## **2010 TOP CRASH LOCATIONS REPORT**



## **SEPTEMBER 2012**



#### Dear Reader:

Enclosed is MassDOT Highway Division's edition of the 2010 *Top Crash Locations Report*, which may be used to evaluate top crash intersection locations and top crash pedestrian and bicycle locations in order to improve the safety of our roadway system. This report, like last year's report, focuses on intersection locations and is based on crashes entered into the Registry of Motor Vehicles' Crash Data System (CDS). The 2010 Report contains the identification of top bicycle-motor vehicle and pedestrian-motor vehicle crash locations. This information is also available by contacting your Regional Planning Agency and MassDOT Highway District Traffic Engineer.

In an effort to reduce injury and fatal crashes, MassDOT, in cooperation with a variety of public and private stakeholders, is in the process of updating the Massachusetts Strategic Highway Safety Plan (SHSP). To view the original SHSP (from 2006), download a copy of the plan or to learn more about it, go to the MassDOT Highway Division Traffic Engineering and Safety website. The Safety Plan identifies the State's key safety needs and can be used to guide investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roads based upon a data-driven process.

This dataset may be used as a screening tool to evaluate locations and make changes to improve the safety of our roadway system. The 2010 *Top Crash Locations Report* is one of the tools for the Statewide Highway Safety Improvement Program (HSIP) to identify safety projects using a data-driven process.

Please note that this report is based only on crash records that have been entered into the statewide crash system and have been geocoded to a specific location. Although Massachusetts General Laws Chapter 90 § 26 and 29 require drivers and police departments to file crash reports that exceed specific thresholds, this is not always the case. Furthermore, not all crashes submitted to the Registry of Motor Vehicles get entered into the crash system. Improving the crash reporting system and the quality of the data will help to focus resources where they are most needed.

I am convinced that we can make great strides in improving safety in on Massachusetts roadways for all users. If you have questions, please contact Neil Boudreau, State Traffic Engineer at (857) 368-9655.

Sincerely,

Frank DePaola, P.E. Administrator

#### TOP HIGH CRASH LOCATIONS REPORT

Top 200 Intersection Locations 2008-2010 Top Pedestrian Locations 2002-2010 Top Bicycle Locations 2002-2010

#### Introduction

MassDOT Highway Division obtains crash data from the MassDOT Registry of Motor Vehicles (RMV) Division and uses it for a number of purposes. The primary function is to provide a foundation for developing safety improvement projects. The Top High Crash Locations Report is one of the tools used in this process. Previously, MassDOT Highway Division, with the assistance from Central Transportation Planning Staff (CTPS), produced a Top 1000 Highway Crash Locations Report which included all types of locations (interchanges, intersections and rotaries). Four years ago, MassDOT Highway Division developed a new report type where the locations identified were crash clusters at intersections (no grade separated locations and no locations with weaving sections). Beginning three years ago, the report also included the top bicycle and pedestrian clusters. This year, MassDOT Highway Division has also prepared a Top High Crash Locations Report which includes the top 200 high crash intersection locations using crash data from 2008-2010 and also includes the weighted (by crash severity) highest frequency bicycle-motor vehicle and pedestrian-motor vehicle crash locations for 2002-2010.

The RMV obtains crash data from State and local police reports and from motor vehicle operators (motorists) who are involved in crashes. The RMV Crash Records Section collects, enters and maintains crash data records, which are the source of the MassDOT Highway Division crash data.

To produce this high crash locations listing, MassDOT Highway Division, with the assistance of Geonetics, Inc., has developed an automated procedure for processing, standardizing, matching and aggregating the crash data by geographical location using Geographic Information System (GIS) tools and procedures.

Generally, the geocoding rate (the rate at which crashes can be located to a specific geographical point) for crashes between 2008 and 2010 is over 91%. However, the geocoding rate is not uniform for all crashes or for all types of crash locations. Some crashes may be more difficult to geocode because of multiple intersections between the same roadway names within a community, mis-entry of location information on the crash report form or a host of other reasons.

The number of crashes contained within the RMV crash system has changed dramatically due to a shift in data entry. General the crash system is comprised of crash reports from police and operators (drivers). The number of operator reports entered into the statewide crash system has declined dramatically. The table below illustrates the change in data entry at the RMV.

Reporting Entity	2005	2006	2007	2008	2009	2010
Operator	40,098	40,533	34,348	26,715	9,303	4,148
Local police	102,698	94,602	95,400	93,649	92,819	94,457
Other	353	201	153	198	123	154
State police	14,935	14,524	14,608	15,822	15,519	16,882
TOTAL	158,084	149,860	144,509	136,384	117,764	115,641

Furthermore, the reporting levels of some communities have changed dramatically between the old reporting format (pre-2002) and the new format and as communities move from submitting on paper to submitting electronically (details on reporting level by community are available upon request). Obviously, these reporting changes significantly impact the results of the Top High Crash Locations Report.

Due to the many difficulties in obtaining precise, useable crash location data and many issues involved in variations in crash reporting rates by some jurisdictions, this report should be used as a general purpose screening tool rather than as a precise listing of crash frequencies by individual locations. Furthermore, because of the spatial nature of the crash clusters, it is imperative to view the crash clusters spatially and not just rely on the tabular naming convention to understand the crash cluster locations.

#### **Methodology – Intersection Locations**

The intersection crash cluster analysis method, developed by Geonetics for MassDOT, is a comprehensive method designed to locate crash clusters. At the heart of the method is a 25 meter (82 ft.) fixed search distance around each crash. In basic terms, this radius controls how far the application will search for adjacent crashes. Using a 25 meter radius, the analysis method found nearby crashes and merged their areas together, thus creating clusters. If two distinct clusters are found to share a common crash, the two clusters are merged into a single cluster. This method of search-and-merge results in a set of many distinct clusters of different sizes and shapes. The application then stores these clusters to the GIS output file, along with the count of crashes within the cluster. The clusters were then ranked by the number of Equivalent Property Damage Only (EPDO) crashes contained within their boundaries. As in previous Top Crash Lists, fatal crashes are weighted by 10, injury crashes are weighted by 5 and property damage only or non-reported is weighted by 1. These are the same weights that were used to generate the previous Top 1000 High Crash Locations Report using crash data from the previous crash system.

The crashes were then named based on the highest functional classification roadway within the cluster, followed by the roadway with the second highest functional classification. In instances where there were two roadways with the identical classification, the first street name selected was the street with the longest segment contained within the cluster. Some cluster naming was modified to insert the name of a private way or site drive, rather than leaving it as unnamed. Note that the area encompassing the crash cluster may cover a larger area than just the intersection.

The module to automatically determine whether the location was an intersection, rotary, interchange or other type of facility has not yet been developed. Therefore, a review of each location was required to make that determination. Generally, a location was determined to be an "intersection" if the cluster did not contain roadways with grade separation (interchange) nor weaving sections (rotaries or ramps). The clusters were reviewed in descending EPDO order until 200 locations were obtained. A sample of the top 2 ranked intersection locations is included in this report to illustrate the concept of the intersection clustering. The actual crash clusters can be viewed on the interactive maps at <a href="mass.gov/mhd/topcrashclusters">mass.gov/mhd/topcrashclusters</a>. Furthermore, a shape file of the top crash intersection locations is available upon request.

The above method was used to develop the top 200 intersection crash locations for crashes occurring during the three year period from 2008 to 2010. As with previous editions, the crash location analysis has been scored over a three-year period. By using crash experience over the three-year period, anomalies in the individual years of data tend to be reduced.

#### Methodology - Pedestrian and Bicycle Locations

Similar to previous years, the top locations where reported collisions occurred between pedestrians and motor vehicles and bicycles and motor vehicles have been identified. The crash cluster analysis methodology for both the top pedestrian and the top bicycle crashes is similar to the top intersection location methodology in that it uses a fixed meter search distance (for both pedestrian and bicycle crashes it is 100 meters (328 ft.) compared to 25 meters for intersection locations) to merge crash clusters together. Crashes involving collisions between motor vehicles and pedestrians or bicycles were identified by using the non-motorist type code within the CDS database (which may yield different results from using most harmful event, first harmful event, or sequence of events data fields). Furthermore, the methodology uses the Equivalent Property Damage Only (EPDO) weighting to rank the clusters. However, because of the relatively small number of reported pedestrian and bicycle crashes in the crash data file, the clustering analysis used crashes from the nine year period from 2002-2010, instead of the three year analysis for intersection locations. Additionally, due to the larger geographic area encompassed by both the pedestrian and the bicycle crash clusters, it was difficult to name them so they were left unnamed but can be viewed spatially. The top 10 ranked pedestrian crash locations and the top 10 bicycle crash locations are included in this report. The actual crash clusters can be viewed on the interactive maps at mass.gov/mhd/topcrashclusters.

For further information, please contact Neil Boudreau, State Traffic Engineer, Traffic Engineering and Safety Section, MassDOT Highway Division, 10 Park Plaza, Room 7210, Boston, MA 02116, phone (857) 368-9655.

#### **NOTICE**

It should be noted that the Top 200 High Crash Intersection Locations Report was compiled under the authority of United States Code Title 23, Section 148, Highway Safety Improvement Program, sponsored by the Federal Highway Administration. The compilation of such information is, therefore, subject to the limitations of Section 148 (g) (4) which states:

"Discovery and admission into evidence of certain reports, surveys, and information - Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section, shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in such reports, surveys, schedules, lists or other data."

1 LOWELL NMCOG 4 VETERANS OF FOREIGN WARS HIGHWAY VARNUM AVENUE 1 2 MILTON MAPC 6 RANDOLPH AVENUE CHICKATAWBUT ROAD	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
2 MILTON MAPC 6 RANDOLPH AVENUE CHICKATAWBUT ROAD		329			
Lawrence Children Control of the Con	73		0	42	119
3 LOWELL NMCOG 4 MIDDLESEX STREET WOOD STREET 1		233	0	40	33
	131	231	0	25	106
4 CONCORD,LINCOLN MAPC 4 CONCORD TURNPIKE (CROSBY'S CORNER) 2 CAMBRIDGE TURNPIKE 2 1	103	223	0	30	73
5 FALL RIVER SRPEDD 5 PLYMOUTH AVENUE 81 RODMAN STREET 1	107	215	0	27	80
6 BROCKTON OCPC 5 PLEASANT STREET 27 WEST STREET	90	214	0	31	59
7 FALL RIVER SRPEDD 5 PRESIDENT AVENUE 6 NORTH MAIN STREET	92	212	0	30	62
8 WOBURN MAPC 4 MAIN STREET 38 PLEASANT STREET 1	121	205	0	21	100
8 SWANSEA SRPEDD 5 GRAND ARMY OF THE REPUBLIC HIGHWAY 6 SWANSEA MALL DRIVE	97	205	0	27	70
10WEYMOUTHMAPC6MAIN STREET18MIDDLE STREET1	121	205	0	21	100
10 LOWELL NMCOG 4 BRIDGE STREET 38 VETERANS OF FOREIGN WARS HIGHWAY 1	101	205	0	26	75
12   LOWELL   NMCOG   4   PLAIN STREET   CHELMSFORD STREET   110   1	120	204	0	21	99
13 FRAMINGHAM MAPC 3 CONCORD STREET 126 WAVERLEY STREET 135 9	90	190	0	25	65
14 RAYNHAM SRPEDD 5 ROUTE 44 4 ORCHARD STREET	70	186	0	29	41
15 NEW BEDFORD SRPEDD 5 ALFRED BESSETTE MEMORIAL HIGHWAY 140 KEMPTON STREET 6	67	183	0	29	38
16 HOLYOKE PVPC 2 HOLYOKE STREET HOLYOKE MALL AT INGLESIDE 1	121	181	0	15	106
17 WEYMOUTH MAPC 6 WASHINGTON STREET 53 MAIN STREET 18	90	179	1	20	69
18 MARLBOROUGH MAPC 3 EAST MAIN STREET 20 CURTIS AVENUE 1	117	177	0	15	102
19 SUTTON CMRPC 3 WORCESTER PROVIDENCE TURNPIKE 146 BOSTON ROAD	75	175	0	25	50
20 WORCESTER CMRPC 3 SOUTHBRIDGE STREET HAMMOND STREET	81	173	0	23	58
21 WOBURN MAPC 4 MONTVALE AVENUE ALBANY STREET	96	172	0	19	77
21 FRAMINGHAM MAPC 3 WORCESTER ROAD 9 COCHITUATE ROAD 30	60	172	0	28	32
	63	168	1	24	38
	83	167	0	21	62
24 WALTHAM MAPC 4 LEXINGTON STREET TRAPELO ROAD	95	167	0	18	77
26 WORCESTER CMRPC 3 HIGHLAND STREET (LINCOLN SQUARE) 9 MAIN STREET	88	164	0	19	69
27 LOWELL NMCOG 4 VETERANS OF FOREIGN WARS HIGHWAY AIKEN STREET	67	163	0	24	43

		T		2008-2010 STATEWIDE TOP 200 I	NIERSI	ECTION CRASH LIST	1			1		
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
28	WORCESTER	CMRPC	3	BELMONT STREET	9	LINCOLN STREET		85	161	0	19	66
29	LYNN	MAPC	4	WESTERN AVENUE	107	FRANKLIN STREET		75	159	0	21	54
29	WEYMOUTH	MAPC	6	WASHINGTON STREET	53	MIDDLE STREET		87	159	0	18	69
31	BOSTON	MAPC	6	MORTON STREET	203	HARVARD STREET		54	158	0	26	28
32	NORWOOD	MAPC	5	BLUE STAR MEMORIAL HIGHWAY	1	EVERETT STREET		69	157	0	22	47
33	WORCESTER	CMRPC	3	LINCOLN STREET	70	MARSH AVENUE		72	156	0	21	51
34	WORCESTER	CMRPC	3	HIGHLAND STREET	9	HARVARD STREET		71	155	0	21	50
34	SWANSEA	SRPEDD	5	MARKET STREET	136	GRAND ARMY OF THE REPUBLIC HIGHWAY	6	67	155	0	22	45
36	WORCESTER	CMRPC	3	CHANDLER STREET	122	MURRAY AVENUE		57	153	0	24	33
37	HOLBROOK	MAPC	5	SOUTH FRANKLIN STREET	37	UNION STREET	139	60	152	0	23	37
38	WELLESLEY	MAPC	6	WORCESTER STREET	9	WELLESLEY FIRE STATION HEADQUARTERS (BY PROXIMITY)		111	151	0	10	101
38	CHICOPEE	PVPC	2	MEMORIAL DRIVE	33	PENDLETON AVENUE		51	151	0	25	26
38	LOWELL	NMCOG	4	CHURCH STREET	110	APPLETON STREET		71	151	0	20	51
41	BROCKTON	OCPC	5	ASH STREET		WEST ELM STREET		54	150	0	24	30
42	RANDOLPH	MAPC	6	NORTH MAIN STREET	28	WARREN STREET	139	86	150	0	16	70
43	SHREWSBURY	CMRPC	3	BOSTON TURNPIKE	9	SOUTH QUINSIGAMOND AVENUE		77	149	0	18	59
43	CHELSEA	MAPC	6	REVERE BEACH PARKWAY	16	GARFIELD AVENUE		73	149	0	19	54
45	HOLYOKE	PVPC	2	MAIN STREET	116	CABOT STREET		59	148	1	20	38
46	FALL RIVER	SRPEDD	5	BEDFORD STREET		TROY STREET		51	147	0	24	27
46	WEYMOUTH	MAPC	6	MAIN STREET	18	POND STREET		79	147	0	17	62
46	FRAMINGHAM	MAPC	3	WORCESTER ROAD	9	CALIFORNIA AVENUE		58	147	1	20	37
49	CHICOPEE	PVPC	2	BROADWAY		CHURCH STREET		73	145	0	18	55
50	WORCESTER	CMRPC	3	PARK AVENUE	9	PLEASANT STREET		78	142	0	16	62
50	WESTFIELD	PVPC	2	EAST MAIN STREET	20	LITTLE RIVER ROAD	187	54	142	0	22	32
50	BROCKTON	OCPC	5	BELMONT STREET	123	MANLEY STREET		46	142	0	24	22
53	LYNN	MAPC	4	WESTERN AVENUE	107	WASHINGTON STREET	129	68	140	0	18	50

				2008-2010 STATEWIDE TOP 200 I	MIEKO	CHON CRASH LIST						
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
53	FALL RIVER	SRPEDD	5	PLEASANT STREET		QUARRY STREET		80	140	0	15	65
53	FALMOUTH	CCC	5	TEATICKET HIGHWAY	28	MARAVISTA AVENUE		72	140	0	17	55
56	WEYMOUTH	MAPC	6	MAIN STREET	18	PARK AVENUE		75	139	0	16	59
56	WALPOLE	MAPC	5	PROVIDENCE TURNPIKE	1	HIGH PLAIN AVENUE	27	59	139	0	20	39
56	LYNN	MAPC	4	WESTERN AVENUE	107	CHESTNUT STREET	129A	71	139	0	17	54
59	SEEKONK	SRPEDD	5	TAUNTON AVENUE	44	FALL RIVER AVENUE	144A	73	137	0	16	57
59	STOUGHTON	MAPC & OCPC	5	WASHINGTON STREET	138	CENTRAL STREET		77	137	0	15	62
61	QUINCY	MAPC	6	HONORABLE THOMAS S BURGIN PARKWAY		CENTRE STREET		60	136	0	19	41
62	BOSTON	MAPC	6	MASSACHUSETTS AVENUE		MELNEA CASS BOULEVARD		50	135	1	19	30
63	WORCESTER	CMRPC	3	MAIN STREET		MILL STREET	12	58	134	0	19	39
63	WALTHAM	MAPC	4	MAIN STREET	20	LYMAN STREET		65	134	1	15	49
65	WALTHAM	MAPC	4	MAIN STREET	20	LEXINGTON STREET		69	133	0	16	53
65	WORCESTER	CMRPC	3	BELMONT STREET	9	PLANTATION STREET		65	133	0	17	48
65	HAVERHILL	MVPC	4	LAFAYETTE SQUARE	97	BROADWAY		89	133	0	11	78
65	FRAMINGHAM	MAPC	3	WORCESTER ROAD	9	TEMPLE STREET		65	133	0	17	48
69	QUINCY	MAPC	6	HANCOCK STREET	3A	EAST SQUANTUM STREET		72	132	0	15	57
69	SALEM	MAPC	4	WASHINGTON STREET		CANAL STREET		68	132	0	16	52
71	WORCESTER	CMRPC	3	LINCOLN STREET	70	MELROSE STREET		46	131	1	19	26
72	NORTHAMPTON	PVPC	2	MAIN STREET	9	KING STREET	5	70	130	0	15	55
73	WESTFIELD	PVPC	2	NORTH ELM STREET	202	HARVARD STREET		41	129	0	22	19
73		NMCOG	4	WESTFORD STREET	3A	WILDER STREET		61	129	0	17	44
75	BRIDGEWATER	OCPC	5	BROAD STREET	18	MAIN STREET	28	76	128	0	13	63
75	TAUNTON	SRPEDD	5	HON. GORDON M OWEN RIVERWAY		WILLIAMS STREET		48	128	0	20	28
77	BROCKTON	OCPC	5	WEST ELM STREET		NEWBURY STREET		43	127	0	21	22
77	CHARLTON	CMRPC	3	STURBRIDGE ROAD	20	BROOKFIELD ROAD	31	63	127	0	16	47
77	AGAWAM	PVPC	2	SOUTH END BRIDGE	5			51	127	0	19	32

				2008-2010 STATEWIDE TOP 200 I	NIEKO	_CTION CRASH LIST						
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
77	DEDHAM	MAPC	6	WASHINGTON STREET		INCINERATOR ROAD		51	127	0	19	32
81	SOMERSET	SRPEDD	5	GRAND ARMY OF THE REPUBLIC HIGHWAY	6	LEES RIVER AVENUE		54	126	0	18	36
81	MANSFIELD	SRPEDD	5	ROUTE 140	140	SCHOOL STREET		66	126	0	15	51
83	CONCORD	MAPC	4	CONCORD TURNPIKE	2	MAIN STREET	62	65	125	0	15	50
83	FRAMINGHAM	MAPC	3	WORCESTER ROAD	9	DINSMORE AVENUE		53	125	0	18	35
85	BROCKTON	OCPC	5	FOREST AVENUE		BOUVE AVENUE		36	124	0	22	14
85	DEDHAM	MAPC	6	BOSTON PROVIDENCE TURNPIKE	1A	ELM STREET		52	124	0	18	34
87	HAVERHILL	MVPC	4	BRIDGE STREET	125	WATER STREET	113	75	123	0	12	63
87	CHELSEA	MAPC	6	REVERE BEACH PARKWAY	16	WASHINGTON AVENUE		54	123	1	15	38
87	LEOMINSTER	MRPC	3	NORTH MAIN STREET	12	NELSON STREET		71	123	0	13	58
87	LYNN	MAPC	4	ESSEX STREET		CHESTNUT STREET		46	123	1	17	28
91	MIDDLEBOROUGH	SRPEDD	5	SOUTH MAIN STREET	105	EAST GROVE STREET	28	70	122	0	13	57
92	FALL RIVER	SRPEDD	5	SOUTH MAIN STREET	138	GLOBE STREET		69	121	0	13	56
92	NATICK	MAPC	3	WORCESTER STREET	9	OAK STREET		81	121	0	10	71
92	QUINCY	MAPC	6	SOUTHERN ARTERY	ЗА	CODDINGTON STREET		61	121	0	15	46
95	BROCKTON	OCPC	5	WARREN AVENUE		FOREST AVENUE		40	120	0	20	20
95	ARLINGTON	MAPC	4	MASSACHUSETTS AVENUE	3	MYSTIC STREET	3	68	120	0	13	55
95	WORCESTER	CMRPC	3	CHANDLER STREET	122	PIEDMONT STREET		40	120	0	20	20
95	NEW BEDFORD	SRPEDD	5	JOHN F KENNEDY HIGHWAY	18	COGGESHALL STREET		44	120	0	19	25
95	SEEKONK	SRPEDD	5	FALL RIVER AVENUE	6	COMMERCE WAY		68	120	0	13	55
95	BROCKTON	OCPC	5	BELMONT STREET	123	LINWOOD STREET		56	120	0	16	40
101	HOLYOKE	PVPC	2	BEECH STREET	202	WEST FRANKLIN STREET		51	119	0	17	34
101	GARDNER	MRPC	3	PEARSON BOULEVARD		ELM STREET		79	119	0	10	69
101	BOSTON	MAPC	6	DORCHESTER AVENUE		GALLIVAN BOULEVARD	203	39	119	0	20	19
101	LOWELL	NMCOG	4	CENTRAL STREET		WARREN STREET		63	119	0	14	49
101	BROCKTON	OCPC	5	WARREN AVENUE	123	WEST ELM STREET		35	119	0	21	14
106	FALL RIVER	SRPEDD	5	PLEASANT STREET		QUEQUECHAN STREET		50	118	0	17	33

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Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
107 B	BROCKTON	OCPC	5	NORTH MONTELLO STREET	28	HOWARD STREET	37	33	117	0	21	12
107 F	FRAMINGHAM	MAPC	3	CONCORD STREET	126	UNION AVENUE		57	117	0	15	42
107 V	WALTHAM	MAPC	4	LEXINGTON STREET		BEAVER STREET		49	117	0	17	32
107 A	ABINGTON	OCPC	5	BEDFORD STREET	18	RANDOLPH STREET	139	65	117	0	13	52
107 P	PEABODY	MAPC	4	NEWBURYPORT TURNPIKE (JUGHANDLE)	1			41	117	0	19	22
107 S	SHREWSBURY	CMRPC	3	BOSTON TURNPIKE	9	SOUTH STREET		69	117	0	12	57
113 B	BROCKTON	OCPC	5	NORTH MAIN STREET		HOWARD STREET		52	116	0	16	36
113 C	CAMBRIDGE	MAPC	6	MASSACHUSETTS AVENUE	2A	PROSPECT STREET		42	116	2	14	26
115 F	FALL RIVER	SRPEDD	5	PRESIDENT AVENUE	6	CVS PLAZA		55	115	0	15	40
115 N	NATICK	MAPC	3	WEST CENTRAL STREET	135	SPEEN STREET		63	115	0	13	50
115 B	BOSTON	MAPC	6	CHARLESGATE WEST		COMMONWEALTH AVENUE	2	43	115	0	18	25
115 V	WEYMOUTH	MAPC	6	MAIN STREET	18	WINTER STREET		55	115	0	15	40
115 A	ABINGTON	OCPC	5	CENTER AVENUE	123	PLYMOUTH STREET	58	47	115	0	17	30
115 F	FALL RIVER	SRPEDD	5	BROADWAY	138	COLUMBIA STREET		63	115	0	13	50
121 V	WORCESTER	CMRPC	3	GRAFTON STREET	122	HAMILTON STREET		46	114	0	17	29
121 B	BRAINTREE	MAPC	6	GRANITE STREET	37	COMMON STREET		54	114	0	15	39
121 C	QUINCY	MAPC	6	HONORABLE THOMAS S BURGIN PARKWAY		GRANITE STREET		66	114	0	12	54
121 V	WORCESTER	CMRPC	3	MAIN STREET	9	PARK AVENUE		46	114	0	17	29
125 B	BROCKTON	OCPC	5	MAIN STREET		LEGION PARKWAY	123	45	113	0	17	28
125 R	REVERE	MAPC	4	REVERE BEACH PARKWAY	16	WINTHROP AVENUE		40	113	1	16	23
125 V	WORCESTER	CMRPC	3	HIGHLAND STREET	9	MAIN STREET		53	113	0	15	38
128 V	WALTHAM	MAPC	4	MAIN STREET	20	WESTON STREET		80	112	0	8	72
128 V	WOBURN	MAPC	4	MISHAWUM ROAD		WOBURN MALL SHOPPING CENTER		56	112	0	14	42
130 V	WORCESTER	CMRPC	3	PROVIDENCE STREET	122A	MILLBURY STREET		47	111	0	16	31
130 C	CAMBRIDGE	MAPC	6	MEMORIAL DRIVE	3	RIVER STREET		51	111	0	15	36
130 P	PLAINVILLE	SRPEDD	5	MESSENGER STREET	106	TAUNTON STREET	152	55	111	0	14	41
133 L	LINCOLN	MAPC	4	CAMBRIDGE TURNPIKE	2	BEDFORD ROAD		50	110	0	15	35

Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
133	FRAMINGHAM	MAPC	3	WORCESTER ROAD	9	CALDOR ROAD		50	110	0	15	35
133	FALL RIVER	SRPEDD	5	CENTRAL STREET		DAVOL STREET		50	110	0	15	35
133	QUINCY	MAPC	6	SCHOOL STREET		HANCOCK STREET		62	110	0	12	50
133	BROCKTON	OCPC	5	PLEASANT STREET	27	NORTH ASH STREET		38	110	0	18	20
138	WORCESTER	CMRPC	3	EAST CENTRAL STREET		SUMMER STREET		49	109	0	15	34
138	WEYMOUTH	MAPC	6	WASHINGTON STREET	53	BROAD STREET		49	109	0	15	34
138	SHREWSBURY	CMRPC	3	HARTFORD TURNPIKE	20	GRAFTON STREET		49	109	0	15	34
138	NATICK	MAPC	3	WORCESTER STREET	9	OLD NORTH MAIN STREET		85	109	0	6	79
142	WORCESTER	CMRPC	3	HARDING STREET	122	HARRISON STREET		44	108	0	16	28
143	WORCESTER	CMRPC	3	LINCOLN STREET	70	COUNTRY CLUB BOULEVARD		55	107	0	13	42
143	MEDFORD	MAPC	4	MYSTIC VALLEY PARKWAY	16	WINTHROP STREET	38	43	107	0	16	27
143	CAMBRIDGE	MAPC	6	JOHN F KENNEDY STREET		MOUNT AUBURN STREET		55	107	0	13	42
143	BROCKTON	OCPC	5	BELMONT STREET	123	VA HOSPITAL		39	107	0	17	22
147	LOWELL	NMCOG	4	RIVERSIDE STREET	113	UNIVERSITY AVENUE		46	106	0	15	31
147	HOLYOKE	PVPC	2	CHERRY STREET	202	SOLDIERS HOME ROAD		41	106	1	14	26
147	SALEM	MAPC	4	HIGHLAND AVENUE	107	MARLBOROUGH ROAD		50	106	0	14	36
150	NORTHAMPTON	PVPC	2	MAIN STREET	9	STRONG AVENUE		49	105	0	14	35
151	WORCESTER	CMRPC	3	BELMONT STREET	9	LAKE AVENUE NORTH		44	104	0	15	29
151	WESTFIELD	PVPC	2	FRANKLIN STREET	20	WASHINGTON STREET		32	104	0	18	14
151	MIDDLEBOROUGH	SRPEDD	5	ROUTE 44	44	PLYMPTON STREET	105	56	104	0	12	44
151	BROCKTON	OCPC	5	CENTRE STREET	123	PLYMOUTH STREET		32	104	0	18	14
151	LOWELL	NMCOG	4	SCHOOL STREET		BRANCH STREET		44	104	0	15	29
156	WESTFIELD	PVPC	2	PLEASANT STREET	202	WEST SILVER STREET		43	103	0	15	28
156	WEYMOUTH	MAPC	6	WASHINGTON STREET	53	COMMERCIAL STREET		63	103	0	10	53
156	BOSTON	MAPC	6	GALLIVAN BOULEVARD	203	GRANITE AVENUE		43	103	0	15	28
156	OXFORD	CMRPC	3	MAIN STREET	12	SUTTON AVENUE		55	103	0	12	43
156	WOBURN	MAPC	4	MISHAWUM ROAD		COMMERCE WAY		51	103	0	13	38

		1	1	2008-2010 STATEWIDE TOP 200 I	NIEKS	CHON CRASH LIST						
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
156	ATTLEBORO	SRPEDD	5	WASHINGTON STREET	1	MOBIL GAS STATION/CAR WASH		47	103	0	14	33
156	WELLESLEY	MAPC	6	WASHINGTON STREET	16	RIVER STREET		75	103	0	7	68
156	STOUGHTON	MAPC & OCPC	5	CANTON STREET	27	SCHOOL STREET		37	103	2	12	23
156	CONCORD	MAPC	4	CONCORD TURNPIKE	2	WALDEN STREET	126	43	103	0	15	28
165	BELLINGHAM	MAPC	3	HARTFORD AVENUE	126	CROSSROADS PLAZA		58	102	0	11	47
165	FALL RIVER	SRPEDD	5	PRESIDENT AVENUE	6	BOOMER STREET		38	102	0	16	22
165	LOWELL	NMCOG	4	BRIDGE STREET	38	WEST THIRD STREET		46	102	0	14	32
165	SOMERVILLE	MAPC	4	SOMERVILLE AVENUE		BOW STREET		42	102	0	15	27
169	LYNN	MAPC	4	ESSEX STREET		JOYCE STREET		44	101	1	12	31
169	BRAINTREE	MAPC	6	GRANITE STREET	37	FRANKLIN STREET		37	101	0	16	21
169	WORCESTER	CMRPC	3	MAIN STREET		CHANDLER STREET	122	45	101	0	14	31
169	WORCESTER	CMRPC	3	GRAFTON STREET	122	MENDON STREET		37	101	0	16	21
169	HAVERHILL	MVPC	4	MAIN STREET	125	WINTER STREET	97	49	101	0	13	36
169	DARTMOUTH	SRPEDD	5	FAUNCE CORNER MALL ROAD		CROSS ROAD		41	101	0	15	26
169	LOWELL	NMCOG	4	PAWTUCKET STREET		SCHOOL STREET		48	101	1	11	36
169	WHITMAN	OCPC	5	BEDFORD STREET	18	AUBURN STREET	14	53	101	0	12	41
169	WEYMOUTH	MAPC	6	UNION STREET		PLEASANT STREET		65	101	0	9	56
178	TAUNTON	SRPEDD	5	COUNTY STREET	140	HART STREET		44	100	0	14	30
178	TEWKSBURY	NMCOG	4	SALEM ROAD		SOUTH STREET		48	100	0	13	35
178	PITTSFIELD	BRPC	1	LINDEN STREET		SEYMOUR STREET		36	100	0	16	20
178	BROCKTON	OCPC	5	NORTH PEARL STREET	27	OAK STREET		36	100	0	16	20
178	CAMBRIDGE	MAPC	6	PROSPECT STREET		CAMBRIDGE STREET		56	100	0	11	45
178	BROCKTON	OCPC	5	CRESCENT STREET	27	LYMAN STREET		32	100	0	17	15
184	WALTHAM	MAPC	4	MOODY STREET		CHESTNUT STREET		62	98	0	9	53
184	WHITMAN	OCPC	5	BEDFORD STREET	18	TEMPLE STREET	27	66	98	0	8	58
184	WORCESTER	CMRPC	3	SOUTHWEST CUTOFF	20	GREENWOOD STREET		46	98	0	13	33

				2008-2010 STATEWIDE TOP 200 I	NIEKO	CHON CRASH LIST						
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
184	EASTON	OCPC	5	DEPOT STREET	123	FOUNDRY STREET	106	51	99	0	12	39
184	FRAMINGHAM	MAPC	3	WINTER STREET		FOUNTAIN STREET		39	99	0	15	24
184	WORCESTER	CMRPC	3	PARK AVENUE	9	MAYWOOD STREET		39	99	0	15	24
190	QUINCY	MAPC	6	QUINCY AVENUE	53	EAST HOWARD STREET		36	97	1	13	22
190	WESTFIELD	PVPC	2	NORTH ELM STREET	202	NOTRE DAME STREET		49	97	0	12	37
190	BROCKTON	OCPC	5	BELMONT STREET	123	PEARL STREET		41	97	0	14	27
190	BROCKTON	OCPC	5	PLEASANT STREET	27	WARREN AVENUE		33	97	0	16	17
190	SOUTHBOROUGH	MAPC	3	TURNPIKE ROAD	9	OAK HILL ROAD		48	97	1	10	37
190	LOWELL	NMCOG	4	BROADWAY		FLETCHER STREET		53	97	0	11	42
190	HOLYOKE	PVPC	2	LOWER WESTFIELD ROAD		WHITING FARMS ROAD		49	97	0	12	37
190	FRAMINGHAM	MAPC	3	COCHITUATE ROAD	30	SPEEN STREET		45	97	0	13	32
190	TAUNTON	SRPEDD	5	MAIN STREET	44	CEDAR STREET		53	97	0	11	42
199	FITCHBURG	MRPC	3	LUNENBURG STREET	2A	JOHN FITCH HIGHWAY		44	96	0	13	31
199	LYNN	MAPC	4	WESTERN AVENUE	107	CLEVELAND STREET		44	96	0	13	31
199	WILMINGTON	MAPC	4	MAIN STREET	38	CHURCH STREET	62	40	96	0	14	26
199	TAUNTON	SRPEDD	5	DEAN STREET	44	LONGMEADOW ROAD		36	96	0	15	21
199	FALL RIVER	SRPEDD	5	BROADWAY	138	BRADFORD AVENUE		48	96	0	12	36
199	WALPOLE	MAPC	5	PROVIDENCE TURNPIKE	1	CONEY STREET		48	96	0	12	36
199	LUDLOW	PVPC	2	CENTER STREET	21	CHERRY STREET		48	96	0	12	36
199	LYNN	MAPC	4	MARKET STREET	1A	BROAD STREET		52	96	0	11	41
207	FALL RIVER	SRPEDD	5	SOUTH MAIN STREET	138	CHARLES STREET		47	95	0	12	35
207	HOLYOKE	PVPC	2	NORTHAMPTON STREET	138	DWIGHT STREET	141	43	95	0	13	30
207	FALL RIVER	SRPEDD	5	BROADWAY	138	MIDDLE STREET		35	95	0	15	20
207	ATTLEBORO	SRPEDD	5	HIGHLAND AVENUE	123	WASHINGTON STREET	1	63	95	0	8	55
207	HOLYOKE	PVPC	2	HIGH STREET		CABOT STREET		39	95	0	14	25
207	WORCESTER	CMRPC	3	MAIN STREET		KING STREET		35	95	0	15	20
207	MANSFIELD	SRPEDD	5	CHAUNCY STREET	106	NORTH MAIN STREET		51	95	0	11	40

	1			2000 2010 OTATEWIDE 101 200 II								
Rank	Town	RPA	MassDOT District	Street 1	Route 1	Street 2	Route 2	Total Crashes	EPDO Crashes	Fatal Crashes	Injury Crashes	PDO & Non Reported Crashes
207	BROCKTON	OCPC	5	CENTRE STREET	123	LYMAN STREET		31	95	0	16	15
207	NORWOOD	MAPC	5	BLUE STAR MEMORIAL HIGHWAY	1	DEAN STREET		63	95	0	8	55

## Top Crash Intersections 2008-2010



### **LOWELL**

1

**RANK** 

VETERANS OF FOREIGN WARS HIGHWAY VARNUM AVENUE

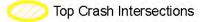
MassDOT District 4
RPA NMCOG
EPDO 329
Number of Fatal Crashes 0
Number of Injury Crashes 42
Number of Non-Injury Crashes 119
Total Crashes 161

#### Legend

Crash Locations 2008-2010

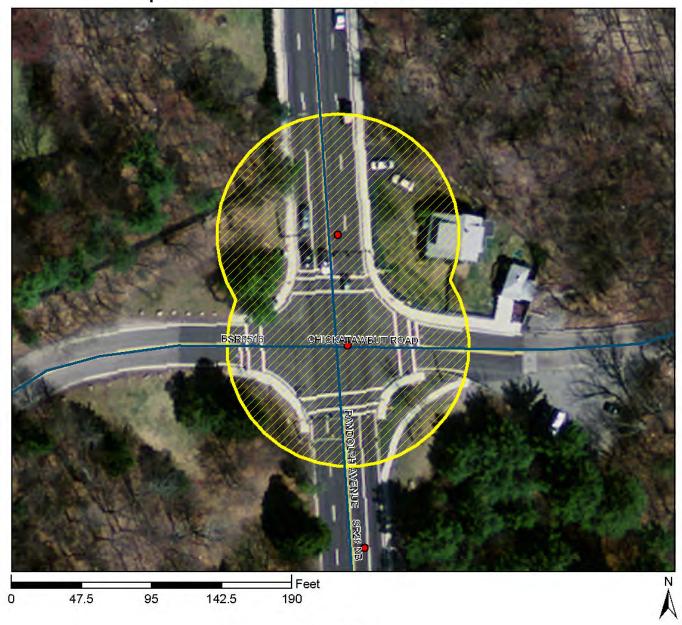
/// Local Roads

All Functional Classification Except Local Roads





# Top Crash Intersections 2008-2010



### **MILTON**

RANDOLPH AVENUE CHICKATAWBUT ROAD

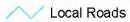
MassDOT District 6 RPA MAPC EPDO 233 Number of Fatal Crashes 0 Number of Injury Crashes 40 Number of Non-Injury Crashes 33 Total Crashes 73

## **RANK**

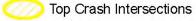
2

### Legend

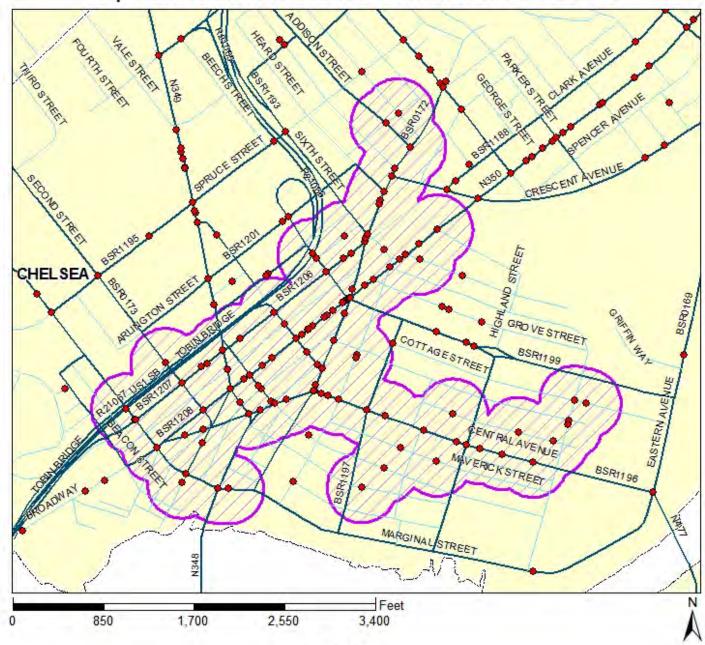
Crash Locations 2008-2010



All Functional Classification Except Local Roads







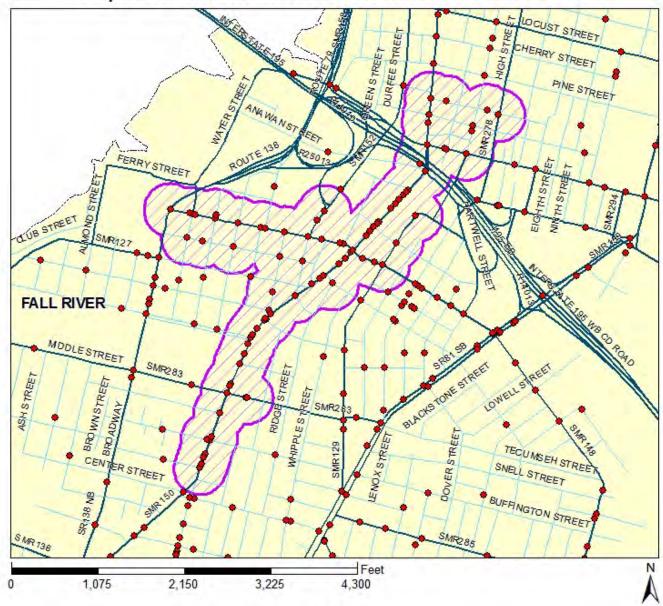
# RANK

### CHELSEA

RPA MAPC EPDO 737 Number of Fatal Pedestrian Crashes 1 Number of Injury Pedestrian Crashes 137 Number of Non-Injury Pedestrian Crashes 42 Total Pedestrian Crashes 180

- Pedestrian Crash Locations 2002-2010
   Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





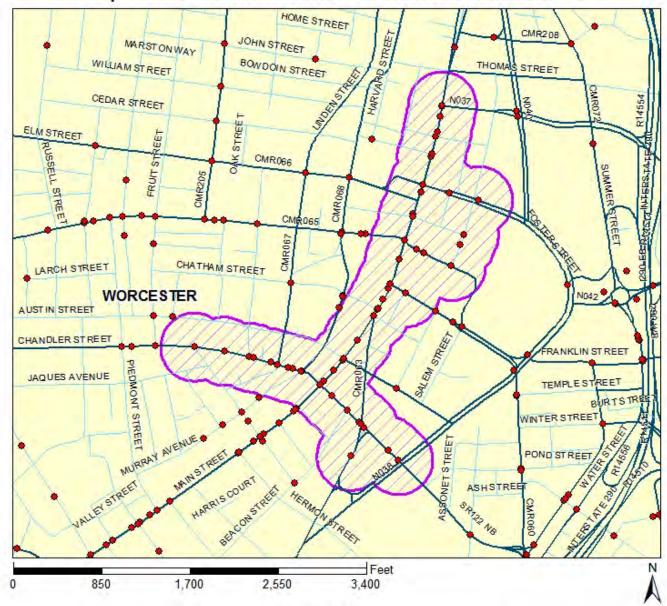
## RANK 2

### FALL RIVER

RPA SRPEDD
EPDO 452
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 83
Number of Non-Injury Pedestrian Crashes 37
Total Pedestrian Crashes 120

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- ✓ All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





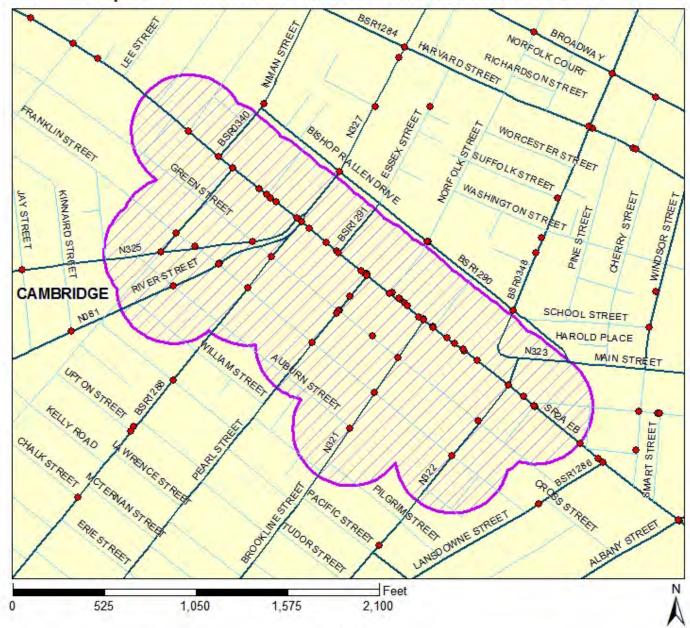
## RANK 3

### WORCESTER

RPA CMRPC
EPDO 405
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 77
Number of Non-Injury Pedestrian Crashes 20
Total Pedestrian Crashes 97

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





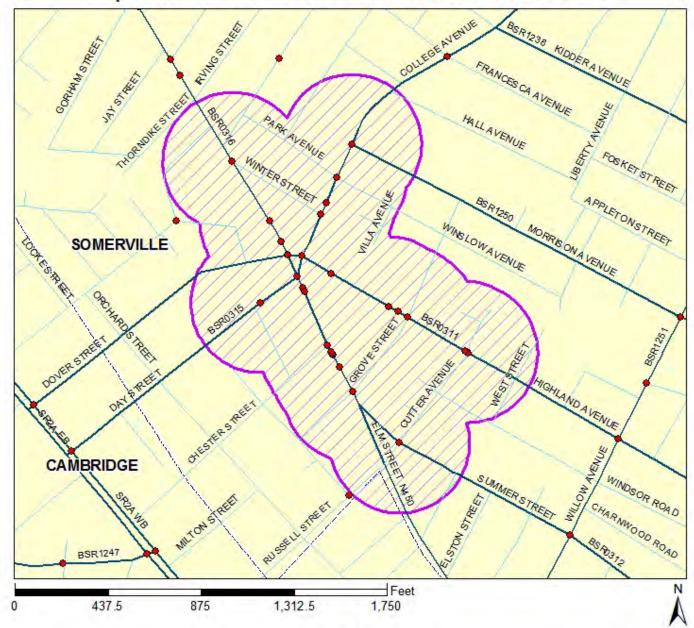
## RANK 4

### CAMBRIDGE

RPA MAPC
EPDO 327
Number of Fatal Pedestrian Crashes 3
Number of Injury Pedestrian Crashes 48
Number of Non-Injury Pedestrian Crashes 57
Total Pedestrian Crashes 108

- Pedestrian Crash Locations 2002-2010
   Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





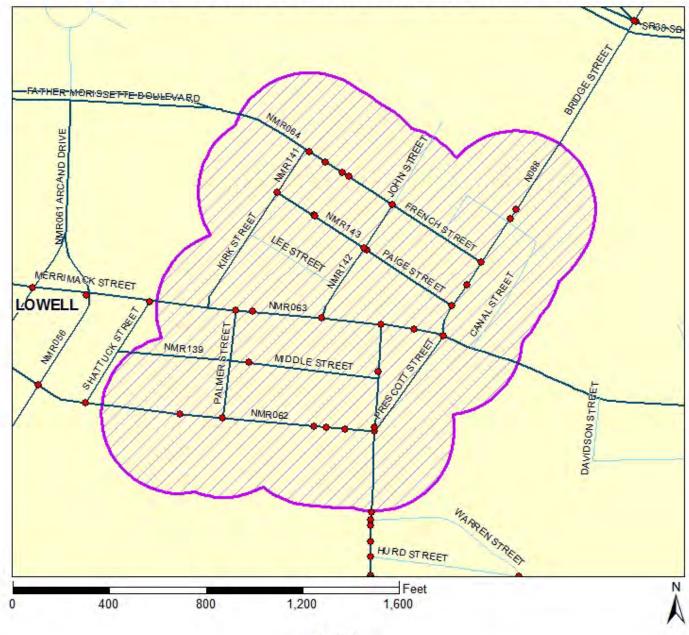
## RANK 5

## SOMERVILLE, CAMBRIDGE

RPA MAPC EPDO 233 Number of Fatal Pedestrian Crashes 1 Number of Injury Pedestrian Crashes 43 Number of Non-Injury Pedestrian Crashes 8 Total Pedestrian Crashes 52

- Pedestrian Crash Locations 2002-2010
   Local Roads
- ✓ All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
  - Municipal Boundary





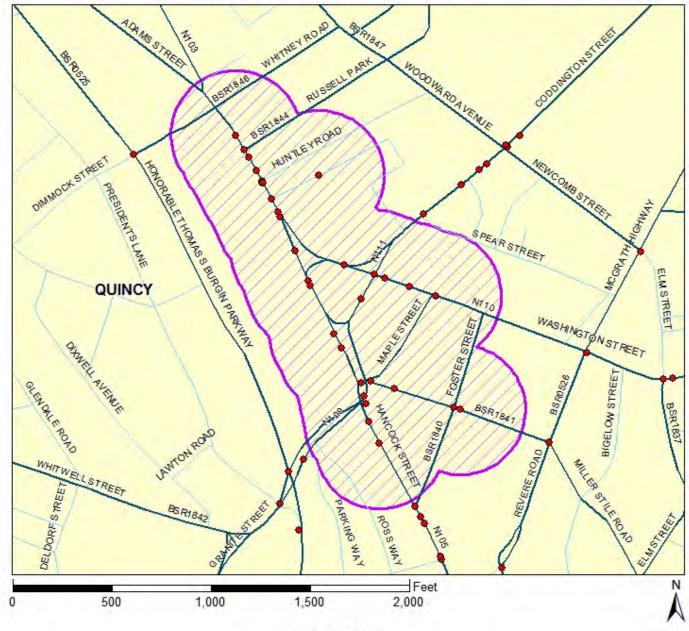
## RANK 6

### LOWELL

RPA NMCOG
EPDO 191
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 34
Number of Non-Injury Pedestrian Crashes 21
Total Pedestrian Crashes 55

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- ✓ All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
  - Municipal Boundary





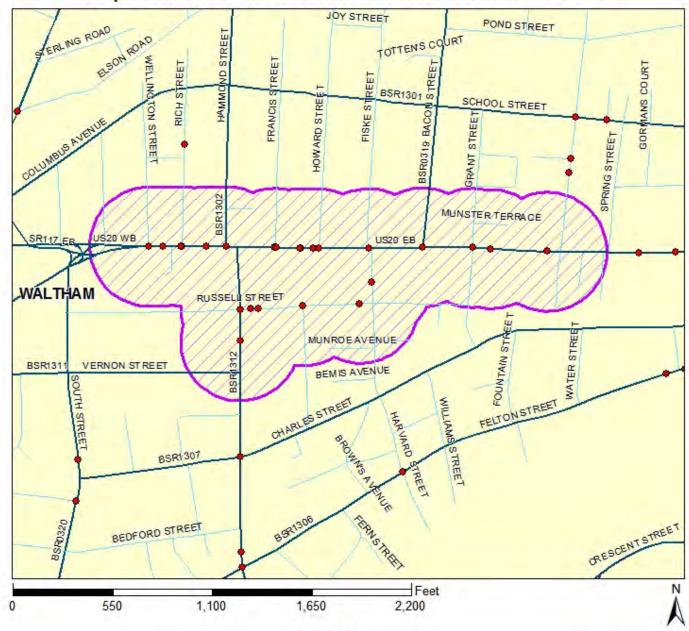
## RANK 7

### QUINCY

RPA MAPC
EPDO 171
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 30
Number of Non-Injury Pedestrian Crashes 21
Total Pedestrian Crashes 51

- Pedestrian Crash Locations 2002-2010
   Local Roads
- ✓ All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





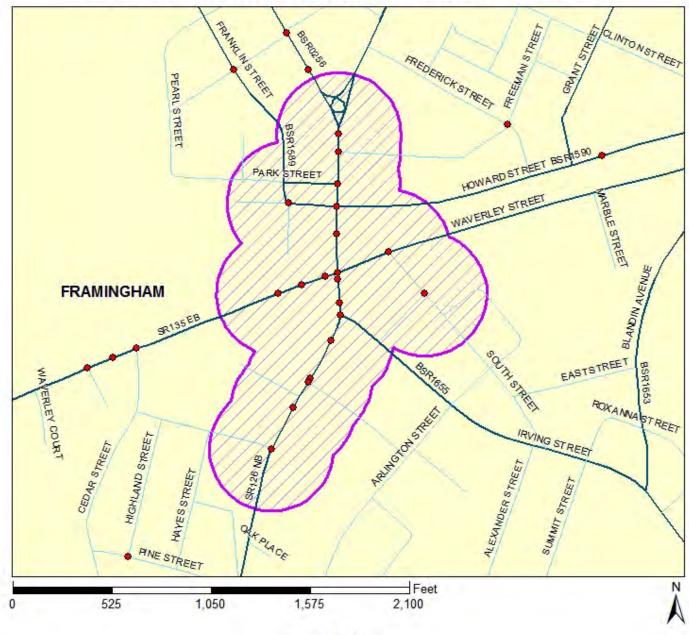
## RANK 8

### WALTHAM

RPA MAPC
EPDO 168
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 31
Number of Non-Injury Pedestrian Crashes 13
Total Pedestrian Crashes 44

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





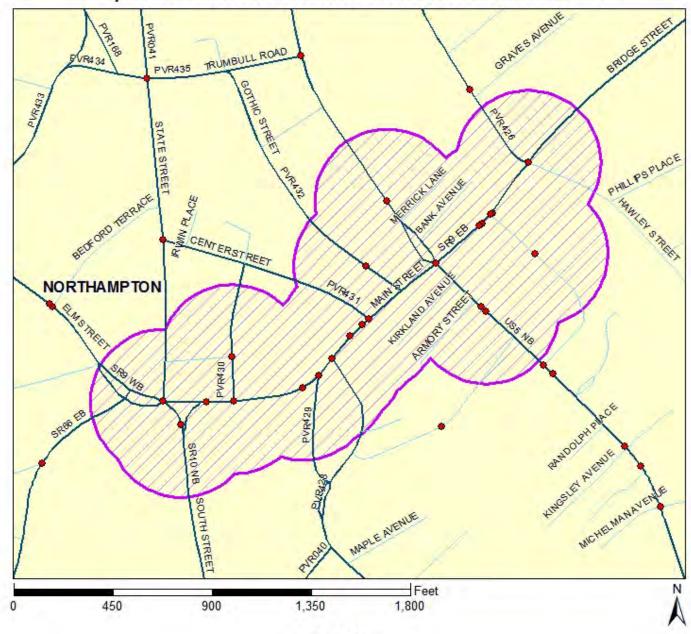
## RANK 9

### FRAMINGHAM

RPA MAPC
EPDO 164
Number of Fatal Pedestrian Crashes 0
Number of Injury Pedestrian Crashes 32
Number of Non-Injury Pedestrian Crashes 4
Total Pedestrian Crashes 36

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





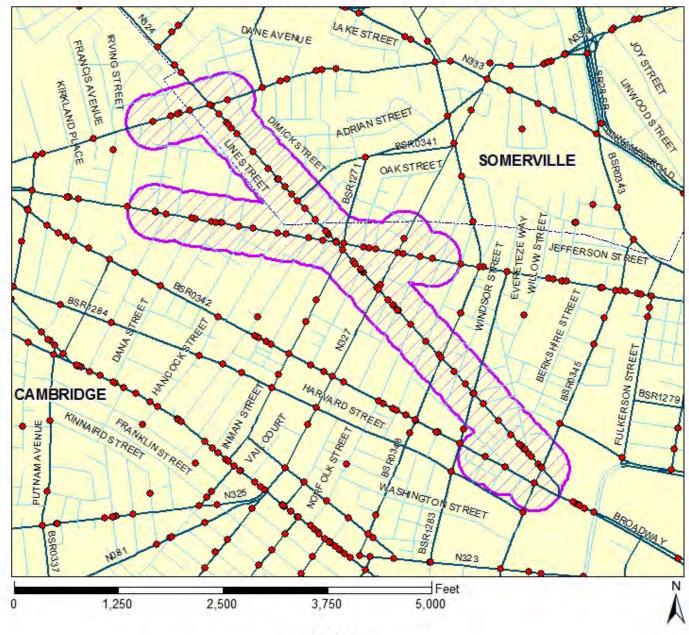
## RANK 10

### NORTHAMPTON

RPA PVPC
EPDO 163
Number of Fatal Pedestrian Crashes 1
Number of Injury Pedestrian Crashes 30
Number of Non-Injury Pedestrian Crashes 3
Total Pedestrian Crashes 34

- Pedestrian Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Pedestrian Crash Cluster
- Municipal Boundary





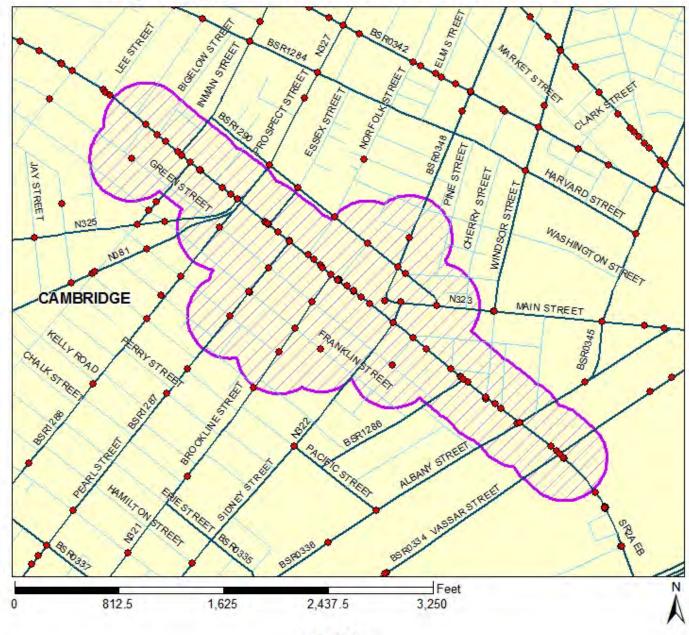
# RANK

## CAMBRIDGE, SOMERVILLE

RPA MAPC **EPDO 550** Number of Fatal Bicycle Crashes 0 Number of Injury Bicycle Crashes 99 Number of Non-Injury Bicycle Crashes 55 Total Bicycle Crashes 154

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





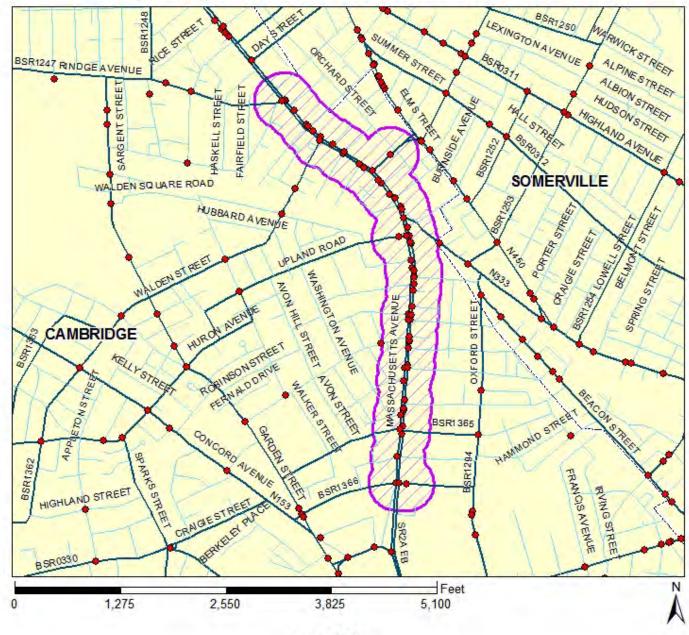
## RANK 2

### CAMBRIDGE

RPA MAPC EPDO 508 Number of Fatal Bicycle Crashes 1 Number of Injury Bicycle Crashes 87 Number of Non-Injury Bicycle Crashes 63 Total Bicycle Crashes 151

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
  - Municipal Boundary





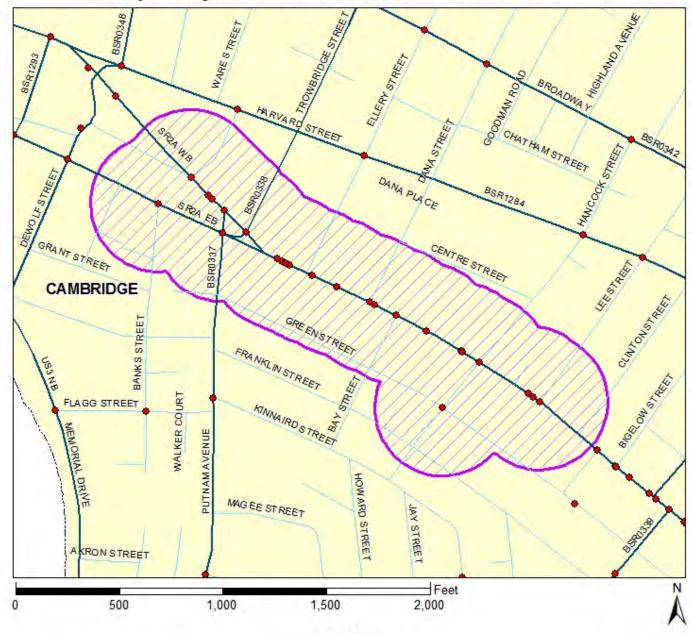
## RANK 3

## CAMBRIDGE, SOMERVILLE

RPA MAPC EPDO 383 Number of Fatal Bicycle Crashes 0 Number of Injury Bicycle Crashes 70 Number of Non-Injury Bicycle Crashes 33 Total Bicycle Crashes 103

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





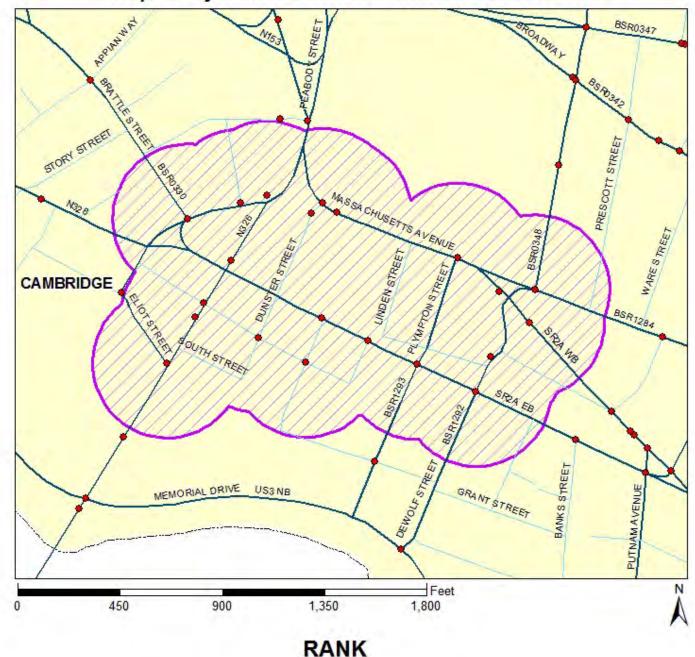
## RANK 4

### CAMBRIDGE

RPA MAPC
EPDO 137
Number of Fatal Bicycle Crashes 0
Number of Injury Bicycle Crashes 25
Number of Non-Injury Bicycle Crashes 12
Total Bicycle Crashes 37

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary



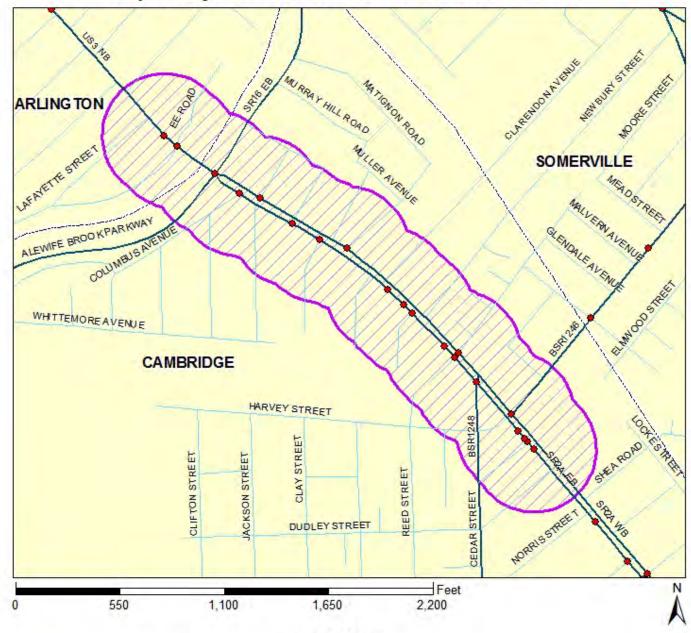


### CAMBRIDGE

RPA MAPC
EPDO 128
Number of Fatal Bicycle Crashes 0
Number of Injury Bicycle Crashes 23
Number of Non-Injury Bicycle Crashes 13
Total Bicycle Crashes 36

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





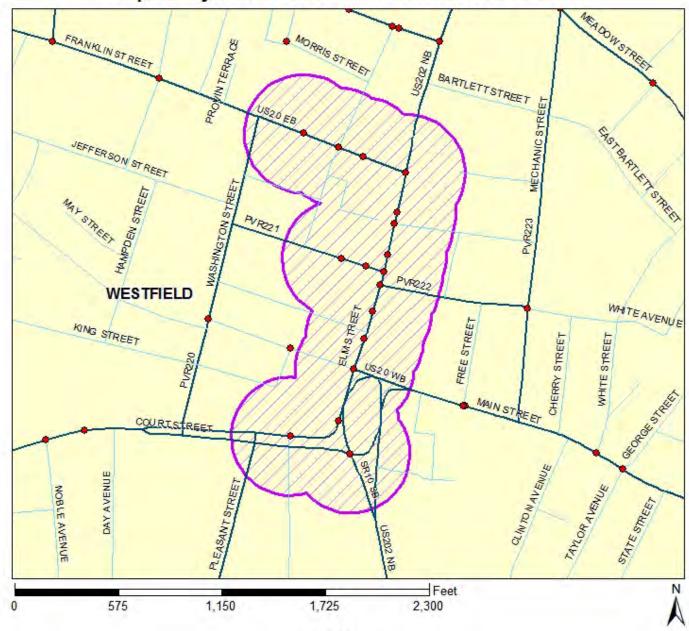
## RANK 6

### CAMBRIDGE, ARLINGTON

RPA MAPC EPDO 119 Number of Fatal Bicycle Crashes 0 Number of Injury Bicycle Crashes 22 Number of Non-Injury Bicycle Crashes 9 Total Bicycle Crashes 31

- Bicycle Crash Locations 2002-2010
  - Local Roads
- ✓ All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





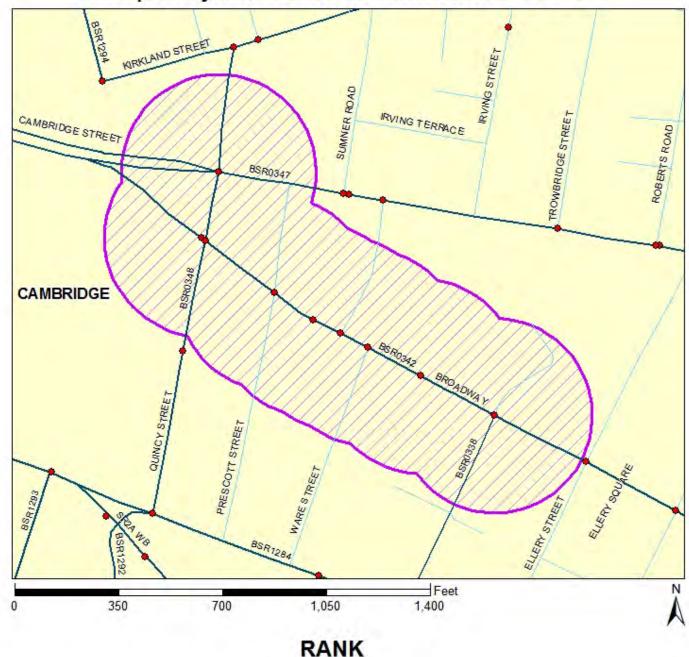
## RANK 7

### WESTFIELD

RPA PVPC EPDO 113 Number of Fatal Bicycle Crashes 0 Number of Injury Bicycle Crashes 22 Number of Non-Injury Bicycle Crashes 3 Total Bicycle Crashes 25

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





## CAMBRIDGE

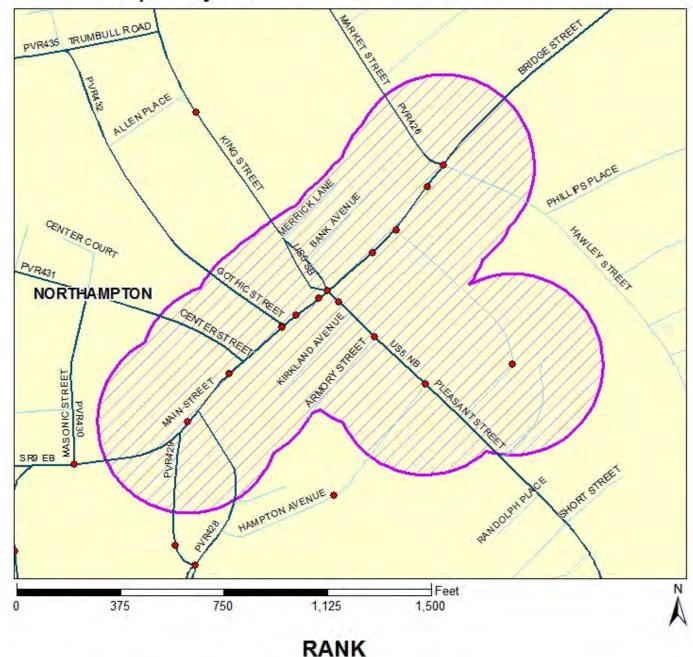
RPA MAPC
EPDO 92
Number of Fatal Bicycle Crashes 0
Number of Injury Bicycle Crashes 16
Number of Non-Injury Bicycle Crashes 12
Total Bicycle Crashes 28

### Legend

8

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary



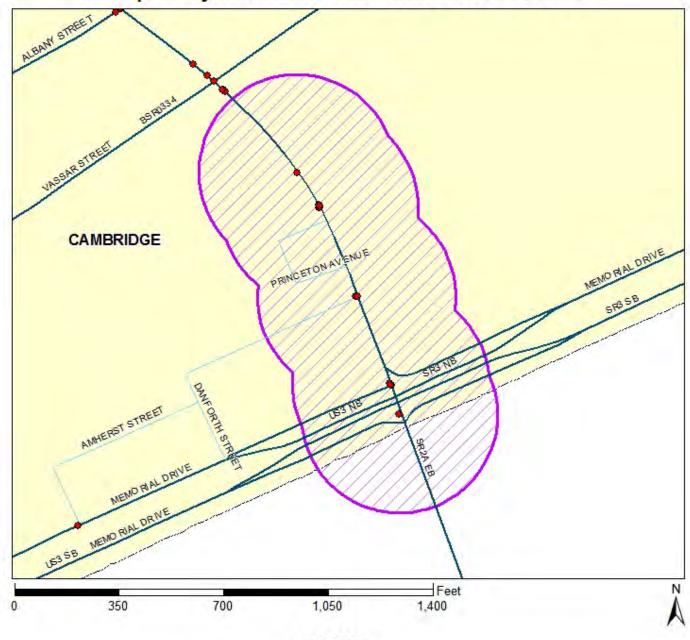


### NORTHAMPTON

RPA PVPC EPDO 82 Number of Fatal Bicycle Crashes 0 Number of Injury Bicycle Crashes 16 Number of Non-Injury Bicycle Crashes 2 Total Bicycle Crashes 18

- Bicycle Crash Locations 2002-2010
- Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
- Municipal Boundary





## RANK 10

### CAMBRIDGE

RPA MAPC
EPDO 79
Number of Fatal Bicycle Crashes 0
Number of Injury Bicycle Crashes 14
Number of Non-Injury Bicycle Crashes 9
Total Bicycle Crashes 23

- Bicycle Crash Locations 2002-2010
  - Local Roads
- All Functional Classification Except Local Roads
- Top Bicycle Crash Cluster
  - Municipal Boundary

