

# Lowell Police Department



## Downtown Initiative - Data Driven Approaches to Crime and Traffic Safety (DDACTS) Preliminary Results

**Background:** The continued redevelopment of the Downtown Neighborhood in the City of Lowell is a priority to the success of the city. A direction for the future of the Downtown began to form in the year 2000. In a collaborative effort between business leaders, residents and city officials, the Lowell Master Plan was created. The plan was essentially a blueprint for transforming Downtown Lowell into a place where workers, shoppers, tourists, students and residents could create a permanent center of activity. *Safety* in the Downtown at all times, particularly in the evenings and weekends, is paramount to the plan, as well as improving the flow of vehicular traffic and the safety and mobility of pedestrians.

The Downtown Neighborhood is a multi-use neighborhood. It encompasses Lowell Housing Authority, University of Massachusetts, Middlesex Community College, Tsongas Arena, Lowell Memorial

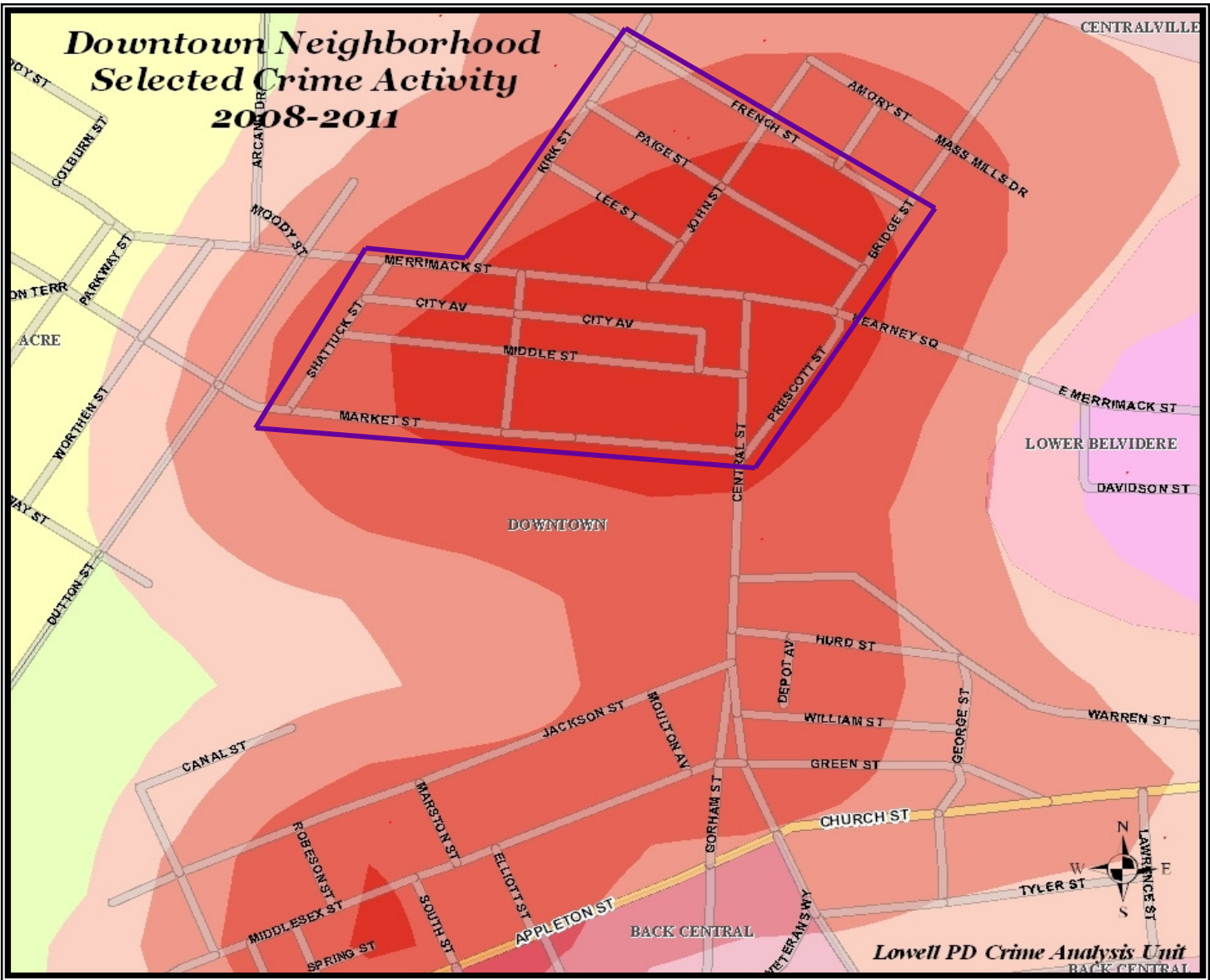
Auditorium, City Hall, Library, Lowell High School, Lowell Transitional Living, Lowell National Historic Park, Lowell District Court, several restaurants, clubs and bars, retail space and many of the Mills have been, or are the process of being, renovated into apartments.

**Problem Statement:** Throughout 2008-2010 crime remained relatively stable. In 2011, crime began to increase and has been on an upward trend since (+12%). Thirty-one percent of the crime in the entire neighborhood is concentrated in a 5 block radius. This hotspot will be noted as DDACTS 1 throughout this document and will be the primary focus of this analysis.

Patrons frequenting liquor establishments located in DDACTS-1 have contributed to crime in the area. In 2011, there were a total of 146 incidents and 111 arrests either at a Downtown bar or in the immediate vicinity.

**Table 1: Downtown Neighborhood Crime Activity 2008-2011**

Crime Category	DDACTS 1	2008	2009	2010	2011	Total
Assaults	34%	152	132	170	205	659
Burglary	25%	59	49	45	55	208
Disorderly/Disturbing	47%	96	114	92	135	437
Liquor Offenses	35%	21	29	17	32	99
Motor Vehicle Accidents	25%	76	121	114	119	430
Motor Vehicle Theft	16%	30	26	31	15	102
Operating Under the Influence (OUI)	20%	10	6	11	8	35
Resisting Arrest	41%	35	33	36	57	161
Robbery	27%	28	35	20	23	106
Theft From a Motor Vehicle	27%	152	148	154	99	553
Trespassing	17%	48	44	37	63	192
Vandalism	32%	160	138	139	164	601
<b>Total</b>	<b>31%</b>	<b>867</b>	<b>875</b>	<b>866</b>	<b>975</b>	<b>3,583</b>

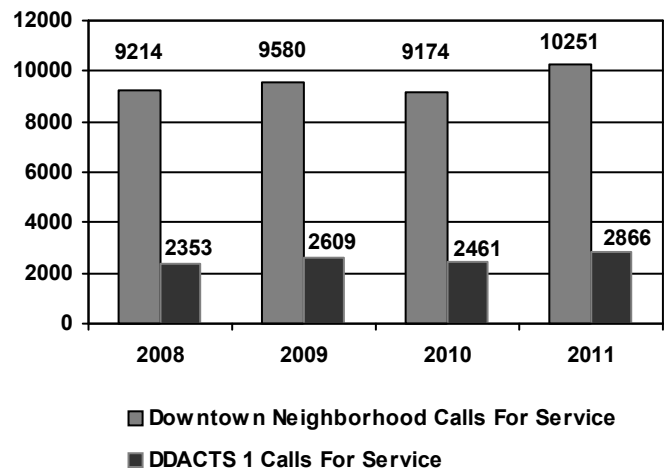


This is a 76% increase in crime activity when compared to 2010, which reported 83 incidents and 39 arrests.

Above is a hot spot map of selected crimes in the Downtown Neighborhood over a 4-year period (2008-2011). The hot spot has persisted over time and accounts for approximately a third of the crime in the entire neighborhood. DDACTS 1 boundaries are outlined in purple and is the area that will be targeted for crime prevention.

In addition to crime, Calls for Service have increased 11% in the Downtown Neighborhood since 2008, with approximately 1,000 more calls annually in 2011. Calls for Service in the DDACTS-1 hot spot increased 22% during the same time period.

Figure 1: Downtown Calls for Service 2008 - 2011



\* Selected Crimes include: Assaults (Non-Domestic), Burglary, Disorderly/Disturbing, Liquor Offenses, Motor Vehicle Accidents, Motor Vehicle Theft, Operating Under the Influence, Resisting Arrest, Robbery, Theft from a Motor Vehicle, Trespassing and Vandalism.

In regards to time for placement of additional patrol, Figure 2 illustrates the time range in 2-hour increments in the DDACTS-1 area over the 4-year period as well as 2011. From 2008 through 2011, approximately 46% of crime in DDACTS-1 occurred between the hours of 22:00 and 03:59. When examining 2011 independently, this number increases to 60%.

Further analysis of crime type relative to time and day is depicted in Table 2. Overall 47% of crime in DDACTS-1 takes place from Friday night at 22:00 hours, into early Saturday morning 03:59, and Saturday night at 22:00, into early Sunday morning 03:59. The majority of crime categories follow this pattern. For that reason, it is likely assaults, liquor offenses, operating under the influence, theft from a motor vehicle\*, trespassing and vandalism would be reduced with added patrol during this time frame. While burglary, motor vehicle theft, and robbery take place across all times of day and days of week which may not be effected by the proposed strategies.

**Strategy:** As of July 1, 2011, the Lowell Police Department has begun a crime prevention initiative in the DDACTS-1 area of the Downtown Neighborhood. The initiative will focus on the following tactics in an effort to reduce crime in this persistent hotspot.

- (1) Hold liquor establishments accountable for over serving patrons and serving those underage.
  - *Measurement:* Increase compliance checks at liquor establishments.
- (2) Officers will have zero tolerance for public order crime and additional officers will be staffed late night weekends to provide high visibility at the closing of liquor establishments.
  - *Measurement:* Increase in overall arrests and those specifically for disorderly conduct.
- (3) Decrease in Property and Person Crimes
  - *Measurement:* Decrease in assaults, burglary, robbery, theft from a motor vehicle, trespassing and vandalism.
- (4) Proactively address immediate conditions
  - *Measurement:* Increase the number of officer initiated calls for service.
- (5) Increase Motor Vehicle Enforcement
  - *Measurement:* Increase non detail citations, OUI arrests and reduce traffic accidents.

**Figure 2: DDACTS- 1 Crime By Time of Day 2008-2011**

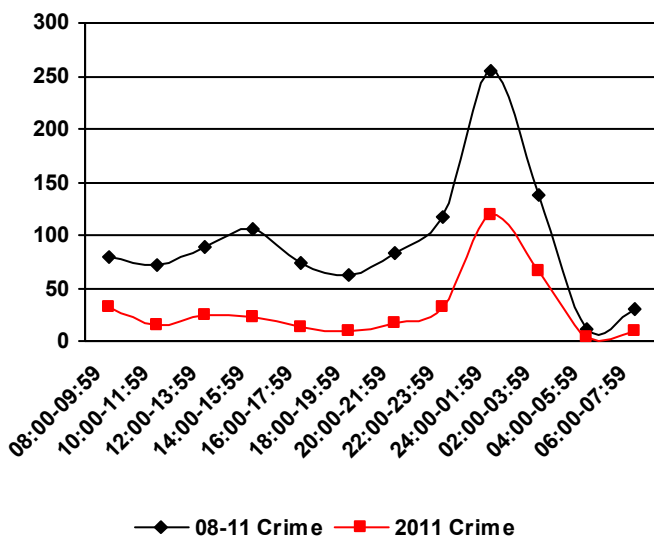


Table 2: Percentage of Crime in DDACTS 1 2011 Late Night Weekends		
Category	DDACTS-1 2011 Total	Friday-Sat 22:00-03:59 Sat-Sun 22:00-03:59
Assault	76	49%
Burglary	24	4%
Disorderly/Disturbing	83	81%
Liquor Offenses	13	31%
MV Accident	34	18%
MV Theft	2	0%
OUI	3	100%
Resisting Arrest	32	78%
Robbery	7	0%
Theft from a MV	26	19%
Trespassing	11	55%
Vandalism	54	30%
<b>Grand Total</b>	<b>365</b>	<b>47%</b>

\* Although split time was utilized for the temporal analysis it often does not produce valid results based on inaccurate reports. Anecdotal information suggests the majority of incidents of Theft from a Motor Vehicle take place over night.

**Results:** Table 3 compares patrol activity in four categories: compliance checks, officer initiated calls, arrests and those arrests specifically for disorderly conduct in DDACTS- 1 over a four year period and during implementation of the initiative.

Compliance checks were difficult to measure as reporting varied by officer. Establishments visited were either listed in the incident location section of the report or listed in the narrative of the report. Those were easily compiled for an aggregate total. However, in some instances the reports were incomplete and did not list the location, just that several establishments were visited. Those were unable to be included in the analysis. During 2011, alcohol compliance checks in the target area have increased 91% when compared to 2010, with slightly over half taking place since the start of the initiative.

Officer Initiated Calls for Service have been a great success. Not only have they increased 100%, up from 79 calls in 2010 to 158 calls 2011, 68% were subsequent to July 1, 2011. Officers are proactively addressing concerns prior to the call into dispatch.

Officers are enforcing the no tolerance policy in DDACTS-1. Overall arrests have increased 69% in 2011 when com-

pared to last year. Sixty-one percent of those arrests were made after the start of the project and were primarily disorderly conduct charges which is paramount to the mission. Disorderly Conduct charges have increased 120% when compared to 2010, with approximately 60% of arrests taking place between July 1, 2011 and December 31, 2011.

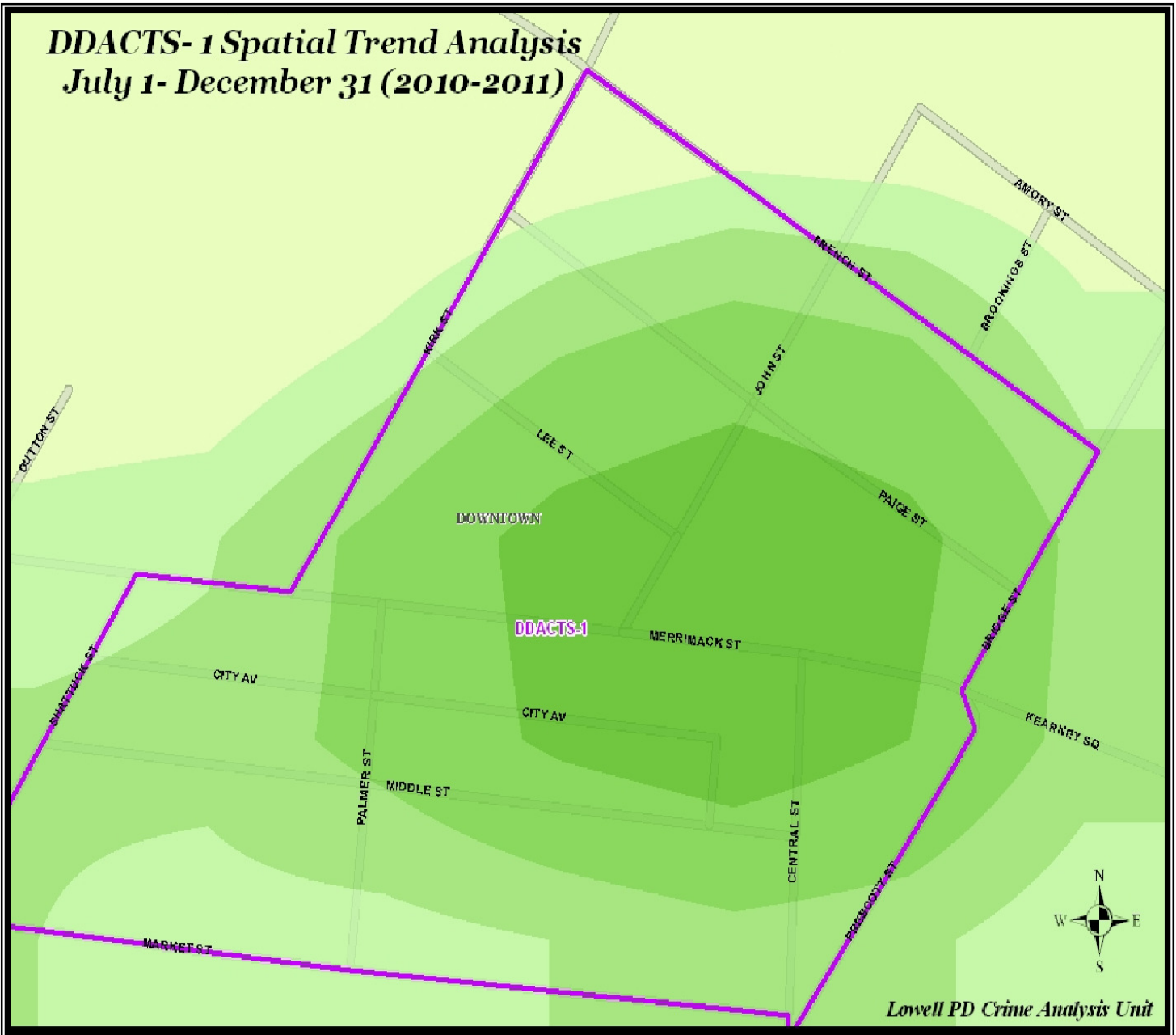
Table 4 compares crime activity in DDACTS-1 between July 1st and December 31st 2008-2011 to ascertain if the strategies of this initiative have been effective. Overall, selected crimes are down 23% compared to 2010 and have increased 11% from the 3-year average. Specifically motor vehicle theft (-100%), robbery (-57%), theft from a motor vehicle (-61%), trespassing (-133%) and vandalism (-40%) have all declined. Although not quite at the levels of 2008-2009, there have been some positive gains.

Although 56% of assaults took place in the target area during the target time, they appear to be unaffected by the added police and traffic presence. Regardless of practices, assaults increased 37% since the start of the project and are up 77% from the three year average. A closer examination uncovered the following scenarios and may offer additional information to assist in formulating more focused and specific problem solving techniques.

Category	2008	2009	2010	2011	7/1/11-12/31/11 Implementation Period
<b>Alcohol Compliance Checks</b>	9	7	11	21	13
<b>Officer Initiated Calls for Service</b>	84	145	79	158	104
<b>Arrests</b>	66	72	90	152	93
<b>Disorderly Conduct Charges</b>	47	39	51	112	70

Category	2008	2009	2010	3-Year Average	2011	2010-2011 Change	2011-3-year average change
<b>Assault</b>	30	16	35	27	48	+37%	+77%
<b>Burglary</b>	3	5	6	5	7	+17%	+40%
<b>Motor Vehicle Theft</b>	1	3	2	2	0	-100%	-100%
<b>Robbery</b>	0	5	7	4	3	-57%	-25%
<b>Theft from a Motor Vehicle</b>	17	21	44	27	17	-61%	-37%
<b>Trespassing</b>	3	2	3	3	7	+133%	+133%
<b>Vandalism</b>	29	18	45	31	27	-40%	-15%
<b>Total</b>	83	70	142	98	109	-23%	+11%

## DDACTS-1 Spatial Trend Analysis July 1- December 31 (2010-2011)



First, involved parties, whether victim or offender, were between the ages of 20 and 24. In most cases the officer noted in the report that the parties involved were intoxicated or just leaving a bar. The majority of cases involved young men assaulting a single man and the parties were unknown to each other. To a lesser degree, woman were involved in some of the cases, incidents involved persons known to each other and several resulted in the assault of a police officer. In one particular case the assailant was so proud of his involvement in the fight he posted pictures of his bloody hands on Facebook.

Burglary also showed an increase (+17%) since the start of

the initiative. Further analysis indicated the majority of burglaries in DDACTS-1 took place during the daytime hours and would likely not be affected by this initiative, which targets late night weekend activity.

Illustrated above is change/movement of crime in DDACTS-1 from 2010 to 2011 utilizing the location data from Table 4. The area shaded in lightest green demonstrates no change in crime and the shades of green show degrees of decline with the darkest green area declining the most.

\* Detail Citations refer to those citations issued while working the Strategic Traffic Enforcement Program (STEP) whereas, Non Detail Citations are issued by any officer within the course of their duties.



Category	2008	2009	2010	2011	Percent Change 2010-2011
<b>Non Detail Citations</b>	164	132	55	114	+107%
<b>Detail Citations</b>	121	179	227	163	-28%
<b>Accidents</b>	37	42	50	46	-8%
<b>OUI</b>	3	3	3	3	-

Analytically, traffic data has been problematic. Data collection was cumbersome and is under development at the LPD. That being said, there were several limitations with the traffic data that may affect the outcomes reflected in Table 5, such as inaccurate addresses or intersections and incomplete addresses, which could not be included in the analysis.

Table 5 summarizes the following variables: Detail and Non Detail\* Citations, Accidents and Operating Under the influence of Alcohol in the DDACTS –1 area from July 1 through December 31 (2008-2011).

Non Detail Citations in the DDACTS-1 area have increased 107% in 2011 when compared to 2010 and are just slightly below the 3-year average of 117. Although encouraging, the number of citations is still lower than the quantity of citations written in 2008 and 2009 for this 5 block area.

Detail Citations in the target area are down 28% and slightly below the 3-year average of 176. It should be taken into account that this area encompasses only 5 blocks and although the onset of motor vehicle violation may be within the target area, often times the actual stop may occur outside of the boundary under examination.

Accidents in the target area have declined 8% since 2010 which recorded 50. Again, an improvement but still well above the number for accidents reported in 2008. Lastly, arrests for Operating Under the Influence have remained stable over the 4 year-period.

**Conclusion:** Although preliminary results are encouraging, utilizing traffic enforcement and patrol at specific times and days as determined by the data, coupled with officers addressing immediate conditions, along with no tolerance of disorderly behavior at the onset appears to be working to reduce crime and crashes. Selected crimes have decreased 25% since the start of the project.

Work by patrol has been positively reflected in the data through officer initiated calls (+100%) and arrest statistics (+69%).

Traffic data, specifically the 107% increase in non detail citations is a another sign that officers are proactively addressing traffic concerns, hopefully resulting in a decrease in accidents as time progresses.

The Downtown has transformed over the past 5 years with many more businesses and people frequenting the area on a daily basis. Over the time period under analysis, a number of liquor establishments have changed ownership, and since 2010 there have been 3 additional liquor licenses issued, one to a dance club. Anecdotal information suggests not since the early 90’s has there been this many people in the Downtown on any given weekend night. Therefore it may be unrealistic to utilize the 2008 statistics as a benchmark for crime reduction. Current literature also suggests that enforcement responses alone are seldom effective in reducing violence under these circumstances.

Data will continue to be analyzed into 2012 as crime and traffic problems change. Crime Analysis will examine conditions and provide timely information to patrol on the crime activity in the Downtown. An addendum to this report will be conducted at a later date as new strategies are implemented based on the information provided within this document.

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\* Incomplete addresses\* meaning citations that stated simply the street name that are partially within the target area could not be included for analysis.