



LEGISLATIVE REPORT | MARCH, 2022

Electronic Control Weapons in Massachusetts: 2020

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LEGISLATIVE LANGUAGE

Massachusetts General Law Chapter 140, § 131J (as amended by St. 2004, c. 170, § 1) requires the secretary of public safety and security to establish minimum safety and quality standards, safe storage requirements, education and safety training requirements, and law enforcement training on the appropriate use of electronic control weapons (ECWs), which shall require that any ECW purchased or used by a law enforcement or public safety official include a mechanism for tracking the number of times the ECW has been fired. In October 2004, in response to Chapter 170 of the Acts of 2004, the Executive Office of Public Safety and Security (EOPSS) promulgated 501 CMR 8.00 *et seq.*, regulations governing the sale of ECWs in the Commonwealth and the training of law enforcement personnel on the appropriate use of such weapons.

Chapter 170 of the Acts of 2004, § 2 further requires the secretary of public safety to develop a uniform protocol directing state and municipal law enforcement officers to collect data pursuant to the number of times the device or weapon has been fired and the identifying characteristics, including the race and gender, of the individuals who have been fired upon. The data are reported to EOPSS.

2020 REPORT HIGHLIGHTS

- At the end of 2020, there were 289 municipal and non-municipal law enforcement agencies in Massachusetts with ECWs. Four agencies acquired ECWs during the year; one agency closed and thus ceased their use of ECWs.
- There were a total of 1,255 ECW incidents in which an officer or group of officers issued an ECW warning and/or deployed ECWs.
- 36.7% of agencies reported no ECW incidents (106 agencies); 50.2% (145 agencies) reported no ECW deployments.
- From 2019 to 2020 the number of ECW incidents decreased 9.5%, while the number of ECW agencies, trained officers, and ECW devices increased by 1.0%, 0.1%, and 5.5%, respectively.
- The ratio of agency-owned ECWs to ECW-trained officers decreased in 2019 to 0.77, but increased to 0.82 in 2020.
- Of 1,358 ECW contacts, 98.9% were people. The remainder (n = 15) were animals or fowl. Of the 1,343 human contacts, 91.9% were male, 52.0% were White, non-Hispanic, and the average age was 33.4 years.
- The officer(s) issued at least one ECW warning in 88.8% of the 1,343 human contacts; Of these contacts with a warning (n = 1,193), 38.0% of contacts submitted to the ECW warning(s) given.
- An ECW was deployed in about half (48.7%) of the 1,343 human contacts; subjects submitted to deployments 70.9% of the time (464 submissions to 654 deployments).

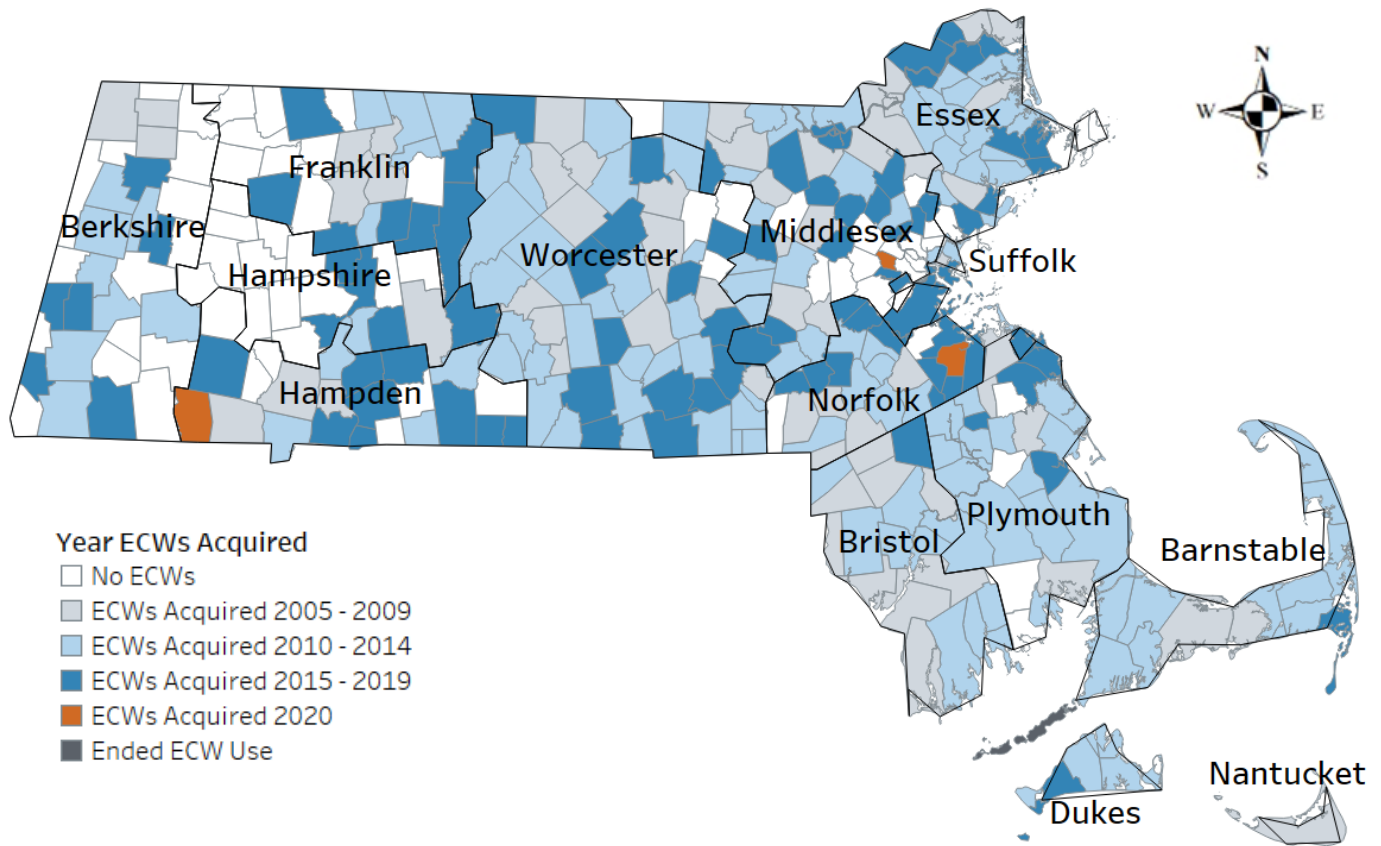
INTRODUCTION

As required by the legislature, this report summarizes data provided by Massachusetts law enforcement agencies with electronic control weapons (ECW) for calendar year 2020. Agencies with ECWs are required to complete annual reports on information related to: 1) the number of sworn officers serving the agency; 2) the number of ECW-trained officers serving the agency; 3) the number of ECWs owned by the agency; 4) the number of officers carrying ECWs; 5) the number of total ECW-related incidents that occurred during the reporting period; 6) general details about each incident (e.g., warnings, deployments, submissions, etc.); and 7) demographic information of the subject involved in the incident. Terms and definitions referenced in this report are provided in the [appendix on page A15](#).

ECW INCIDENTS AND LAW ENFORCEMENT AGENCIES

During 2020, four new law enforcement agencies began reporting use of **electronic control weapons (ECW)**¹, raising the cumulative total to 289 **ECW agencies** in Massachusetts. Figure 1 illustrates the growth in municipal ECW reporting agencies from 2005 to 2020. The greatest concentration of cities and towns that did not have ECWs in 2020 are in the western region of the state, particularly Berkshire, Franklin and Hampshire counties. Middlesex county also has a number of municipal law enforcement agencies that do not own ECWs.

Figure 1. Massachusetts Municipal Law Enforcement Agency ECW Growth, 2005—2020



¹ a device utilized to immobilize a subject without causing serious injury, typically by administering an electric shock. An ECW is commonly referred to as stun gun or TASER®.

In Massachusetts, there were a total of 1,255 **ECW incidents**² reported in 2020. The number of incidents reported by each department ranged from zero (106 agencies) to 82 incidents (one agency) ([Appendix Tables 1 - 3, pgs. A1 - A6](#)). As shown in Figure 2, over three-quarters (78.2%) of agencies reported five or fewer incidents. Agencies reporting more than five incidents comprised 21.8% of the total, including nine agencies reporting 25 or more incidents. Those nine agencies accounted for 31.5% (n = 395) of all ECW incidents in 2020.

Figure 2. Number of ECW Incidents by Agency, 2020

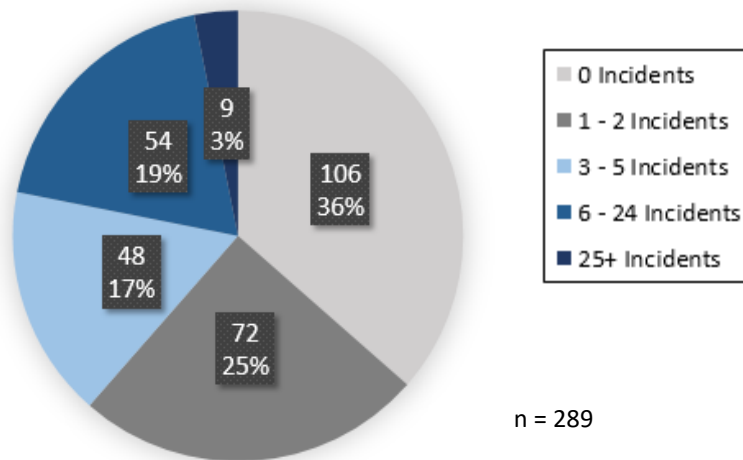
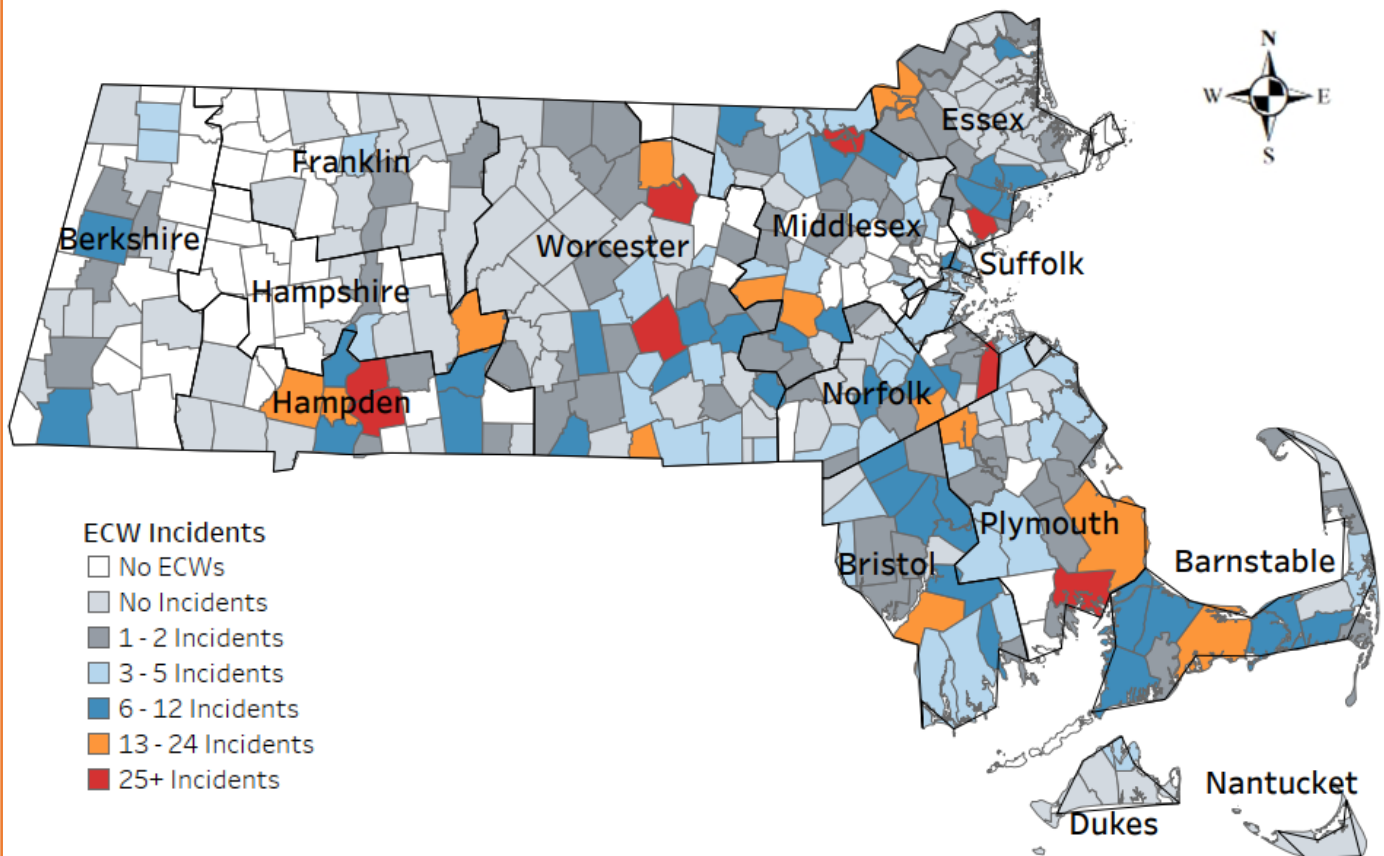


Figure 3. Massachusetts Municipal Law Enforcement ECW Incidents, 2020



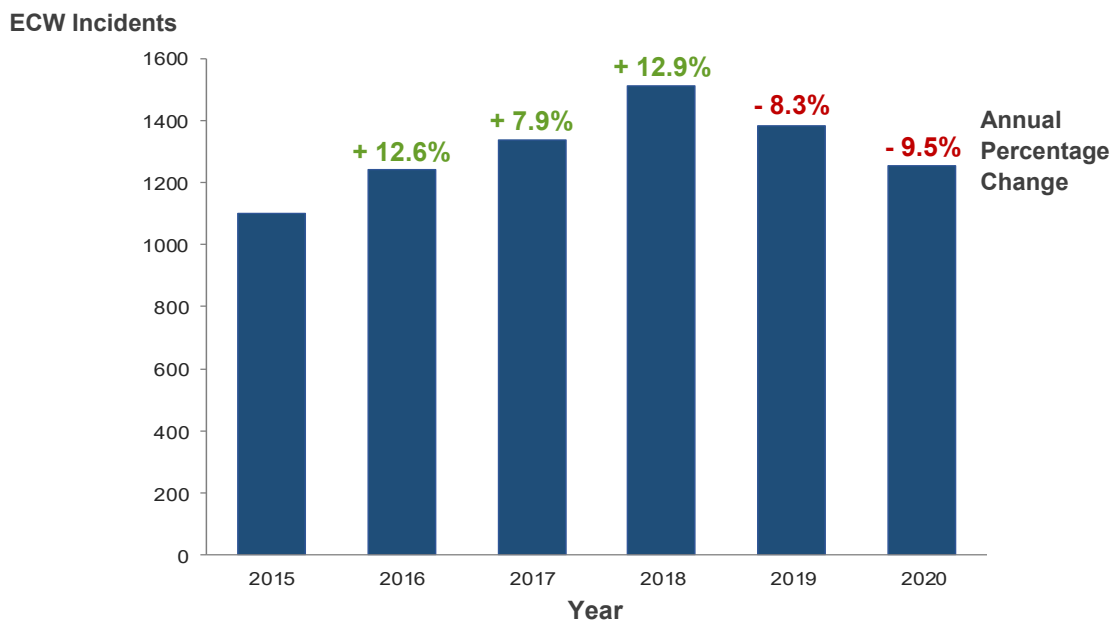
² an event in which an officer (or group of officers) issues a warning and/or deploys an ECW towards a single subject.

CURRENT TRENDS

Figure 4 and Table 1 illustrate the annual percentage change in reported ECW incidents from 2015 to 2020. Overall, the number of ECW incidents has increased by 13.9% since 2015; however, after a decade-long trend of increasing annual incidents from 2008 to 2018³, there has been a decline in annual incidents for the second year in a row. From 2019 to 2020, the number of incidents decreased by 9.5%.

As shown in Table 1, the growth in the number of ECW agencies, sworn officers, ECW trained officers, and ECW agency-owned devices has slowed over the five-year period. For the most recent year, growth in the number of ECW agencies, ECW trained officers, and agency-owned devices was 1%, 0.1%, and 5.5%, respectively. The number of sworn officers decreased for the first time in the 5-year period (-0.6%).

Figure 4. ECW Incidents and Percent Change, Calendar Years 2015 - 2020



During the five-year period between 2015 and 2020, the average growth of agency-owned ECW devices (17.7%) far surpassed that seen in incidents (3.1%), agencies (4.7%), sworn officers (8.0%), and ECW trained officers (12.1%). The ratio of ECW incidents to ECW trained officers decreased over the last five years, from .17 in 2015 to .11 in 2020.

Table 1. Characteristics of ECW Reporting Agencies, 2015 - 2020

Year	Number						Annual Percent Change				
	2015	2016	2017	2018	2019	2020	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020
ECW Incidents	1,102	1,241	1,339	1,512	1,386	1,255	12.6%	7.9%	12.9%	-8.3%	-9.5%
ECW Agencies	230	250	275	281	286	289	8.7%	10.0%	2.2%	1.8%	1.0%
Sworn Officers ^a	11,139	14,385	15,106	15,574	16,126	16,034	29.1%	5.0%	3.1%	3.5%	-0.6%
ECW Trained Officers	6,512	8,215	9,691	10,425	11,313	11,319	26.2%	18.0%	7.6%	8.5%	0.1%
ECW Agency-Owned Devices	4,223	5,626	7,481	8,219	8,766	9,247	33.2%	33.0%	9.9%	6.7%	5.5%

³ Earlier Electronic Control Weapon Reports are archived on <https://archives.lib.state.ma.us/>.

^a Sworn officers include all part-time, full-time, reserve and other officers serving in ECW agencies.

ECW CONTACTS

From January 1 through December 31, 2020, ECW reporting agencies recorded 1,358 **ECW contacts**.⁴ Fifteen contacts involved animals or fowl, such as dogs or turkeys. The remaining 1,343 ECW contacts involved people.

The majority (91.9%) of the 1,343 human contacts involved male subjects ([Appendix Table 4, pg. A7](#)). Over three-quarters of contacts were with White subjects: Non-Hispanic (52%), Hispanic Ethnicity (15.1%), Unknown Ethnicity (10%). Black, non-Hispanic subjects accounted for 13.4% of total contacts, followed by Black with Unknown Ethnicity (3.5%), and subjects of Other Races with Hispanic Ethnicity (1.5%).⁵ Of all human contacts, 17.9% involved subjects with Hispanic Ethnicity.

The average age of contacts was 33.4 years, with over three-quarters of contacts involving subjects between 20 and 44 years of age (75.9%) ([Appendix Table 5, pg. A7](#)). Subjects in the two oldest age groups (60 - 64 years and 65+ years) represented the smallest proportion of ECW contacts (1.3% and 1.0%, respectively).

ECW WARNINGS AND SUBMISSIONS

Of the 1,343 ECW contacts with human subjects, 1,193 or 88.8% involved the officer(s) issuing at least one **ECW warning** (**verbal warning, laser warning, or spark warning**)⁶ in an attempt to gain the subject's compliance. In contacts that involved an ECW warning, officers issued a single type of warning in 42.3% of contacts, with a verbal warning being the most common (470 of 505, 93.1%) ([Table 2 pg. 6](#)). The rate of compliance for contacts with one warning, however, was the lowest for verbal warnings (28.7%). Excluding spark warnings (n = 3), laser warnings had the highest rate of compliance (50.0%), though the use of laser warnings only was rare (n = 32).

Most ECW contacts involved multiple warnings (57.7%). Of these, the verbal and laser warning combination comprised the vast majority (614 of 688, 89.2%) and resulted in a compliance rate of 44.8%. A combination of verbal and spark warnings had a compliance rate of 48.3%, followed by a combination of all three ECW warnings with a 22.7% compliance rate.

⁴ 'ECW Contact' refers to an individual officer's deployment, warning, or display of an ECW towards a single subject. Multiple ECW contacts can occur during a single ECW incident, (e.g., an incident in which two officers each issue a warning and/or deploy an ECW at a subject is considered two contacts and one incident). This section details ECW contacts between officers and subjects.

⁵ Other comprises the race/ethnicity categories of American Indian/Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Two or More Races, and Other (specified).

⁶ ECW Warnings:

Laser warning— a visual warning whereby an officer employs the laser function of the ECW device to indicate that an ECW will be deployed.

Spark warning— a visual warning whereby an officer employs a spark on a handheld stun device in order to demonstrate its effectiveness.

Verbal warning— any spoken words or display of the ECW that would indicate to a subject that an ECW may be used. This warning can include: 1) Any direct wording to a subject indicating or implying that an ECW will be used. Example: Displaying ECW and shouting, "Stop!" 2) Any indirect wording that a subject may overhear indicating or implying that an ECW is about to be deployed. Example: A warning to other officers that an ECW is about to be deployed by saying "Taser, Taser, Taser!"

A smaller number of contacts (150 or 11.2%) received no warning prior to ECW deployment. Agencies indicated that sudden actions by the subject (i.e., subjects becoming combative during handcuffing) required immediate **ECW deployment (probe deployment, 5– second cycle, and/or stun deployment)**⁷ and precluded an opportunity for the officer to issue a warning. Additionally, incidents involving two or more officers may result in one warning but more than one deployment. Thus, both contacts would indicate a deployment, but only one would show a warning was given.

Table 2. ECW Warning Types by Submissions, 2020^a

Characteristic	Warnings		Submissions		Percent that Submit
	Number	Percent	Number	Percent	
Total	1,193	100%	453	100%	38.0%
<u>One Warning</u>	505	42.3%	153	33.8%	30.3%
Verbal	470	39.4%	135	29.8%	28.7%
Laser	32	2.7%	16	3.5%	50.0%
Spark	3	0.3%	2	0.4%	--
<u>Multiple Warnings</u>	688	57.7%	300	66.2%	43.6%
Verbal/laser	614	51.5%	275	60.7%	44.8%
Verbal/spark	29	2.4%	14	3.1%	48.3%
Laser/spark	1	0.1%	1	0.2%	--
Verbal/laser/spark	44	3.7%	10	2.2%	22.7%

-- Percentages with such a small denominator are not statistically reliable.

^a Contacts where an ECW warning was not given are excluded from the table (n = 150).

CONTACT CHARACTERISTICS

[Table 3 \(pg. 7\)](#) presents demographics data on the contacts for which subject characteristics are known. The data show officers' use of warnings and/or ECW deployments by subject gender, race, ethnicity, and age. A consistent pattern is revealed across all of the subject groups: a) in about 50% of contacts, the officer(s) issues an ECW warning with no subsequent ECW deployment; b) in about 40% of contacts, the officer(s) issues an ECW warning and an ECW deployment; and c) in about 10% of contacts, the officer(s) deploys an ECW with no prior ECW warning.

[Appendix Tables 4 and 5 \(pg. A7\)](#) break down the data slightly differently, looking at contacts with a warning or contacts with an ECW deployment by subject gender, race/ethnicity, and age. The percentages are similar by gender, and differ slightly by race/ethnicity and age. Those in the Black, Unknown Ethnicity category had the highest proportion of contacts with warnings (93.6%) followed by the White, Hispanic category (91.6%), while those in the Unknown Race, Hispanic category had the highest percentage of contacts with an ECW deployment (87.5%).

⁷ECW Deployments:

Probe deployment— the act of firing two small dart-like probes from the ECW, which attach to the subject. The device then delivers a 5-second electrical cycle, which can be repeated as needed in order to incapacitate the subject to the point of submission.

5-second cycle— a five second electrical charge resulting from a probe deployment, which can be repeated as needed.

Stun deployment— the act of bringing the ECW device into direct contact with the subject's skin or clothing in order to induce pain to the point of submission. Stuns can be repeated as needed if the subject does not initially submit.

[Appendix Table 5 \(pg. A7\)](#) shows that subjects in the 40 to 44 years and 65 years or older categories received the highest percent of contacts with a warning (93.5% and 92.9%, respectively). Additionally, subjects in the 60 to 64 years group had the smallest percentage of contacts with an ECW deployment (38.9%).

Table 3. Percent of Contacts With a Warning and/or ECW Deployment by Subject Characteristic, 2020^a

Characteristic		Contacts with Warning(s), No ECW Deployment		Contacts with Warning(s) and ECW Deployment(s)		Contacts with ECW Deployment(s), No Warning		Total
		Number	Percent	Number	Percent	Number	Percent	Number
Gender	Male	617	50.8	477	39.3	121	10.0	1,215
	Female	47	46.1	46	45.1	9	8.8	102
	Total	664	50.4	523	39.7	130	9.9	1,317
Race	White	514	50.5	413	40.6	91	8.9	1,018
	Black	123	52.3	87	37.0	25	10.6	235
	Other	14	41.2	14	41.2	6	17.6	34
	Unknown	18	50.0	10	27.8	8	22.2	36
	Total	669	50.6	524	39.6	130	9.8	1,323
Ethnicity	Non-Hispanic	491	53.5	343	37.4	84	9.2	918
	Hispanic	97	40.8	121	50.8	20	8.4	238
	Unknown	81	48.5	60	35.9	26	15.6	167
	Total	669	50.6	524	39.6	130	9.8	1,323
Age	Less than 20 Years	45	53.6	27	32.1	12	14.3	84
	20 – 24 Years	125	54.8	80	35.1	23	10.1	228
	25 – 29 Years	116	48.9	97	40.9	24	10.1	237
	30 – 34 Years	114	48.3	102	43.2	20	8.5	236
	35 – 44 Years	147	47.7	133	43.2	28	9.1	308
	45 – 54 Years	85	52.8	56	34.8	20	12.4	161
	55 Years or Older	36	52.9	29	42.6	3	4.4	68
	Total	668	50.5	524	39.6	130	9.8	1,322

^a Excludes unknown/missing from gender (n=6) and age (n=1) totals due to small number of cases.

ECW DEPLOYMENTS

Of the 289 Massachusetts agencies with ECWs in 2020, 50.2% (145 agencies) reported zero ECW deployments. The remaining 49.8% (144 agencies) reported between one and 93 deployments, totaling 1,034 weapon (probe and/or stun) deployments. Of the agencies with a deployment, over half (78 agencies, 54.2%) reported between one and three ECW deployments.

[Appendix Tables 6 - 8 \(pgs. A8 - A14\)](#) provide information on the type of deployment by department, revealing a slightly higher overall usage of stun deployments, also known as a 'drive stun' (530; 51.3%), compared to probe deployments (504; 48.7%). Additionally, the range of stun deployments per department was more widely dispersed (1 to 68) than probe deployments (1 to 25).

Figure 5 displays the number of ECW deployments by agency, excluding non-municipal agencies.

Figure 5. Massachusetts Municipal Law Enforcement ECW Deployments, 2020

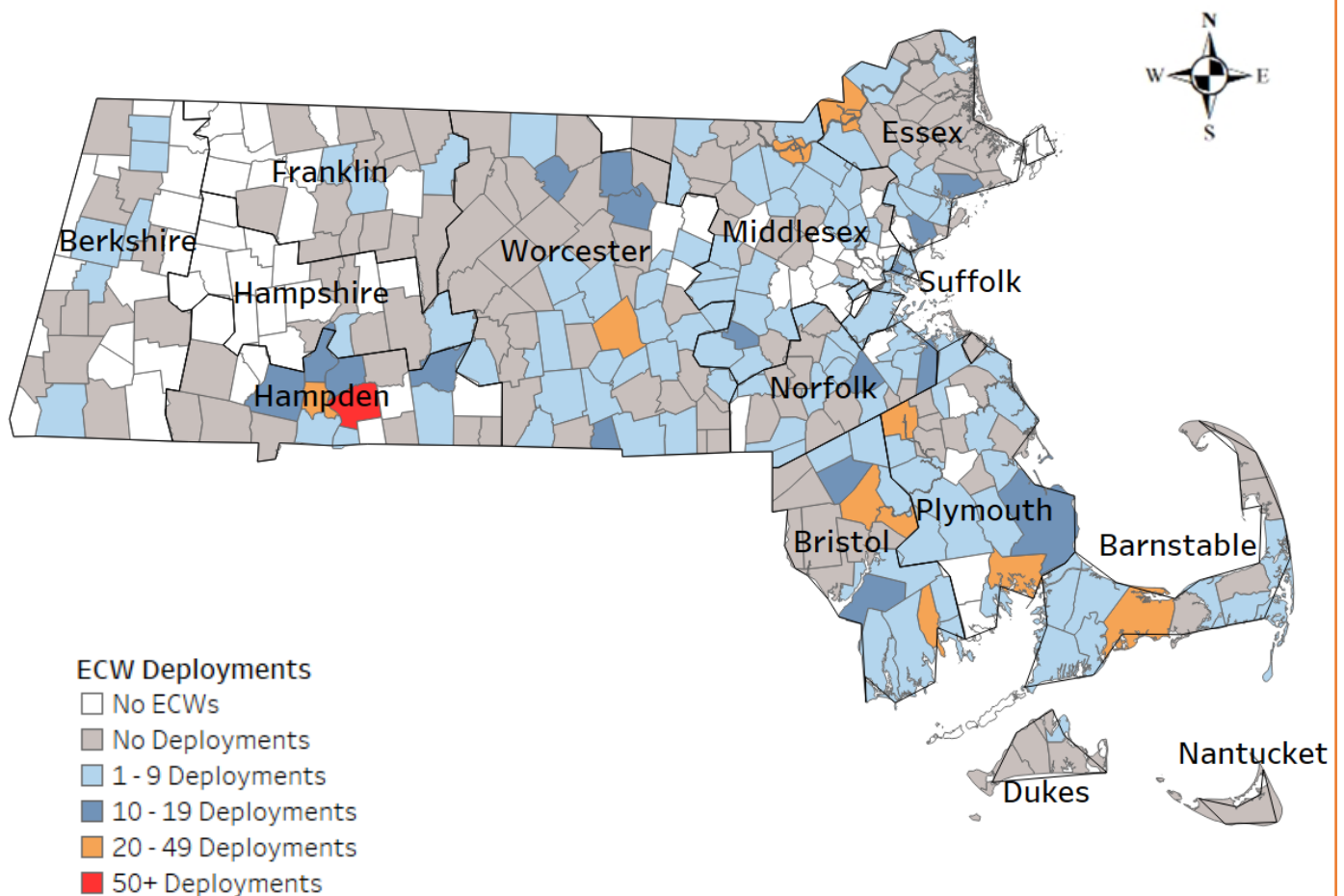
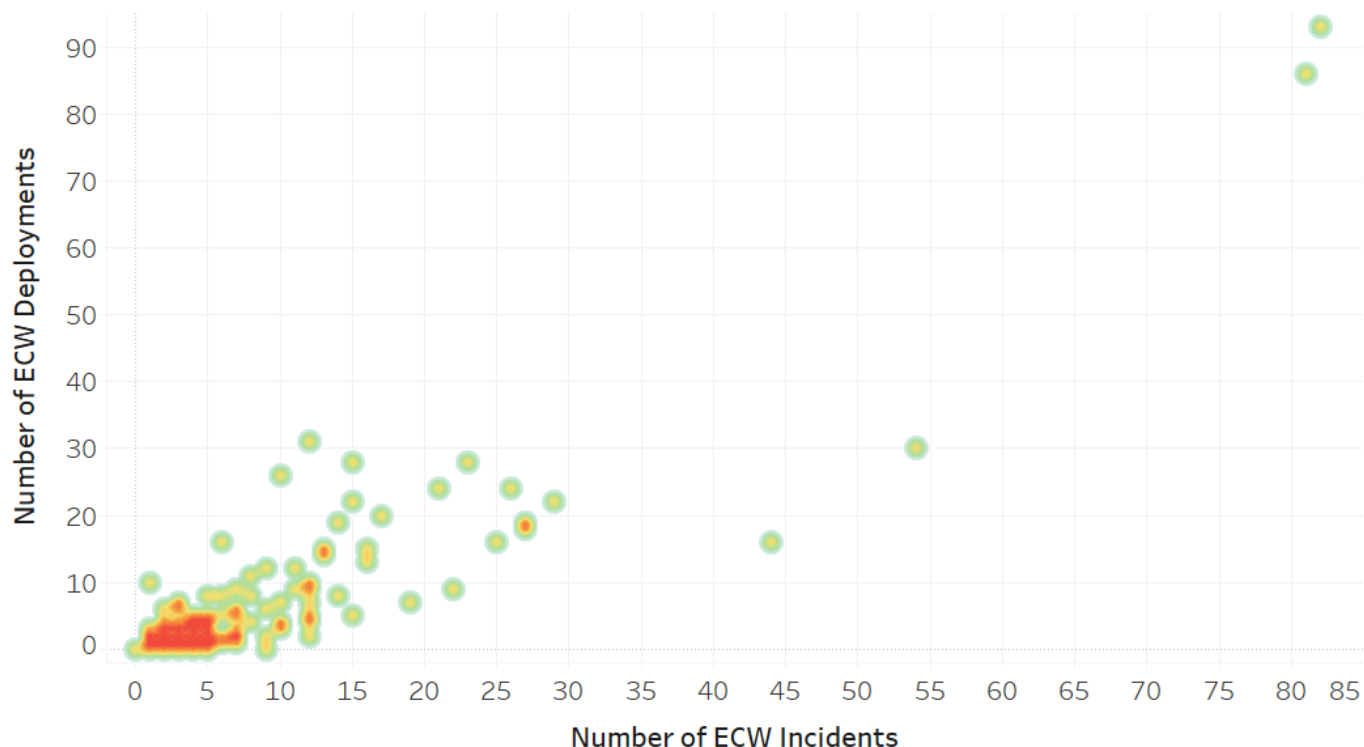


Figure 6 is a density chart illustrating the number of reported ECW incidents and deployments by agency. The majority of agencies are concentrated around low numbers of ECW incidents and deployments (shown in red).

Figure 6. ECW Incidents and Deployments Density Chart, 2020



Officers deployed ECWs in under half (48.7%) of the 1,343 human contacts. Table 4 shows that of the 654 incidents where an ECW was deployed, 49.7% involved the use of only probe deployments (the firing of two small dart-like probes from the ECW, which attach to the subject and can emit an electrical charge), 42.2% involved the use of only stun deployments (bringing the ECW device into direct contact with the subject's skin or clothing), and 8.1% of the incidents involved a combination of probe and stun deployments. Overall, subjects submitted to the deployment of an ECW 70.9% of the time. Subjects submitted to individual stun deployments more often than individual probe deployments (78.3% and 65.2%, respectively). Combined probe and stun deployments had a submission rate of 67.9%.

Table 4. Distribution of ECW Submissions by Deployment Type, 2020^a

<u>Characteristic</u>	ECW Deployments		ECW Submissions		Percent that Submit
	Number	Percent	Number	Percent	
Probe	325	49.7%	212	45.7%	65.2%
Stun	276	42.2%	216	46.6%	78.3%
Combined Probe and Stun	53	8.1%	36	7.8%	67.9%
Total	654	100%	464	100%	70.9%

^a excludes cases where subject was not a person.

Appendix Table 1. Number of Municipal and Non-municipal ECW Incidents, 2016 - 2020

Agency Type	Number of Incidents per Year				
	2016	2017	2018	2019	2020
Non-municipal	64	85	117	100	90
Municipal	1,177	1,254	1,395	1,286	1,165
Total	1,241	1,339	1,512	1,386	1,255

Appendix Table 2. Non-municipal ECW Incidents by Agency, 2016 - 2020

Agency Name	Number of Incidents per Year				
	2016	2017	2018	2019	2020
Amtrak Police	--	--	0	0	0
Bridgewater State University	3	2	2	1	0
Cape Cod Regional Law Enforcement	0	1	0	0	0
Central Massachusetts Law Enforcement Council	0	0	0	1	1
Clark University	0	0	1	0	0
Holyoke Community College ^a	--	--	--	--	0
Massachusetts State Police	61	81	94	77	82
Massasoit Community College	0	1	2	0	0
Martha's Vineyard Police Tactical Response Team	0	0	0	0	0
University of Massachusetts, Lowell	--	--	0	2	0
University of Massachusetts, Memorial	--	0	4	3	1
University of Massachusetts Worcester	--	0	14	16	6
Total	64	85	117	100	90

Appendix Table 3. Municipal ECW Incidents by Agency, 2016 - 2020

Agency Name	Number of Incidents per Year				
	2016	2017	2018	2019	2020
Abington	1	1	1	2	0
Acushnet	3	7	4	3	5
Adams	2	0	1	3	4
Agawam	--	0	11	6	6
Amesbury	0	4	1	1	0
Andover	1	2	0	2	2
Aquinnah	0	0	0	0	0
Ashburnham	2	0	4	0	2
Ashfield	--	0	0	0	0
Ashland	5	6	2	5	9
Athol	4	0	0	0	0
Attleborough	7	5	8	12	5
Auburn	2	3	2	3	4
Avon	1	0	0	1	0
Ayer	3	3	3	0	0
Barnstable	26	24	15	15	15
Barre	10	5	4	2	0
Becket	0	0	0	0	0
Bedford	0	2	3	3	4
Belchertown	3	2	1	3	0
Belmont ^a	--	--	--	--	2
Berkley	1	0	2	0	0
Bernardston	0	0	0	0	0
Beverly	9	7	4	4	6
Billerica	2	0	4	2	1
Blackstone	1	5	1	3	4

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

^a Agency began using Electronic Control Weapons during 2020.

Appendix Table 3. (continued) Municipal ECW Incidents by Agency, 2016 - 2020

Number of Incidents per Year

Agency Name	2016	2017	2018	2019	2020
Blandford	0	0	0	0	0
Bolton	6	0	0	0	1
Boston	1	4	1	0	3
Bourne	3	1	3	5	7
Boxborough	0	0	0	2	1
Boxford	0	1	0	0	0
Boylston	1	2	5	6	1
Braintree ^a	--	--	--	--	1
Brewster	4	2	3	0	0
Bridgewater	3	0	2	2	2
Brockton	15	26	22	28	23
Brookfield	4	1	0	0	0
Burlington	0	0	0	0	1
Canton	2	4	7	7	8
Carlisle	--	0	0	0	2
Carver	0	0	1	1	2
Charlton	1	2	2	5	1
Chatham	0	0	1	1	1
Chelmsford	4	6	5	5	8
Chelsea	6	2	5	3	9
Cheshire	--	--	--	1	0
Chicopee	16	25	44	43	44
Chilmark	0	0	0	0	0
Clinton	3	4	9	6	4
Cohasset	1	0	1	0	0
Colrain	--	0	1	0	0
Concord	1	2	1	0	1
Dalton	0	1	0	1	1
Danvers	12	4	8	9	11
Dartmouth	5	3	4	1	4
Dedham	--	--	2	5	4
Deerfield	1	0	1	0	0
Dennis	7	4	7	9	10
Dighton	0	0	0	0	2
Douglas	5	3	1	1	4
Dover	0	0	0	0	0
Dracut	7	4	3	8	3
Dudley	0	3	2	3	0
Dunstable	3	0	0	0	0
Duxbury	1	0	1	3	2
East Bridgewater	4	1	5	9	2
East Brookfield	2	1	0	0	2
Eastham	2	1	0	3	4
Easthampton	--	2	4	2	0
Easton	8	4	3	5	2
Edgartown	2	2	0	0	0
Egremont	--	0	1	0	0
Erving	0	0	0	0	0
Essex	3	2	3	0	1
Everett	14	14	8	4	12
Fairhaven	4	3	4	1	1
Fall River	30	36	32	26	16

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

^a Agency began using Electronic Control Weapons during 2020.

Appendix Table 3. (continued) Municipal ECW Incidents by Agency, 2016 - 2020

Number of Incidents per Year

Agency Name	2016	2017	2018	2019	2020
Falmouth	14	11	8	7	8
Fitchburg	14	27	19	24	16
Foxborough	6	6	7	7	4
Framingham	14	10	13	20	14
Franklin	7	8	4	4	0
Freetown	1	4	1	3	7
Gardner	10	11	5	2	1
Georgetown	0	0	0	0	0
Gill	0	0	0	0	0
Gosnold	0	0	0	0	X
Grafton	12	4	6	4	3
Granby	--	0	0	0	0
Granville	0	0	0	0	0
Great Barrington	2	2	5	1	1
Greenfield	9	10	6	5	5
Groton	0	0	0	0	2
Groveland	0	0	0	0	0
Hadley	--	--	--	3	2
Hamilton	--	--	1	0	0
Hampden	1	0	0	0	0
Hanson	3	3	0	0	0
Hardwick	5	2	1	2	0
Harwich	6	4	3	1	6
Hatfield	--	0	0	0	0
Haverhill	0	0	0	2	2
Hingham	8	1	6	3	5
Hinsdale	--	0	0	0	0
Holbrook	0	0	0	1	0
Holden	2	5	12	7	3
Holland	0	0	1	0	0
Holliston	3	2	0	4	1
Holyoke	23	34	27	20	11
Hopedale	0	0	0	0	0
Hopkinton	--	6	6	6	2
Hubbardston	2	1	3	0	0
Hudson	2	6	5	4	3
Hull	3	1	8	1	0
Ipswich	3	0	0	4	0
Kingston	5	6	5	3	2
Lakeville	5	5	1	8	4
Lanesborough	0	1	0	0	1
Lawrence	34	22	23	31	21
Lee	0	1	0	0	0
Leicester	4	3	0	2	2
Lenox	1	0	1	0	1
Leominster	22	12	34	36	25
Leverett	--	0	0	0	0
Lincoln	0	1	2	0	0
Littleton	4	4	3	4	0
Longmeadow	0	0	1	4	2
Lowell	26	61	63	34	29
Ludlow	0	0	13	10	2

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

Cells denoted by an "X" indicate the agency has ended their use of Electronic Control Weapons.

Appendix Table 3. (continued) Municipal ECW Incidents by Agency, 2016 - 2020

Number of Incidents per Year

Agency Name	2016	2017	2018	2019	2020
Lunenburg	0	0	4	0	0
Lynn	--	--	--	12	27
Lynnfield	1	2	0	0	1
Manchester-by-the-Sea	--	0	1	1	0
Mansfield	8	3	13	10	12
Marblehead	3	4	4	2	2
Marion	5	1	1	0	2
Marlborough	9	11	7	5	15
Marshfield	5	3	5	0	4
Mashpee	11	11	8	9	1
Maynard	3	5	0	1	0
Medfield	--	1	2	1	0
Medway	--	0	2	1	1
Mendon	0	0	1	0	0
Merrimac	0	1	1	2	0
Methuen	17	18	6	16	17
Middleborough	7	12	11	13	5
Middleton	0	4	3	2	1
Milford	5	2	7	8	6
Millbury	7	3	6	5	6
Millis	--	3	1	0	0
Millville	0	0	0	0	0
Monson	--	2	7	5	9
Montague	0	1	4	2	2
Nantucket	3	1	0	2	0
Natick	8	7	14	9	6
Needham	4	5	2	4	0
New Bedford	63	69	89	32	12
New Braintree	0	1	0	0	0
New Marlborough	0	0	0	0	0
New Salem	0	0	0	0	0
Newbury	0	2	2	0	0
Newburyport	0	6	3	5	6
Norfolk	2	0	0	0	0
North Adams	2	5	1	1	3
North Andover	3	1	2	2	1
North Attleborough	2	3	7	3	0
North Brookfield	7	3	0	0	0
North Reading	3	3	1	1	0
Northborough	5	1	2	3	1
Northbridge	1	1	4	1	2
Northfield	0	0	0	0	0
Norton	7	11	10	6	9
Norwell	3	0	1	0	0
Norwood	4	3	3	4	4
Oak Bluffs	5	2	10	5	5
Oakham	1	0	0	0	0
Orange	5	2	2	0	1
Orleans	1	2	0	1	3
Oxford	13	15	12	10	5
Palmer	11	9	11	8	12

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

Appendix Table 3. (continued) Municipal ECW Incidents by Agency, 2016 - 2020

Number of Incidents per Year

Agency Name	2016	2017	2018	2019	2020
Paxton	0	0	3	0	5
Peabody	5	9	21	12	12
Pembroke	10	5	2	5	4
Pepperell	8	4	3	4	6
Petersham	0	0	0	0	0
Phillipston	0	0	1	0	0
Pittsfield	11	14	8	3	7
Plainville	3	1	0	0	1
Plymouth	17	16	9	22	14
Plympton	0	1	1	1	1
Princeton	--	0	0	1	0
Provincetown	4	4	6	4	2
Quincy	--	--	4	9	2
Randolph	19	16	16	18	12
Raynham	9	10	5	6	7
Rehoboth	2	1	1	2	1
Revere	15	5	5	3	4
Rockland	2	9	7	6	3
Rowley	2	1	2	0	0
Royalston	--	--	--	0	0
Rutland	4	1	4	4	2
Salem	2	4	6	9	10
Salisbury	0	0	1	0	1
Sandwich	3	2	2	3	12
Scituate	--	--	10	4	3
Seekonk	11	8	4	3	3
Sharon	0	3	3	2	1
Sheffield	1	1	1	0	7
Sherborn	0	0	0	2	0
Shirley	2	4	0	1	3
Shrewsbury	0	0	18	16	6
Shutesbury	1	3	0	0	0
Somerset	3	2	0	1	1
South Hadley	9	2	4	1	3
Southborough	1	1	4	0	1
Southbridge	15	28	15	26	7
Southwick	0	2	0	2	0
Spencer	3	2	8	7	7
Springfield	65	81	94	89	81
Sterling	2	2	1	0	0
Stockbridge	0	0	0	1	0
Stoneham	--	0	3	8	3
Stoughton	10	14	18	12	19
Stow	0	0	0	0	1
Sturbridge	4	6	2	1	1
Sudbury	0	1	2	0	3
Sunderland	0	0	0	0	2
Sutton	0	0	1	1	0
Swampscott	0	0	0	1	1
Swansea	5	5	2	3	2
Taunton	10	7	13	7	10

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

Appendix Table 3. (continued) Municipal ECW Incidents by Agency, 2016 - 2020

Agency Name	Number of Incidents per Year				
	2016	2017	2018	2019	2020
Templeton	0	3	3	0	0
Tewksbury	18	8	17	17	9
Tisbury	0	0	0	3	4
Tolland ^a	--	--	--	--	0
Topsfield	0	0	1	1	0
Townsend	1	2	3	0	0
Truro	2	0	1	1	0
Tyngsborough	2	2	9	8	3
Upton	0	0	0	0	0
Uxbridge	8	6	6	3	5
Wakefield	3	3	8	2	2
Wales	0	0	0	0	1
Walpole	3	10	5	3	6
Ware	--	5	13	21	22
Wareham	15	14	24	33	26
Warren	1	0	0	3	1
Warwick	0	0	0	0	0
Watertown	--	--	--	3	5
Webster	9	12	8	4	13
Wellesley	--	--	--	1	2
Wellfleet	0	1	0	0	2
Wenham	1	0	1	0	0
West Boylston	0	3	1	0	0
West Bridgewater	0	3	4	1	5
West Brookfield	0	2	1	0	0
West Newbury	--	0	0	1	0
West Springfield	19	10	12	21	15
West Stockbridge	0	0	0	0	0
West Tisbury	0	0	0	1	0
Westborough	1	2	8	4	10
Westfield	10	12	17	5	13
Westford	--	0	2	2	4
Westminster	1	1	0	0	1
Westport	1	0	2	2	3
Westwood	5	0	2	3	3
Weymouth	6	27	16	14	27
Whately	--	0	0	0	0
Whitman	4	6	4	4	0
Williamstown	0	2	2	2	0
Wilmington	--	0	2	9	3
Winchendon	4	8	4	2	2
Winchester	0	0	1	0	1
Woburn	2	1	4	0	3
Worcester	45	63	59	70	54
Wrentham	5	7	4	1	4
Yarmouth	4	7	5	7	9
Total	1,177	1,254	1,395	1,286	1,165

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

Cells denoted by a "--" indicate the agency had not yet implemented use of Electronic Control Weapons.

^a Agency began using Electronic Control Weapons during 2020.

**Appendix Table 4. Distribution of ECW Contacts, Warnings, and Deployments
by Subject Gender and Race/Ethnicity, 2020**

Characteristic	Contacts		Warnings		Deployments		Percent of Contacts with a Warning	Percent of Contacts with a Weapon Deployment
	Number	Percent	Number	Percent	Number	Percent		
Total	1,343	100%	1,193	100%	654	100%	89.1%	48.7%
<u>Gender</u>								
Male	1,234	91.9%	1,097	91.7%	598	91.4%	88.9%	48.5%
Female	103	7.7%	93	7.8%	55	8.4%	90.3%	53.4%
Unknown	6	0.4%	6	0.5%	1	--	--	--
<u>Race/Ethnicity</u>								
White, non-Hispanic	699	52.0%	629	52.7%	320	48.9%	90.1%	45.8%
White, Hispanic	203	15.1%	186	15.6%	117	17.9%	91.6%	57.6%
White, Unknown Ethnicity	134	10.0%	112	9.4%	67	10.2%	83.6%	50.0%
Black, non-Hispanic	180	13.4%	157	13.2%	83	12.7%	88.3%	46.1%
Black, Hispanic	10	0.7%	9	0.8%	7	1.1%	90.0%	70.0%
Black, Unknown Ethnicity	47	3.5%	44	3.7%	22	3.4%	93.6%	46.8%
Other ^a , Non-Hispanic	10	0.7%	7	0.6%	8	1.2%	70.0%	80%
Other ^a , Hispanic	23	1.7%	20	1.7%	12	1.8%	87.0%	52.2%
Other ^a , Unknown Ethnicity	1	--	1	--	0	--	--	--
Race Unknown, Non-Hispanic	3	--	2	--	1	--	--	--
Race Unknown, Hispanic	8	0.6%	6	0.5%	7	1.1%	--	--
Race Unknown, Unknown Ethnicity	25	1.9%	20	1.7%	10	1.5%	80.0%	40.0%

^aThe race/ethnicity categories of American Indian/Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Two or More Races, and Other (specified) comprise *Other*.

-- Percentages with such a small denominator are not statistically reliable.

Appendix Table 5. Distribution of ECW Contacts, Warnings, and Deployments by Subject Age, 2020

Subject Age	Contacts		Warnings		Deployments		Percent of Contacts with a Warning	Percent of Contacts with a Weapon Deployment
	Number	Percent	Number	Percent	Number	Percent		
Total	1,343	100%	1,193	100%	654	100%	88.8%	48.7%
17 or Younger	34	2.5%	27	2.3%	14	2.1%	79.4%	41.2%
18-19 Years	52	3.9%	45	3.8%	25	3.8%	86.5%	48.1%
20-24 Years	229	17.1%	205	17.2%	103	15.7%	89.5%	45.0%
25-29 Years	241	17.9%	213	17.9%	121	18.5%	88.4%	50.2%
30-34 Years	239	17.8%	216	18.1%	122	18.7%	90.4%	51.0%
35-39 Years	187	13.9%	165	13.8%	99	15.1%	88.2%	52.9%
40-44 Years	123	9.2%	115	9.6%	62	9.5%	93.5%	50.4%
45-49 Years	95	7.1%	83	7.0%	45	6.9%	87.4%	47.4%
50-54 Years	71	5.3%	58	4.9%	31	4.7%	81.7%	43.7%
55-59 Years	39	2.9%	36	3.0%	17	2.6%	92.3%	43.6%
60-64 Years	18	1.3%	16	1.3%	7	1.1%	88.9%	38.9%
65 or Older	14	1.0%	13	1.1%	8	1.2%	92.9%	57.1%
Unknown	1	--	1	--	0	--	--	--

-- Percentages with such a small denominator are not statistically reliable.

Appendix Table 6. Number of Municipal and Non-municipal ECW Deployments, Calendar Year 2020

Number of ECW Deployments			
Agency Type	Probe Cycles	Stuns	Total
Non-municipal	28	69	97
Municipal	476	461	937
Total	504	530	1,034

Appendix Table 7. Non-municipal ECW Deployments by Agency, Calendar Year 2020

Number of ECW Deployments			
Agency Name	Probe Cycles	Stuns	Total
Amtrak Police	0	0	0
Bridgewater State University	0	0	0
Cape Cod Regional Law Enforcement	0	0	0
Central Massachusetts Law Enforcement Council	2	1	3
Clark University	0	0	0
Holyoke Community College ^a	0	0	0
Massachusetts State Police	25	68	93
Massasoit Community College	0	0	0
Martha's Vineyard Police Tactical Response Team	0	0	0
University of Massachusetts, Lowell	0	0	0
University of Massachusetts, Memorial	0	0	0
University of Massachusetts Worcester	1	0	1
Total	28	69	97

Appendix Table 8. Municipal ECW Deployments by Agency, Calendar Year 2020

Number of ECW Deployments			
Agency Name	Probe Cycles	Stuns	Total
Abington	0	0	0
Acushnet	0	1	1
Adams	4	1	5
Agawam	2	3	5
Amesbury	0	0	0
Andover	0	1	1
Aquinnah	0	0	0
Ashburnham	0	0	0
Ashfield	0	0	0
Ashland	3	9	12
Athol	0	0	0
Attleborough	0	0	0
Auburn	0	2	2
Avon	0	0	0
Ayer	0	0	0
Barnstable	13	15	28
Barre	0	0	0

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

^a Agency began using Electronic Control Weapons during 2020.

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Becket	0	0	0
Bedford	0	0	0
Belchertown	0	0	0
Belmont ^a	0	0	0
Berkley	0	0	0
Bernardston	0	0	0
Beverly	12	4	16
Billerica	2	0	2
Blackstone	0	0	0
Blandford	0	0	0
Bolton	0	2	2
Boston	4	2	6
Bourne	2	1	3
Boxborough	0	0	0
Boxford	0	0	0
Boylston	0	1	1
Braintree ^a	1	1	2
Brewster	0	0	0
Bridgewater	1	1	2
Brockton	17	11	28
Brookfield	0	0	0
Burlington	1	0	1
Canton	6	5	11
Carlisle	1	1	2
Carver	1	3	4
Charlton	3	0	3
Chatham	0	1	1
Chelmsford	2	2	4
Chelsea	3	9	12
Cheshire	0	0	0
Chicopee	7	9	16
Chilmark	0	0	0
Clinton	0	1	1
Cohasset	0	0	0
Colrain	0	0	0
Concord	0	0	0
Dalton	2	0	2
Danvers	7	2	9
Dartmouth	1	0	1
Dedham	1	0	1
Deerfield	0	0	0
Dennis	3	1	4
Dighton	0	0	0
Douglas	1	0	1

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

^a Agency began using Electronic Control Weapons during 2020.

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Dover	0	0	0
Dracut	0	1	1
Dudley	0	0	0
Dunstable	0	0	0
Duxbury	0	0	0
East Bridgewater	0	0	0
East Brookfield	1	0	1
Eastham	1	0	1
Easthampton	0	0	0
Easton	1	2	3
Edgartown	0	0	0
Egremont	0	0	0
Erving	0	0	0
Essex	0	0	0
Everett	4	5	9
Fairhaven	1	1	2
Fall River	12	3	15
Falmouth	8	0	8
Fitchburg	8	5	13
Foxborough	0	0	0
Framingham	1	7	8
Franklin	0	0	0
Freetown	1	1	2
Gardner	10	0	10
Georgetown	0	0	0
Gill	0	0	0
Grafton	0	2	2
Granby	0	0	0
Granville	0	0	0
Great Barrington	0	0	0
Greenfield	2	1	3
Groton	0	0	0
Groveland	0	0	0
Hadley	0	0	0
Hamilton	0	0	0
Hampden	0	0	0
Hanson	0	0	0
Hardwick	0	0	0
Harwich	4	1	5
Hatfield	0	0	0
Haverhill	3	0	3
Hingham	2	0	2
Hinsdale	0	0	0

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Holbrook	0	0	0
Holden	2	0	2
Holland	0	0	0
Holliston	0	1	1
Holyoke	4	8	12
Hopedale	0	0	0
Hopkinton	2	0	2
Hubbardston	0	0	0
Hudson	0	1	1
Hull	0	0	0
Ipswich	0	0	0
Kingston	2	0	2
Lakeville	2	0	2
Lanesborough	0	0	0
Lawrence	6	18	24
Lee	0	0	0
Leicester	0	0	0
Lenox	0	2	2
Leominster	1	15	16
Leverett	0	0	0
Lincoln	0	0	0
Littleton	0	0	0
Longmeadow	0	2	2
Lowell	11	11	22
Ludlow	0	0	0
Lunenburg	0	0	0
Lynn	11	8	19
Lynnfield	2	9	11
Manchester-by-the-Sea	0	0	0
Mansfield	2	0	2
Marblehead	0	0	0
Marion	0	2	2
Marlborough	1	4	5
Marshfield	1	3	4
Mashpee	1	0	1
Maynard	0	0	0
Medfield	0	0	0
Medway	2	0	2
Mendon	0	0	0
Merrimac	0	0	0
Methuen	2	18	20
Middleborough	3	0	3
Middleton	2	0	2
Milford	2	3	5

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Millbury	1	7	8
Millis	0	0	0
Millville	0	0	0
Monson	0	2	2
Montague	1	0	1
Nantucket	0	0	0
Natick	0	1	1
Needham	0	0	0
New Bedford	22	9	31
New Braintree	0	0	0
New Marlborough	0	0	0
New Salem	0	0	0
Newbury	0	0	0
Newburyport	3	2	5
Norfolk	0	0	0
North Adams	5	1	6
North Andover	0	0	0
North Attleborough	0	0	0
North Brookfield	0	0	0
North Reading	0	0	0
Northborough	0	0	0
Northbridge	0	0	0
Northfield	0	0	0
Norton	11	1	12
Norwell	0	0	0
Norwood	2	2	4
Oak Bluffs	1	0	1
Oakham	0	0	0
Orange	1	0	1
Orleans	2	0	2
Oxford	0	1	1
Palmer	6	4	10
Paxton	4	4	8
Peabody	3	1	4
Pembroke	2	2	4
Pepperell	2	0	2
Petersham	0	0	0
Phillipston	0	0	0
Pittsfield	8	1	9
Plainville	1	0	1
Plymouth	15	4	19
Plympton	0	0	0
Princeton	0	0	0
Provincetown	0	0	0

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Quincy	2	0	2
Randolph	7	0	7
Raynham	1	0	1
Rehoboth	0	0	0
Revere	2	1	3
Rockland	2	0	2
Rowley	0	0	0
Royalston	0	0	0
Rutland	0	1	1
Salem	4	3	7
Salisbury	1	0	1
Sandwich	5	0	5
Scituate	1	0	1
Seekonk	0	0	0
Sharon	0	0	0
Sheffield	0	3	3
Sherborn	0	0	0
Shirley	1	0	1
Shrewsbury	1	0	5
Shutesbury	2	3	0
Somerset	0	2	2
South Hadley	1	0	1
Southborough	2	0	2
Southbridge	1	4	5
Southwick	0	0	0
Spencer	3	3	6
Springfield	25	61	86
Sterling	0	0	0
Stockbridge	0	0	0
Stoneham	1	1	2
Stoughton	3	4	7
Stow	1	0	1
Sturbridge	0	0	0
Sudbury	3	1	4
Sunderland	0	0	0
Sutton	0	0	0
Swampscott	0	0	0
Swansea	0	0	0
Taunton	23	3	26
Templeton	0	0	0
Tewksbury	0	6	6
Tisbury	0	0	0
Tolland ^a	0	0	0
Topsfield	0	0	0

Note: Agencies can acquire ECWs throughout the year, so an agency's first reporting year may not span a full 12 months.

^a Agency began using Electronic Control Weapons during 2020.

Appendix Table 8. (continued) Municipal ECW Deployments by Agency, Calendar Year 2020

Agency Name	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Townsend	0	0	0
Truro	0	0	0
Tyngsborough	0	0	0
Upton	0	0	0
Uxbridge	5	0	5
Wakefield	0	0	0
Wales	0	0	0
Walpole	1	0	1
Ware	1	8	9
Wareham	6	18	24
Warren	1	1	2
Warwick	0	0	0
Watertown	1	1	2
Webster	6	8	14
Wellesley	2	4	6
Wellfleet	0	0	0
Wenham	0	0	0
West Boylston	0	0	0
West Bridgewater	3	1	4
West Brookfield	0	0	0
West Newbury	0	0	0
West Springfield	5	17	22
West Stockbridge	0	0	0
West Tisbury	0	0	0
Westborough	1	2	3
Westfield	5	10	15
Westford	1	0	1
Westminster	0	0	0
Westport	2	1	3
Westwood	6	1	7
Weymouth	13	5	18
Whately	0	0	0
Whitman	0	0	0
Williamstown	0	0	0
Wilmington	0	1	1
Winchendon	2	0	2
Winchester	3	0	3
Woburn	2	0	2
Worcester	9	21	30
Wrentham	2	1	3
Yarmouth	0	0	0
Total	476	461	937

TERMS AND DEFINITIONS

These terms and definitions are provided to law enforcement agencies on the ECW reporting application, where they submit the report.

Electronic Control Weapon (ECW)— a device utilized to immobilize a subject without causing serious injury, typically by administering an electric shock. An ECW is commonly referred to as stun gun or TASER®.

ECW agency— a law enforcement agency in Massachusetts with electronic control weapons.

ECW contact— each individual officer's deployment, warning, or display of an ECW towards a single subject. *Example:* (Four officers respond to one call and only one officer issues a warning and a second officer deploys a weapon on a single subject. This would be one incident and two contacts.

ECW deployment:

Probe deployment— the act of firing two small dart-like probes from the ECW, which attach to the subject. The device then delivers a 5-second electrical cycle, which can be repeated as needed in order to incapacitate the subject to the point of submission.

5-second cycle— a five-second electrical charge resulting from a probe deployment, which can be repeated as needed.

Stun deployment— the act of bringing the ECW device into direct contact with the subject's skin or clothing in order to induce pain to the point of submission. Stuns can be repeated as needed if the subject does not initially submit.

ECW incident— an event in which an officer (or group of officers) issue a warning and/or deploy an ECW towards a single subject.

ECW warning:

Laser warning— a visual warning whereby an officer employs the laser function of the ECW device to indicate that an ECW will be deployed.

Spark warning— a visual warning whereby an officer employs a spark on a handheld stun device in order to demonstrate its effectiveness.

Verbal/Visual warning— any spoken words or display of the ECW that would indicate to a subject that an ECW may be used. This warning can include: 1) Any direct wording to a subject indicating or implying that an ECW will be used. *Example:* Displaying ECW and shouting, "Stop!" 2) Any indirect wording that a subject may overhear indicating or implying that an ECW is about to be deployed. *Example:* A warning to other officers that an ECW is about to be deployed by saying "Taser, Taser, Taser."

ABOUT THE RESEARCH AND POLICY ANALYSIS DIVISION

A division of the Massachusetts Executive Office of Public Safety and Security, Office of Grants and Research (OGR), the Research and Policy Analysis Division (RPAD) and its Statistical Analysis Center, uses research and evaluation to promote public safety. RPAD works on a number of projects including electronic control weapons reporting, provider sexual crime report analysis, the collection of statewide county release data for recidivism, and the development of criminal justice data standards.

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