

Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns

Baseline analysis of crime, call-for-service, and collision data in the Plainville region

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Background and methodology

Background

In 2014, the Massachusetts Gaming Commission, in an effort to better assess the impacts of new gaming facilities across the state, commissioned a series of efforts to study, assess, and prepare for the social and economic impacts of gambling. Primary work in this area is being done by the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study at the University of Massachusetts Amherst School of Public Health & Health Sciences, drawing upon research and experiences in many other states. For public safety issues specifically, however, the MGC felt it best to contract with someone with direct experience analyzing the crime, call-for-service, and collision records collected daily by Commonwealth police agencies.

While many studies had attempted to study the effects of gambling on overall rates for serious crimes, aggregated annually, hardly any studies have attempted to analyze more specific and minute changes in public safety activity following the opening of casinos, including variations by hour, month, and season, changes in patterns and hot spots, and changes in non-crime activity such as traffic collisions and calls for service. The MGC was interested in the answers to these questions—in analyzing public safety at a level of detail that would actually help police agencies anticipate and respond to emerging and changing problems.

In 2014, the MGC contracted with a career crime analyst, the author of this report, to extract data from the agencies likely to be affected by the opening of Plainridge Park in Plainville; to prepare a baseline analysis of public safety activity in the Plainville area for the past 5 years; and to design a process for assessing changes on a monthly basis after the opening of Plainridge Park. This is the first report from this effort. This report provides an analysis of past activity in the Plainville region, against which post-casino activity will be compared.

Methodology

The data used in this report was extracted from the individual records management systems of the Plainville, Attleboro, Mansfield, North Attleboro, and Wrentham Police Departments. I established an ODBC connection to each of these agencies' records management and computer-aided dispatch databases, connected to the databases via Microsoft Access, and used a series of "make table" queries to copy the data into Access data tables. I then copied the Access databases to my own computer, password-protecting them in the process, but leaving the originals on the agencies' networks so they could be updated by designated agency members when necessary.

After extracting the data from each individual system, I combined each table into a series of "master" tables. This required translating each dataset into a common set of codes. The uniformity imposed by the NIBRS reporting system made the translation fairly easy for crime tables; it was a bit more difficult for CAD tables, which have no uniform data structure from system to system or even among agencies using the same system.

The resulting *baseline dataset* supplied the data organized in this report. It is important to recognize that any complex dataset is capable of generating statistics, maps, and charts in a near-infinite number of ways. The metrics offered in this report represent my assessment of the most important figures and indexes against which to measure activity after Plainridge Park opens. In some cases, I will probably *not* be using the specific figures in this report. For instance, I offer annual breakdowns and averages for crimes and calls for service, but it is more likely that I will take monthly slices of this data to compare to activity post-casino (otherwise, we would have to wait an entire year to measure changes). I don't offer month-by-month breakdowns of activity simply in the interests of space.

Nor do I offer many multi-variable statistics, such as crimes committed by juveniles on weekends, or property stolen at nighttime from newer-model vehicles. There are innumerable ways to slice data this way, and some of them might turn out to be important in analysis of data after Plainridge Park opens. Until we have this post-casino data, however, we don't know what will be important, and at the present time it would simply waste everyone's time if I tried to slice the data too thinly. In this regard, the data tables and figures in this report are best regarded as examples of *the types of outputs possible from the baseline dataset*. The dataset itself, rather than this report, is the true "baseline" against which changes in any combination of factors can be measured.

incnum	Offense	agency	dtreported	street	X	Y
201000000	Other Theft	North Attlebor	01/06/2010 19:26:11	COLUMBIA ST	703976.961423	2820047.89476
201000000	Drunk Driving	Plainville	01/06/2010 20:07:23	South Street	701170.86741122	2825946.35346834
201000000	Credit Card Fra	North Attlebor	01/06/2010 20:57:14	SOUTH WASHI	697742.190284	2805152.629181
201000000	Drunk Driving	North Attlebor	01/07/2010 00:24:44	HOPPIN HILL A'	699594.946815	2812786.218421
10010438	Disorderly	Attleboro	01/07/2010 00:52:10	MAPLE ST	717350.90050116	2801512.53930063
201000000	Shoplifting	Plainville	01/07/2010 08:54:10	Taunton Street	708770.527938	2831457.171485
201000000	Other Theft	North Attlebor	01/07/2010 10:38:48	OLD POST RD	699612.409045	2806219.741447
201000000	Burglary	Wrentham	01/07/2010 13:14:16	Vernon Avenue	708580.542028251	2851691.35322919
201000000	Theft from Buil	North Attlebor	01/07/2010 13:47:50	TONER BL	710091.018406	2813756.417398
10010477	Vandalism	Attleboro	01/07/2010 14:52:04	DUNHAM ST	716497.697845905	2803753.74777458
201000000	Shoplifting	North Attlebor	01/07/2010 15:13:24	EAST WASHING	701999.061348	2814701.402094
10010489	Theft from Veh	Attleboro	01/07/2010 17:00:43	NEWPORT AVE	695157.44174635	2790825.45810562
201000000	Theft from Veh	North Attlebor	01/07/2010 17:19:29	SOUTH WASHI	697742.190284	2805152.629181
10010498	Drunk Driving	Attleboro	01/07/2010 18:29:45	OAKHILL AVE	713408.774843516	2792010.19319931

Figure 1: The results of a query from a combined crime dataset.

About the author

Christopher W. Bruce is a career crime analyst with previous service at the Cambridge Police Department (1994–2001) and the Danvers Police Department (2001–2010). He was president of the Massachusetts Association of Crime Analysts from 2000 to 2004 and president of the International Association of Crime Analysts from 2007 to 2012. He has served as an instructor in criminal justice and crime analysis topics at Suffolk University (2001–2010), Westfield State University (2009–2010), the University of Massachusetts Lowell (2009–2010), and Middlesex Community College (2007–2011).

Christopher is an internationally-recognized expert in police data systems and police data analysis. He currently consults with the U.S. Department of Justice, Bureau of Justice Assistance; the U.S. Department of Justice, Office of Justice Programs; the U.S. Department of Transportation, National Highway Traffic Safety Administration; and the International Association of Directors of Law Enforcement Standards and Training.

General crime statistics

Perhaps the most important question asked in this study will be whether crimes increased in the communities surrounding the casino after the opening of the casino. These statistics are a starting point for such an analysis, tracking each offense over the last 5 years and establishing the normal range of values for each offense via the average (mean) and standard deviation. The *coefficient of variation* is simply the standard deviation divided by the mean. This useful statistic tells us the degree of fluctuation for each crime over the five years.

The Plainville area agencies benefit from low overall crime totals and minimal fluctuation from year to year, making it easier to detect changes occasioned by a lot of new traffic to the area.

All participating agencies: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	45	63	59	40	41	49.6	9.5	0.19
Robbery	45	28	36	26	20	31.0	8.7	0.28
Aggravated Assault	152	169	138	119	121	139.8	18.9	0.14
Simple Assault	540	496	490	440	528	498.8	34.9	0.07
Arson	12	5	7	5	8	7.4	2.6	0.35
Burglary	432	496	528	426	377	451.8	53.7	0.12
Shoplifting	453	387	451	501	509	460.2	43.7	0.09
Thefts from Vehicles	256	303	409	250	306	304.8	57.0	0.19
Thefts of Vehicle Parts	63	56	43	79	45	57.2	13.1	0.23
Thefts from Buildings	215	229	231	201	185	212.2	17.4	0.08
Other Thefts	673	820	850	948	971	852.4	106.2	0.12
Auto Theft	99	110	96	102	84	98.2	8.5	0.09
Counterfeiting/Forgery	66	91	97	72	62	77.6	13.9	0.18
Fraud/Con Games	97	103	125	116	95	107.2	11.5	0.11
Credit Card Fraud	71	108	92	101	77	89.8	14.0	0.16
Bad Checks	20	28	38	16	18	24	8.1	0.34
Identity Theft	42	40	79	55	66	56.4	14.7	0.26
Stolen Property Offenses	43	37	60	45	36	44.2	8.6	0.19
Vandalism	529	563	519	473	386	494.0	61.2	0.12
Drug Offenses	198	184	168	198	188	187.2	11.1	0.06
Prostitution	1	0	0	3	1	1.0	1.1	1.10
Weapon Offenses	34	48	38	35	42	39.4	5.1	0.13
Drunk Driving	223	241	207	190	189	210.0	19.9	0.09
Liquor Law Violations	214	167	205	222	127	187.0	35.4	0.19

Any major changes are most likely to affect the host agency. Plainville's annual crime statistics fluctuate more than most of its neighbors, but the overall figures are quite low. An increase of even half a dozen aggravated assaults per year, for instance, will be easily detectable in a town that averages only 5 aggravated assaults per year. In cases where annual totals are fairly consistent—see burglaries and credit card fraud for examples—such changes will be even easier to identify. (Changes in volume don't necessarily imply the casino as the cause, but they do provide suggests for further analysis.)

Plainville Police Department: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	1	2	2	1	6	2.4	1.9	0.79
Robbery	2	1	3	1	2	1.8	0.7	0.39

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Aggravated Assault	8	6	6	1	4	5.0	2.4	0.48
Simple Assault	24	18	28	18	21	21.8	3.8	0.17
Arson	1	0	0	0	0	0.2	0.4	2.00
Burglary	36	28	26	31	37	31.6	4.3	0.14
Shoplifting	16	20	33	21	33	24.6	7.1	0.29
Thefts from Vehicles	21	66	25	32	41	37.0	16.0	0.43
Thefts of Vehicle Parts	8	7	4	2	5	5.2	2.1	0.40
Thefts from Buildings	11	19	21	28	22	20.2	5.5	0.27
Other Thefts	13	28	44	19	13	23.4	11.7	0.50
Auto Theft	3	5	4	5	8	5.0	1.7	0.34
Counterfeiting/Forgery	5	5	6	9	6	6.2	1.5	0.24
Fraud/Con Games	4	1	1	1	2	1.8	1.2	0.67
Credit Card Fraud	12	10	15	13	13	12.6	1.6	0.13
Bad Checks	1	4	4	2	2	2.6	1.2	0.46
Identity Theft	3	3	0	1	2	1.8	1.2	0.67
Stolen Property Offenses	2	0	5	1	0	1.6	1.9	1.19
Vandalism	49	48	41	44	31	42.6	6.5	0.15
Drug Offenses	9	11	12	11	8	10.2	1.5	0.15
Prostitution	0	0	0	1	0	0.2	0.4	2.00
Weapon Offenses	1	3	0	2	2	1.6	1.0	0.63
Drunk Driving	18	21	16	18	19	18.4	1.6	0.09
Liquor Law Violations	3	3	5	3	2	3.2	1.0	0.31

With the highest population of the contributing communities, Attleboro also has the highest crime statistics. For many crimes, its totals outweigh the other towns combined. Changes to crimes in Attleboro are most likely to occur on travel routes to Plainridge Park, or at businesses that service visitors from outside the area. This highlights the importance of deeper analysis that will sub-divide statistics by geographic area and location type in order to identify any increases, which might otherwise get lost in Attleboro's overall volume.

Attleboro Police Department: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	30	41	40	29	25	33	6.4	0.19
Robbery	33	22	23	17	12	21.4	7.0	0.33
Aggravated Assault	99	122	91	72	72	91.2	18.7	0.21
Simple Assault	281	318	276	255	298	285.6	21.2	0.07
Arson	7	4	6	2	4	4.6	1.7	0.37
Burglary	191	254	249	171	182	209.4	35.0	0.17
Shoplifting	181	151	164	218	233	189.4	31.3	0.17
Thefts from Vehicles	133	117	301	146	111	161.6	70.8	0.44
Thefts of Vehicle Parts	44	42	38	75	36	47.0	14.3	0.30
Thefts from Buildings	120	119	136	122	115	122.4	7.2	0.06
Other Thefts	343	491	493	641	699	533.4	125.4	0.24
Auto Theft	59	73	64	72	46	62.8	9.9	0.16
Counterfeiting/Forgery	34	50	50	32	38	40.8	7.8	0.19
Fraud/Con Games	49	62	73	66	50	60.0	9.3	0.16
Credit Card Fraud	19	35	26	40	25	29.0	7.5	0.26
Bad Checks	11	11	24	6	10	12.4	6.1	0.49
Identity Theft	25	20	48	32	44	33.8	10.7	0.32
Stolen Property Offenses	18	16	29	25	22	22.0	4.7	0.21
Vandalism	289	339	326	310	243	301.4	33.6	0.11
Drug Offenses	103	81	104	119	107	102.8	12.3	0.12
Prostitution	1	0	0	0	0	0.2	0.4	2.00

Weapon Offenses	23	33	29	26	29	28.0	3.3	0.12
Drunk Driving	130	139	122	98	97	117.2	17.0	0.15
Liquor Law Violations	33	57	48	44	40	44.4	8.0	0.18

Mansfield and North Attleboro have comparable population totals, but between them, Mansfield has significantly higher crime totals (with the exception of certain retail crimes). Mansfield's extremely low theft-from-vehicle total suggests that these incidents (quite common in any city) are being mis-coded as general ("other") thefts; as this crime might be expected to increase with traffic to the area, I'll subject this to further analysis and data cleaning. Its precipitous drop in burglary in 2014 is also worth of further investigation.

Mansfield Police Department: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	9	14	15	10	8	11.2	2.8	0.25
Robbery	6	3	9	3	4	5.0	2.3	0.46
Aggravated Assault	38	41	37	41	30	37.4	4.0	0.11
Simple Assault	140	104	130	128	138	128.0	12.8	0.10
Arson	4	1	1	3	2	2.2	1.2	0.55
Burglary	139	173	218	156	73	151.8	47.4	0.31
Shoplifting	58	41	54	44	46	48.6	6.4	0.13
Thefts from Vehicles*	1	1	0	1	0	0.6	0.5	0.83
Thefts of Vehicle Parts	1	0	1	1	0	0.6	0.5	0.83
Thefts from Buildings	58	78	71	49	43	59.8	13.1	0.22
Other Thefts	180	170	169	156	117	158.4	22.1	0.14
Auto Theft	22	22	22	13	10	17.8	5.2	0.29
Counterfeiting/Forgery	21	30	35	26	13	25.0	7.6	0.30
Fraud/Con Games	41	40	50	44	36	42.2	4.7	0.11
Credit Card Fraud	14	27	29	17	19	21.2	5.8	0.27
Bad Checks	4	7	4	4	6	5.0	1.3	0.25
Identity Theft	13	17	31	11	17	17.8	7.0	0.39
Stolen Property Offenses	23	21	25	18	14	20.2	3.9	0.19
Vandalism	119	153	135	108	86	120.2	22.9	0.19
Drug Offenses	60	76	45	61	60	60.4	9.8	0.16
Prostitution	0	0	0	2	1	0.6	0.8	1.33
Weapon Offenses	9	12	9	7	10	9.4	1.6	0.17
Drunk Driving	41	59	51	62	51	52.8	7.3	0.14
Liquor Law Violations	171	102	150	173	85	136.2	36.2	0.27

*That the agency had so few of these offenses in 5 years seems less likely than the wrong IBR code having been applied.

North Attleboro Police Department: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	5	6	1	0	1	2.6	2.4	0.92
Robbery	4	2	1	5	2	2.8	1.5	0.54
Aggravated Assault	5	0	0	0	11	3.2	4.4	1.38
Simple Assault	93	56	56	33	53	58.2	19.4	0.33
Arson	0	0	0	0	0	0.0	0.0	0.00
Burglary	44	35	27	32	61	39.8	12.0	0.30
Shoplifting	198	175	200	218	197	197.6	13.7	0.07
Thefts from Vehicles	100	119	83	60	120	96.4	22.7	0.24
Thefts of Vehicle Parts	10	7	0	0	2	3.8	4.0	1.05
Thefts from Buildings	26	13	3	2	1	9.0	9.5	1.06
Other Thefts	102	99	134	100	127	112.4	15.0	0.13
Auto Theft	15	10	5	9	12	10.2	3.3	0.32

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Counterfeiting/Forgery	6	6	6	5	5	5.6	0.5	0.09
Fraud/Con Games	3	0	0	0	0	0.6	1.2	2.00
Credit Card Fraud	26	35	22	30	18	26.2	5.9	0.23
Bad Checks	4	6	6	4	0	4.0	2.2	0.55
Identity Theft	0	0	0	0	0	0.0	0.0	0.00
Stolen Property Offenses	0	0	0	1	0	0.2	0.4	2.00
Vandalism	57	15	7	0	20	19.8	19.8	1.00
Drug Offenses	20	13	2	2	9	9.2	6.9	0.75
Prostitution	0	0	0	0	0	0.0	0.0	0.00
Weapon Offenses	1	0	0	0	1	0.4	0.5	1.25
Drunk Driving	29	16	10	7	14	15.2	7.6	0.50
Liquor Law Violations	6	2	0	0	0	1.6	2.3	1.44

Wrentham's annual totals are even lower than Plainville's, which again should make any increases fairly easy to detect. While its commercial activity is a bit lower than its neighbors, its non-existent shoplifting totals are hard to believe—another occasion to investigate data quality.

Wrentham Police Department: Selected annual crime totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Sexual Assault	0	0	1	0	1	0.4	0.5	1.25
Robbery	0	0	0	0	0	0.0	0.0	0.00
Aggravated Assault	2	0	4	5	4	3.0	1.8	0.60
Simple Assault	2	0	0	6	18	5.2	6.8	1.31
Arson	0	0	0	0	2	0.4	0.8	2.00
Burglary	22	6	8	36	24	19.2	11.1	0.58
Shoplifting*	0	0	0	0	0	0.0	0.0	0.00
Thefts from Vehicles	1	0	0	11	34	9.2	13.1	1.42
Thefts of Vehicle Parts	0	0	0	1	2	0.6	0.8	1.33
Thefts from Buildings	0	0	0	0	4	0.8	1.6	2.00
Other Thefts	35	32	10	32	15	24.8	10.2	0.41
Auto Theft	0	0	1	3	8	2.4	3.0	1.25
Counterfeiting/Forgery*	0	0	0	0	0	0.0	0.0	0.00
Fraud/Con Games	0	0	1	5	7	2.6	2.9	1.12
Credit Card Fraud	0	1	0	1	2	0.8	0.7	0.88
Bad Checks	0	0	0	0	0	0	0	0.00
Identity Theft	1	0	0	11	3	3.0	4.1	1.37
Stolen Property Offenses	0	0	1	0	0	0.2	0.4	2.00
Vandalism	15	8	10	11	6	10.0	3.0	0.30
Drug Offenses	6	3	5	5	4	4.6	1.0	0.22
Prostitution	0	0	0	0	0	0.0	0.0	0.00
Weapon Offenses	0	0	0	0	0	0.0	0.0	0.00
Drunk Driving	5	6	8	5	8	6.4	1.4	0.22
Liquor Law Violations	1	3	2	2	0	1.6	1.0	0.63

*That the agency had so few of these offenses in 5 years seems less likely than the wrong IBR code having been applied.

All contributing agencies: Average crime totals per year (raw values)

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham
Sexual Assault	2.4	33	11.2	2.6	0.4
Robbery	1.8	21.4	5.0	2.8	0.0
Aggravated Assault	5.0	91.2	37.4	3.2	3.0
Simple Assault	21.8	285.6	128.0	58.2	5.2

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham
Arson	0.2	4.6	2.2	0.0	0.4
Burglary	31.6	209.4	151.8	39.8	19.2
Shoplifting	24.6	189.4	48.6	197.6	0.0
Thefts from Vehicles	37.0	161.6	0.6	96.4	9.2
Thefts of Vehicle Parts	5.2	47.0	0.6	3.8	0.6
Thefts from Buildings	20.2	122.4	59.8	9.0	0.8
Other Thefts	23.4	533.4	158.4	112.4	24.8
Auto Theft	5.0	62.8	17.8	10.2	2.4
Counterfeiting/Forgery	6.2	40.8	25.0	5.6	0.0
Fraud/Con Games	1.8	60.0	42.2	0.6	2.6
Credit Card Fraud	12.6	29.0	21.2	26.2	0.8
Bad Checks	2.6	12.4	5.0	4.0	0.0
Identity Theft	1.8	33.8	17.8	0.0	3.0
Stolen Property Offenses	1.6	22.0	20.2	0.2	0.2
Vandalism	42.6	301.4	120.2	19.8	10.0
Drug Offenses	10.2	102.8	60.4	9.2	4.6
Prostitution	0.2	0.2	0.6	0.0	0.0
Weapon Offenses	1.6	28.0	9.4	0.4	0.0
Drunk Driving	18.4	117.2	52.8	15.2	6.4
Liquor Law Violations	3.2	44.4	136.2	1.6	1.6

Normalizing data by residential population is always a bit flawed, given that commercial and entertainment traffic tend to contribute more to a town's crime statistics than its residents. Nonetheless, such ratios are both conventional and easy to calculate with available data.

All contributing agencies: Average crime totals per year (per 25,000 residents)*

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham
Sexual Assault	7.0	18.7	11.9	2.2	0.9
Robbery	5.3	12.1	5.3	2.4	0.0
Aggravated Assault	14.7	51.8	39.7	2.8	6.7
Simple Assault	64.0	162.1	135.9	50.3	11.6
Arson	0.6	2.6	2.3	0.0	0.9
Burglary	92.8	118.9	161.1	34.4	42.9
Shoplifting	72.3	107.5	51.6	170.9	0.0
Thefts from Vehicles	108.7	91.7	0.6	83.4	20.5
Thefts of Vehicle Parts	15.3	26.7	0.6	3.3	1.3
Thefts from Buildings	59.3	69.5	63.5	7.8	1.8
Other Thefts	68.7	302.8	168.1	97.2	55.4
Auto Theft	14.7	35.7	18.9	8.8	5.4
Counterfeiting/Forgery	18.2	23.2	26.5	4.8	0.0
Fraud/Con Games	5.3	34.1	44.8	0.5	5.8
Credit Card Fraud	37.0	16.5	22.5	22.7	1.8
Bad Checks	7.6	7.0	5.3	3.5	0.0
Identity Theft	5.3	19.2	18.9	0.0	6.7
Stolen Property Offenses	4.7	12.5	21.4	0.2	0.4
Vandalism	125.1	171.1	127.6	17.1	22.3
Drug Offenses	30.0	58.4	64.1	8.0	10.3
Prostitution	0.6	0.1	0.6	0.0	0.0
Weapon Offenses	4.7	15.9	10	0.3	0.0
Drunk Driving	54.0	66.5	56	13.1	14.3
Liquor Law Violations	9.4	25.2	144.6	1.4	3.6

*Using 2013 estimated census figures

Crime participant statistics

When a casino (or any large attraction) opens in an area, we might reasonably expect demographic shifts in both offenders and victims of crime, with data skewed towards the ages, sexes, and points of origin of the users of the facility. Such changes can be used to establish causation for overall crime increases; for instance, if thefts from vehicles increase 20% in a city that opens a casino *and* it can be shown that the ages of victims are closer to the ages of casino visitors than before the casino was opened, this is stronger causal evidence than the fact of the increase alone.

There are many ways to slice and arrange these datasets. Overall statistics are offered below.

Offender ages and sexes, all contributing agencies, by selected offense type, raw values, 2010-2014

Offense	Under 18		18-24		25-40		41-64		65 and Above		Total**	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	39	3	34	3	53	1	57	2	12	0	194	9
Robbery	19	2	64	12	43	8	15	1	4	3	145	26
Aggravated Assault	68	10	142	36	186	66	130	46	5	2	526	160
Simple Assault	213	85	383	188	655	275	485	195	29	8	1745	743
Arson	11	2	1	0	12	0	3	1	1	0	28	3
Burglary	79	8	196	46	222	53	83	31	7	0	597	138
Shoplifting	162	229	306	441	403	445	211	235	14	19	1086	1356
Thefts from Vehicles	38	5	59	9	42	10	10	1	0	0	149	25
Thefts of Vehicle Parts	2	0	5	0	8	2	10	0	1	0	26	2
Thefts from Buildings	58	16	127	63	136	71	56	30	4	2	378	181
Other Thefts	175	41	556	181	748	257	365	155	24	16	1850	644
Auto Theft	12	2	51	15	49	12	29	4	1	0	141	36
Counterfeiting/Forgery	8	3	77	32	81	44	28	14	4	0	195	93
Fraud/Con Games	5	2	46	15	46	34	36	20	6	0	137	70
Credit Card Fraud	2	0	28	23	37	10	13	13	5	3	85	50
Identity Theft	1	2	8	8	15	12	13	11	3	1	40	33
Stolen Property Off.	27	12	69	27	62	28	28	9	0	1	185	80
Vandalism	152	19	231	46	194	65	120	36	11	2	710	167
Drug Offenses	75	13	340	77	317	118	89	34	2	0	823	244
Weapon Offenses	40	5	68	13	38	12	34	2	7	0	186	32
Bad Checks	1	2	21	12	33	15	18	12	2	2	75	42
Disorderly	131	37	421	83	358	115	300	87	14	4	1217	325
Drunk Driving	4	3	176	67	291	106	243	109	16	5	734	289
Drunkness	50	68	251	224	181	64	178	61	3	1	666	418
Liquor Law Violations	167	142	574	212	47	15	40	13	1	1	829	383
Trespassing	34	6	83	8	72	10	36	27	2	2	225	52
All*	2017	896	6195	2589	7040	2971	4842	1977	314	138	20408	8571

*Total is different than the sum of the numbers above because not all offense types are broken out, and some offenders are suspected or charged with multiple offenses

**Total is higher than sum of numbers to left because of unknown ages for some offenders

Offender ages and sexes, all contributing agencies, by selected offense type, percentages, 2010-2014

Offense	Under 18		18-24		25-40		41-64		65 and Above		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	93%	7%	92%	8%	98%	2%	97%	3%	100%	0%	96%	4%
Robbery	90%	10%	84%	16%	84%	16%	94%	6%	57%	43%	85%	15%

Offense	Under 18		18-24		25-40		41-64		65 and Above		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Aggravated Assault	87%	13%	80%	20%	73%	27%	74%	26%	71%	29%	77%	23%
Simple Assault	71%	29%	67%	33%	70%	30%	71%	29%	78%	22%	70%	30%
Arson	85%	15%	100%	0%	100%	0%	75%	25%	100%	0%	90%	10%
Burglary	91%	9%	81%	19%	81%	19%	73%	27%	100%	0%	81%	19%
Shoplifting	41%	59%	41%	59%	48%	52%	47%	53%	42%	58%	44%	56%
Thefts from Vehicles	88%	12%	87%	13%	81%	19%	91%	9%	0%	0%	86%	14%
Thefts of Vehicle Parts	100%	0%	100%	0%	80%	20%	100%	0%	100%	0%	93%	7%
Thefts from Buildings	78%	22%	67%	33%	66%	34%	65%	35%	67%	33%	68%	32%
Other Thefts	81%	19%	75%	25%	74%	26%	70%	30%	60%	40%	74%	26%
Auto Theft	86%	14%	77%	23%	76%	24%	88%	12%	100%	0%	80%	20%
Counterfeiting/Forgery	73%	27%	71%	29%	64%	36%	67%	33%	100%	0%	68%	32%
Fraud/Con Games	71%	29%	75%	25%	57%	43%	64%	36%	100%	0%	66%	34%
Credit Card Fraud	100%	0%	55%	45%	77%	23%	50%	50%	63%	38%	63%	37%
Identity Theft	33%	67%	50%	50%	58%	42%	54%	46%	75%	25%	55%	45%
Stolen Property Off.	69%	31%	72%	28%	66%	34%	76%	24%	0%	100%	70%	30%
Vandalism	89%	11%	83%	17%	75%	25%	77%	23%	85%	15%	81%	19%
Drug Offenses	85%	15%	82%	18%	73%	27%	72%	28%	100%	0%	77%	23%
Weapon Offenses	89%	11%	84%	16%	76%	24%	94%	6%	100%	0%	85%	15%
Bad Checks	33%	67%	64%	36%	70%	30%	60%	40%	50%	50%	64%	36%
Disorderly	78%	22%	84%	16%	75%	25%	78%	22%	78%	22%	79%	21%
Drunk Driving	57%	43%	72%	28%	74%	26%	69%	31%	76%	24%	72%	28%
Drunkness	42%	58%	53%	47%	74%	26%	74%	26%	75%	25%	61%	39%
Liquor Law Violations	54%	46%	73%	27%	76%	24%	75%	25%	50%	50%	68%	32%
Trespassing	85%	15%	91%	9%	89%	11%	57%	43%	50%	50%	81%	19%
All	69%	31%	71%	29%	70%	30%	71%	29%	69%	31%	70%	30%

Average offender age, by offense, agency, and sex, 2010-2014

Offense	Plainville		Attleboro		Mansfield		N. Attleboro		Wrentham		All	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	32.7		32.9	27.1	30.9	14.0	31.8		55.0		32.5	25.7
Robbery	30.1	27.3	26.0	24.5	26.7	32.8	25.1	23.7			26.1	26.6
Aggravated Assault	24.8	29.9	31.2	34.3	33.0	33.7	31.8	40.2	28.3	24.0	31.2	34.0
Simple Assault	33.1	36.5	32.2	31.9	33.2	29.7	33.7	33.3	43.5	36.8	32.8	31.8
Arson	14.0		29.1	15.0	30.0	28.0			17.0		27.7	23.7
Burglary	31.9	34.3	29.4	30.7	26.5	29.6	28.1	32.8	25.0	20.8	28.5	30.5
Shoplifting	32.1	30.7	30.3	30.2	30.4	28.1	28.0	27.2			29.5	28.6
Thefts from Vehicles	27.4	35.0	25.1	21.6	28.2	29.7	22.4	24.8	22.5		24.2	24.0
Thefts of Vehicle Parts			40.2	33.5			23.7				38.3	33.5
Thefts from Buildings	28.6	30.9	28.0	28.8			26.2	25.9			28.1	29.1
Other Thefts	27.7	44.1	31.2	31.7	26.8	33.1	28.3	30.2	27.8	24.4	30.5	31.7
Auto Theft	29.2	23.0	29.2	28.3	31.2	31.6	22.9	25.5	31.0	33.5	29.2	29.2
Counterfeiting/Forgery	26.7	29.2	30.0	31.4	26.3	24.9	25.7	23.9			28.6	29.4
Fraud/Con Games	52.4	20.0	44.5	35.3	32.1	28.9			33.0	52.0	40.0	33.5
Credit Card Fraud	29.6	34.1	32.6	34.1	33.7	34.1	28.0	31.8	34.0	32.0	31.4	33.5
Identity Theft			35.9	35.1	33.8	37.2			47.0	25.0	35.8	35.3
Stolen Property Off.	28.0	27.2	26.7	26.5	27.7	30.6	27.0		42.0	33.0	27.4	27.7
Vandalism	28.9	29.5	28.3	31.0	28.0	29.5	21.6	37.2	31.5	47.0	27.9	31.0
Drug Offenses	27.2	26.8	27.9	29.3	25.1	26.9	24.9	28.7	23.5	28.0	26.9	28.6
Weapon Offenses	32.6	30.0	27.2	24.1	33.6	35.7	22.8				28.2	25.4
Bad Checks	36.0	43.5	32.6	33.5	29.9	29.6	32.9	30.1			32.6	33.0
Disorderly	29.2	31.0	31.0	32.6	29.3	29.0	29.2	31.5	33.9	24.0	30.7	32.1

Offense	Plainville		Attleboro		Mansfield		N. Attleboro		Wrentham		All	
	M	F	M	F	M	F	M	F	M	F	M	F
Drunk Driving	36.7	33.5	35.7	34.4	36.8	39.4	35.8	38.4	38.1	44.7	36.1	36.0
Drunkenness	36.3	30.7	34.0		30.3	25.0	37.0	26.0	34.3	27.7	30.9	25.2
Liquor Law Violations	19.4	17.9	22.8	20.3	20.0	19.4	22.1	30.0	18.7	18.4	21.0	19.5
Trespassing	27.8	40.3	29.4	39.6	24.2	27.1	34.6	51.0	21.0		28.2	38.1
All	29.9	29.4	31.8	32.0	31.3	30.4	28.8	28.8	31.1	27.2	31.4	30.1

The victim tables have fewer crime types because they exclude crimes committed primarily at businesses as well as “victimless” crimes.

Victim ages and sexes, all contributing agencies, by selected offense type, raw values, 2010-2014

Offense	Under 18		18-24		25-40		41-64		65 and Above		Total**	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	40	118	10	40	9	32	1	18	0	1	60	213
Robbery	30	3	27	15	20	17	16	20	2	4	95	60
Aggravated Assault	89	37	119	80	174	131	172	105	23	22	578	376
Simple Assault	239	150	222	358	403	589	423	457	34	33	1324	1587
Burglary	46	21	100	115	324	265	710	527	133	104	1322	1036
Thefts from Vehicles	10	18	108	106	310	248	400	294	62	39	893	706
Thefts of Vehicle Parts	1	0	19	6	40	26	86	32	17	6	164	70
Thefts from Buildings	66	35	45	80	79	146	181	229	46	69	418	562
Other Thefts	206	105	179	236	482	476	818	574	154	137	1857	1535
Auto Theft	3	3	33	17	111	53	121	76	22	18	291	170
Fraud/Con Games	5	3	24	24	55	76	83	79	26	47	196	230
Identity Theft	3	2	9	15	36	38	56	76	9	28	113	159
Vandalism	34	23	123	162	312	283	576	425	101	60	1155	954
All*	1149	958	1469	1934	3387	3746	5156	4522	905	832	12153	12044

*Total is different than the sum of the numbers above because not all offense types are broken out

**Total is higher than sum of numbers to left because of unknown ages for some victims

Victim ages and sexes, all contributing agencies, by selected offense type, percentages, 2010-2014

Offense	Under 18		18-24		25-40		41-64		65 and Above		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	25%	75%	20%	80%	22%	78%	5%	95%	0%	100%	22%	78%
Robbery	91%	9%	64%	36%	54%	46%	44%	56%	33%	67%	61%	39%
Aggravated Assault	71%	29%	60%	40%	57%	43%	62%	38%	51%	49%	61%	39%
Simple Assault	61%	39%	38%	62%	41%	59%	48%	52%	51%	49%	45%	55%
Burglary	69%	31%	47%	53%	55%	45%	57%	43%	56%	44%	56%	44%
Thefts from Vehicles	36%	64%	50%	50%	56%	44%	58%	42%	61%	39%	56%	44%
Thefts of Vehicle Parts	100%	0%	76%	24%	61%	39%	73%	27%	74%	26%	70%	30%
Thefts from Buildings	65%	35%	36%	64%	35%	65%	44%	56%	40%	60%	43%	57%
Other Thefts	66%	34%	43%	57%	50%	50%	59%	41%	53%	47%	55%	45%
Auto Theft	50%	50%	66%	34%	68%	32%	61%	39%	55%	45%	63%	37%
Fraud/Con Games	63%	38%	50%	50%	42%	58%	51%	49%	36%	64%	46%	54%
Identity Theft	60%	40%	38%	63%	49%	51%	42%	58%	24%	76%	42%	58%
Vandalism	60%	40%	43%	57%	52%	48%	58%	42%	63%	37%	55%	45%
All	55%	45%	43%	57%	47%	53%	53%	47%	52%	48%	50%	50%

Average victim age, by offense, agency, and sex, 2010–2014

Offense	Plainville		Attleboro		Mansfield		N. Attleboro		Wrentham		All	
	M	F	M	F	M	F	M	F	M	F	M	F
Sexual Assault	13.3	37.3	14.8	19.7	17.4	20.9		21.1		24.5	15.2	20.3
Robbery			28.8	37.7	21.8	33.5	19.3	49.8			27.6	38.3
Aggravated Assault	35.2	29.4	34.7	34.7	31.3	36.6	31.6	39.5	29.3	29.8	33.8	34.9
Simple Assault	33.9	31.2	33.9	32.9	32.4	33.7	33.0	34.3	32.2	47.0	33.4	33.3
Burglary	45.4	47.9	46.9	44.0	44.0	43.8	42.7	45.6	48.3	47.4	45.5	44.3
Thefts from Vehicles	41.8	40.2	43.3	39.8	29.0		38.8	39.0	36.1	40.8	41.6	39.6
Thefts of Vehicle Parts	46.2	33.3	45.7	44.4	49.5	43.3	51.3	47.3			45.9	44.0
Thefts from Buildings	33.9	40.9	39.2	41.8	46.6	44.8	53.6		46.0	73.5	41.6	42.6
Other Thefts	40.1	47.9	41.4	39.6	40.5	40.3	39.2	39.0	51.0	53.3	41.2	40.2
Auto Theft	39.5	30.0	41.9	43.2	43.5	44.6	38.7	36.0	41.5	55.8	41.9	43.3
Fraud/Con Games	53.5	35.5	46.3	48.3	42.0	43.4	37.0	30.0	55.8	51.2	44.9	46.4
Credit Card Fraud	38.0	35.0	42.6	47.6	45.1	49.0			53.6	51.0	43.6	48.0
Vandalism	45.8	38.2	44.0	40.5	42.8	41.8	45.3	40.1	47.7	45.4	43.9	40.8
All	41.0	38.4	40.8	38.1	39.6	39.3	39.1	38.3	43.7	43.8	40.4	38.6

To establish offenders' and victims' points of origin, I geocoded each crime to its specific location and each offender's and victim's residence to the centerpoint of the city. I drew lines between the two, measured the distances, and generated summary statistics.

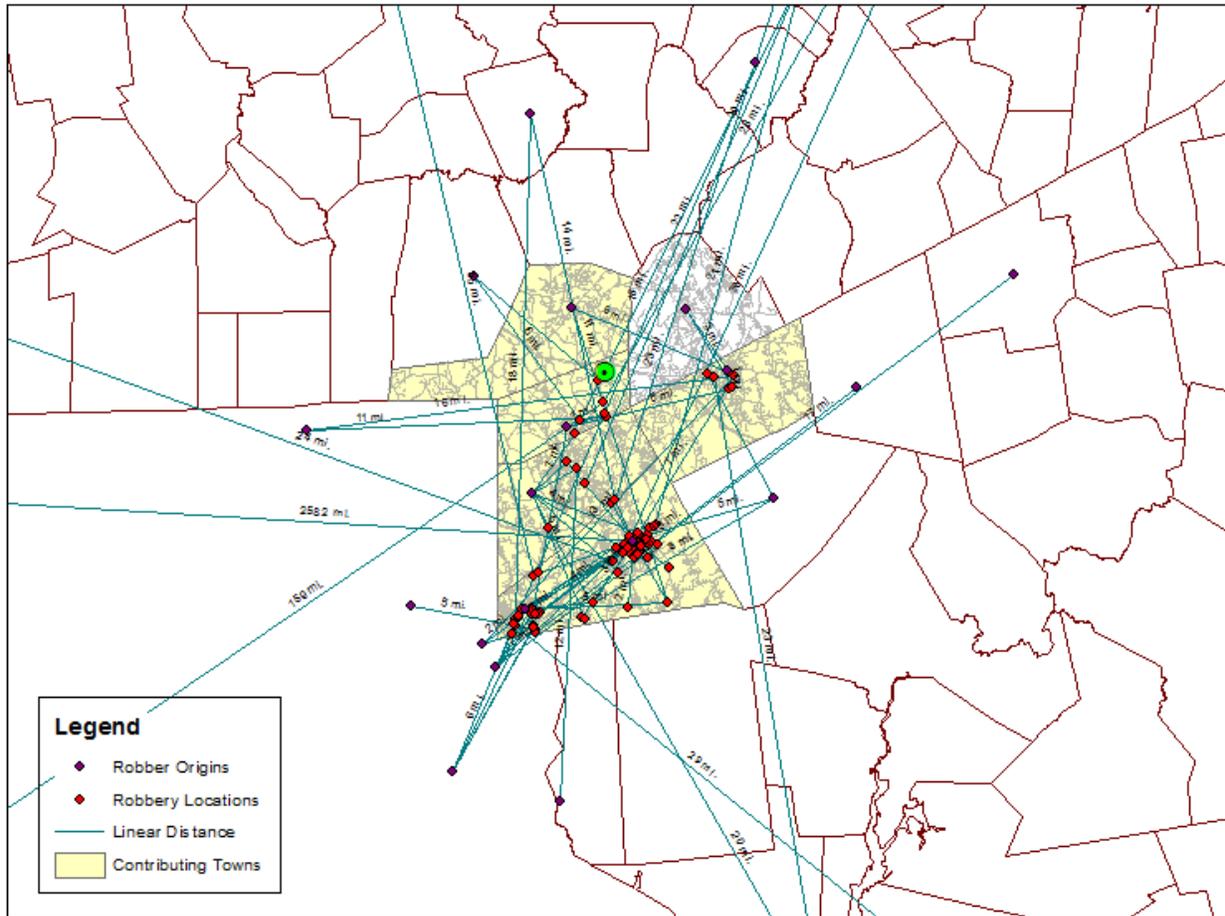


Figure 2: GIS analysis indicating robbery origins (homes) and robbery locations, 2010-2014

A weakness of this analysis is that it considers linear distance rather than road distance, but of course it's impossible to know which specific route an offender or victim used. The linear distance at least provides a decent baseline measure of travel for an aggregated population.

The tables below show the mean distances traveled for both offenders and victims (the victim table is smaller because of the omission of victimless crimes and commercial crimes). These figures would be admittedly more useful as medians, thus minimizing the impact of outliers, but multivariate median calculations are a bear in the tools I'm using, so I did not offer them for this report. I will use them in future analyses, however.

Mean distance traveled for offenders, by crime type and agency, 2010–2014, in miles

Crime	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham	All
Sexual Assault	6.44	52.09	7.77	3.79	16.17	38.28
Robbery	24.43	28.66	9.68	6.86		23.94
Aggravated Assault	142.61	13.39	6.57	97.71	4.63	20.33
Simple Assault	14.55	4.88	11.42	4.71	3.56	6.70
Arson	2.61	4.11	7.24		0.78	4.42
Burglary	8.40	9.53	4.34	15.59	6.82	9.20
Thefts from Vehicles	14.85	4.55		7.46	4.62	6.56
Thefts of Vehicle Parts		4.45		9.50		4.99
Thefts from Buildings	29.23	5.43	7.48	6.58		8.93
Other Thefts	31.34	13.60	13.50	17.94	10.33	14.45
Auto Theft	5.45	35.48	12.34	6.64	3.19	24.42
Fraud/Con Games	429.10	64.05	17.83		129.12	60.35
Credit Card Fraud	37.31	139.85	179.41	99.87	2.09	116.02
Identity Theft		68.73	31.63		22.57	58.76
Stolen Property Off.	33.54	8.40	5.20	3.10	164.97	12.60
Vandalism	83.53	8.23	6.63	4.73	9.17	12.84
Drug Offenses	8.37	10.91	23.22	7.17	8.51	13.27
Weapon Offenses	6.10	4.25	5.70	4.55		4.53
Bad Checks	18.06	10.00	6.63	13.61		10.99
Disorderly	4.77	12.79	53.35	97.59	2.40	20.92
Drunk Driving	61.84	13.00	15.15	6.47	8.74	15.75
Drunkenness	118.48	2.19	38.66	64.49	5.56	42.52
Liquor Law Violations	5.40	5.18	19.25	3.96	10.06	11.84
Trespassing	9.54	12.02	47.79	4.77	0.71	18.84

Mean distance traveled for victims, by crime type and agency, 2010–2014

Crime	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham	All
Sexual Assault	7.59	7.33	6.00	3.99	16.98	7.01
Robbery	1.47	3.68	4.84	6.31		3.97
Agg. Assault	4.60	6.75	12.61	3.03	2.94	7.73
Simple Assault	6.81	4.48	7.77	4.55	5.72	5.30
Theft from Vehicle	6.42	11.96	1.54	9.10	3.87	10.52
Theft of Vehicle Parts	7.94	6.72	1.72	4.53		6.59
Thefts from Buildings	5.04	10.84	17.87	9.58	3.18	12.75
Other Thefts	4.47	23.45	20.44	9.71	2.87	20.53
Auto Thefts	4.65	16.54	12.68	28.03	7.40	16.28
Fraud/Con Games	1.21	34.98	41.63	217.24	1.60	38.16
Identity Theft	0.67	44.73	4.02		3.33	30.12
Vandalism	6.13	11.35	15.26	6.34	2.68	11.90

Stolen property statistics

My experience as a crime analyst has taught me not to trust the accuracy of stolen property statistics. The categories used by NIBRS are often confusing and non-exclusive, leading officers to use the wrong category or code most property as “other.” Stolen property values are often a wild guess (or not entered at all). Nonetheless, significant changes in these values might identify emerging problems worthy of further analysis.

Average number of property types stolen per year, selected crimes, all participating agencies

Property Type	Burglary	Forgery	Shoplifting	Thefts from Buildings	Thefts from Vehicles
Alcohol	5.4	1.0	12.8	2.6	0.2
Automobiles	1.0				
Bicycles	4.4		0.8	3.2	0.6
Building materials	2.4		0.4		3.6
Clothes	13.4	0.8	147.8	10.2	10.2
Computer hardware/software	90.2	3.4	83.4	33.4	89.8
Construction equipment	7.4			2.2	1.2
Consumable goods	8.0	1.0	51.2	5.0	4.0
Credit/debit cards	14.2	2.8	0.2	15.4	13.4
Documents	0.6	1.0	0.2	0.2	1.2
Drug/narcotic equipment	2.6		1.4	2.4	1.0
Drugs/narcotics	4.6	1.0	4.0	9.0	5.8
Farm equipment	1.6			0.6	0.6
Firearms	2.0		0.6	0.6	0.4
Fuel				0.2	0.2
Household goods	13.6		15.8	6.4	3.6
Identity documents	0.8	0.4		1.0	6.4
Jewelry	82.4	0.2	31.4	39.2	11.6
Merchandise	12.2	1.2	75.4	5.6	7.6
Metals	1.2		0.2	0.6	0.2
Mobile devices	3.6		3.8	3.4	30.2
Money	78.6	14.6	1.4	59.2	71.0
Negotiable instruments	5.6	4.8	0.2	8.0	6.6
Nonnegotiable instruments	4.6	5.4		6.8	6.6
Office equipment	8.2	0.2	1.4	4.0	3.6
Other	113.8	11.8	56.6	38.4	67.0
Other weapons	0.2			0.2	
Pets	0.4			0.2	
Photographic Equipment	4.8	0.4	4.6	0.6	6.0
Purses/Wallets	19.0	0.4	5.0	20.8	47.2
Radios/TVs/VCRs	38.2	0.8	16.6	17.2	22.2
Recordings	15.2	2.0	37.2	11.6	7.8
Sports Equipment	1.0		0.4	0.2	1.4
Tools	30.6	0.4	11.2	7.6	22.2
Vehicle Parts/Accessories	8.6	0.4	1.6	3.2	15.8

Average number of property types stolen per year, selected crimes, Plainville

Property Type	Burglary	Forgery	Shoplifting	Thefts from Buildings	Thefts from Vehicles
Alcohol			0.2	0.4	
Automobiles	0.6				

Property Type	Burglary	Forgery	Shoplifting	Thefts from Buildings	Thefts from Vehicles
Bicycles			0.2		
Building materials	0.8				
Clothes	1.0		3.4	0.6	0.2
Computer hardware/software	4.6		0.4	0.6	3.4
Construction equipment	0.6				0.2
Consumable goods			0.8		
Credit/debit cards				0.6	0.4
Documents	0.2	1.0		0.2	
Drug/narcotic equipment	0.2		0.2		
Drugs/narcotics	0.4	0.4		0.2	0.2
Farm equipment				0.2	
Firearms	0.4				0.2
Fuel				0.2	0.2
Household goods	0.8		2.2	0.2	0.4
Identity documents					0.4
Jewelry	6.2		0.8	3.2	1.4
Merchandise	0.2		8.0		
Metals			0.2	0.2	
Mobile devices	1.0		0.2	0.4	9.4
Money	4.8	2.8		6.6	8.0
Negotiable instruments		0.2		0.4	
Nonnegotiable instruments	0.2	2.6		0.6	0.4
Office equipment	1.4		0.4	2.0	0.8
Other	0.6		1.0	0.4	0.2
Other weapons				0.2	
Pets					
Photographic Equipment	1.0		0.2	0.6	1.0
Purses/Wallets			0.4	2.4	4.4
Radios/TVs/VCRs	2.2		0.4		0.6
Recordings	0.2		1.2	0.2	
Sports Equipment				0.2	0.2
Tools	3.0		0.4	1.0	2.2
Vehicle Parts/Accessories	1.2		0.2		2.8

Value of stolen property, by crime type and agency, 2010–2014, average per incident

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham
Robbery	\$265	\$525	\$664	\$2550	\$0
Burglary	\$1,636	\$1,280	\$988	\$1,236	\$2,056
Shoplifting	\$275	\$126	\$113	\$381	\$0
Thefts from Vehicles	\$410	\$310	\$426	\$417	\$199
Thefts of Vehicle Parts	\$786	\$598	\$268	\$1011	\$319
Thefts from Buildings	\$816	\$660	\$1,455	\$1,986	\$1,728
Other Thefts	\$2,248	\$890	\$846	\$893	\$1,027
Auto Theft	\$11,150	\$2,118	\$259	\$10,603	\$5,194
Counterfeiting/Forgery	\$917	\$8,003	\$1,285	\$784	\$0
Fraud/Con Games	\$7,794	\$1,807	\$1,768	\$1,367	\$7,880
Credit Card Fraud	\$886	\$348	\$1,210	\$595	\$3,303
Identity Theft	\$505	\$1,561	\$673	\$0	\$1,464

Value of stolen property, by crime type and agency, 2010–2014, average per year

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham
Robbery	\$1,112	\$14,179	\$6,239	\$18,358	\$0
Burglary	\$61,172	\$263,900	\$242,658	\$95,666	\$66,630
Shoplifting	\$7,527	\$27,552	\$8,664	\$91,658	\$0
Thefts from Vehicles	\$19,255	\$74,517	\$341	\$68,821	\$2,470
Thefts of Vehicle Parts	\$4,399	\$27,255	\$161	\$4,450	\$255
Thefts from Buildings	\$20,405	\$119,919	\$133,598	\$22,643	\$1,382
Other Thefts	\$58,460	\$248,035	\$194,808	\$136,341	\$33,690
Auto Theft	\$62,438	\$52,942	\$2,535	\$144,197	\$17,661
Counterfeiting/Forgery	\$6,421	\$120,051	\$28,012	\$6,903	\$0
Fraud/Con Games	\$9,353	\$109,496	\$103,929	\$820	\$20,488
Credit Card Fraud	\$14,528	\$13,214	\$40,156	\$18,931	\$2,642
Identity Theft	\$807	\$43,718	\$13,866	\$0	\$4,100

Location type statistics

If crimes do increase in the areas surrounding Plainridge Park, we might expect them to increase particularly at the types of establishments frequented by users of a casino (or any entertainment venue), particularly hotels, restaurants, bars, and transit hubs. Calculating baseline volumes by type of location allows us to measure these specific changes.

Location type codes are based on IBR definitions. See the appendix for a list of crimes in each category.

Average annual crimes by category at selected location types, all participating agencies

Location Type	Violent Crimes	Property Crimes	Drug/Alcohol Crimes	Societal Crimes	Other Crimes
Air/bus/train terminal	2.2	10.0	2.4	1.8	6.6
Bank	4.6	36.6	1.2	0.4	6.4
Bar	11.2	10.2	81.4	7.0	12.8
Church	1.8	12.0	0.8	0.2	2.2
Commercial building	4.8	66.2	0.8	0.4	0.0
Construction site	0.2	16.8	0.2	0.0	0.6
Convenience store	9.0	52.2	6.0	0.8	6.8
Department store	8.2	398.6	4.2	2.8	16.6
Doctor/hospital/drug store	17.4	45.6	6.4	1.2	8.8
Field/woods	10.4	16.0	8.2	1.0	12.6
Gas station	7.0	40.2	4.4	1.4	17.6
Government/public building	12.8	26.6	4.0	0.6	25.2
Grocery store	3.4	66.6	2.2	1.0	12.6
Hotel/motel	10.2	17.6	12.8	4.0	23.8
Liquor store	0.8	18.8	3.0	1.4	4.8
Office	4.4	49.6	1.4	1.0	19.0
Parking lot/garage	36.6	253.6	189.2	9.6	48.2
Residence	550.2	1278.2	96.2	32.8	534.0
Restaurant	18.4	67.2	7.6	9.2	22.8
School	41.0	35.4	7.6	9.2	22.8
Specialty store	6.8	111.2	3.8	1.8	14.6
Street	74.0	96.0	174.2	16.2	348.8

Average annual crimes by category at selected location types, Plainville only

Location Type	Violent Crimes	Property Crimes	Drug/Alcohol Crimes	Societal Crimes	Other Crimes
Bank	0.2	2.4			
Bar	0.6	1.4	1.2	0.2	0.2
Church		2.6			
Construction site		2.4	1.4		
Convenience store	1.4	27.2	0.4	0.4	2.0
Department store	0.2	2.2			
Doctor/hospital/drug store	0.6	1.4	0.8		
Field/woods	0.2	5.8	0.6		
Gas station		0.2			
Government/public building	0.4	4.0	0.2		
Grocery store	0.6	1.2	1.0		
Hotel/motel		1.0		0.2	
Liquor store	0.2	4.4	0.6		0.4

Location Type	Violent Crimes	Property Crimes	Drug/Alcohol Crimes	Societal Crimes	Other Crimes
Office	1.0	19.2	1.8		2.6
Parking lot/garage	1.6	12.6	4.6	0.2	0.8
Residence	25.0	103.2	8.8	2.2	8.2
Restaurant	2.0	7.6	1.2	0.2	
School		0.4			
Specialty store	0.4	15.4			1.4
Street	1.0	3.4	27.8	0.8	

Calls-for-service statistics

For this analysis of calls for service, I have selected only relevant call types that are *unreportable*. Call types that would lead to crime reports are not included, as they are better analyzed by looking at crime data (as in the previous section). Motor vehicle collisions are included here as many of them are unreportable and show up in the CAD system only.

All data represented below with annual figures can also be filtered and calculated by any date range, including individual seasons and months. Initial comparisons to the baseline will be made for the months of July, August, and September individually and as a whole.

While calls-for-service figures are significantly higher than crime figures, theoretically making it more difficult to detect the influence of a new facility, they are also far more consistent in value from year to year. Most of the variation coefficients are less than 0.10. Thus, even with the large values, any changes brought by the casino should be detectable with the values so highly predictable from year to year.

Unfortunately, the use of various call-for-service codes are less standardized among agencies than crime codes. The categories below are translated from the actual codes used by the contributing agencies, and some of the agencies simply do not use certain codes at all. This means the agency-by-agency analysis is more accurate than aggregated analysis.

All contributing agencies: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	4864	5142	4493	4777	4866	4828.4	207.9	0.04
Animal Complaint	770	849	748	768	894	805.8	56.0	0.07
Disabled Vehicle	1766	1760	1664	1713	1917	1764.0	84.9	0.05
Disorderly Conduct	3564	3426	3428	2928	3161	3301.4	227.9	0.07
Domestic Dispute	950	936	973	1074	1116	1009.8	71.8	0.07
Medical Aid	1593	1790	1849	1935	1800	1795.4	113.6	0.06
Suspicious Activity	5307	5524	5978	6276	5838	5784.6	339.9	0.06
Traffic Collision	4080	3985	3773	3899	4007	3948.8	105.2	0.03
Traffic Complaint	2047	2380	2314	1924	2150	2163.0	167.7	0.08
Trespassing	93	86	110	123	115	105.4	13.8	0.13

Plainville's annual activity is highly predictable in almost all categories, excepting overdoses, trespassing, youth disorder, and municipal/utility problems. This will make it fairly easy to assess the impact on environmental changes in the city. Of particular note are the highly-predictable traffic categories: disabled vehicles, traffic collisions, and traffic complaints, all scoring below 0.15 on the C.V.

Plainville Police Department: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	361	380	325	390	473	385.8	48.9	0.13
Animal Complaint	63	83	63	93	93	79.0	13.6	0.17
Disabled Vehicle	123	118	114	132	160	129.4	16.4	0.13
Disorderly Conduct	157	158	146	160	187	161.6	13.6	0.08
Domestic Dispute	61	45	49	85	60	60.0	13.9	0.23
Medical Aid	7	12	17	6	7	9.8	4.2	0.43
Psychological Issue	32	24	26	30	27	27.8	2.9	0.10
Suspicious Activity	608	579	566	645	635	606.6	30.6	0.05
Traffic Collision	285	311	269	305	335	301.0	22.6	0.08
Traffic Complaint	240	216	177	236	253	224.4	26.5	0.12

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Trespassing	122	13	5	11	8	9.8	2.9	0.30
Youth Disorder	68	48	68	24	33	48.2	17.9	0.37

Attleboro Police Department: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	1463	1714	1547	1528	1358	1522.0	116.5	0.08
Animal Complaint	249	266	272	286	242	263.0	15.8	0.06
Disabled Vehicle	552	560	512	610	647	576.2	47.2	0.08
Disorderly Conduct	2016	1910	1870	1564	1622	1796.4	173.8	0.10
Domestic Dispute	267	236	287	375	467	326.4	84.1	0.26
Medical Aid	505	585	1063	1203	967	864.6	272.7	0.32
Psychological Issue	231	247	321	304	316	283.8	37.3	0.13
Suspicious Activity	2607	2763	3069	3211	2637	2857.4	240.8	0.08
Traffic Collision	1902	1771	1709	1706	1773	1772.2	71.0	0.04
Traffic Complaint	997	1314	1309	836	931	1077.4	197.9	0.18
Trespassing	55	39	64	73	67	59.6	11.8	0.20
Youth Disorder	47	43	188	72	114	92.8	53.9	0.58

*Agency did not track this as a separate call type in these years.

Mansfield Police Department: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	1012	956	902	981	1017	973.6	42.1	0.04
Animal Complaint	230	254	228	238	280	246.0	19.3	0.08
Disabled Vehicle	366	424	341	375	355	372.2	28.3	0.08
Disorderly Conduct	433	453	469	440	503	459.6	24.9	0.05
Domestic Dispute	243	247	212	219	207	225.6	16.3	0.07
Medical Aid	12	12	15	14	15	13.6	1.4	0.10
Psychological Issue	10	19	25	42	22	23.6	10.5	0.44
Suspicious Activity	723	801	981	805	852	832.4	85.1	0.10
Traffic Collision	699	686	610	648	695	667.6	34.0	0.05
Traffic Complaint	235	257	261	283	341	275.4	36.2	0.13
Trespassing	3	6	13	6	11	7.8	3.7	0.13

*Agency did not track this as a separate call type in these years.

North Attleboro Police Department: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	1234	1269	1145	1260	1298	1241.2	52.3	0.04
Animal Complaint	144	157	130	114	197	148.4	28.2	0.19
Disabled Vehicle	554	494	377	372	387	436.8	73.8	0.17
Disorderly Conduct	758	741	760	622	722	720.6	51.2	0.07
Domestic Dispute	296	316	329	327	326	318.8	12.3	0.04
Medical Aid	298	352	401	288	342	336.2	40.7	0.12
Suspicious Activity	993	1012	1014	1136	1288	1088.6	111.9	0.10
Traffic Collision	1015	1032	959	1010	1017	1006.6	24.9	0.02
Traffic Complaint	486	464	472	484	495	480.2	10.9	0.02
Trespassing	14	20	16	25	19	18.8	3.8	0.20
Youth Disorder	45	62	56	57	70	58.0	8.2	0.14

*Agency did not track this as a separate call type in these years.

Wrentham Police Department: Selected annual call-for-service totals

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Alarm	794	823	574	618	720	705.8	96.7	0.14
Animal Complaint	84	89	55	37	82	69.4	20.1	0.29

Type	2010	2011	2012	2013	2014	Avg.	St. Dev.	C.V.
Disabled Vehicle	171	164	320	224	368	249.4	81.4	0.33
Disorderly Conduct	200	164	183	142	127	163.2	26.5	0.16
Domestic Dispute	83	92	96	68	56	79	15.0	0.19
Medical Aid	771	829	363	424	469	571.2	190.1	0.33
Suspicious Activity	376	369	348	479	426	399.6	47.2	0.12
Traffic Collision	179	185	226	230	187	201.4	21.9	0.11
Traffic Complaint	89	129	95	85	130	105.6	19.8	0.19
Trespassing	9	8	12	8	10	9.4	1.5	0.16

*Agency did not track this as a separate call type in these years.

All agencies: Average call-for-service activity per year (raw values)

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham	Total
Alarm	385.8	1522.0	973.6	1241.2	705.8	4828.4
Animal Complaint	79.0	263.0	246.0	148.4	69.4	805.8
Disabled Vehicle	129.4	576.2	372.2	436.8	249.4	1764.0
Disorderly Conduct	161.6	1796.4	459.6	720.6	163.2	3301.4
Domestic Dispute	60.0	326.4	225.6	318.8	79.0	1009.8
Medical Aid	9.8	864.6	13.6	336.2	571.2	1795.4
Psychological Issue	27.8	283.8	23.6	*	*	*
Suspicious Activity	606.6	2857.4	832.4	1088.6	399.6	5784.6
Traffic Collision	301.0	1772.2	667.6	1006.6	201.4	3948.8
Traffic Complaint	224.4	1077.4	275.4	480.2	105.6	2163.0
Trespassing	9.8	59.6	7.8	18.8	9.4	105.4
Youth Disorder	48.2	92.8	*	58.0	*	*

*Agency did not track this as a separate call type in enough years to establish an average

All agencies: Average call-for-service activity per year (per 25,000 residents)**

Type	Plainville	Attleboro	Mansfield	N. Attleboro	Wrentham	Total
Alarm	1133.1	864.1	1033.5	1073.2	1576.2	1038.8
Animal Complaint	232.0	149.3	261.1	128.3	155.0	173.4
Disabled Vehicle	380.1	327.1	395.1	377.7	556.9	379.5
Disorderly Conduct	474.6	1019.9	487.9	623.1	364.4	710.2
Domestic Dispute	176.2	185.3	239.5	275.7	176.4	217.2
Medical Aid	28.8	490.9	14.4	290.7	1275.6	386.3
Psychological Issue	335.2	81.7	161.1	25.1	*	*
Suspicious Activity	1781.6	1622.3	883.6	941.3	892.4	1244.5
Traffic Collision	884.0	1006.2	708.6	870.4	449.8	849.5
Traffic Complaint	659.7	611.7	292.3	415.2	235.9	465.3
Trespassing	28.9	33.4	8.3	16.3	21.0	22.7
Youth Disorder	141.6	52.7	*	50.2	*	42.9

**Using 2013 estimated census figures

Collision statistics

While crimes may or may not increase in response to the casino, it is assured that *traffic* will increase in the surrounding communities as out-of-town visitors travel to the facility for gaming and entertainment. The increase in traffic volume is likely to increase traffic collisions.

The table below contains only *reportable* collisions, meaning that either a) there was personal injury on scene; b) the damage value of the collision exceeded \$1,000 and it occurred on a public roadway; or c) the agency chose to take a full report for its own purposes. Minor collisions with no injury will generally not show up in this data but will be reflected in calls for service, analyzed separately.

Average annual collision count by type, all participating agencies, 2010-2014

Collision between vehicle and...	Plainville	Attleboro*	Mansfield	N. Attleboro*	Wrentham	Total
Other vehicle in traffic	160.4	600.5	294.8	583.0	212.0	1850.7
Parked vehicle	21.6	54.5	40.8	123.0	12.2	252.1
Utility pole or post	9.4	81.5	28.4	43.5	18.8	181.6
Tree	6.4	18.0	13.0	7.5	14.6	59.5
Curb	1.4	17.0	8.4	9.5	3.8	40.1
Animal	3.4	11.0	10.2	8.0	5.6	38.2
Other movable object	4.4	4.5	6.0	13.5	6.0	34.4
Pedestrian	0.8	19.0	4.8	6.5	0.4	31.5
Guardrail/median	1.8	7.5	8.8	3.5	3.4	25.0
Other fixed object	0.4	7.5	7.0	3.5	0.0	18.4
Embankment	1.2	5.0	3.8	2.5	3.4	15.9
Bicycle	0.8	7.0	3.4	2.5	0.8	14.5
Bridge	0.0	6.5	0.4	0.5	0.4	7.8
Other	3.4	27.5	8.8	22.5	11.6	73.8
Unknown or uncategorized	4.4	53.0	2.6	27.5	7.4	94.9
Total	219.8	920.0	441.2	857.0	301.8	2739.8

*Attleboro's and North Attleboro's averages are based on 2013 and 2014 only, as the agencies do not have a longer historical collision dataset.

Temporal statistics

If Plainridge Park exerts influence on public safety issues in the region, the changes are likely to exhibit temporal patterns based on visitation times at the casino. Like most small communities, these towns are heavily affected by daytime work patterns, with most calls for service between 10:00 and 19:00, with peaks as school gets out and during evening commutes. (Plainville itself doesn't experience the end-of school peak). Weekend activity is spread evenly throughout the day, and of course extends into the evening on Friday and Saturday nights. After the opening of Plainridge Park, we might expect to see more evening, night, and weekend activity overall.

All Non-Officer-Initiated Calls for Service by Hour of Day and Day of Week, All Participating Communities

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.35%	0.36%	0.27%	0.19%	0.15%	0.19%	0.32%	0.44%	0.54%	0.67%	0.77%	0.78%	0.80%	0.84%	0.95%	0.80%	0.91%	0.95%	0.88%	0.71%	0.64%	0.61%	0.53%	0.39%
Tue	0.34%	0.36%	0.27%	0.18%	0.14%	0.17%	0.31%	0.42%	0.58%	0.68%	0.76%	0.75%	0.77%	0.84%	0.89%	0.81%	0.94%	0.96%	0.87%	0.78%	0.65%	0.60%	0.52%	0.38%
Wed	0.36%	0.37%	0.26%	0.18%	0.16%	0.19%	0.33%	0.46%	0.62%	0.69%	0.78%	0.77%	0.77%	0.85%	0.93%	0.81%	0.90%	0.94%	0.89%	0.75%	0.66%	0.62%	0.51%	0.39%
Thu	0.38%	0.37%	0.29%	0.22%	0.14%	0.18%	0.33%	0.44%	0.59%	0.66%	0.74%	0.75%	0.81%	0.82%	0.90%	0.79%	0.90%	0.92%	0.91%	0.76%	0.68%	0.64%	0.52%	0.41%
Fri	0.39%	0.41%	0.30%	0.21%	0.16%	0.19%	0.34%	0.47%	0.59%	0.68%	0.79%	0.79%	0.85%	0.93%	0.97%	0.89%	0.95%	0.96%	0.94%	0.80%	0.76%	0.77%	0.72%	0.55%
Sat	0.52%	0.58%	0.44%	0.31%	0.19%	0.17%	0.24%	0.33%	0.48%	0.64%	0.78%	0.86%	0.84%	0.85%	0.83%	0.79%	0.88%	0.90%	0.82%	0.79%	0.76%	0.79%	0.74%	0.61%
Sun	0.59%	0.63%	0.45%	0.33%	0.22%	0.17%	0.25%	0.26%	0.37%	0.51%	0.63%	0.72%	0.75%	0.76%	0.76%	0.69%	0.79%	0.79%	0.73%	0.65%	0.64%	0.59%	0.50%	0.37%

All Non-Officer-Initiated Calls for Service by Hour of Day and Day of Week, Plainville

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.24%	0.43%	0.38%	0.35%	0.15%	0.24%	0.34%	0.53%	0.58%	0.57%	0.74%	0.61%	0.80%	0.78%	0.76%	0.91%	0.85%	1.06%	0.96%	0.74%	0.67%	0.60%	0.64%	0.50%
Tue	0.35%	0.39%	0.39%	0.27%	0.16%	0.18%	0.21%	0.44%	0.53%	0.60%	0.70%	0.66%	0.63%	0.68%	0.70%	0.69%	0.82%	1.10%	0.89%	0.65%	0.74%	0.58%	0.62%	0.35%
Wed	0.37%	0.33%	0.30%	0.27%	0.13%	0.20%	0.41%	0.55%	0.87%	0.59%	0.74%	0.58%	0.70%	0.70%	0.82%	0.85%	0.77%	0.99%	0.96%	0.74%	0.64%	0.59%	0.62%	0.43%
Thu	0.31%	0.40%	0.49%	0.26%	0.15%	0.18%	0.30%	0.48%	0.56%	0.65%	0.62%	0.74%	0.82%	0.63%	0.68%	0.81%	0.79%	0.94%	0.90%	0.72%	0.66%	0.81%	0.52%	0.53%
Fri	0.38%	0.46%	0.42%	0.32%	0.18%	0.20%	0.27%	0.59%	0.53%	0.70%	0.67%	0.74%	0.85%	0.84%	0.84%	0.96%	0.82%	0.91%	0.97%	0.86%	0.67%	0.71%	0.82%	0.63%
Sat	0.52%	0.63%	0.62%	0.37%	0.22%	0.13%	0.24%	0.31%	0.48%	0.59%	0.78%	0.92%	0.82%	0.73%	0.75%	0.75%	0.81%	0.85%	0.71%	0.70%	0.70%	0.79%	0.84%	0.67%
Sun	0.56%	0.78%	0.59%	0.40%	0.32%	0.15%	0.22%	0.27%	0.34%	0.45%	0.65%	0.76%	0.74%	0.79%	0.78%	0.82%	0.76%	0.88%	0.67%	0.64%	0.71%	0.54%	0.60%	0.46%

The afternoon weekday peak becomes more acute when we consider traffic calls alone. Since Plainridge Park will bring thousands of commuters to Plainville each year—many passing through other communities on both state and local routes—we might expect these patterns to change more dramatically than general calls for service. Disabled vehicles, collisions, and complaints about traffic safety occur based on volume alone, even when no one is doing anything malicious.

Non-Officer-Initiated Traffic Calls for Service by Hour of Day and Day of Week, All Participating Agencies

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.19%	0.22%	0.14%	0.07%	0.07%	0.10%	0.31%	0.53%	0.63%	0.56%	0.68%	0.72%	0.77%	0.89%	1.17%	0.97%	1.06%	1.18%	0.98%	0.68%	0.49%	0.41%	0.29%	0.25%
Tue	0.20%	0.19%	0.14%	0.08%	0.06%	0.15%	0.34%	0.54%	0.65%	0.66%	0.57%	0.69%	0.89%	0.95%	1.18%	1.08%	1.10%	1.25%	1.08%	0.77%	0.56%	0.50%	0.36%	0.26%
Wed	0.23%	0.19%	0.15%	0.08%	0.07%	0.13%	0.39%	0.61%	0.68%	0.58%	0.63%	0.74%	0.80%	0.84%	1.26%	0.99%	0.98%	1.33%	1.08%	0.68%	0.62%	0.55%	0.38%	0.26%
Thu	0.27%	0.24%	0.15%	0.11%	0.07%	0.11%	0.36%	0.60%	0.58%	0.56%	0.67%	0.63%	0.86%	0.92%	1.10%	0.99%	1.15%	1.27%	1.17%	0.79%	0.64%	0.58%	0.41%	0.29%
Fri	0.25%	0.28%	0.16%	0.12%	0.09%	0.14%	0.38%	0.59%	0.64%	0.62%	0.70%	0.91%	0.97%	1.04%	1.28%	1.23%	1.25%	1.38%	1.23%	0.95%	0.70%	0.72%	0.62%	0.38%
Sat	0.38%	0.39%	0.26%	0.20%	0.09%	0.08%	0.15%	0.24%	0.40%	0.59%	0.88%	1.02%	1.12%	1.08%	1.13%	1.03%	1.13%	1.27%	0.89%	0.83%	0.72%	0.62%	0.56%	0.40%
Sun	0.51%	0.42%	0.26%	0.18%	0.10%	0.10%	0.14%	0.14%	0.18%	0.38%	0.48%	0.69%	0.88%	0.94%	0.91%	0.82%	0.91%	0.82%	0.74%	0.57%	0.52%	0.37%	0.30%	0.18%

Non-Officer-Initiated Traffic Calls for Service by Hour of Day and Day of Week, Plainville

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.19%	0.08%	0.19%	0.03%	0.00%	0.22%	0.36%	0.55%	0.77%	0.58%	0.74%	0.63%	0.80%	0.91%	0.55%	1.10%	1.07%	1.43%	1.27%	0.69%	0.30%	0.50%	0.41%	0.52%
Tue	0.25%	0.14%	0.08%	0.06%	0.00%	0.08%	0.28%	0.33%	0.69%	0.69%	0.66%	0.80%	0.85%	0.88%	0.77%	1.05%	1.79%	0.96%	0.94%	0.66%	0.55%	0.41%	0.17%	
Wed	0.19%	0.11%	0.11%	0.08%	0.11%	0.19%	0.47%	0.61%	0.58%	0.50%	0.55%	0.55%	0.96%	0.47%	1.32%	1.02%	0.72%	1.35%	1.43%	0.88%	0.72%	0.55%	0.69%	0.25%
Thu	0.14%	0.11%	0.14%	0.06%	0.08%	0.25%	0.39%	0.63%	0.63%	0.61%	0.47%	0.69%	1.16%	0.80%	0.83%	1.07%	1.18%	1.27%	1.24%	0.88%	0.80%	0.88%	0.63%	0.58%
Fri	0.30%	0.14%	0.08%	0.11%	0.08%	0.11%	0.41%	0.74%	0.63%	0.66%	0.83%	0.88%	0.94%	0.94%	1.05%	1.07%	1.02%	1.35%	1.27%	0.99%	0.72%	0.80%	0.96%	0.50%
Sat	0.39%	0.28%	0.19%	0.14%	0.08%	0.08%	0.17%	0.22%	0.50%	0.61%	0.80%	0.94%	1.10%	0.83%	0.88%	1.05%	1.32%	1.29%	0.96%	0.61%	0.77%	0.52%	0.69%	0.58%
Sun	0.47%	0.50%	0.25%	0.08%	0.03%	0.08%	0.17%	0.19%	0.19%	0.47%	0.39%	0.47%	0.69%	0.91%	0.44%	1.10%	0.85%	0.83%	0.52%	0.72%	0.61%	0.30%	0.36%	0.22%

Violent crime shows nighttime peaks, as it most commonly happens when people who know each other have a chance to gather together. It extends later into the evening on Fridays and Saturdays with more alcohol-related activity. This is the category perhaps least likely to feel the influence of Plainridge Park.

Violent crimes by hour of the day and day of the week, all participating agencies

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.36%	0.47%	0.38%	0.29%	0.32%	0.07%	0.20%	0.27%	0.25%	0.41%	0.63%	0.52%	0.72%	0.81%	0.74%	0.61%	0.88%	0.77%	0.99%	0.88%	0.99%	0.81%	0.79%	0.43%
Tue	0.38%	0.43%	0.29%	0.18%	0.20%	0.20%	0.18%	0.20%	0.34%	0.74%	0.43%	0.81%	0.83%	0.68%	0.61%	0.90%	0.74%	0.74%	1.13%	0.79%	0.63%	0.81%	0.52%	
Wed	0.50%	0.29%	0.43%	0.18%	0.27%	0.11%	0.07%	0.34%	0.47%	0.50%	0.63%	0.41%	0.70%	0.77%	0.74%	0.68%	0.81%	0.74%	0.95%	0.93%	0.83%	0.72%	0.81%	0.74%
Thu	0.34%	0.23%	0.20%	0.25%	0.20%	0.18%	0.23%	0.45%	0.38%	0.43%	0.38%	0.45%	0.77%	0.54%	0.70%	0.63%	0.95%	0.68%	0.72%	0.86%	0.88%	0.68%	0.86%	0.77%
Fri	0.52%	0.34%	0.29%	0.34%	0.16%	0.11%	0.11%	0.20%	0.52%	0.54%	0.54%	0.83%	0.77%	0.77%	0.88%	0.81%	0.65%	0.99%	0.81%	0.83%	1.02%	0.90%	0.90%	1.08%
Sat	0.70%	1.04%	0.83%	0.29%	0.41%	0.16%	0.23%	0.16%	0.32%	0.45%	0.50%	0.61%	0.81%	0.43%	0.83%	0.47%	0.95%	1.02%	0.79%	0.99%	1.20%	1.02%	0.95%	0.95%
Sun	0.86%	0.86%	0.79%	0.54%	0.45%	0.23%	0.07%	0.38%	0.20%	0.23%	0.36%	0.59%	0.79%	0.61%	0.72%	0.43%	0.70%	0.95%	0.77%	1.22%	1.33%	1.40%	0.93%	0.61%

Property crimes, on the other hand, are heavily skewed by daytime activity at retail establishments. We might see a pull to the evening as an effect of Plainridge Park.

Property crimes by hour of the day and day of the week, all participating agencies

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.48%	0.67%	0.63%	0.43%	0.27%	0.18%	0.21%	0.28%	0.46%	0.52%	0.64%	0.81%	1.12%	0.89%	1.02%	0.79%	1.01%	0.74%	0.78%	0.50%	0.64%	0.58%	0.43%	0.48%
Tue	0.50%	0.51%	0.44%	0.42%	0.37%	0.27%	0.21%	0.34%	0.45%	0.50%	0.79%	0.94%	0.91%	0.82%	0.90%	0.88%	0.88%	0.69%	0.73%	0.73%	0.54%	0.51%	0.40%	0.45%
Wed	0.58%	0.63%	0.74%	0.48%	0.38%	0.19%	0.24%	0.25%	0.38%	0.57%	0.54%	0.91%	0.93%	0.91%	0.82%	0.77%	0.82%	0.76%	0.87%	0.83%	0.59%	0.51%	0.38%	0.36%
Thu	0.57%	0.55%	0.49%	0.55%	0.37%	0.20%	0.23%	0.30%	0.46%	0.54%	0.72%	0.69%	1.05%	0.87%	0.90%	0.85%	0.82%	0.69%	0.61%	0.72%	0.66%	0.43%	0.45%	0.40%
Fri	0.52%	0.71%	0.67%	0.64%	0.43%	0.28%	0.32%	0.33%	0.50%	0.49%	0.57%	0.74%	1.21%	0.93%	1.04%	0.94%	0.96%	0.88%	0.77%	0.86%	0.66%	0.61%	0.58%	0.55%
Sat	0.49%	0.57%	0.66%	0.58%	0.41%	0.31%	0.22%	0.23%	0.41%	0.57%	0.69%	0.63%	0.90%	0.73%	0.89%	0.91%	0.93%	0.75%	0.64%	0.72%	0.65%	0.57%	0.48%	0.42%
Sun	0.55%	0.56%	0.70%	0.51%	0.29%	0.22%	0.23%	0.27%	0.22%	0.37%	0.42%	0.57%	0.70%	0.70%	0.65%	0.77%	0.81%	0.85%	0.48%	0.57%	0.54%	0.57%	0.40%	0.32%

Drug and alcohol-related crimes already show predominantly evening patterns. We may see a volume change in these offenses without noting any temporal shifts.

Drug- and alcohol-related crimes by hour of the day and day of the week, all participating agencies

Day	Hour of Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon	0.57%	0.70%	0.31%	0.26%	0.05%	0.08%	0.05%	0.10%	0.13%	0.08%	0.18%	0.23%	0.31%	0.55%	0.23%	0.26%	0.36%	0.63%	0.86%	0.68%	0.52%	0.52%	0.49%	0.18%
Tue	0.26%	0.57%	0.29%	0.10%	0.10%	0.05%	0.00%	0.10%	0.13%	0.08%	0.13%	0.18%	0.21%	0.49%	0.31%	0.26%	0.47%	0.47%	1.17%	0.99%	1.56%	1.33%	0.81%	0.57%
Wed	0.29%	0.52%	0.34%	0.10%	0.10%	0.05%	0.08%	0.16%	0.13%	0.13%	0.21%	0.26%	0.34%	0.57%	0.34%	0.23%	0.70%	0.47%	1.28%	1.17%	1.41%	1.17%	0.78%	0.49%
Thu	0.42%	0.89%	0.36%	0.29%	0.05%	0.13%	0.03%	0.08%	0.10%	0.21%	0.13%	0.47%	0.31%	0.34%	0.31%	0.49%	0.26%	0.73%	0.49%	0.78%	0.96%	1.30%	0.96%	0.70%
Fri	0.65%	1.07%	0.47%	0.23%	0.16%	0.05%	0.08%	0.03%	0.08%	0.23%	0.21%	0.21%	0.21%	0.55%	0.42%	0.39%	0.47%	0.99%	1.07%	1.67%	1.35%	1.85%	1.56%	1.28%
Sat	0.94%	1.54%	2.24%	0.73%	0.39%	0.21%	0.13%	0.10%	0.10%	0.08%	0.10%	0.10%	0.16%	0.42%	0.26%	0.47%	0.65%	1.09%	1.82%	3.28%	4.14%	3.00%	2.40%	1.22%
Sun	1.17%	1.82%	1.25%	0.60%	0.36%	0.21%	0.21%	0.10%	0.08%	0.05%	0.16%	0.23%	0.08%	0.21%	0.31%	0.29%	0.52%	1.77%	1.41%	1.88%	2.03%	1.51%	1.28%	0.47%

Spatial analysis examples

I developed a coordinate library specifically for this project, translating each address in the contributing communities (over 40,000, including errors) to X and Y coordinates. This makes it possible to map any combination of data—crimes, collisions, and crashes—for any time period.

For instance, the map below simply shows all robberies in the region during the baseline period. Most activity is concentrated along Route 1 except for downtown clusters in Mansfield and Attleboro.

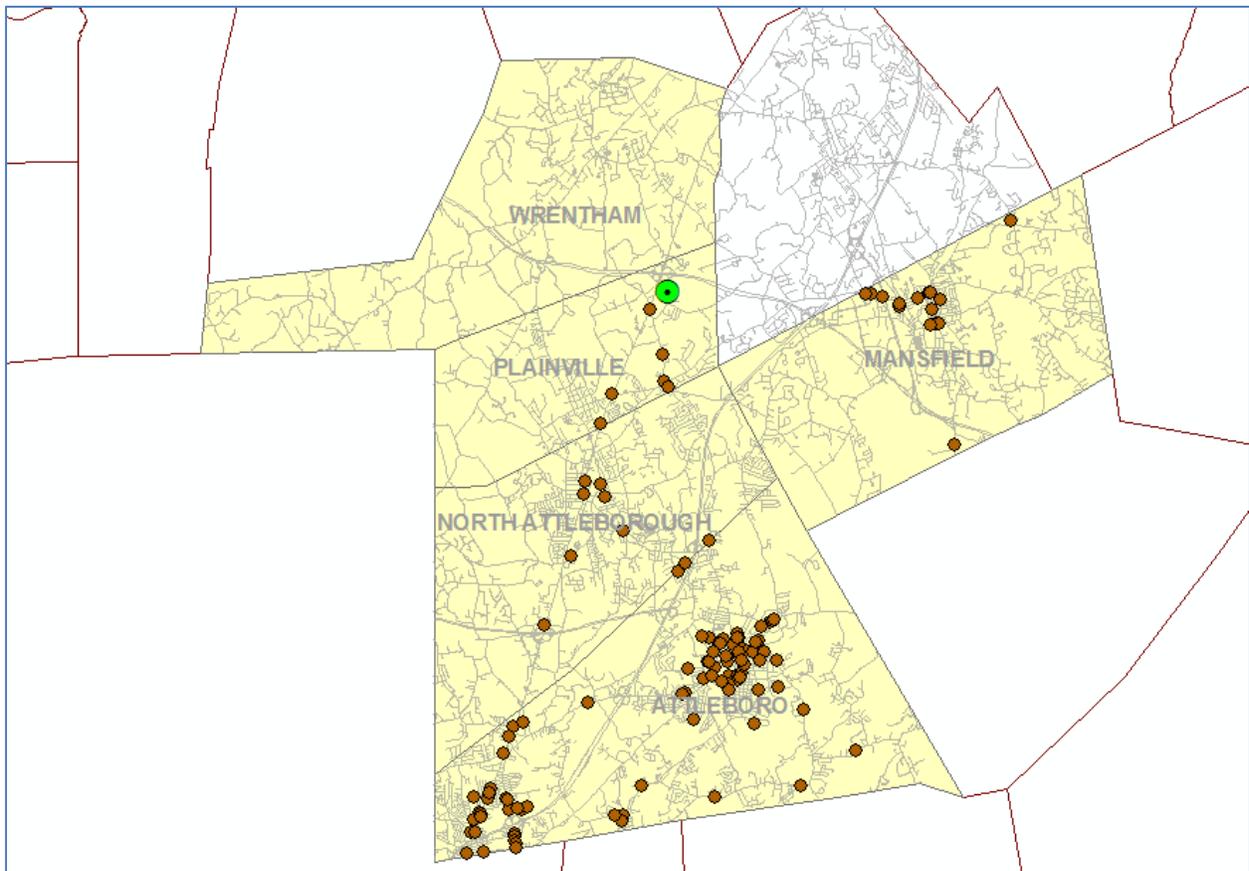


Figure 3: A pinmap of robberies in all contributing communities, 2010-2014

This map, on the other hand, provides an example of data sliced more finely: drunk driving arrests on Friday and Saturday nights, only in a three-hour window. We could take this further by looking at specific age ranges of the offenders or only incidents that resulted from a collision.

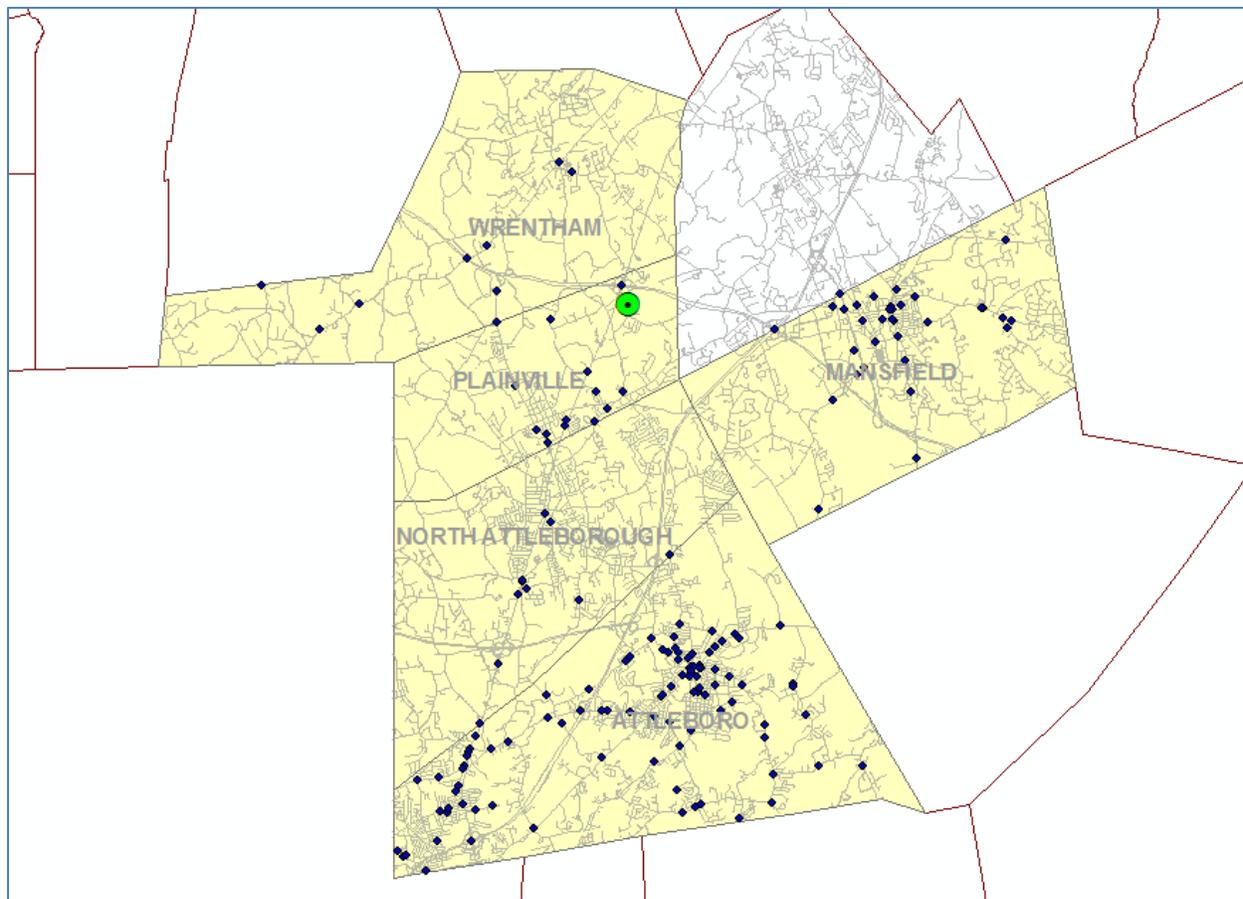


Figure 4L Drunk Driving Incidents in All Contributing Agencies, Fridays & Saturdays, 22:00–02:00, 2010–2014

These point maps can then be aggregated into a variety of hot spot maps depending on the best technique for the specific crime. Below are some representative examples.

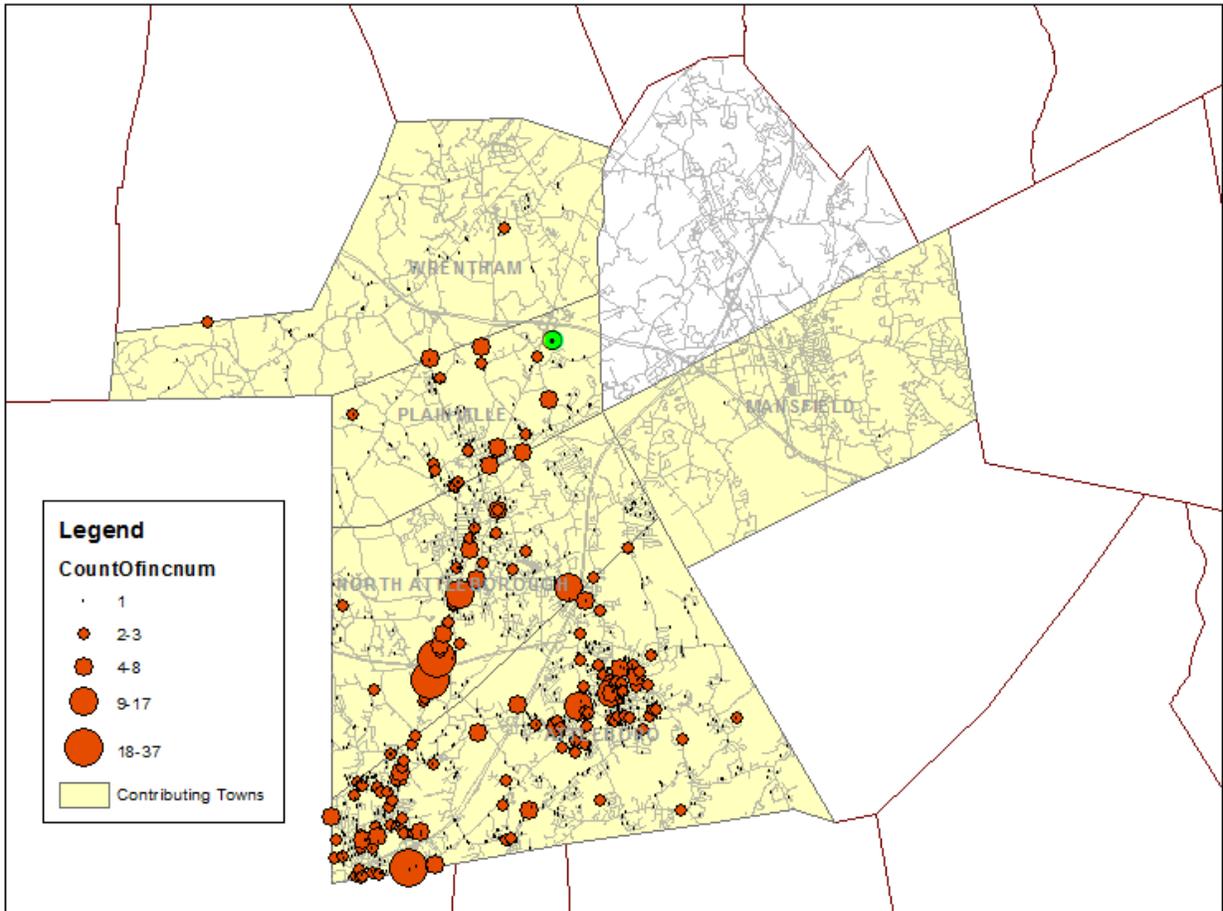


Figure 5: Thefts from Vehicles in All Contributing Agencies, 2010-2014, Hot Spots by Individual Location

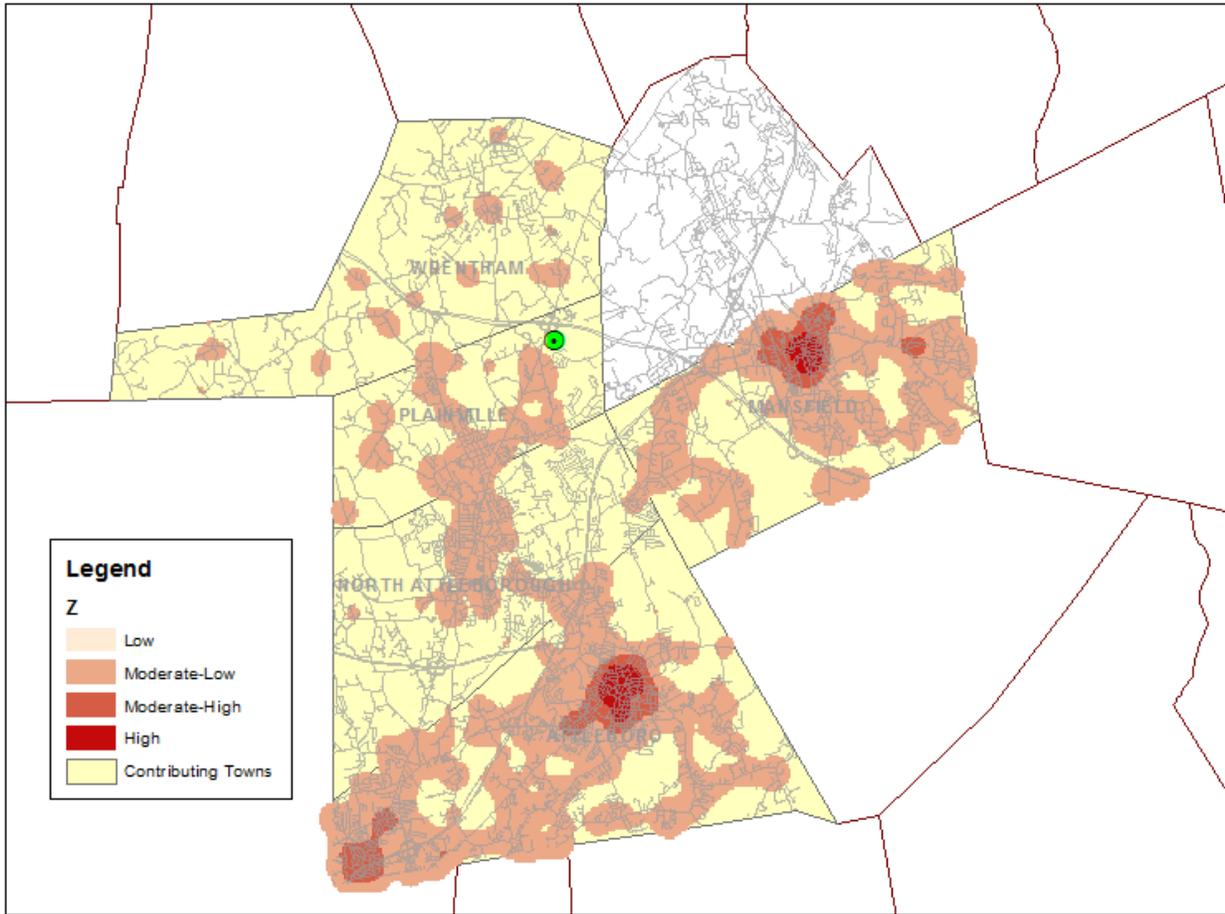


Figure 6: Burglaries in All Contributing Agencies, 2010-2014, Hot Spots by Density

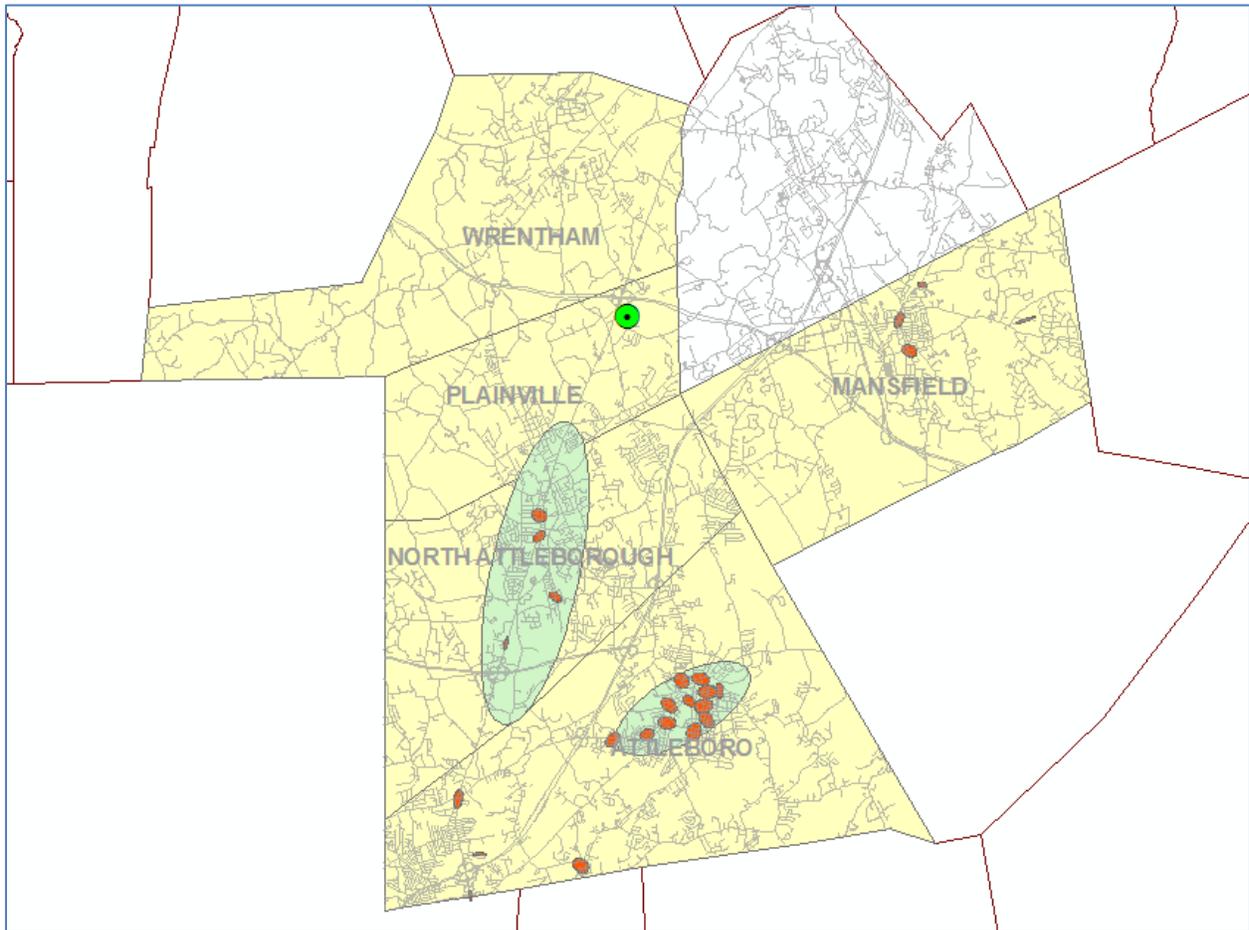


Figure 7: Disorderly Calls for Service in All Contributing Agencies, 2010-2014, Hot Spots by Significant Clusters

I could easily fill this report with thousands of pages of maps for a variety of crimes, but I decline to do so for space reasons. This is an example of the baseline dataset being more valuable than any report generated from it. Suffice to say that after the opening of Plainridge Park, the geocoded data can be analyzed spatially a number of ways depending on what changes are observed. We will be looking not only at volume of activity but shifts in hot spots and new hot spots emerging.

To facilitate this analysis, I have created a special polygon layer that divides each city into several zones. The primary purpose of the zones is to create corridors around major travel routes in and out of Plainville, including Route 1, Route 152, Route 106, and Route 495. By analyzing minute changes within these zones, we can more easily determine if overall changes in the contributing cities are related to the presence of the casino.

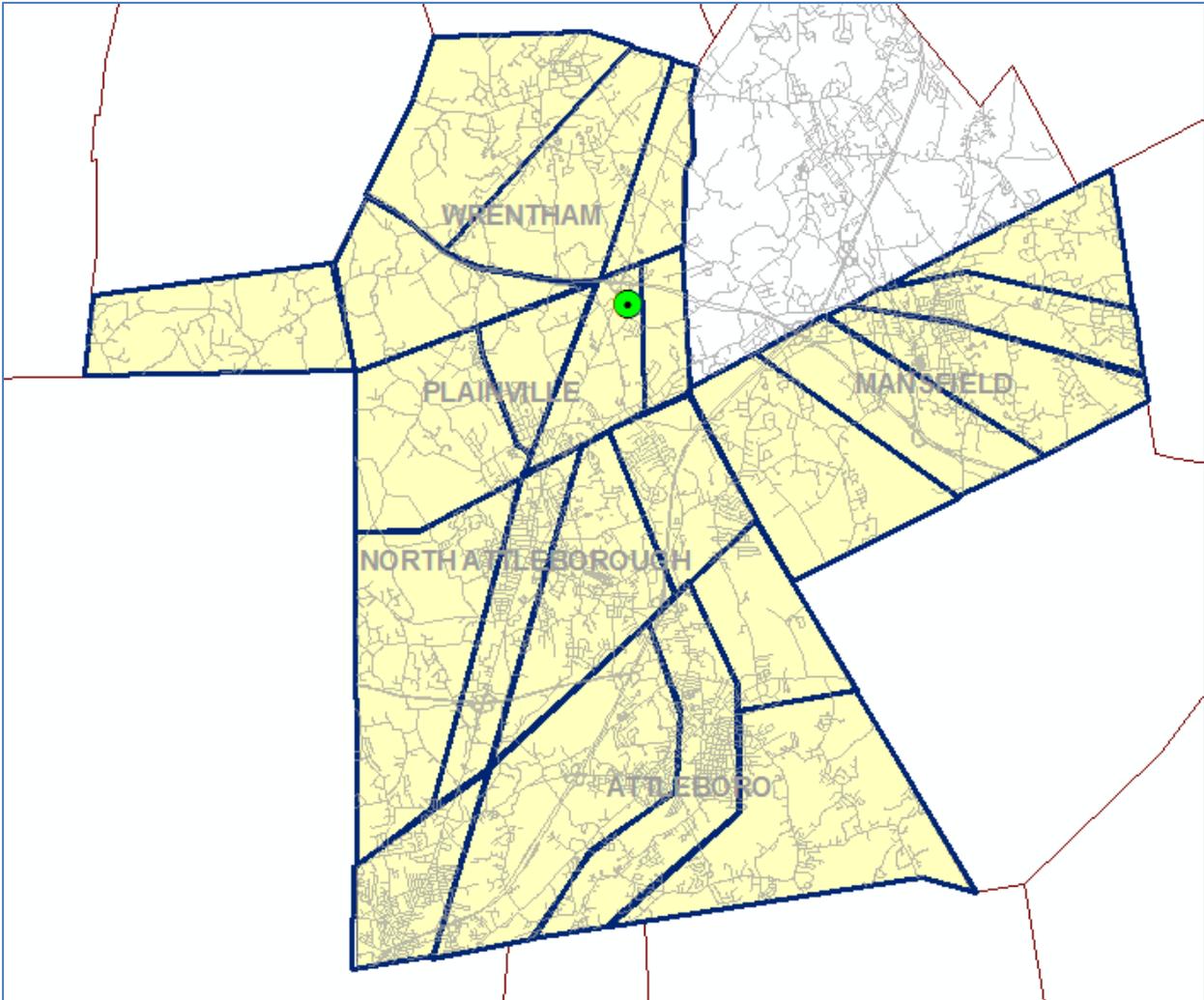


Figure 8: Zonal divisions for each city, creating travel corridors to facilitate analysis.

Conclusion and planned analysis of changes

After August 1, 2015, I will perform another extract from each of the participating agencies' records management systems and compare activity in previous Julys to what we saw in July 2015 after the opening of Plainridge Park. I will:

- Assess in overall volume of crimes, calls for service, and collisions in this period
- Analyze for patterns in any categories that did experience significant change
- Look for changes in hot spots and temporal patterns
- Study changes in offender and victim demographics, including journey to crime
- Flag emerging problems involving particular types of crime, properties, or offenders

This analysis will be repeated in September 2015. In October 2015, with three months of post-casino data available, I will work with SEIGMA to structure a more comprehensive evaluation, comparing the Plainville area to identified control areas.

I will continue extracting data and communicating with the area chiefs monthly unless it becomes clear that no significant changes are taking place and monthly analysis is unnecessary, something that we will be able to assess after about 6 months.

Appendix: Abbreviations and definitions

Acronyms and abbreviations

CAD	Computer-aided Dispatch (system)	A police database that holds information about police dispatches to calls for service, including incidents discovered by police officers. Some but not all of the incidents reported in CAD are crimes and have longer records in the RMS.
IBR	Incident-based reporting	See NIBRS.
MGC	Massachusetts Gaming Commission	The commonwealth agency charged with overseeing and regulating gaming in Massachusetts
FBI	Federal Bureau of Investigation	National investigative agency, part of the U.S. Department of Justice, in charge of collecting national crime statistics.
IACA	International Association of Crime Analysts	A global nonprofit professional association that provides training, literature, and networking to individuals who analyze crime data.
MACA	Massachusetts Association of Crime Analysts	A nonprofit professional association that provides training, literature, and networking to individuals who analyze crime data in New England.
NIBRS	National Incident-based Reporting System	FBI program for data collection that supersedes UCR. Collects more specific data about a wider variety of crimes. With only a few exceptions, all Massachusetts agencies report to NIBRS and all Massachusetts RMS vendors have implemented NIBRS coding standards.
ODBC	Open Database Connectivity	A technology developed by Microsoft that allows any application that uses a database to connect to any database source. The primary mechanism by which we can extract data from police CAD and RMS databases.
RMS	Records Management System	A police data system that stores information about crimes and offenders. See also CAD.
SEIGMA	Social and Economic Impacts of Gaming in Massachusetts	A multi-year research project hosted by the University of Massachusetts Amherst School of Public and Health Sciences. The SEIGMA project has a much broader mandate for its study than just crime.
UCR	Uniform Crime Reporting (program)	National program for the reporting of crime statistics to the FBI. Captures only summary data about a limited number of crime types. Contrast with NIBRS.

Crime definitions

The following are definitions of the crime categories used in this report. These are mostly drawn without modification from the FBI's definitions for NIBRS crime categories. In almost all cases, *attempts* to commit these crimes are counted equally with completed offenses. These crimes must, of course, be reported to the police to be included in this report.

Aggravated Assault: An attack by one person upon another for the purpose of inflicting severe bodily injury. Aggravated assault is either accompanied by the use of a deadly weapon (e.g., gun, knife, club) or some mechanism that would result in serious harm (e.g., pushing someone down a staircase), or by serious injury even with a weapon that isn't normally "deadly" (e.g., punching someone and breaking his jaw). If the incident involved neither a deadly weapon nor serious injury, it's coded as a simple assault instead.

Arson: Intentional burning of a structure, vehicle, or personal property.

Auto theft: Thefts of vehicles capable of operating under their own power, including automobiles, trucks, buses, motorcycles, and snowmobiles.

Bad checks: The issuance of checks on accounts with insufficient funds. This type of crime is typically only reported by police when an arrest is made or an individual is charged.

Burglary: Unlawful entry of a structure, including residences, commercial buildings, and government buildings. The entry does not have to occur by force (e.g., a "break-in"). The usual motive for burglary is to steal something inside, but this isn't a necessary part of the definition.

Counterfeiting/forgery: Use or possession of an altered, copied, or imitated negotiable or non-negotiable instrument, including U.S. currency, checks, and money orders.

Credit card fraud: Use of a stolen credit card or credit card data to obtain goods or services.

Drug offenses: Manufacturing, sale, trafficking, transporting, or possession of controlled substances. Typically, "incidents" of such crime are arrests, as the only way such incidents are reported is when they are discovered by the police.

Drunk driving: Operation of a motor vehicle while intoxicated; usually while above a state-designated legal blood alcohol level.

Fraud/con games. Theft of property by lying in such a way that convinces a victim to surrender money or goods. It is theft through some kind of scheme or ruse.

Identity theft: Representation of oneself as another (actual) person, or use of another person's identifying information to obtain goods or services, housing, medical care, or status.

Liquor law violations: Illegal manufacturing, sale, possession, or consumption of intoxicating drinks, often because the offender is below the legal age.

Other thefts: A general category that includes thefts of services (e.g., gas drive-offs), thefts from persons (e.g., pocket-picking), thefts from outdoor public areas.

Prostitution: Promotion or participation of sexual activities for profit. As with drug offenses, most “incidents” of prostitution are arrests, as the crime is rarely reported except when discovered by the police.

Robbery: Taking or attempting to take anything of value from another person by force or violence or threat of force or violence. “Muggings” and “hold-ups” are examples of robberies. A robbery requires a direct confrontation between the offender and victim; houses and buildings cannot be “robbed.”

Sexual assault: Any sexual act directed against another person (of either sex), either by force or otherwise against the person’s will, or non-forcibly but when the victim is incapable of giving consent because of temporary or permanent mental or physical incapacity. This category combines rapes, indecent assaults, molestation, and sexual penetration with an object.

Shoplifting: Thefts of items offered for sale at retail establishments.

Stolen property offenses: Possession or sale of property previously stolen including motor vehicles and personal property. Often, the person possessing the property is the one who stole it in the first place, but this category is used when the actual thief cannot be determined.

Thefts from buildings: Thefts of items from commercial or government buildings open to the public, where such entry does not constitute burglary. This often takes the form of thefts of employees’ property at businesses.

Thefts from vehicles: Thefts of items from motor vehicles. The category includes breaking into vehicles (e.g., smashing a window), unlocked entry, and thefts of items from a vehicle’s exterior, such as pickup truck beds. Note that thefts of vehicle parts are in a separate category.

Thefts of vehicle parts: Theft of parts or accessories from motor vehicles, including wheels, license plates, and engine parts.

Vandalism: Destruction or defacement of public property, buildings, vehicles, or personal property.

Weapon offenses: Possession, sale, or manufacturing of illegal weapons. This is often an additional offense discovered by police during arrests for other crimes.

Call for service definitions

Alarm: A burglar, panic, or medical alarm that required a response but (probably) turned out to be false or would have a different final code.

Animal complaint: Calls involving sick, dangerous, or wild animals, or loose or noisy pets.

Disabled vehicle: A call for service for a vehicle suffering physical or mechanical trouble, usually broken down in an active roadway.

Disorderly conduct: Any of a variety of types of disorderly conduct and excessive noise.

Domestic dispute: A dispute between family members, spouses, or intimate partners that has not risen to the level of physical violence.

Medical aid: All calls for medical aids except unattended deaths and overdoses. Police responses only are included in the figures in this report.

Psychological issue: Calls for service involving individuals with mental health issues.

Suspicious activity: Any suspicious person, vehicle, or other activity, whether identified by an officer or citizen.

Traffic collision: A collision involving at least one motor vehicle.

Traffic complaint: Complaint about reckless driving, illegal or unsafe parking, or other traffic issues.

Trespassing: Trespassing on private or public property.

Youth disorder: Disorderly incidents involving youths congregating, skateboarding, making noise, and so forth.

Offense types by associated crime category

Offense	Category
Aggravated Assault	Violent Crime
All Other	Other Crime
Arson	Property Crime
Auto Theft	Property Crime
Bad Checks	Property Crime
Burglary	Property Crime
Credit Card Fraud	Property Crime
Disorderly	Societal Crime
Drug Equipment Offense	Drug/Alcohol Crime
Drug Offense	Drug/Alcohol Crime
Drunk Driving	Drug/Alcohol Crime
Drunkenness	Drug/Alcohol Crime
Employee Theft	Property Crime
Extortion	Property Crime
Family Offenses	Other Crime
Forgery	Property Crime
Fraud/Con Games	Property Crime
Gambling	Societal Crime
Identity Theft	Property Crime
Kidnapping	Violent Crime

Offense	Category
Liquor Law Violations	Drug/Alcohol Crime
Murder	Violent Crime
Other Thefts	Property Crime
Peeping Tom	Other Crime
Pornography	Societal Crime
Prostitution	Societal Crime
Robbery	Violent Crime
Runaway	Other Crime
Sexual Assault	Violent Crime
Shoplifting	Property Crime
Simple Assault	Violent Crime
Statutory Rape	Other Crime
Stolen Property Offense	Property Crime
Thefts from Buildings	Property Crime
Thefts from Vehicles	Property Crime
Thefts of Vehicle Parts	Property Crime
Threats	Violent Crime
Trespassing	Other Crime
Vandalism	Property Crime
Weapon Offenses	Societal Crime