450478	1.16
454-02	19.2	19.7	0.5	R	44,600	C-avg	5	8.1395	0.204763	1.16
454-02	19.7	20.2	0.5	R	44,600	C-avg	6	8.1395	0.245715	1.16
454-02	20.2	20.7	0.5	R	44,600	C-avg	9	8.1395	0.368573	1.16
454-02	20.7	21.2	0.5	R	44,600	C-avg	26	8.1395	1.064766	1.16
454-02	21.2	21.7	0.5	R	44,600	C-avg	13	8.1395	0.532383	1.16
454-02	21.7	22.2	0.5	R	44,600	C-avg	8	8.1395	0.32762	1.16
454-02	22.2	22.7	0.5	R	44,600	C-avg	14	8.1395	0.573336	1.16
454-02	22.7	23.2	0.5	R	44,600	C-avg	6	8.1395	0.245715	1.16
454-02	23.2	23.7	0.5	R	44,600	C-avg	18	8.1395	0.737146	1.16
454-02	23.7	24.2	0.5	R	44,600	C-avg	9	8.1395	0.368573	1.16
454-02	24.2	24.7	0.5	R	44,600	C-avg	10	8.1395	0.409526	1.16
454-02	24.7	25.1	0.4	R	44,600	C-avg	13	6.5116	0.665479	1.16

Crash Data and Safety Analysis

I-10 High Rise Bridge Rail Modifications

State Project No. H.009211

Control Section 450-90 (Begin Log Mi 8.506, End Log Mi 9.788)

Transportation Management Plan – Safety

Analysis Years 2008 – 2010

This safety analysis is prepared for the Transportation Management Plan (TMP) for State Project No. H.009211, and conducted by the LADOTD District 02 Traffic Operations Section with guidance from the LADOTD Highway Safety Section.

Initially, the crash data for the areas covered by SP H.009211 was analyzed as two separate data sets as shown in Table 1. The crash data used in the analysis were based on records obtained from the State Police database. This database contains information on crashes investigated by State Police and also electronic submissions of other crashes handled by the agency with jurisdiction in the area. Through an agreement with State Police, the crashes are typically investigated by NOPD through this project area and the actual crash reports themselves were not available in any significant amount from the database.

Table 1: Functional Classification and AADT

Control Section	Begin log mile	End log mile	Functional Class	Urban/Rural	Number of Lanes	ADT
450-90	8.14	8.57	1-Inter	U	8	122,700
450-90	8.57	9.86	1-inter	U	6	122,700

(Source: Highway Needs File)

The crash rate was calculated for each segment within the project limits, from log mile 8.51 to log mile 9.79, and compared to the statewide average for the same highway functional class to identify if it is classified as an abnormal location. An abnormal location is defined as a location having at least five crashes and twice the statewide average crash rate for its functional classification. As shown in Table 2, there were no abnormal sections within the project limits.

Table 2: Identification of Abnormal Location within Project Limits

Begin log mile	End log mile	Length (mile)	Classification	ADT	VMT	Total Crashes	Crash Rate	2x State Avg
8.51	8.57	0.06	Urban	122,700	7,362	8	0.99	2.78
8.58	9.79	1.2	Urban	122,700	148,467	362	2.23	2.78

(Source: LADOTD Crash 1 Program)

The crash data was then categorized by type of crash, including nighttime, in order to identify any areas with potential for improvement. The crash data indicated that nighttime and wet surface crashes are overrepresented with respect to their statewide average proportion of crash type to total crashes, as shown in Table 3. A nighttime crash is defined as a crash that occurred under dark lighting conditions and is open to interpretation by law enforcement personnel working the crash.

Table 3: Percent Crash by Crash Type

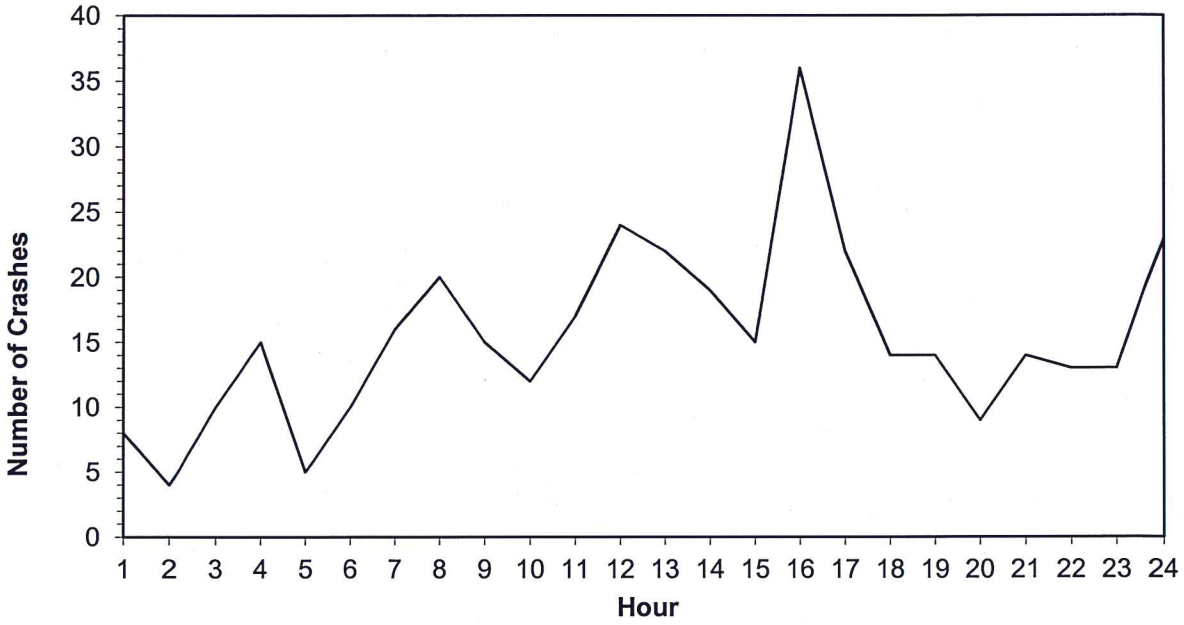
I-10 Between Log Mile 8.51 and 9.79			
Type of Crash	**Total Crashes**	**Crash Percentage**	**State Average (Urban)**
Roadway Departure	4	1.81%	16.24%
Nighttime Crashes	107	**28.92%**	27.52%
Wet Surface	75	**20.27%**	17.77%

(Source: LADOTD Crash 1 Program)

Within the same limits of study (log mile 8.51 to 9.79), the crashes were analyzed by time of day. The crash frequency gradually increases throughout the day with the peak number of occurrences occurring between the hours of 3:30 PM – 4:30 PM as shown in Figure 1. The crashes were also sorted by travel direction and are shown in Figure 2.

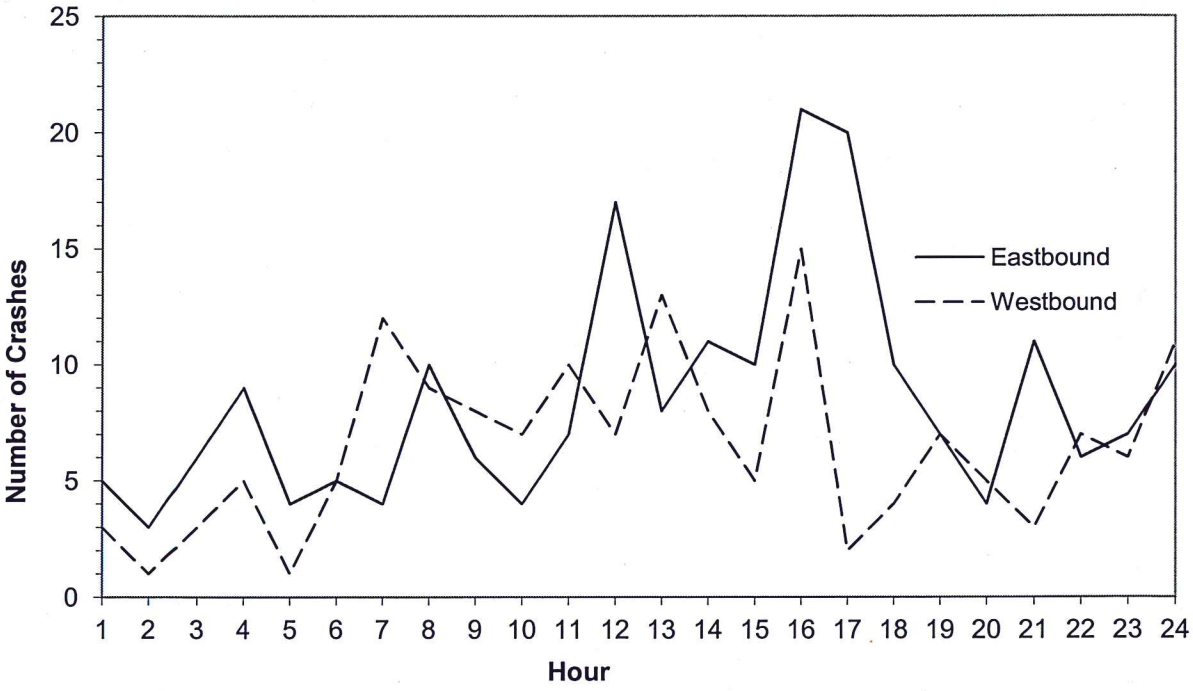
Due to overrepresentation of nighttime and wet surface crashes, the crash data was compiled by time of day and only the crash data corresponding to the allowable work hours was reviewed as listed in Table 4. The allowable work hours as determined from the queue analysis are proposed to be, for the eastbound travel direction, Sunday through Thursday nights from 10:00 PM to 6:15 AM, Friday night from 12:00 AM to 7:00 AM Saturday, and Saturday night from 12:00 AM to 9:00 AM Sunday. The allowable work hours for the westbound travel direction are Sunday through Thursday nights from 7:30 PM to 5:30 AM, Friday night from 9:00 PM to 7:30 AM Saturday, and Saturday nights from 9:00 PM to 9:30 AM on Sunday.

Figure 1: Total Crashes by Hour



(Source: LADOTD Crash 1 Program)

Figure 2: Total Crashes per Hour by Travel Direction



(Source: LADOTD Crash 1 Program)

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Further investingation of the crash data indicated that rear end and side swipe (same direction) crashes were higher than the state average for a urban interstate facility. The rear end and side swipe (same direction) crashes were sorted by logmile to identify locations with frequent crash occurences. Figures 3 and 4 show graphical representations of the rear end and side swipe (same direction) crashes by log mile within the project limits.

Table 4: Crash Data for allowable work hours, by Type of Collision

I-10 Between Logmile 8.51 and 9.79			
Type of Collision	**Total Crashes**	**Crash Percentage**	**Urban State Average**
Non Collision	24	12.83%	21.19%
Rear End	90	**48.12%**	47.40%
Side Swipe (Same Direction)	37	**19.79%**	19.06%

(Source: LADOTD Crash 1 Program)

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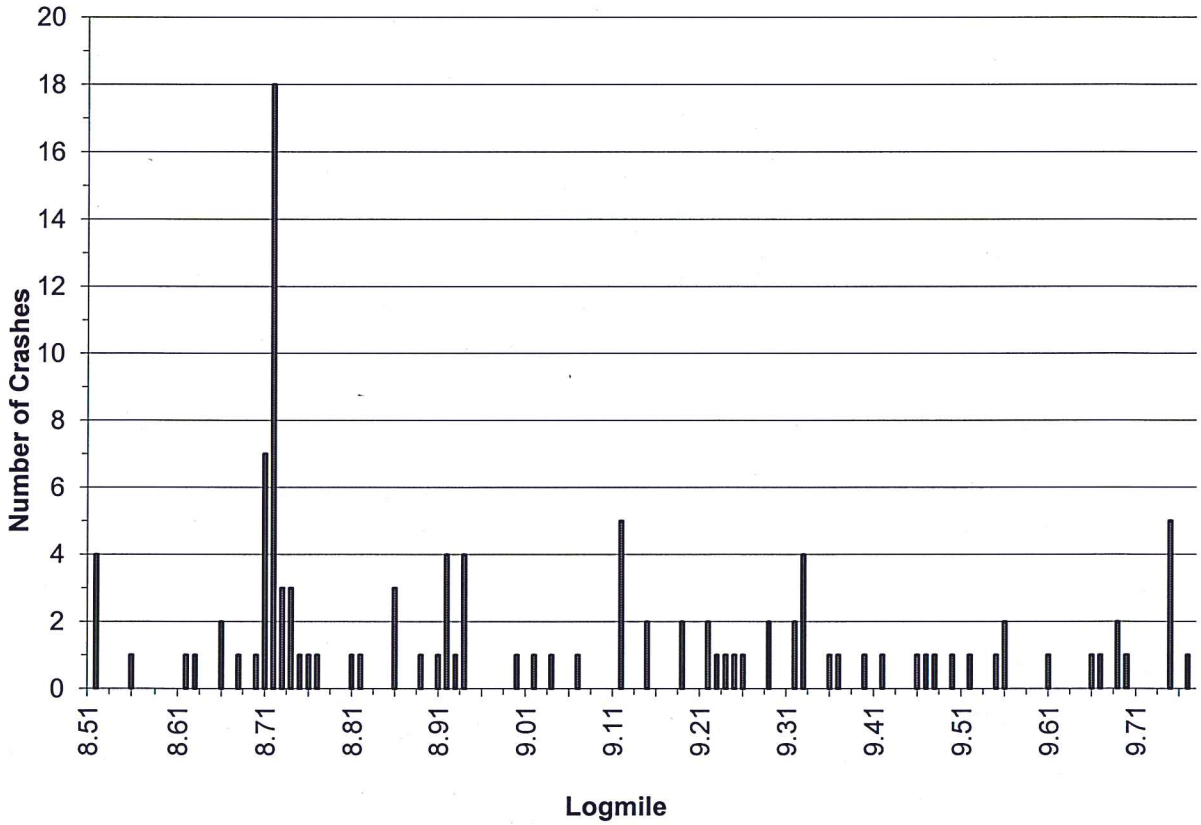
Figure 3: Sunday through Thursday Rear end and Side Swipe Crashes by Logmile



(Source: LADOTD Crash 1 Program)

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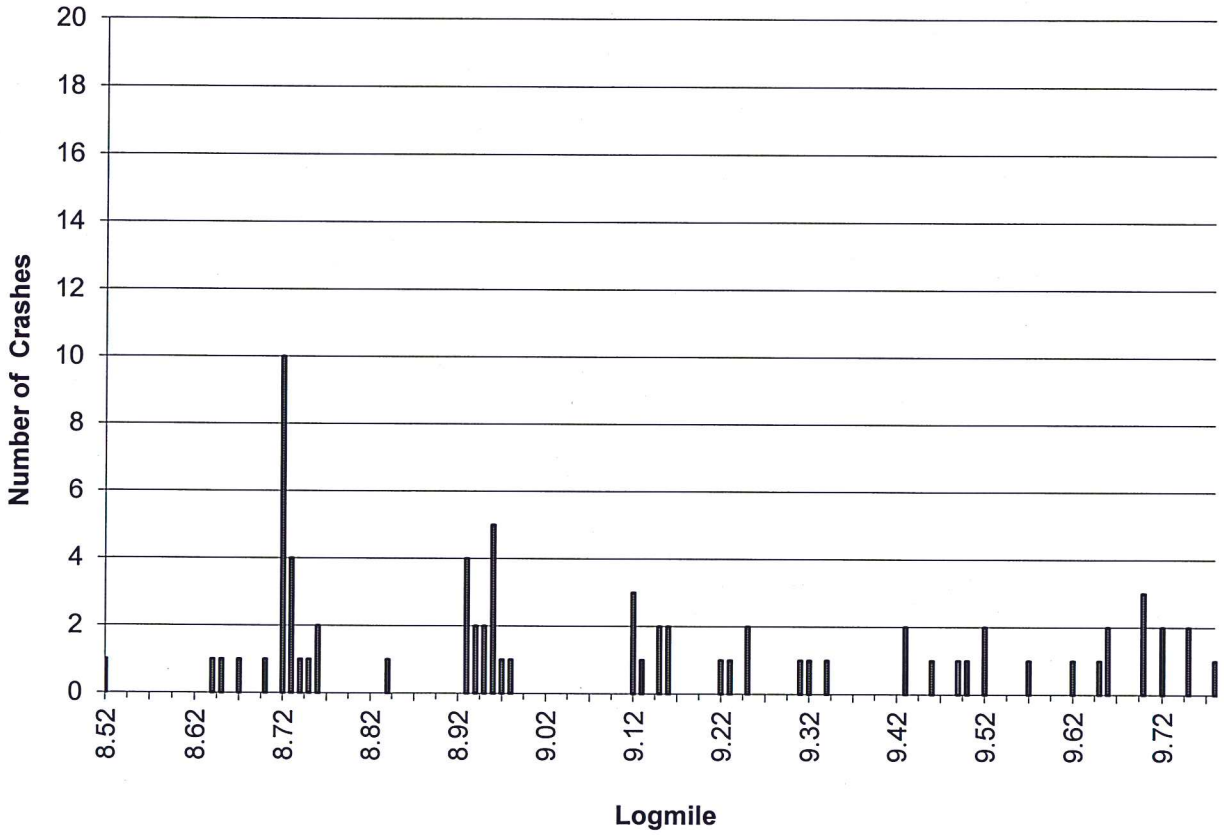
Figure 4: Friday through Saturday Rear End and Side Swipe crashes by Logmile



(Source: LADOTD Crash 1 Program)

Although the crash data are well distributed across the project segment, there appears to be a significant concentration of rear end and sideswipe (same direction) crashes occurring near Logmile 8.72 as shown in Figures 3 and 4. An in depth review of available crash reports and site conditions at this location revealed that the majority of the crashes are in the eastbound travel direction at the base of the high rise bridge. Drivers were generally either trying to change lanes to pass up a slow or stalled vehicle when they crashed their vehicle. Vehicle speed differentials may a be contributing factor in many of the crashes as the high rise bridge has a fairly steep grade upon which drivers have difficulty maintaining their vehicle speeds up the bridge compared to the high approach speed to the bridge.

For the purpose of further identifying any other potential safety concerns regarding crashes which may affect the project work zone, additional analyses were performed on a one mile segment entering the project from the east and west approaches. As shown in Table 5, the crash rate for a mile segment in either direction is below the average for what would be considered an abnormal location. Table 6 shows a summary of the percent crash by crash type and also by type of collision. Figures 5 and 6 show the total crashes by log mile, one mile before the beginning of the project in each direction.

Table 5: Identification of Abnormal Locations – Beyond Project Limits

Begin log mile	End log mile	Travel Direction	Number of Crashes (2007-2010)	Crash Rate	2x State Avg
7.51	8.51	Eastbound	165	1.23	2.78
9.79	10.79	Westbound	69	0.39	2.78

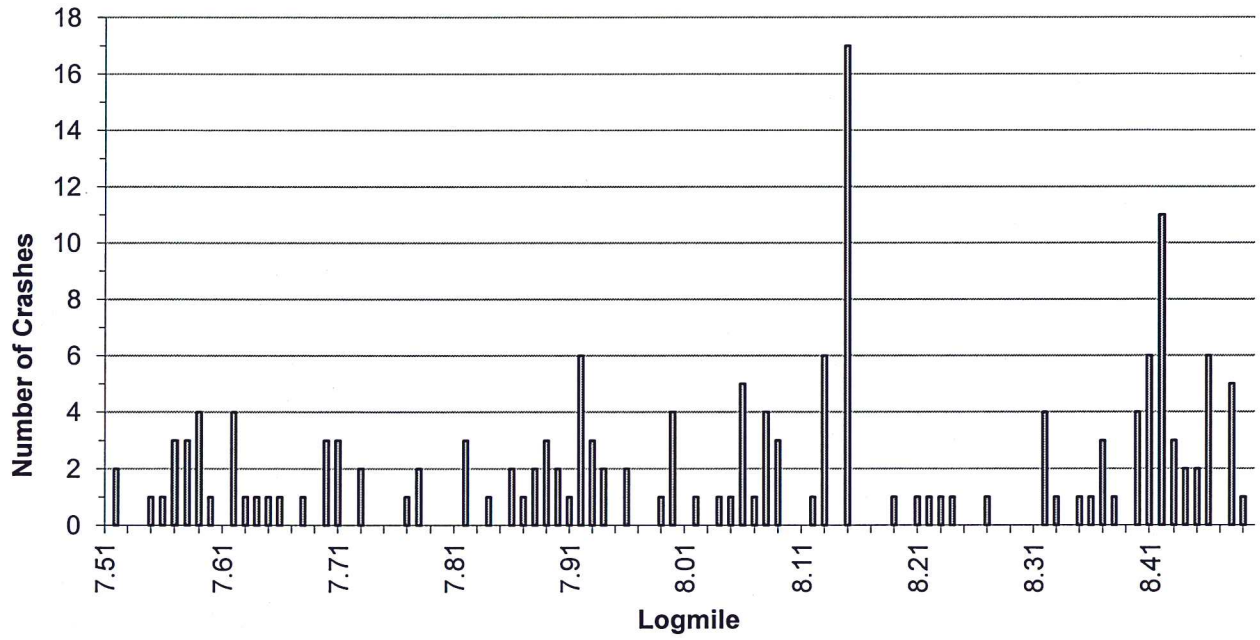
(Source: LADOTD Crash 1 Program)

Table 6: Percent Crash by Crash Type and Type of Collision – Beyond Project Limits

Type of Crash / Collision	Logmile 7.51 to 8.51		Logmile 9.79 to 10.79		Urban State Average
	Total Crashes (Eastbound Only)	Crash Percentage	Total Crashes (Westbound Only)	Crash Percentage	
Roadway Departure Crash	0	0.00%	1	1.45%	16.24%
Nighttime Crash	57	**34.55%**	15	21.74%	27.52%
Wet Surface Crash	45	**27.27%**	15	21.74%	27.60%
Non Collision	25	15.15%	7	10.14%	21.19%
Rear End	71	43.03%	31	44.93%	47.40%
Side Swipe (Same Direction)	32	**19.39%**	11	15.94%	19.06%

(Source: LADOTD Crash 1 Program)

Figure 5: Total Crashes Eastbound by Log mile (7.51 – 8.51)



(Source: LADOTD Crash 1 Program)

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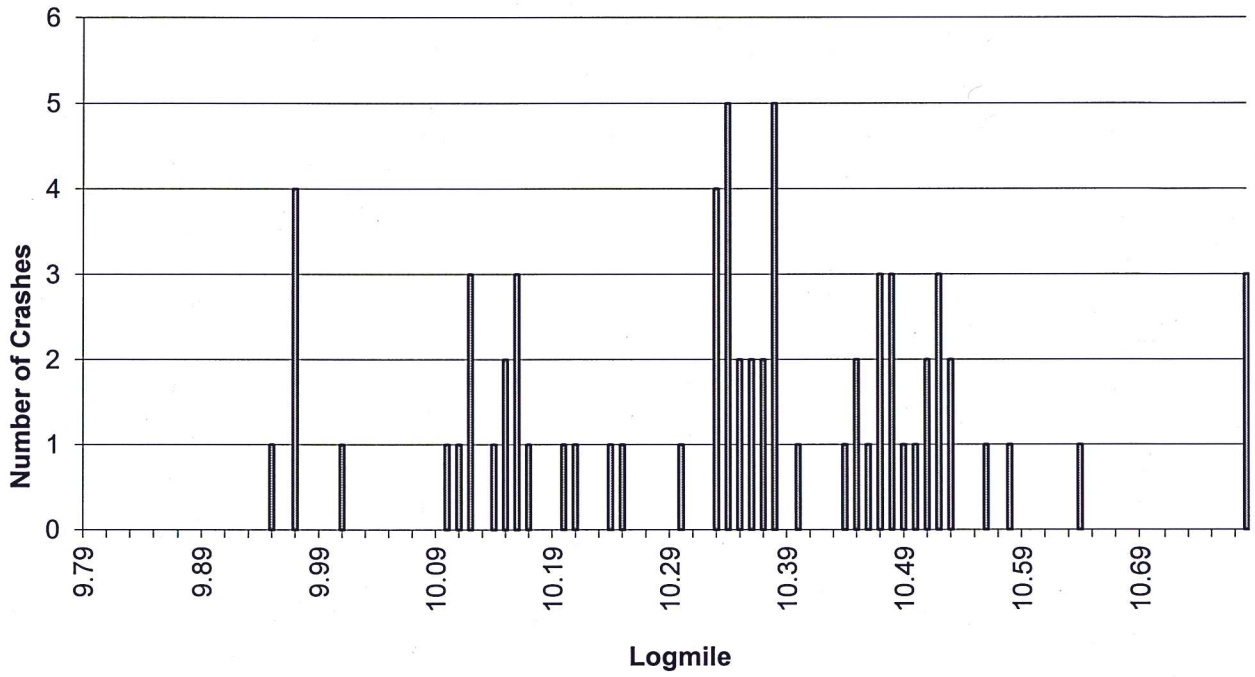
Figure 5: Total Crashes Westbound by Log mile (9.79 – 10.79)



(Source: LADOTD Crash 1 Program)

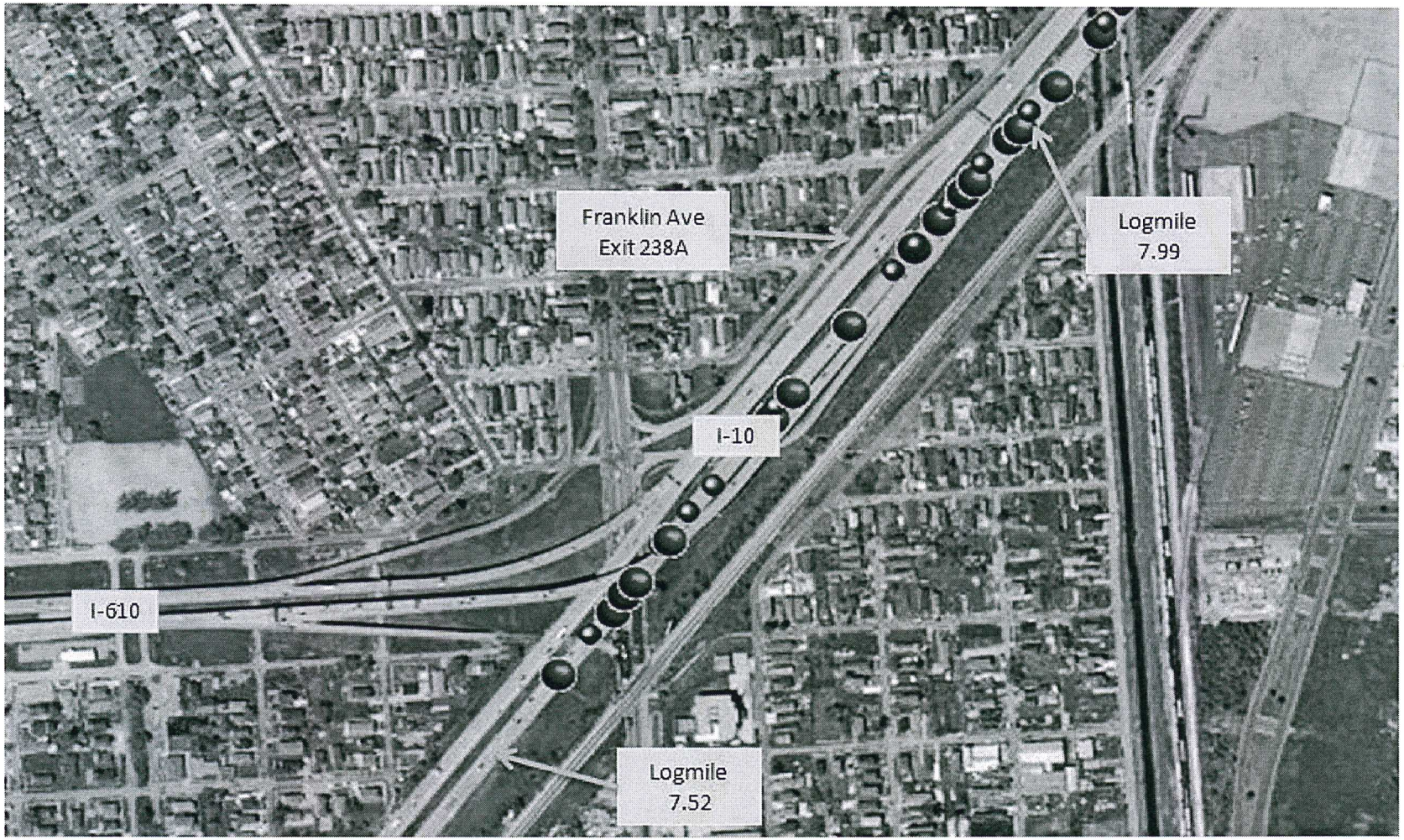
Data Analysis Summary and Conclusions

The maps on Pages 8 through 13 provide details of the locations of crashes within, and on the approaches to, the work zone. Rear end collisions and side swipe (same direction) crashes are the most common type of collisions with the majority occurring in the eastbound travel direction. The crashes are well distributed across the length of the project; however, a particular area of concern would be at the base of the high rise bridge where there is a high concentration of crashes. It should be noted that the graphical representation does not indicate direction of travel based on the lateral plotting of the crashes

Based on the safety analysis and the resulting focus on nighttime rear end and sideswipe (same direction) crashes, especially during project work hours, it is recommended that project personnel actively manage the maintenance of the temporary traffic control devices to ensure that they are in proper working condition and also provide adequate lighting at the immediate work area as required by the Special Provisions. Police presence should also be included to monitor the back of queue on the jobsite approaches to provide motorists adequate warning. Additional factors which can contribute to safer operation during the project will be the use of MAP Patrols, Portable Message signs, and having a tow truck available on-site to provide assistance in cases of vehicle breakdowns on the bridge.

SCS/BQL
10/11/2011

I-10 (Log mile 7.51 – 7.99)



LEGEND: Single crash location Multiple crash location

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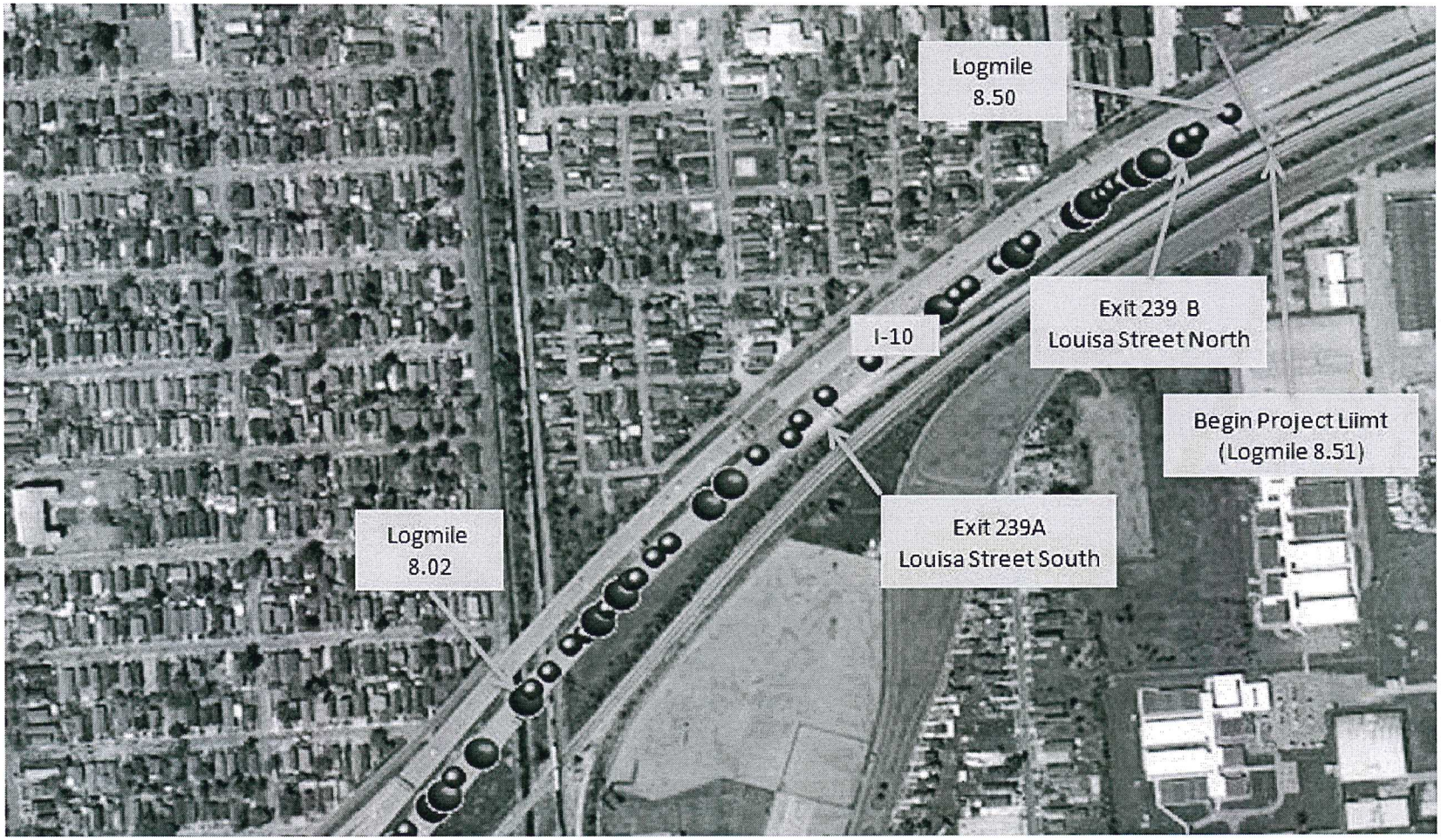
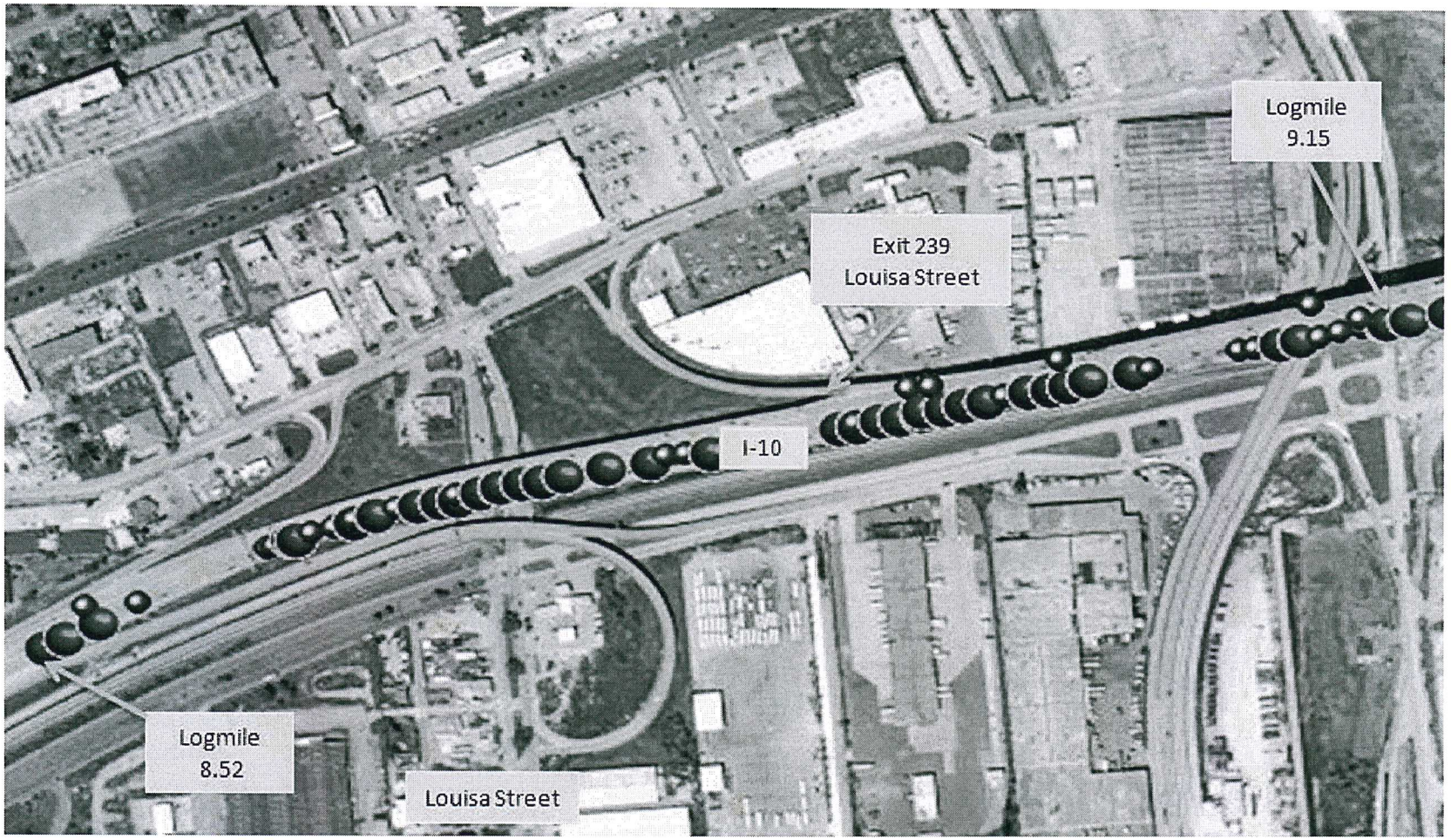
I-10 (Log mile 8.00 – 8.51)



LEGEND: Single crash location Multiple crash location

This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from discovery or admission under 23 U.S.C. 409.

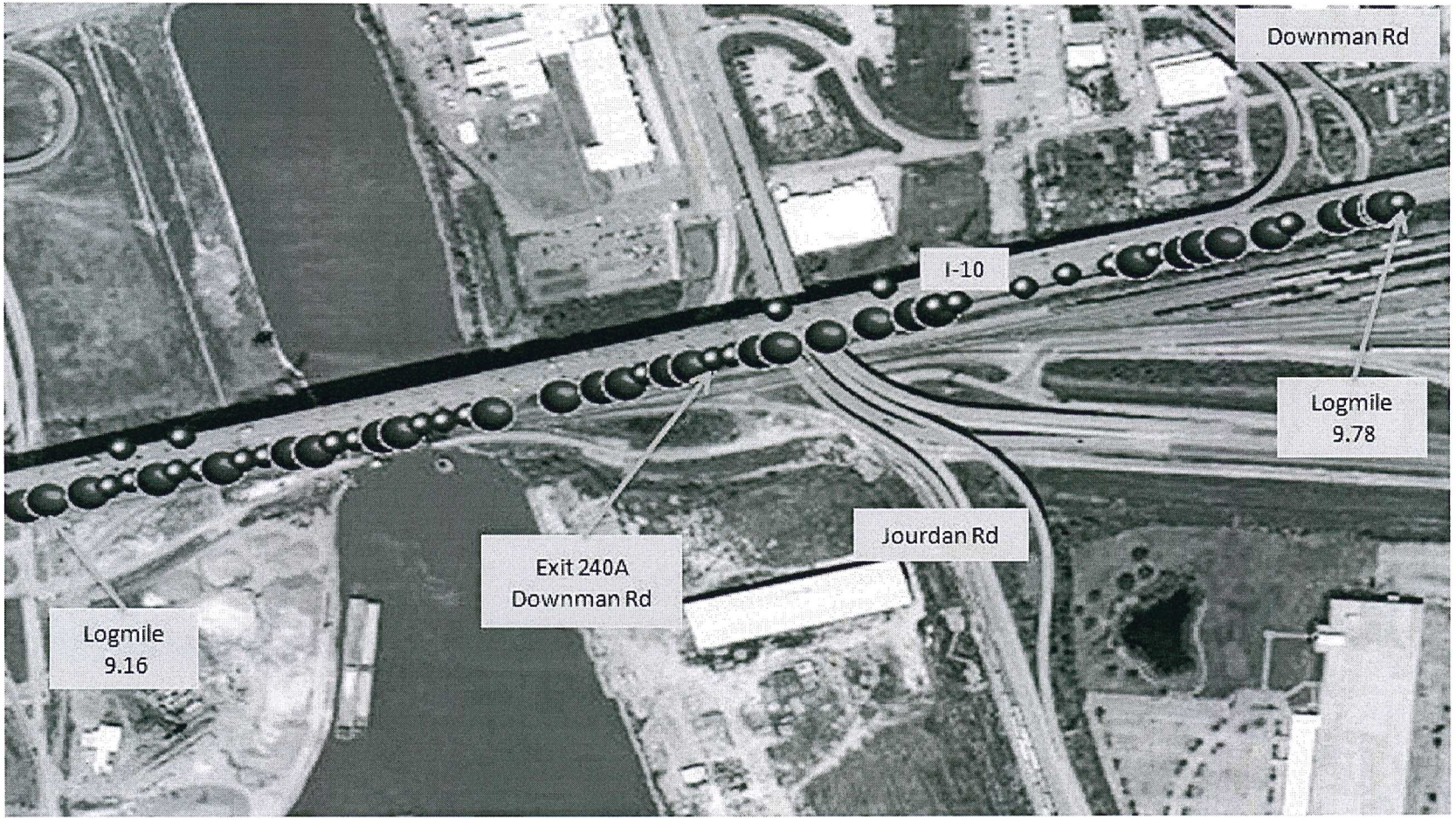
I-10 (Log mile 8.52 – 9.15)



LEGEND: Single crash location Multiple crash location

This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from discovery or admission under 23 U.S.C. 409.

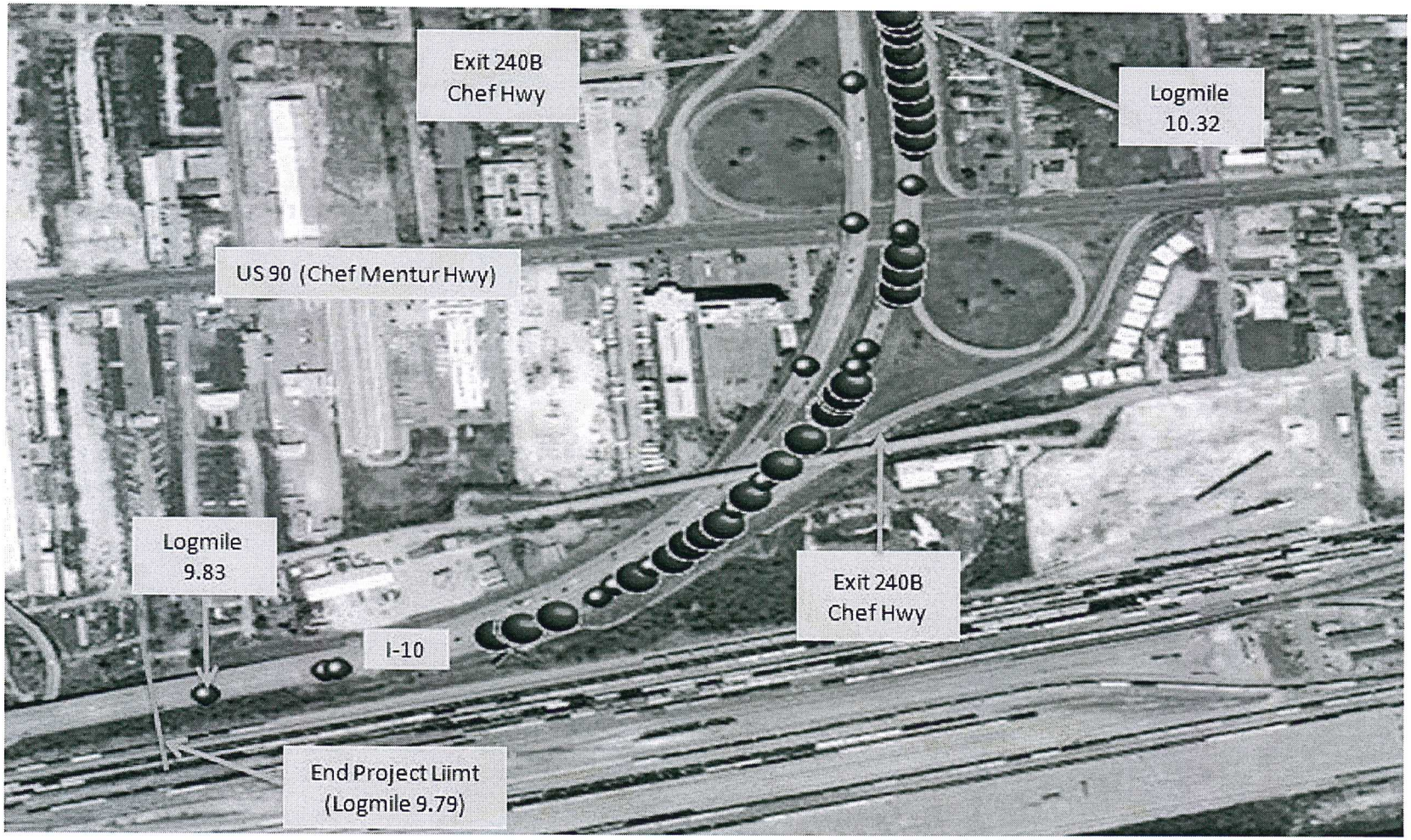
I-10 (Log mile 9.16 – 9.78)



LEGEND: Single crash location Multiple crash location

This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from discovery or admission under 23 U.S.C. 409.

I-10 (Log mile 9.79 – 10.32)



LEGEND: Single crash location Multiple crash location

I-10 (Log mile 10.32 – 10.79)

LEGEND: Single crash location Multiple crash location

This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from discovery or admission under 23 U.S.C. 409.

APPENDIX C: THINKSTREAM USER'S MANUAL

2012

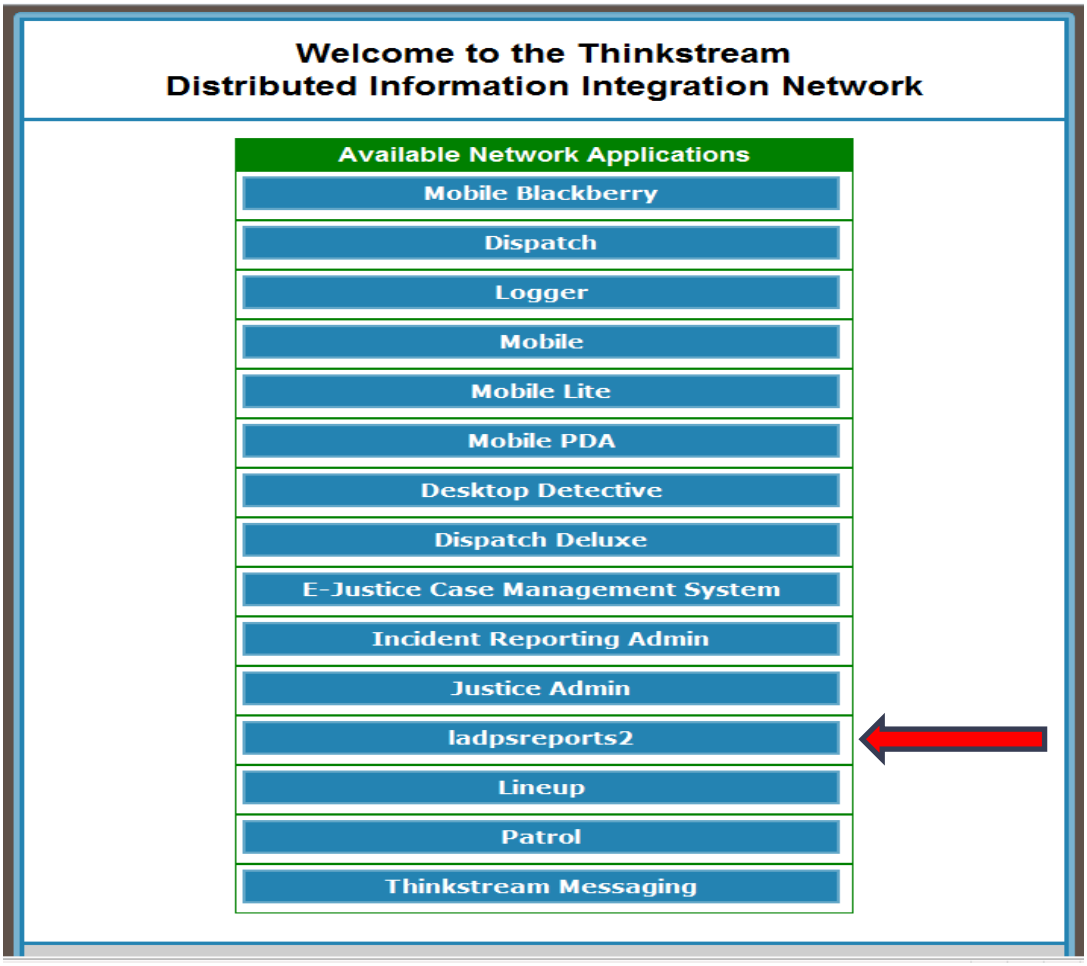
THINKSTREAM
LSP Crash Report Images

https://icjis.dps.louisiana.gov/apps.html

This application is used to print or save a copy of crash reports that are written by LSP, Louisiana State Police, Troops statewide both on/off state maintained highways.

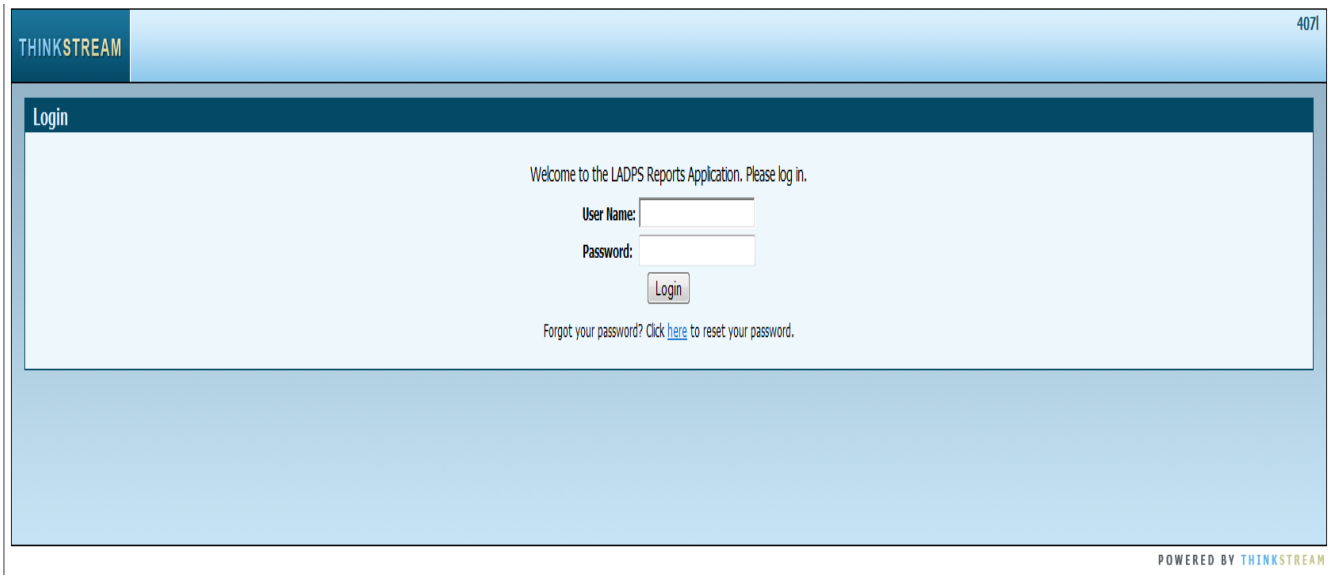
M. Connors
LA DOTD Highway Safety
2/23/2012

1) INITIAL SCREEN:



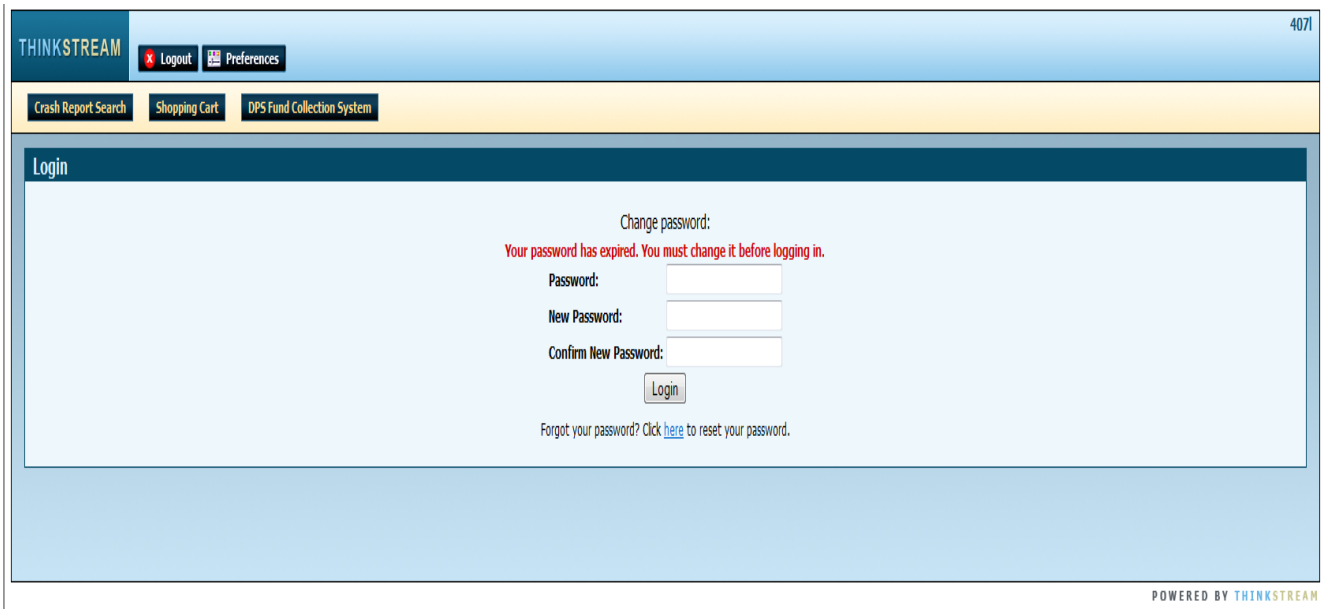
- This page will be displayed after going to the web site, https://icjis.dps.louisiana.gov/app.html, mentioned on the first page.
- Select **ladpsreports2** from the selections given.

2) LOG IN SCREEN:

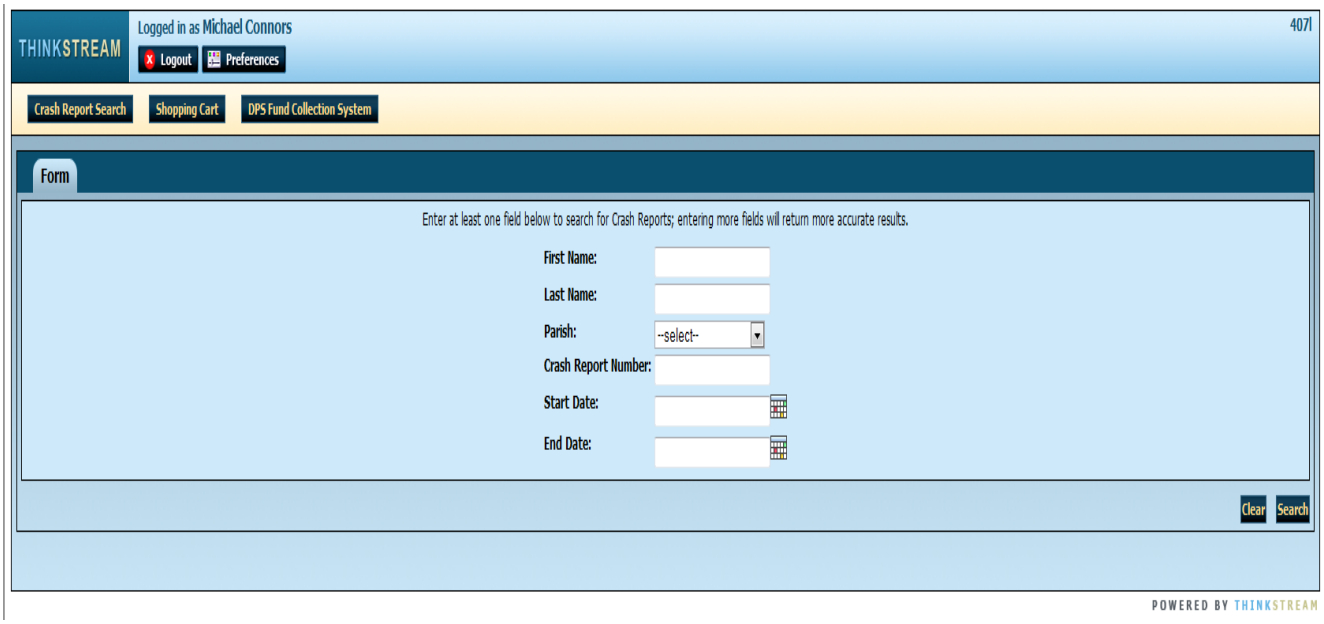


- This is the log on screen where you will enter your **User Name** and **Password**.
- If you don't have log on credentials you can contact our office and we will submit a request to have one issued.
- If you have forgotten your log on credentials or get locked out, **after three attempts**, you can call one of the following numbers and tell them that you need your **Thinkstream Account** reset.
  ******* LA DPS help desk (225-925-6233) or Thinkstream Support at (225-291-5992). *******

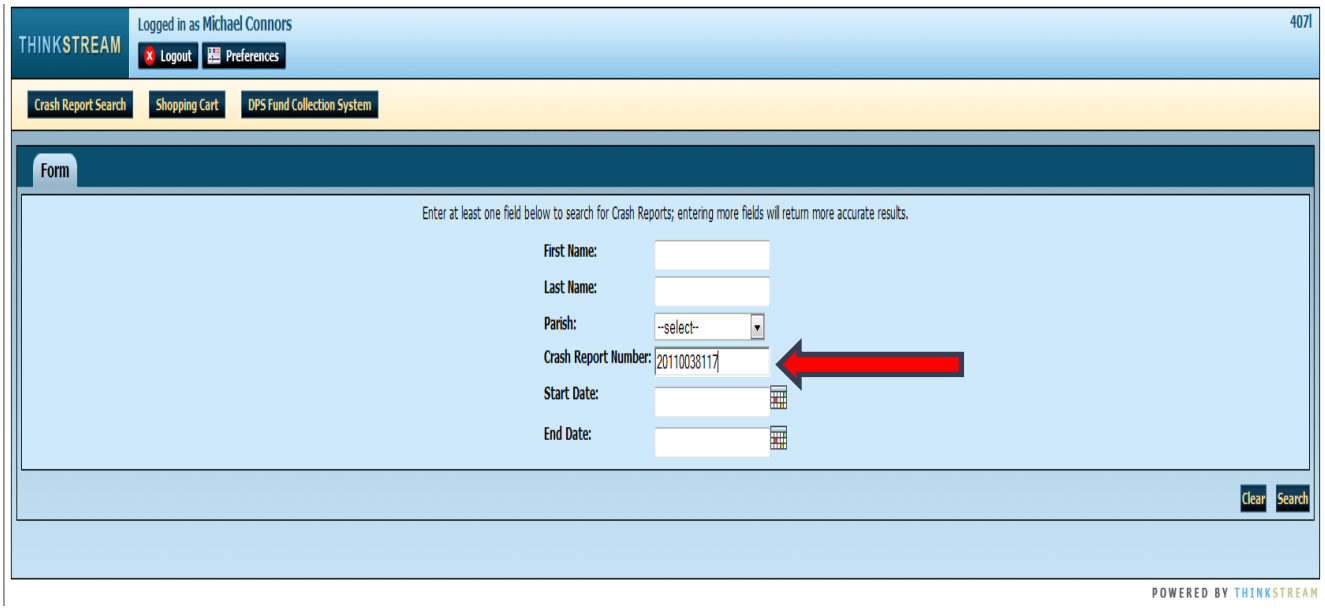
3) CHANGE PASSWORD SCREEN:



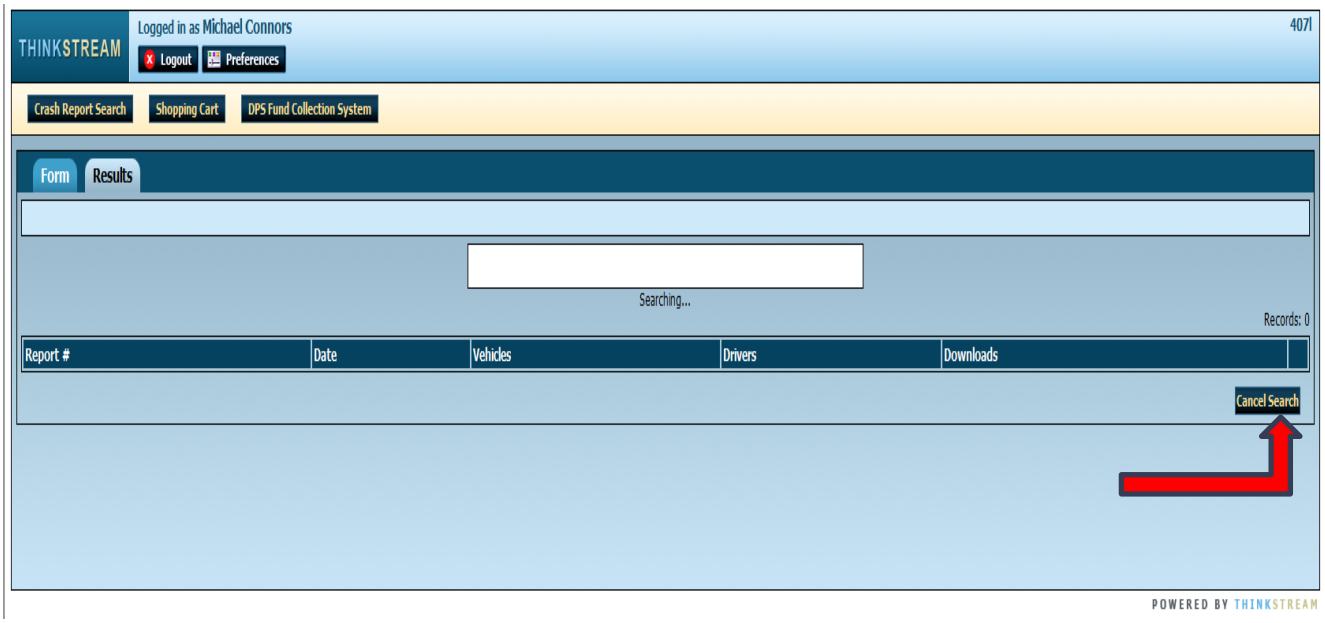
- Like most programs that we use at the DOTD this one also has, **roughly 30 days**, a password that expires and you must change it before logging in.
- After your password is changed you will get the following screen to start your search for a crash report that is written by LSP, Louisiana State Police.



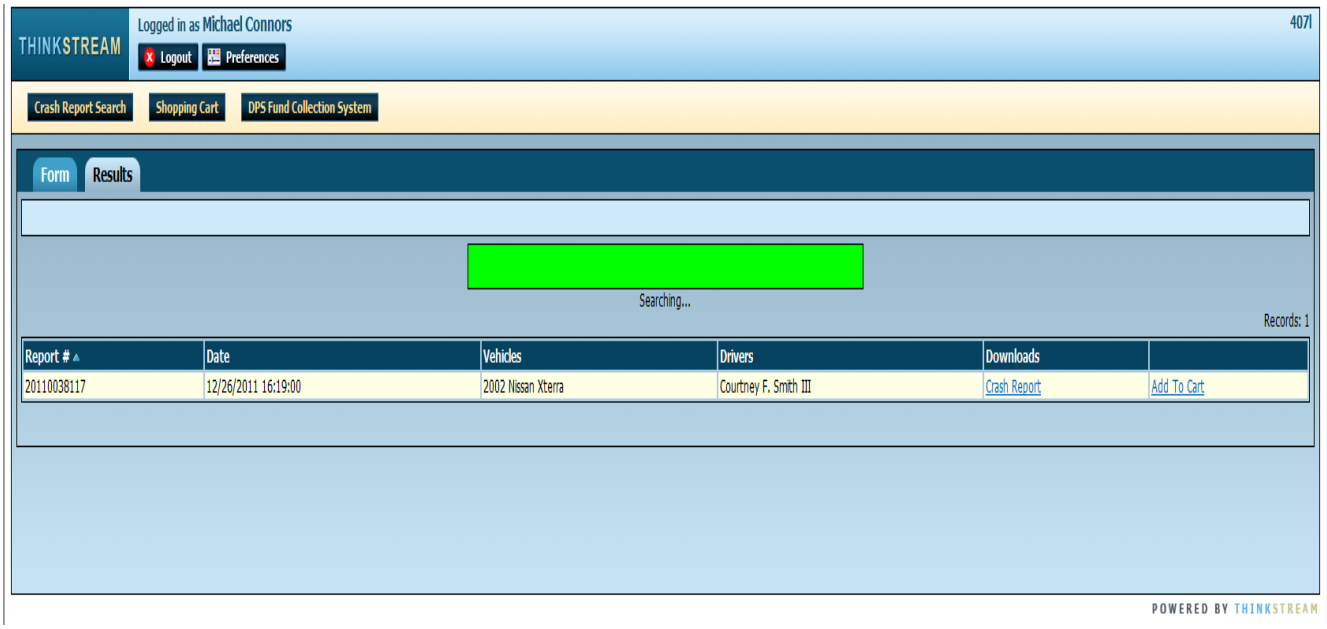
4) CRASH REPORT LOOK UP SCREEN:

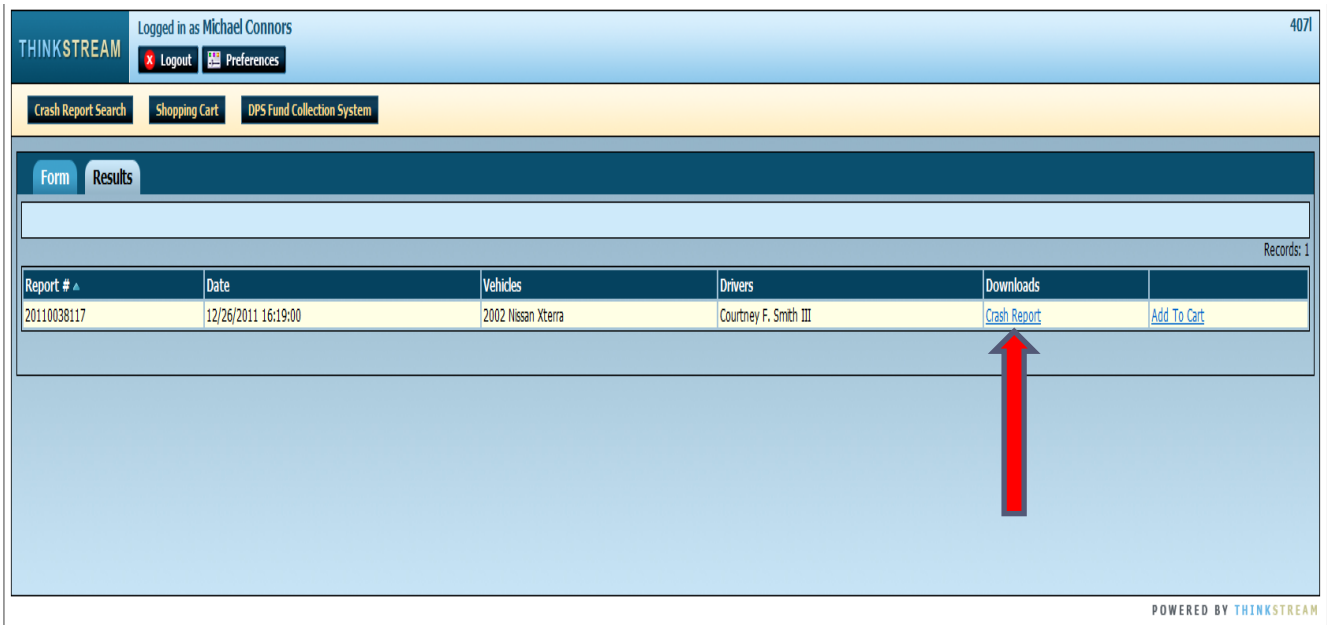


- Select your crash report number.
- Enter crash report number into the **Crash Report Number** field.
- Either hit the **Search Button**, lower right corner, or **Enter Button** on your computer to start search engine.

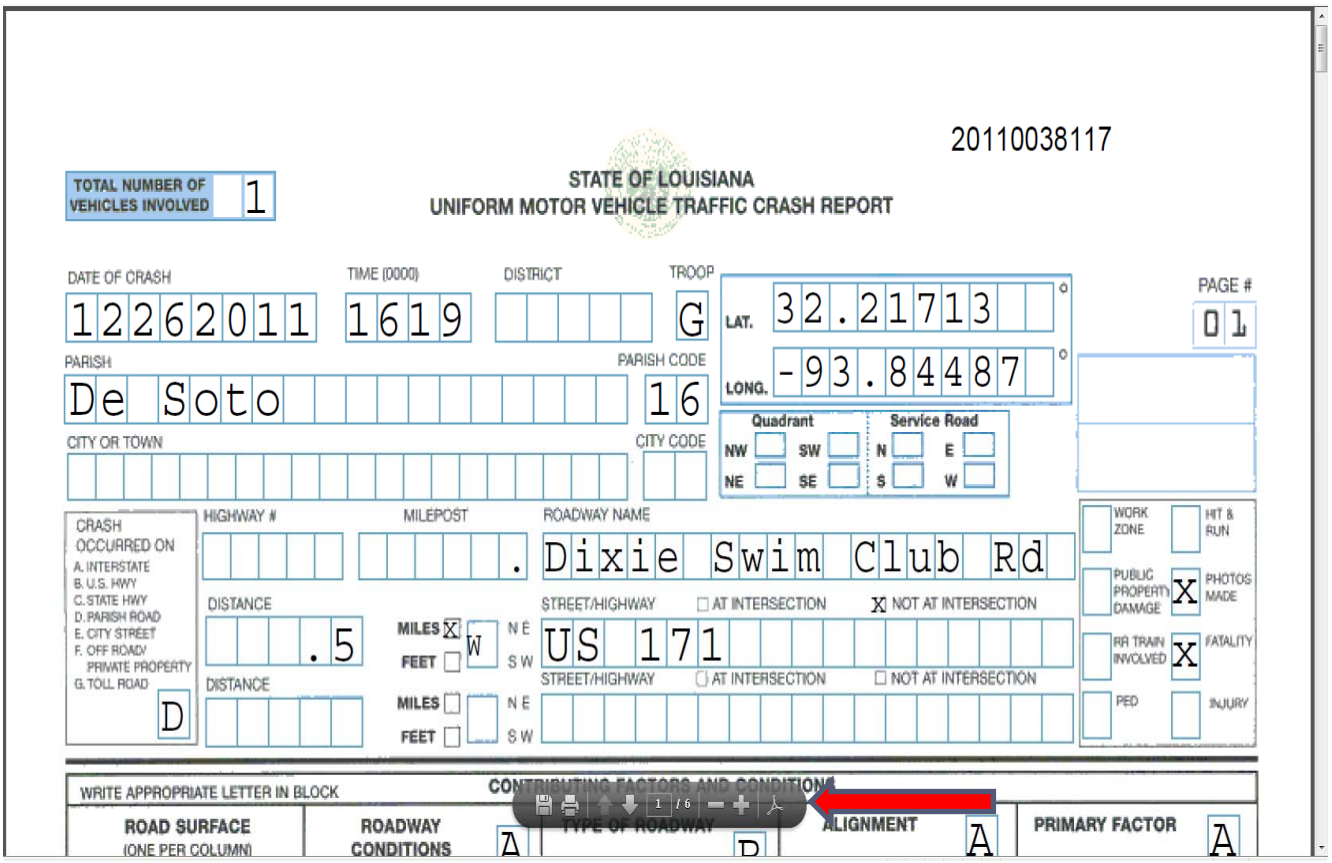


- **Green Box** indicates that the program is searching the database for the crash report that you have entered.





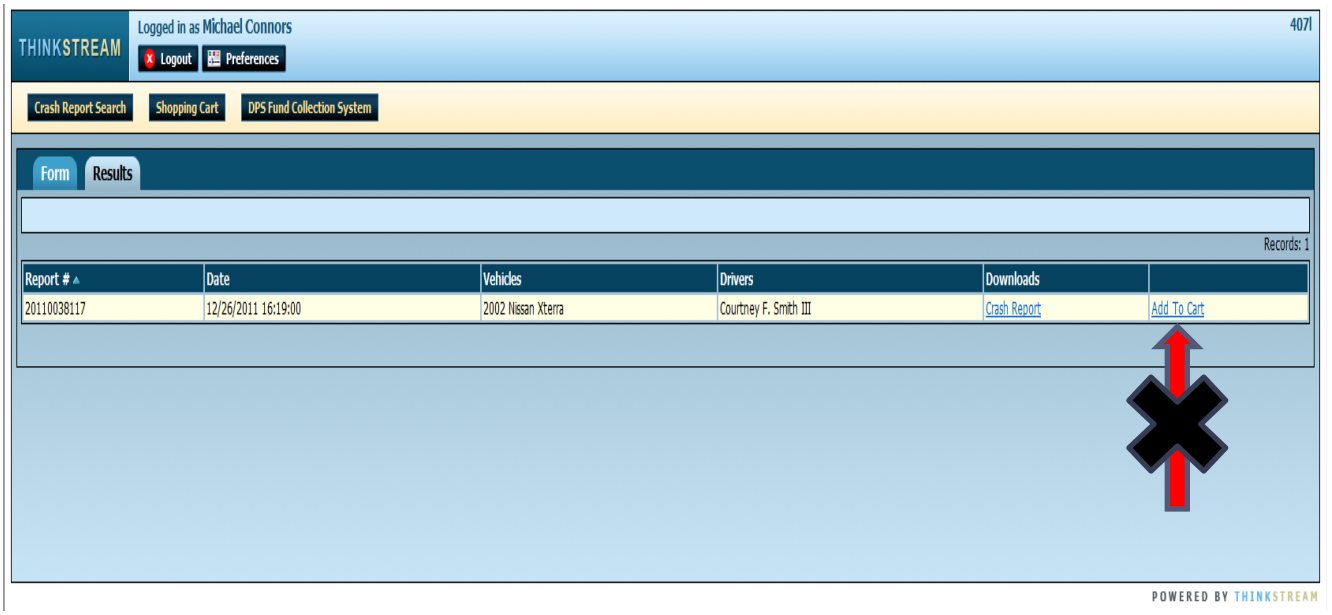
- This screen shows the results of your search.
- Click on **Crash Report** to review your selection.



- If you float your mouse over the bottom middle of the screen, then a **Message Box** will appear.
- This message box will allow you to either **Print** or **Save** your crash report.

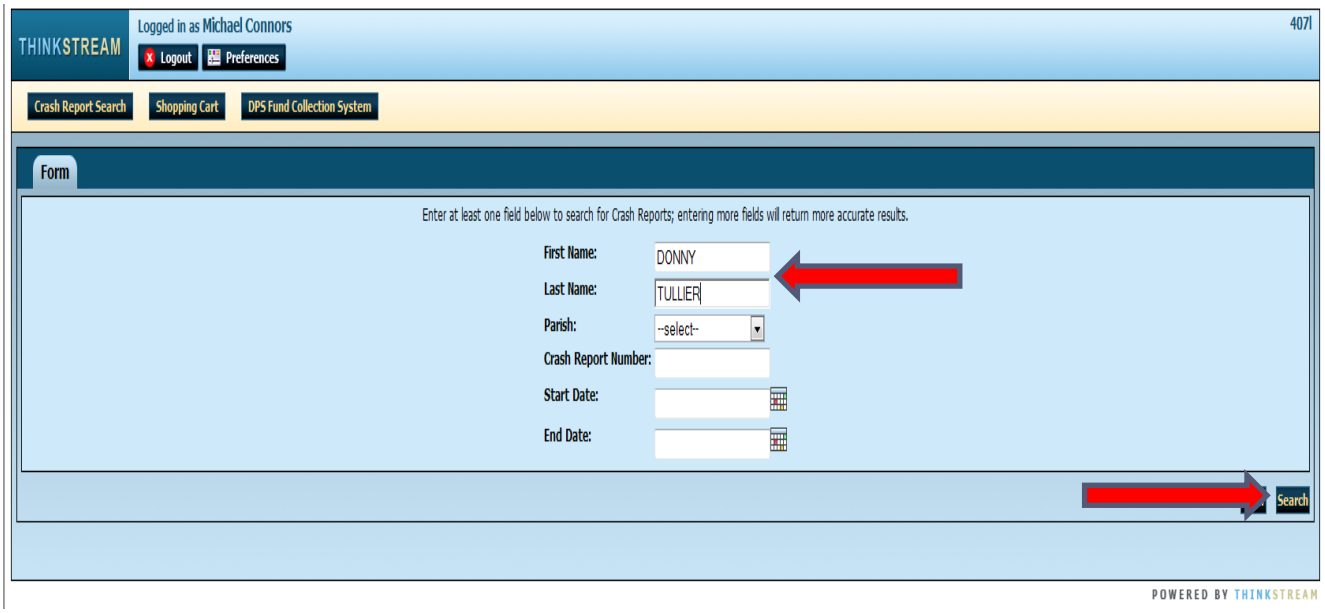
FREQUENTLY ASKED QUESTION:

- What happens if I click the **Add To Cart** button?

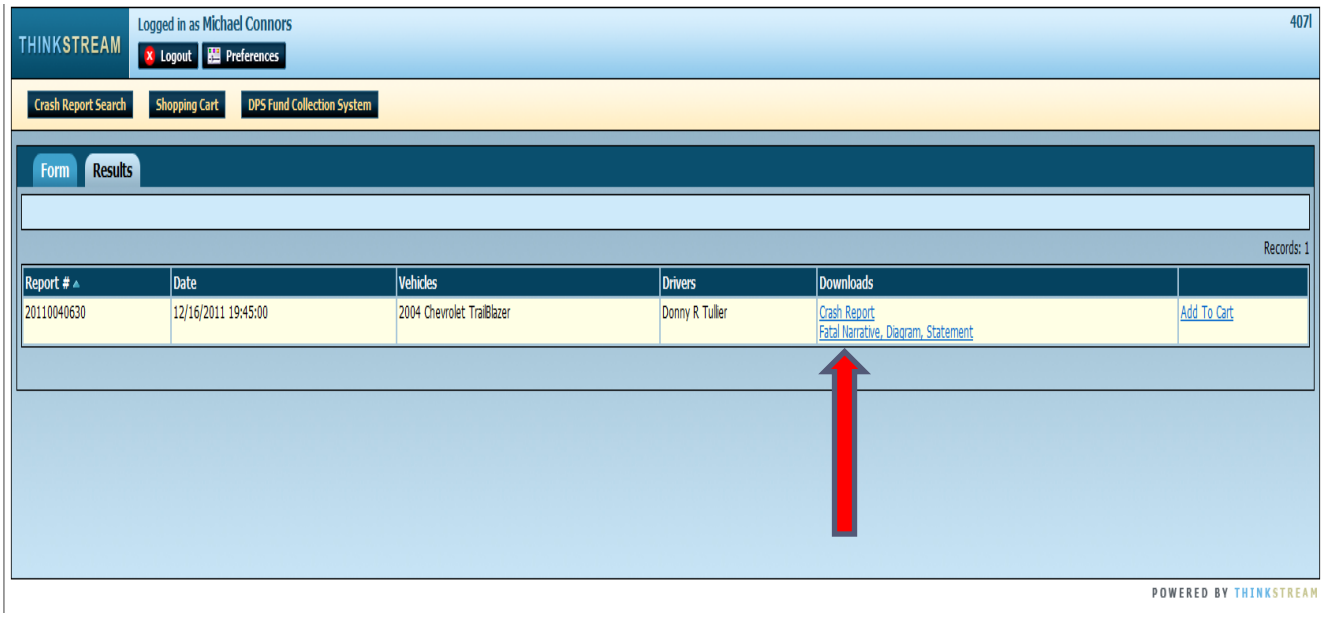


- Never select **Add To Cart** feature. This is for internal, DPS, selling of crash reports on-line.

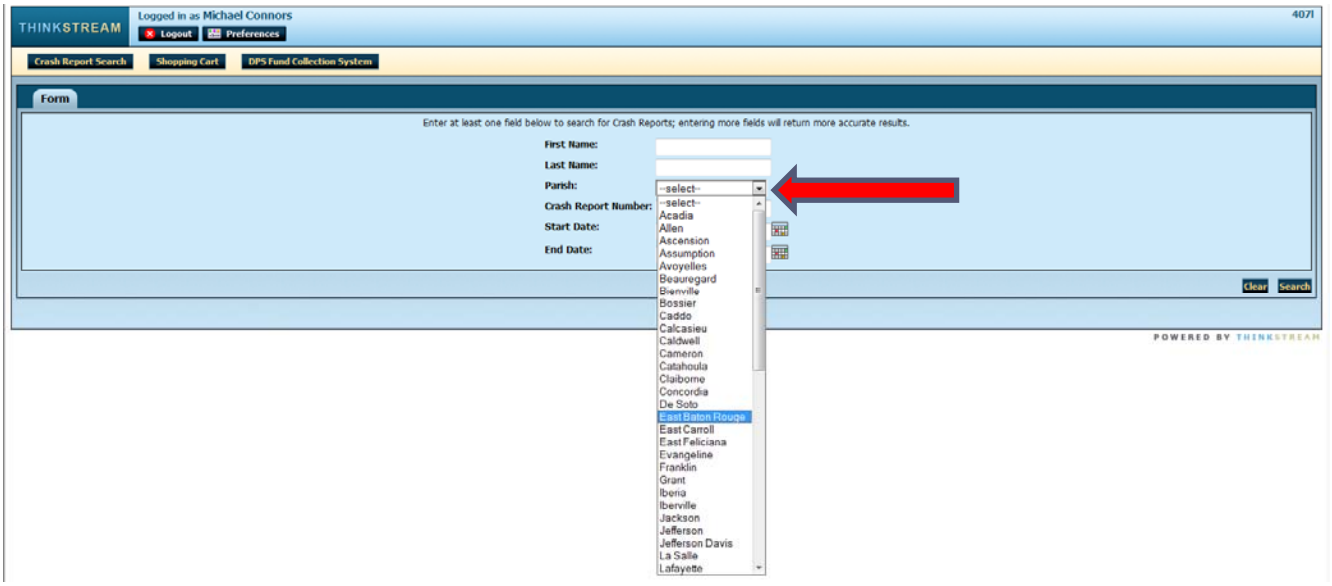
5) NAME LOOK UP:



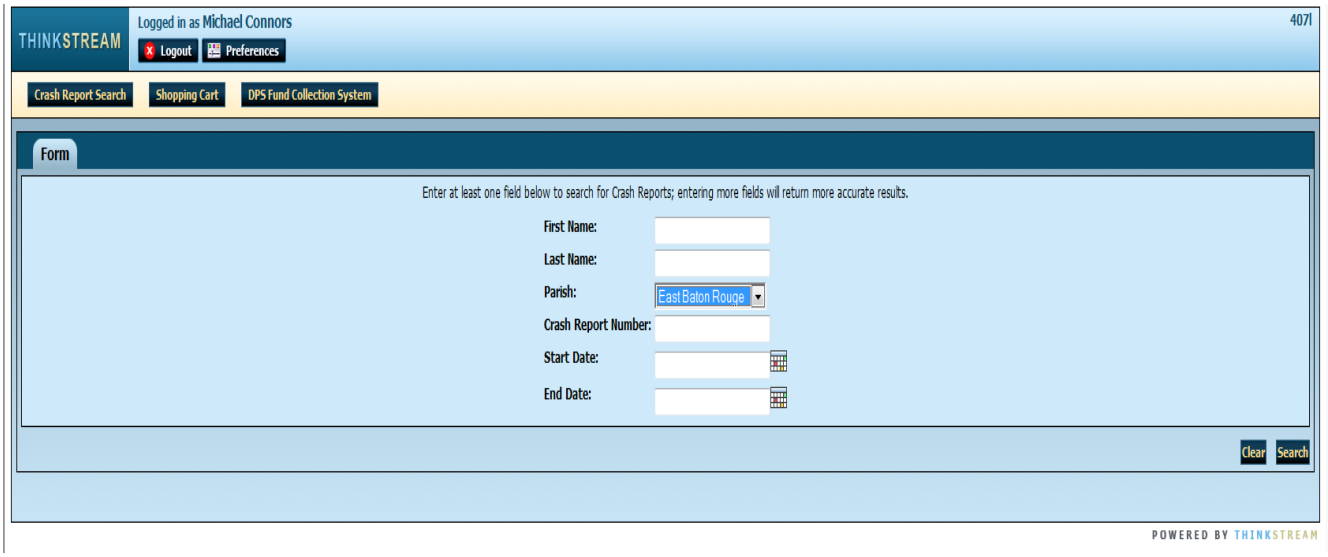
- Enter the **First Name** in the appropriate box.
- Enter the **Last Name** in the appropriate box.
- Either hit the **Search Button**, lower right corner or **Enter Button** on your computer to start search engine.
- Click on **Crash Report** to review your selection.
- Any **Supplements**, additional crash information, that are available will be shown as an additional selection.
- Then you can either **Print** or **Save** your crash report.



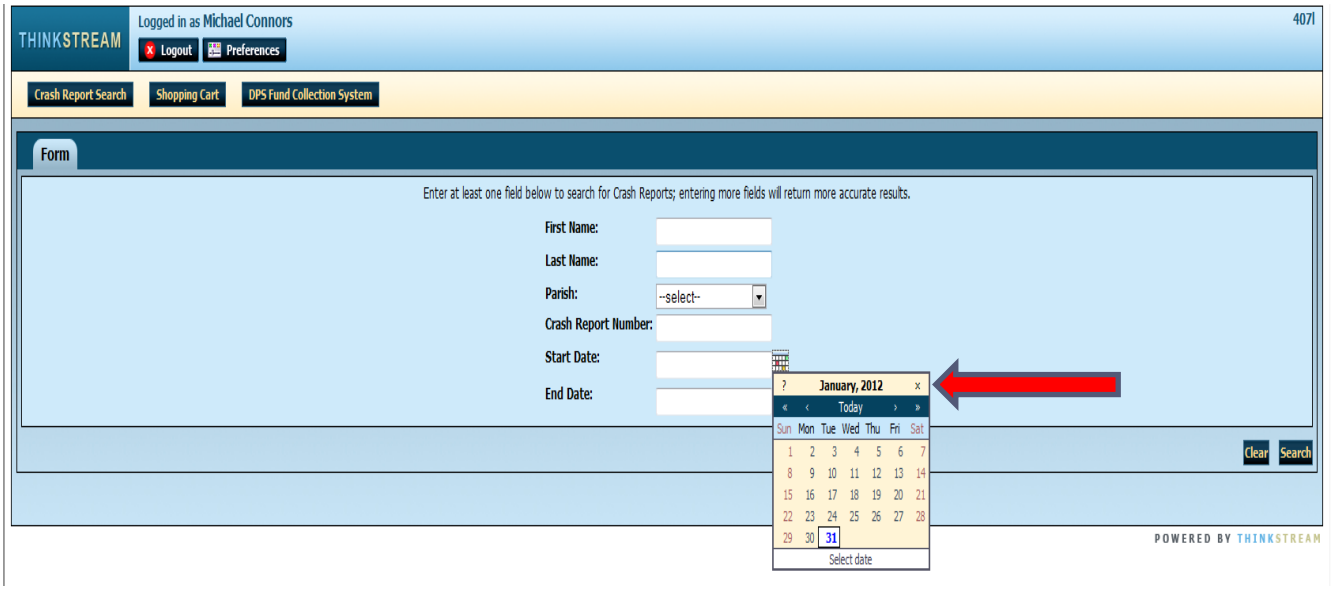
6) PARISH AND DATE LOOK UP:

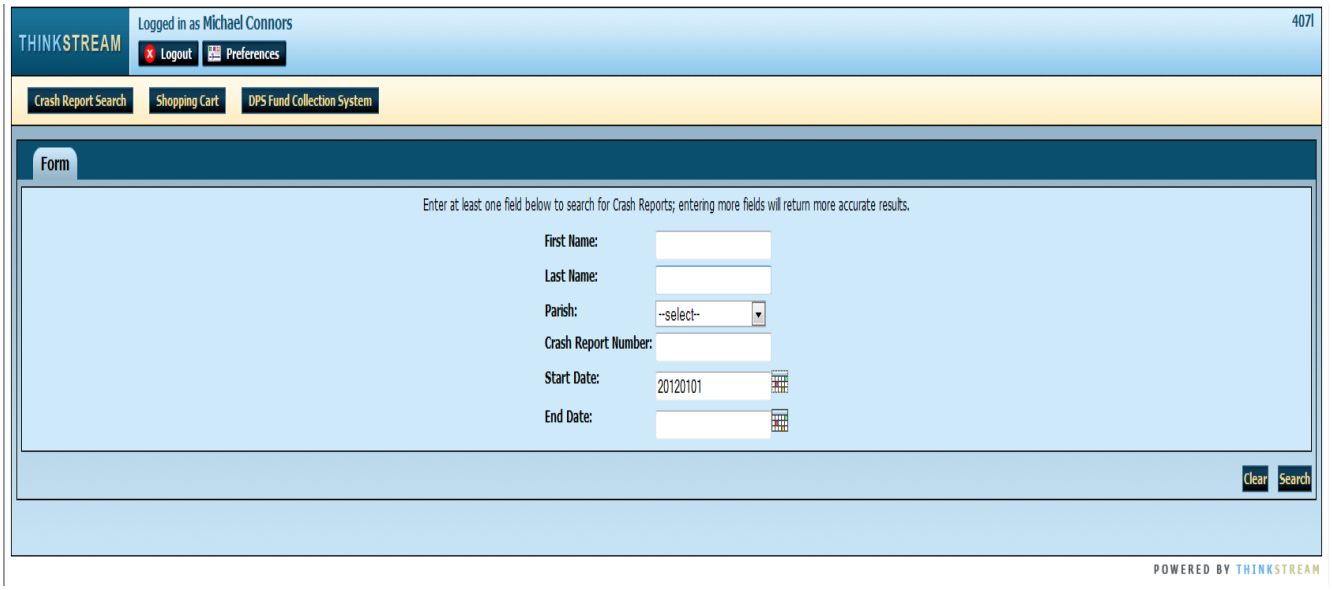


- Select a **Parish** from the drop down menu.

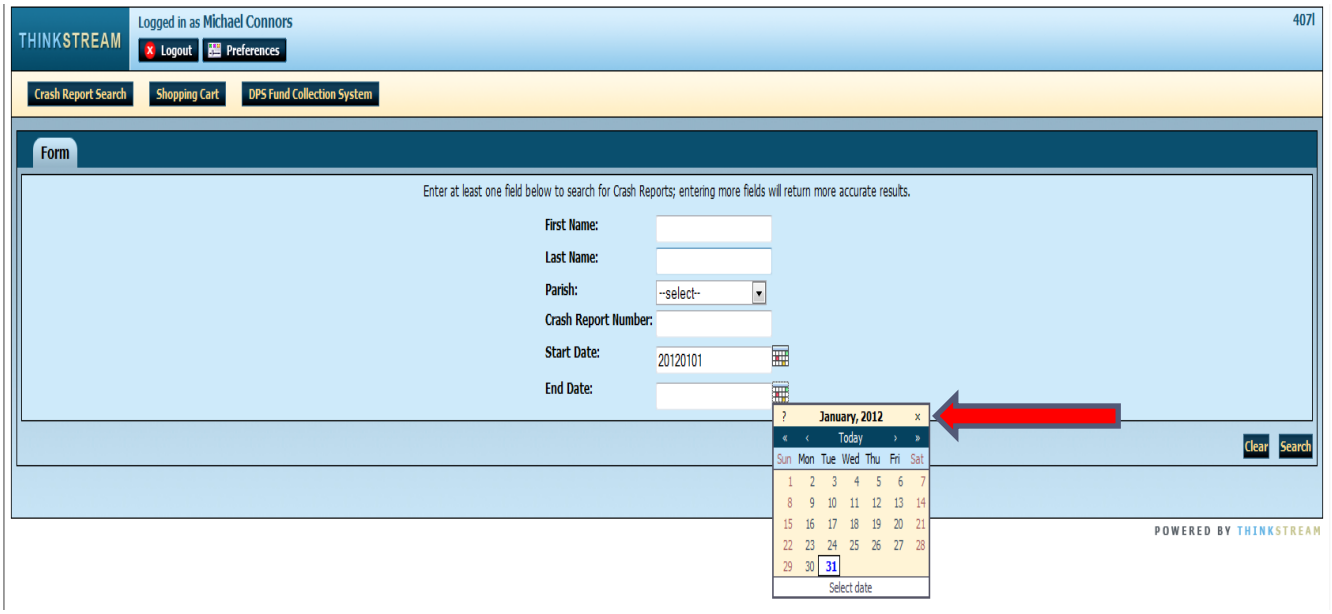


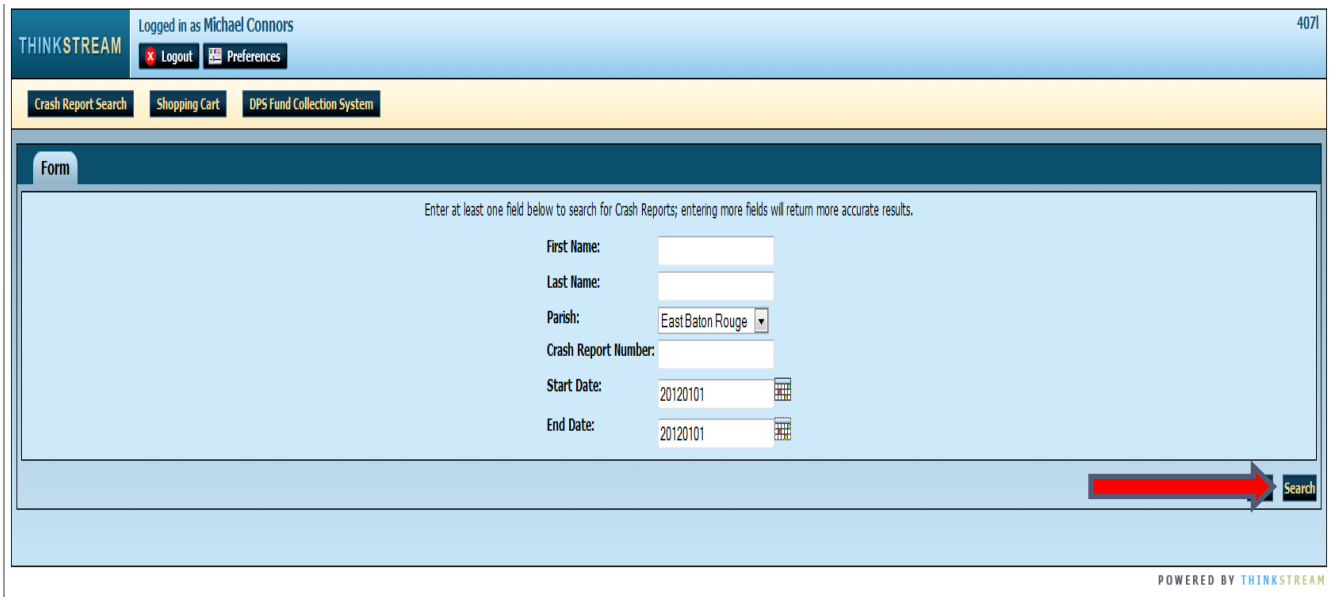
- Then select a **Start Date** from the pop out window.



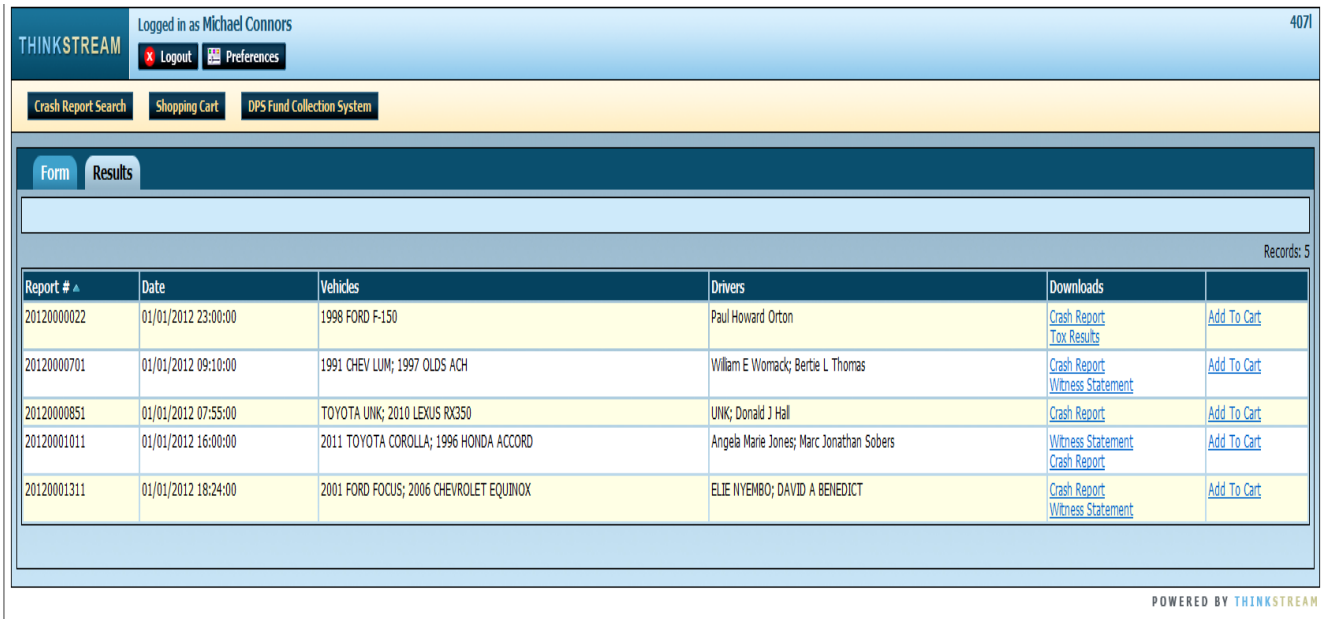


- Then select an **End Date** from the pop out window.



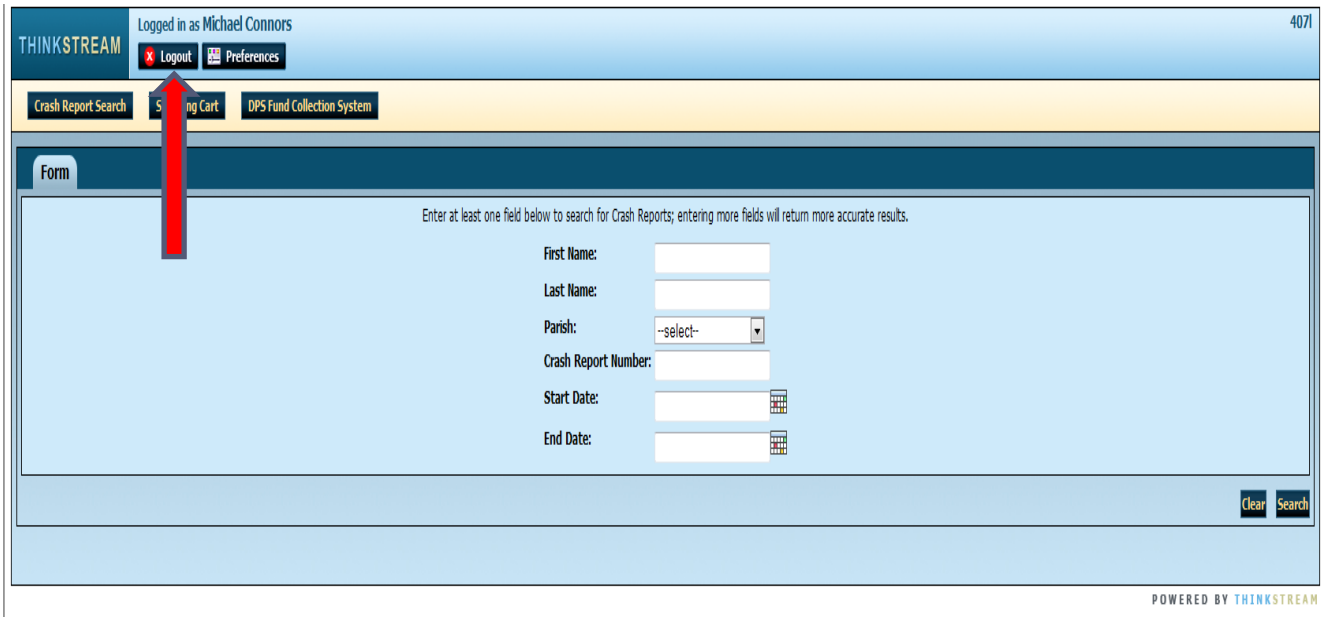


- The query is ready to run.
- Either hit the **Search Button**, lower right corner or **Enter Button** on your computer to start search engine.
- Click on the **Crash Report** you are searching for from one of the selections.
- Then you can either **Print** or **Save** your crash report.



7) LOGOUT PROCESS:

- After completing your search for a crash report, you must logout of the system.
- Click the **Logout** button in the top left corner, thus returning you to the main screen.



If at any time during the process you have a question or need assistance, please don't hesitate to contact my office.

Contact Information:

Michael Connors

Michael.Connors@LA.GOV

Work #: (225) 379-1451

APPENDIX D: CONTENT MANAGER USER'S MANUAL

2012

CONTENT MANAGER
Crash Report Images

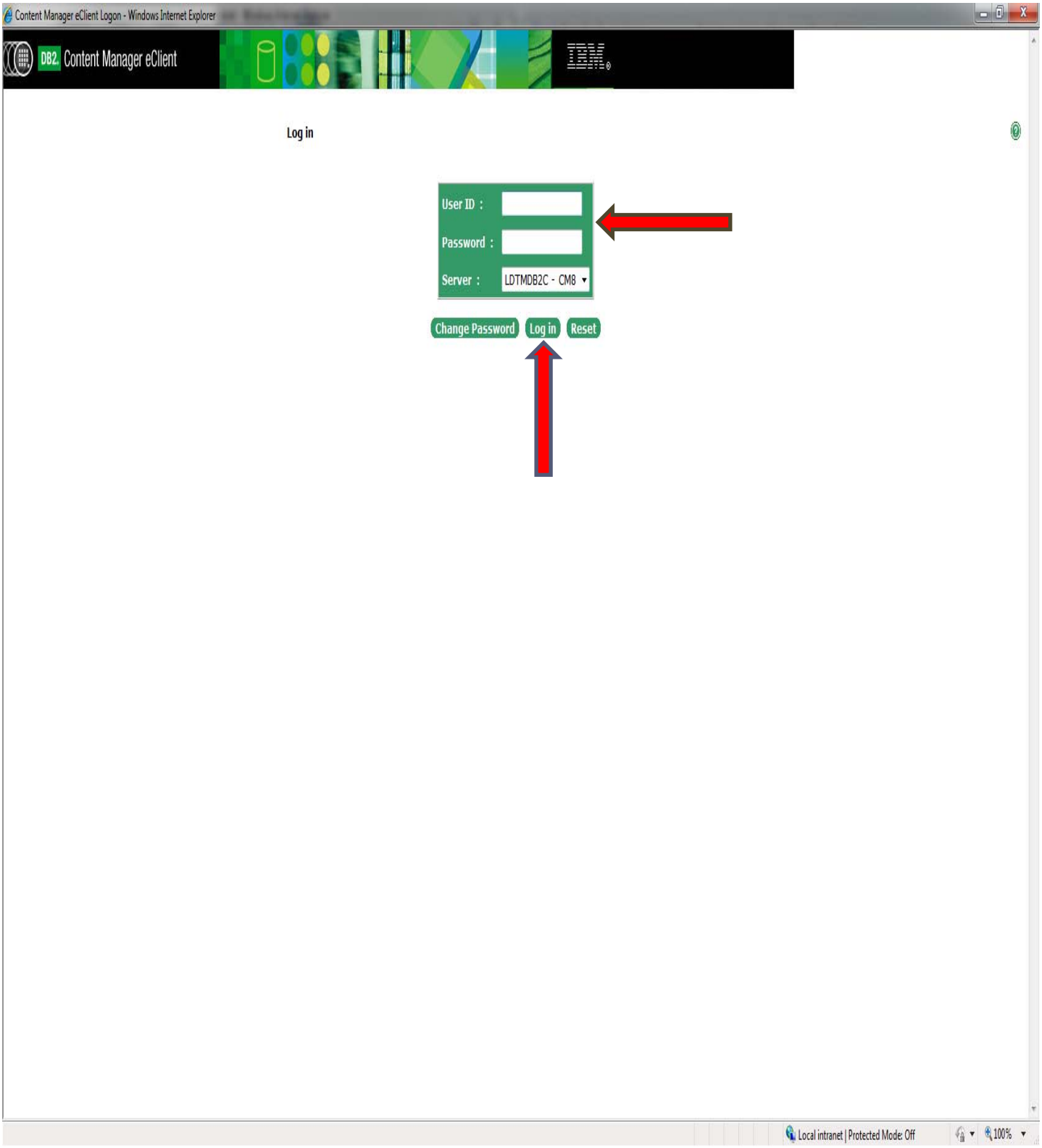
This application is used to print out or save a copy of crash reports that are written by police departments or local sheriff offices statewide both on/off state maintained highways.

M. Connors
LA DOTD Highway Safety
3/1/2012

1) INITIAL SCREEN:

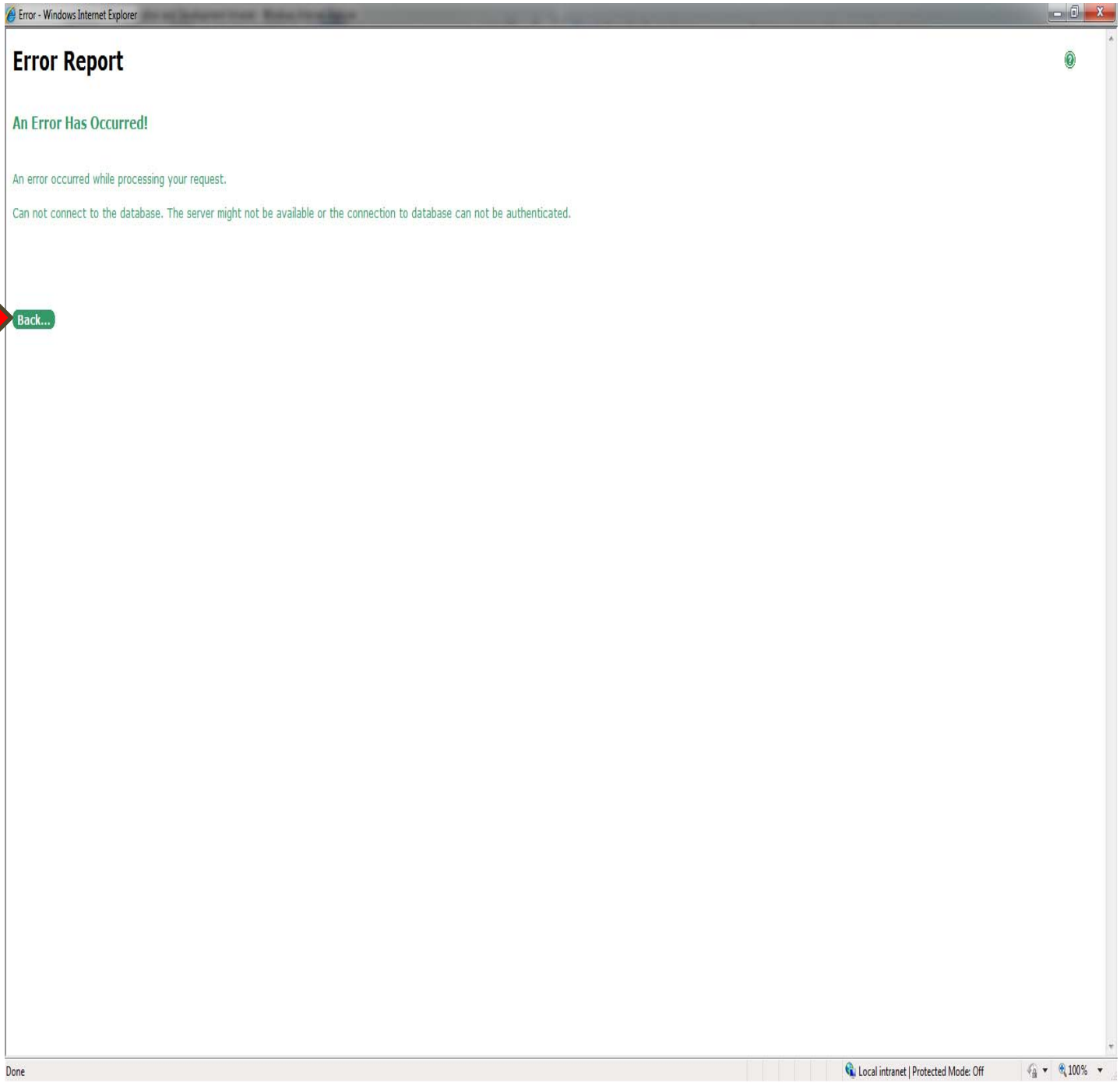
- Go to our **INTRANET** page.
- Click on the **Content Manager Button** on the left, under the Department Wide section.

2) LOG IN SCREEN:



- This is the log on screen where you will enter your **User ID (D #)** and **Password (Mainframe)**.
- Everyone has access to Content Manager but you will have to contact our office to be granted access to our file, **Crash Reports**, which is in the database.

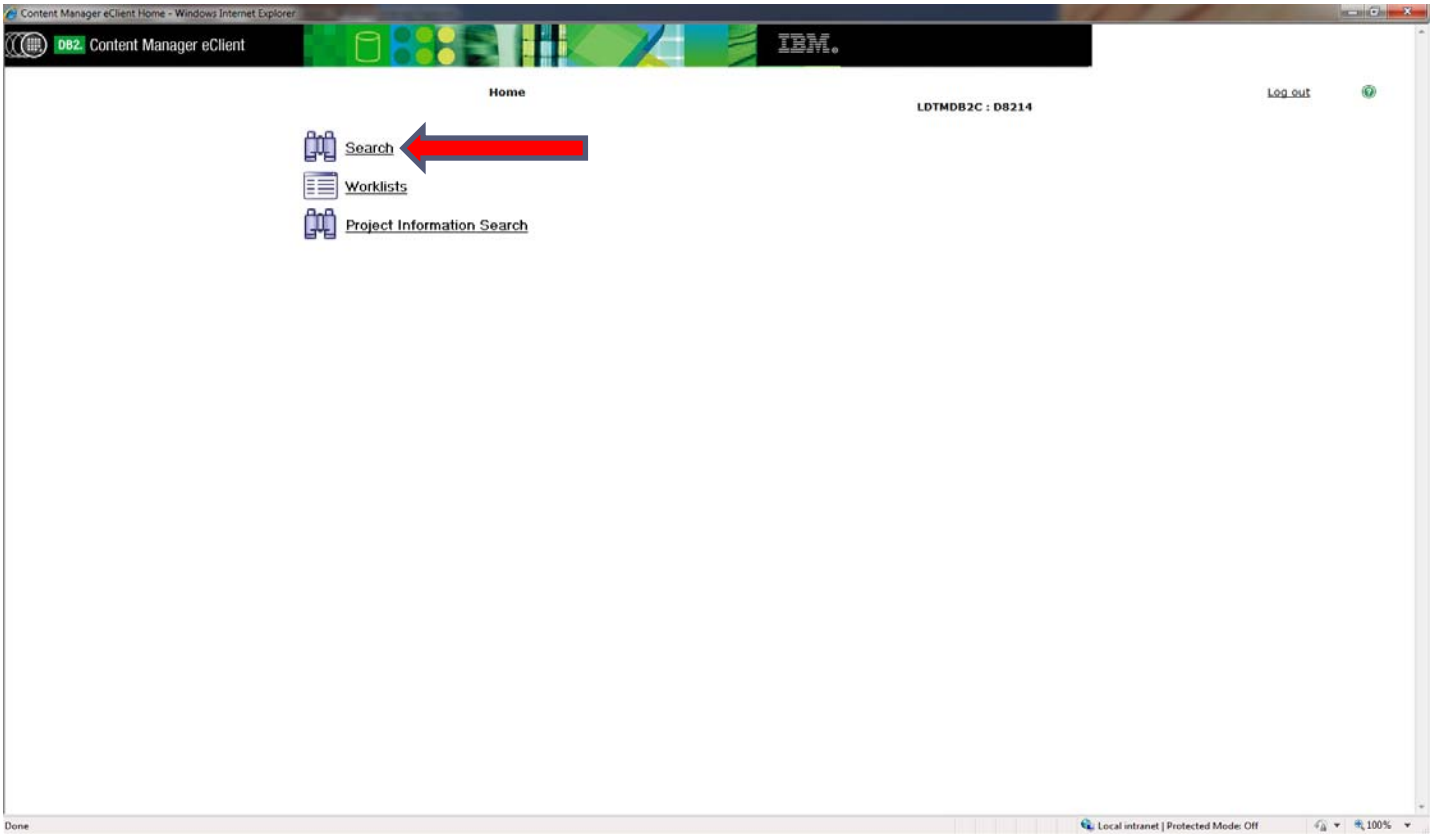
3) CHANGE PASSWORD SCREEN:



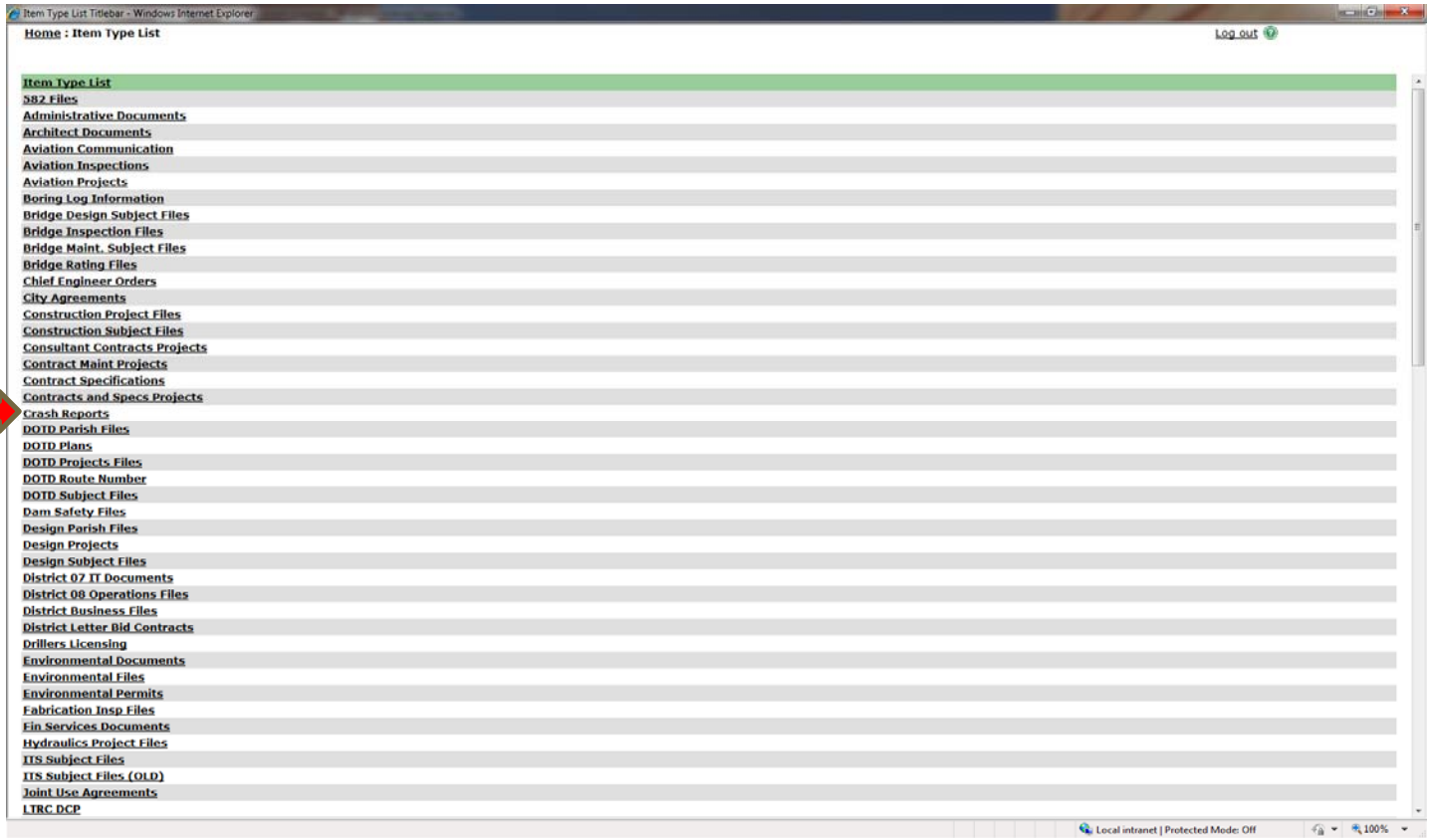
- Like most programs that we use at the DOTD this one also has, **roughly 30 days**, a password that expires and you must change it before logging in.
- You can reset your **Mainframe Password** by four different ways: through the change password in Content Manager, through Mainframe, through the change password button on our Intranet page or by creating a "Service Request" ticket.
- After your password has been changed go back to the original log on screen, in Content Manager, and re-enter your User ID and new Password.

4) CRASH REPORT LOOK UP SCREEN:

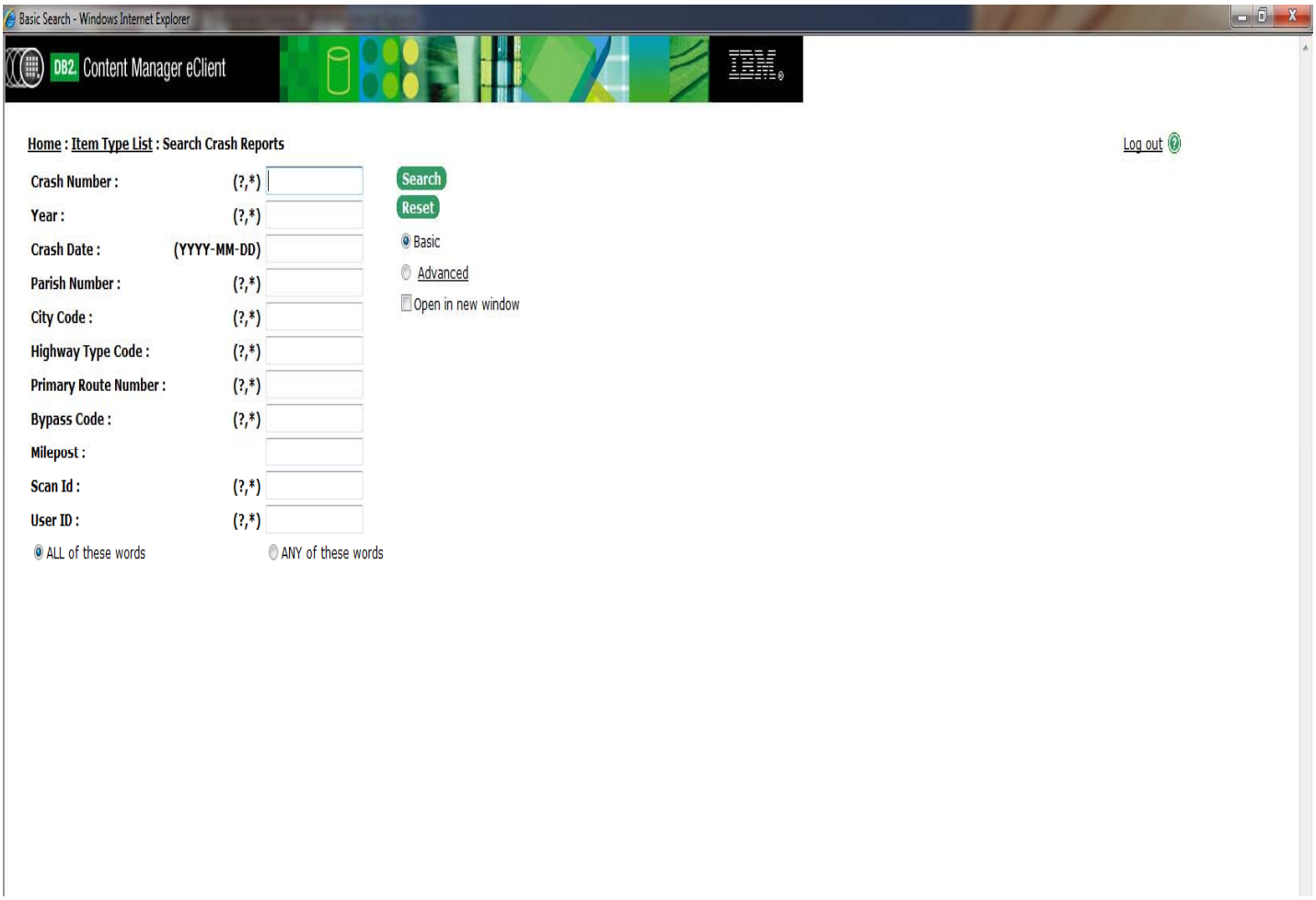
- Click **Search** button from list.



- Click **Crash Reports** from list.

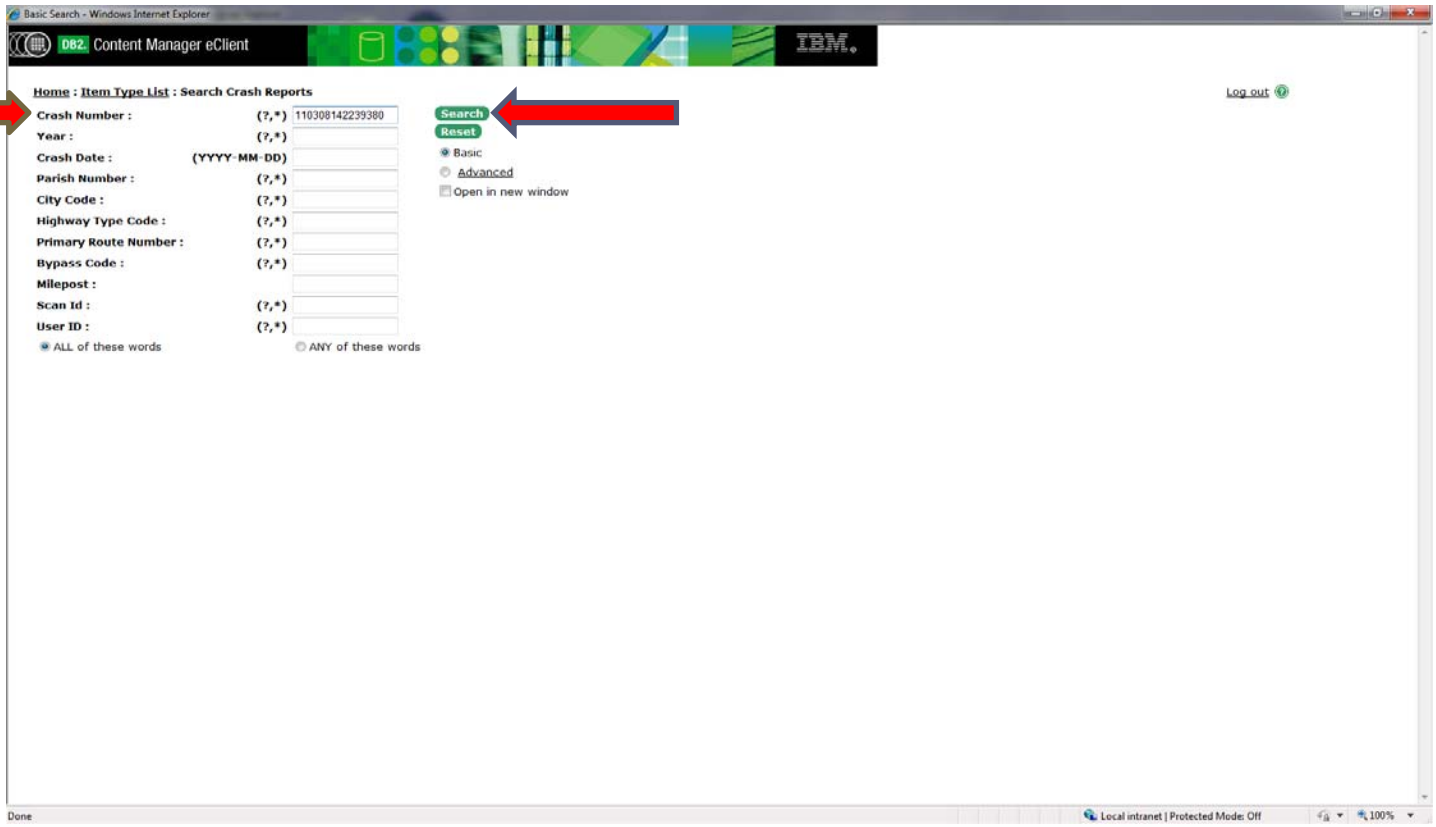


- You will get the following screen to start your search for crash reports that are written by Police Departments, Investigating Agency Code “B”, or local Sheriff Offices, Investigating Agency Code “C”.
- You need to remember that State Police, Investigating Agency Code “A”, reports are found in the Thinkstream database.

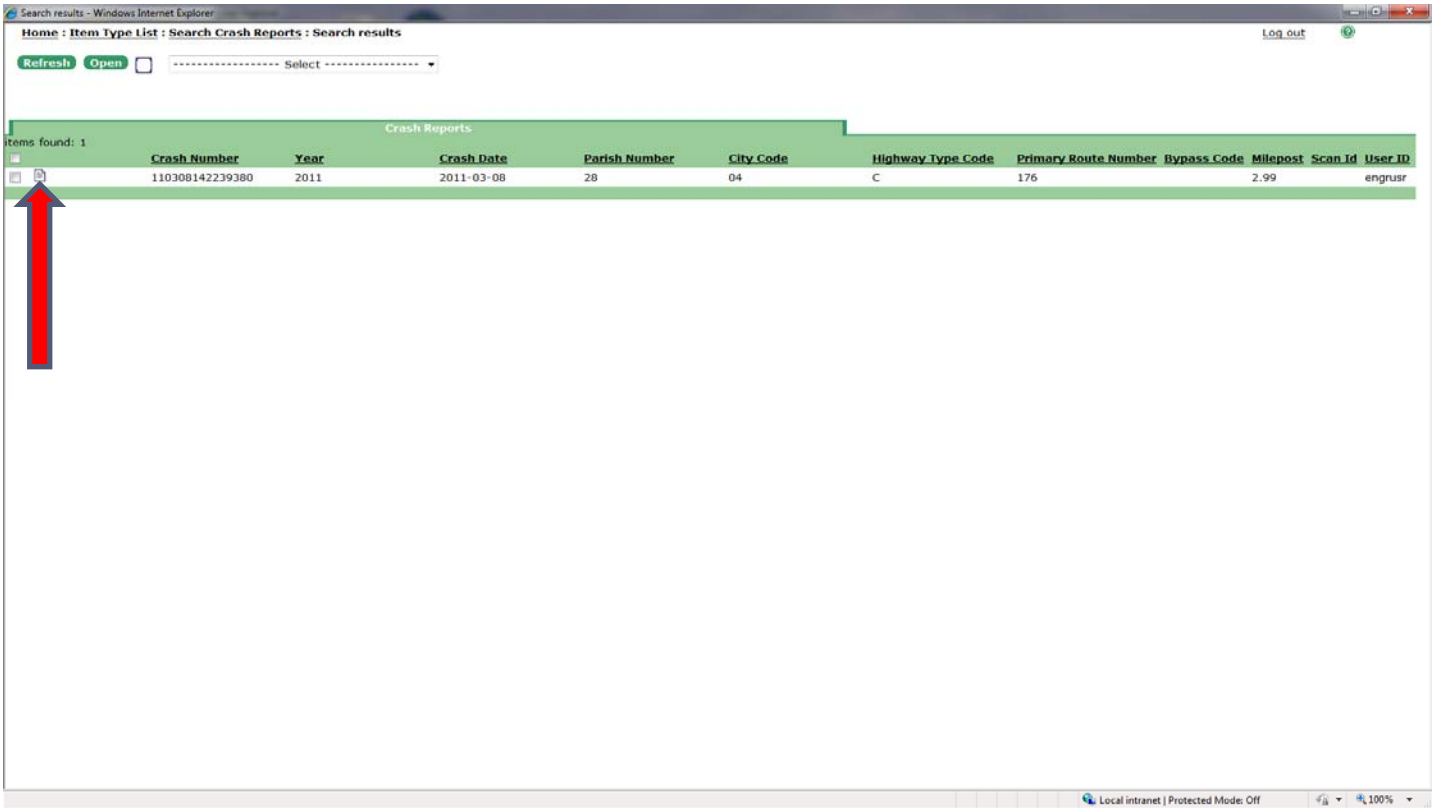


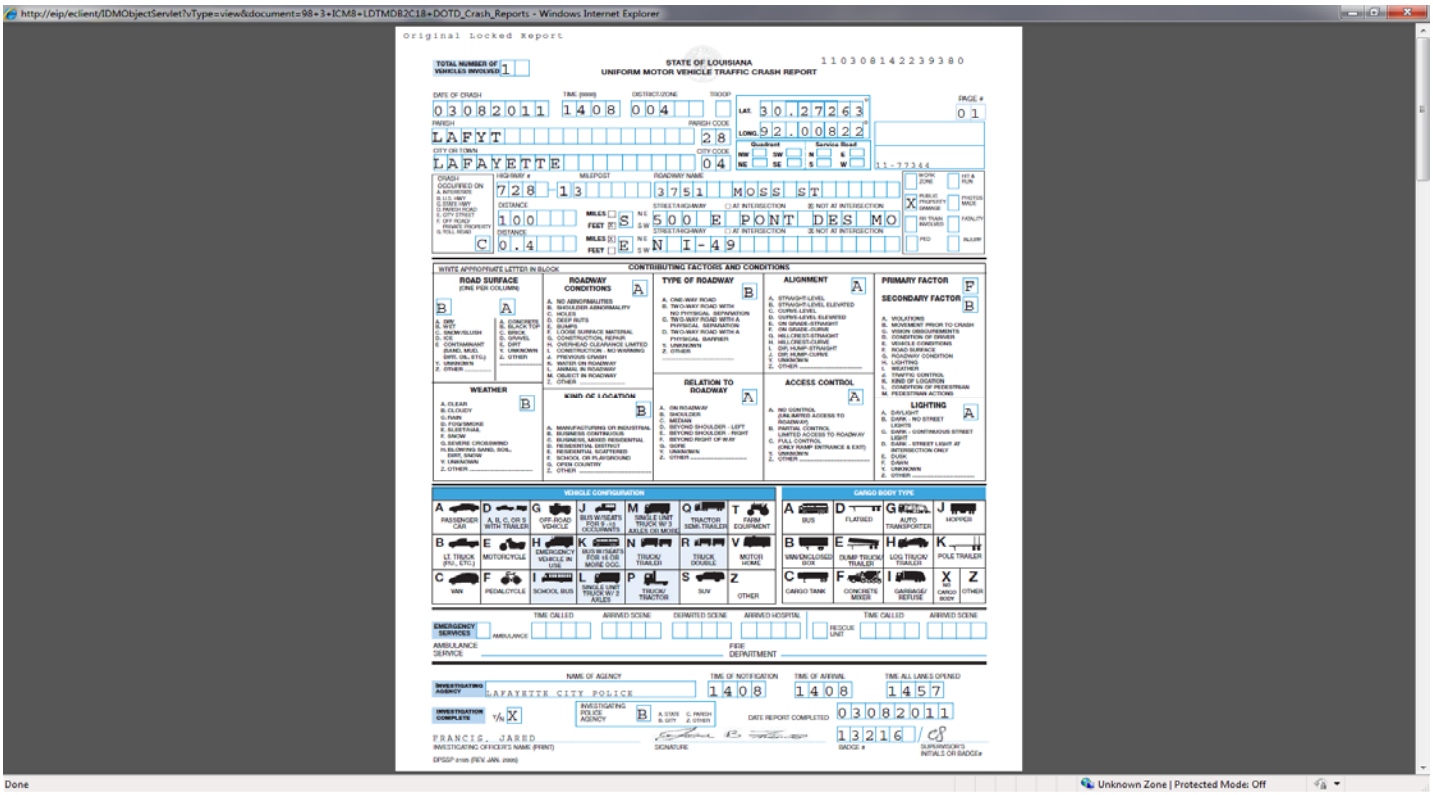
You can search the database by one of the following criteria or create a query for a specific location by entering several of the options given. If you don’t know all of the particular field(s) you are looking for you can enter what you have or know followed by an ”*****” symbol, except for the **“Crash Date”** and **“Milepost”** fields. For example, 123* will return everything that begins with 123.

- Crash Number:
- Year:
- Crash Date (must be entered in the form of YYYY-MM-DD):
- Parish Number:
- City Code (we have a list of city codes that we can give you upon request to our office):
- Highway Type Code(A = Interstate, B = US Highways, C = Louisiana Routes):
- Primary Route Number:
- Bypass Code (B, X, Y or Z = Business, S = Spurs, LA 611-**9**):
- Milepost:
- Scan Id (Internal Use):
- User ID (Internal Use):

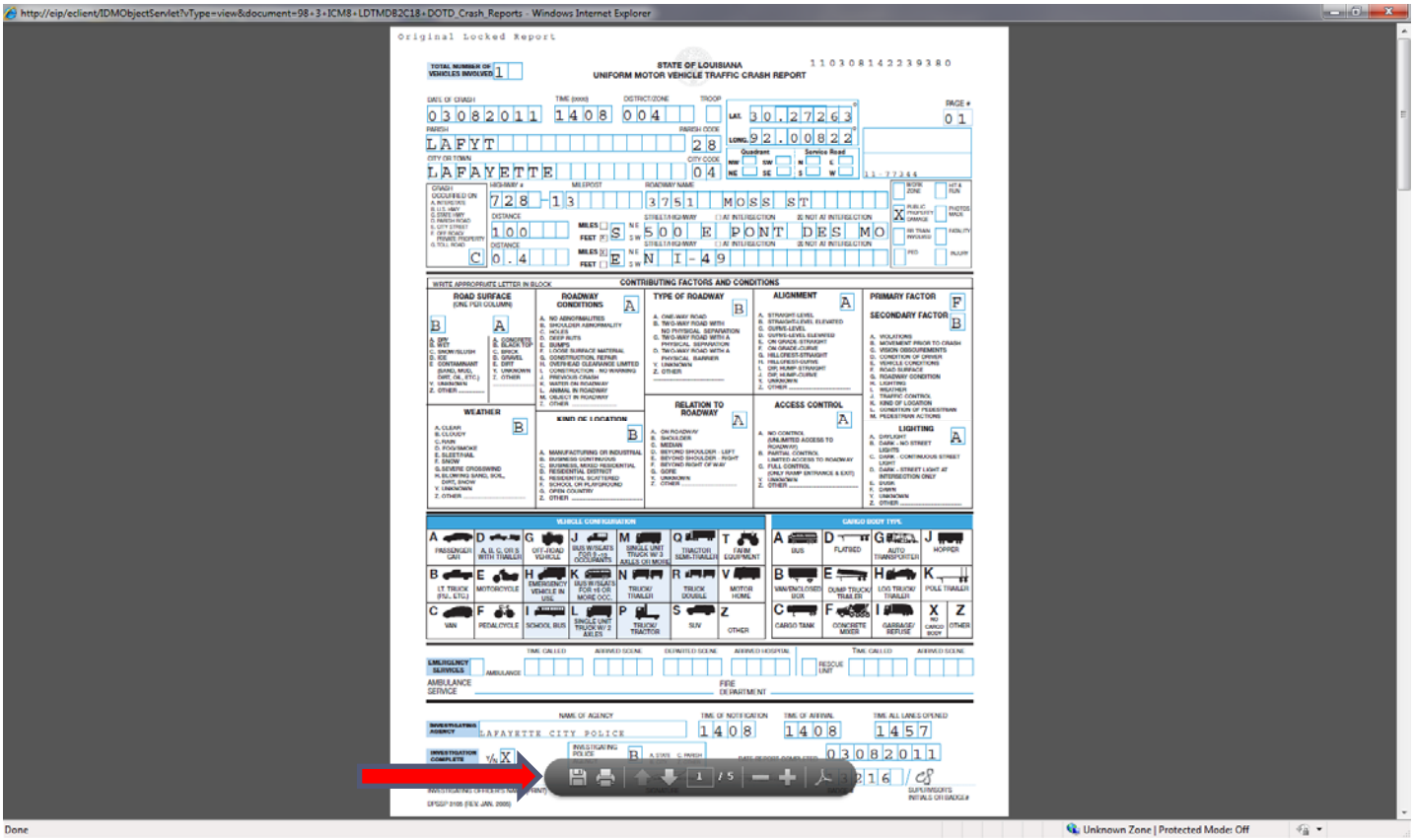


- Select the crash report number that you are searching for.
- Enter the crash report number into the **Crash Number** field.
- Hit the **Search Button** to start search engine.
- This screen shows the results of your search.
- Click on the **Folded Piece of Paper** in the upper left corner to review your selection.



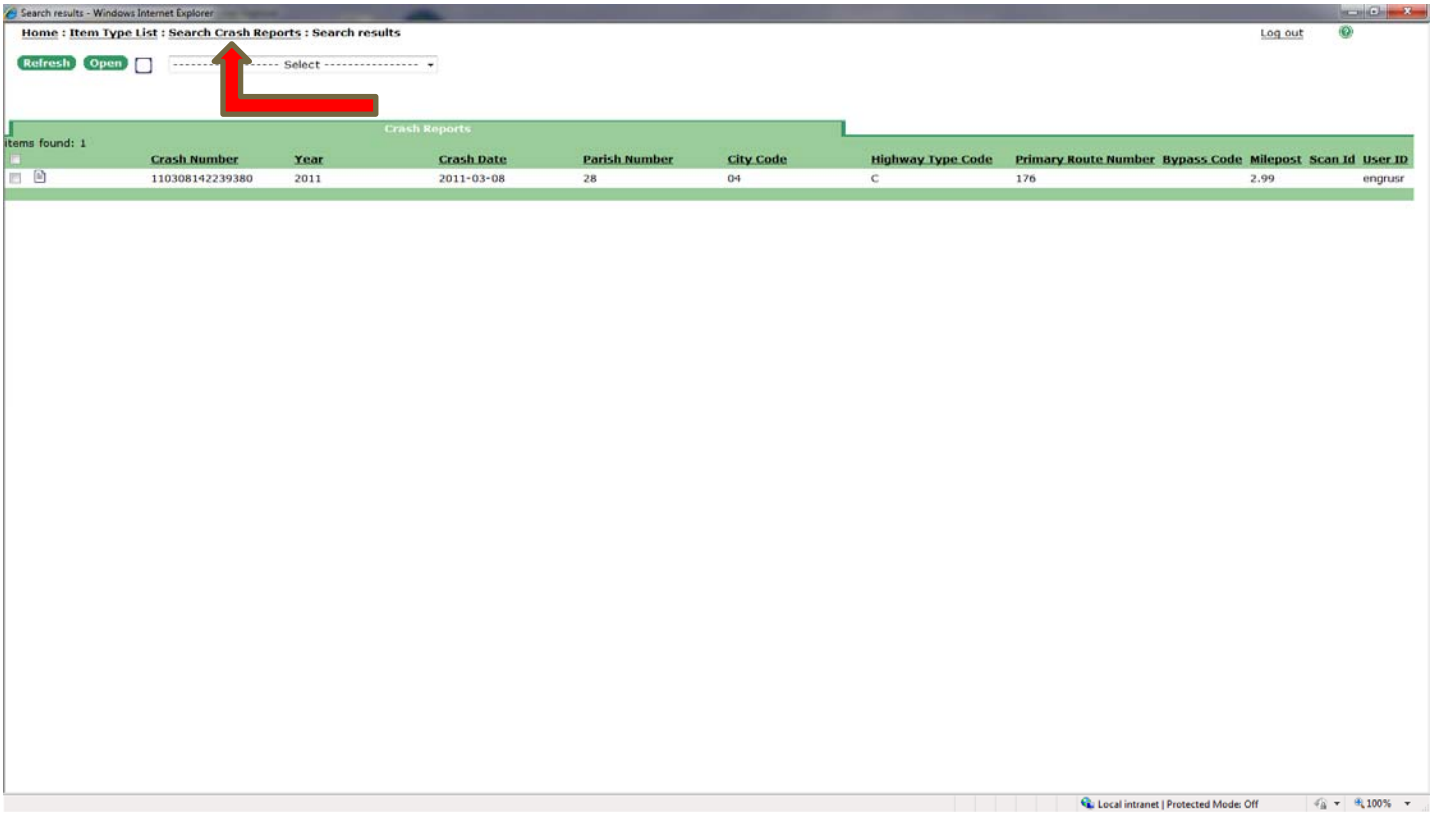


- If you float your mouse over the bottom middle of the screen, then a **Message Box** will appear.
- This message box will allow you to either **Print** or **Save** your crash report.
- Then you can **"X"** out from viewing the report.

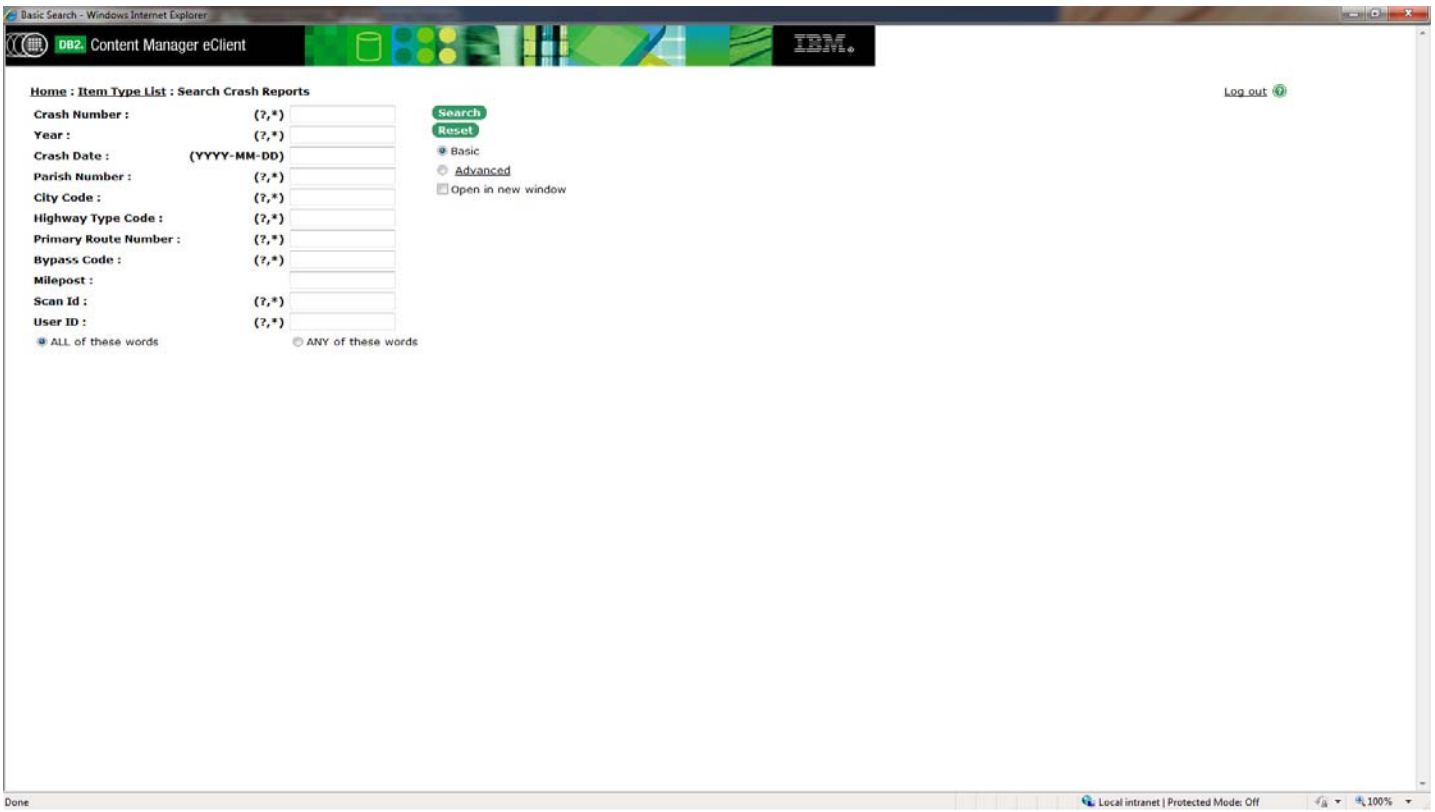


5) TO SEARCH FOR ANOTHER CRASH REPORT:

- Click on **Search Crash Reports** to return to main search window.

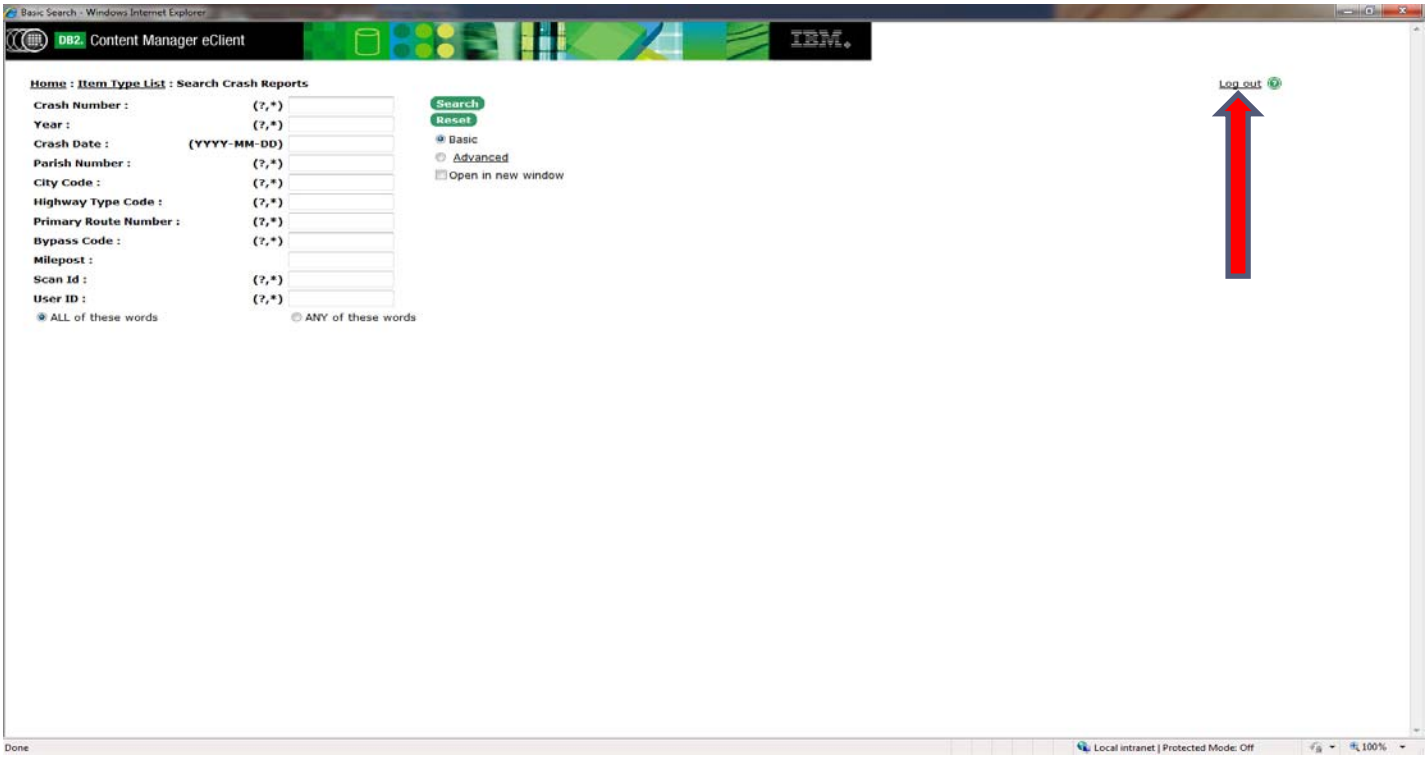


- Thus starting the process over.

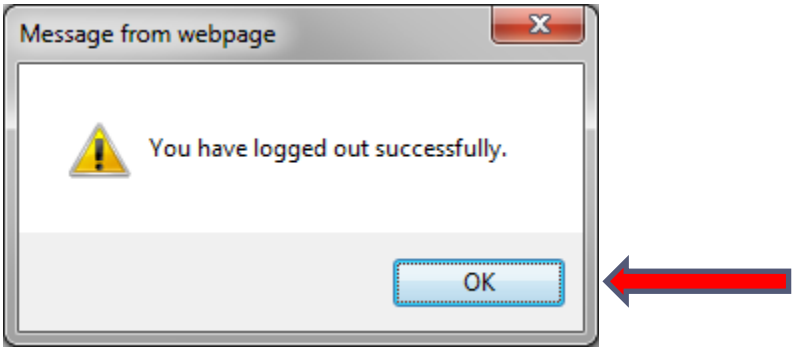


6) LOGOUT PROCESS:

- After completing your search for a crash report, you must logout of the system.
- Click the **Logout** button in the top right corner, thus receiving the following pop up window.



- Just click **OK** and it will return you to the home screen thus you can exit out of the program.



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Contact Information:

Michael Connors

Michael.Connors@LA.GOV

Work #: (225) 379-1451