



LEGISLATIVE REPORT | AUGUST, 2020

Electronic Control Weapons in Massachusetts: 2018

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LEGISLATIVE LANGUAGE

For the duration of calendar year 2017, Massachusetts General Law Chapter 140, Section 131J permitted the use of electronic control weapons (ECW) by law enforcement personnel in the course of their official duties, provided that they completed a training course approved by the Executive Office of Public Safety and Security (EOPSS). This statute was amended in July, 2018. However, Chapter 170 of the Acts of 2004 requires that ECW devices contain a mechanism in order to track the number of times each weapon is deployed. This legislation remains intact.

In October 2004, in response to Chapter 170 of the Acts of 2004, EOPSS promulgated 501 CMR 8.00 *et seq.*, regulations governing the sale of electronic control weapons in the Commonwealth and the training of law enforcement personnel on the appropriate use of such weapons. In September 2005, EOPSS began authorizing ECW training programs to facilitate the purchase and use of ECWs by law enforcement agencies in the Commonwealth. The law further requires that EOPSS develop a uniform protocol directing state and municipal police officers to collect data pursuant to this act. Such data shall include the number of times the device or weapon has been fired and the identifying characteristics, such as race and sex, of the individuals who have been fired upon.

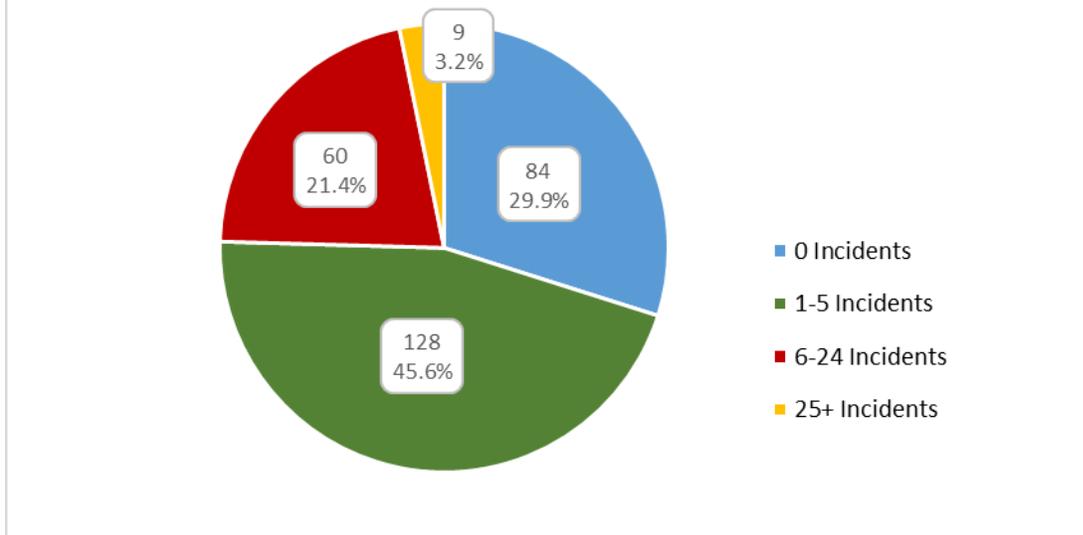
Under the previous iteration of M.G.L. c. 140, s. 131J, law enforcement agencies were permitted to request approval from EOPSS for their proposed ECW training programs on a rolling basis over the course of a calendar year. Once approved, the law enforcement agency was required to report on its ECW usage, regardless of whether equipment or training was procured. Since the law was amended, law enforcement agencies no longer need approval from EOPSS to implement the use of ECWs, but the requirement to report the usage of such weapons remains ongoing.

HIGHLIGHTS

As required by the legislature, this report examines data prepared by Massachusetts law enforcement agencies with electronic control weapons (ECW) for calendar year 2018. Agencies are required to complete and submit semi-annual ECW 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 total incidents that occurred during the reporting period; 5) general details about each incident (e.g., warnings, deployments, submissions, etc.); and 6) demographic information about the subject. The terms and definitions referenced in this report are provided on page 24.

- ⇒ By the end of 2018, there were 281 agencies approved for ECW use; six were approved during the year.
- ⇒ There were a total of 1,512 ECW incidents in which officers or groups of officers issued warnings and or deployed ECWs during the year; 29.9% of agencies reported no incidents (84 agencies).
- ⇒ From 2017 to 2018 the number of ECW incidents increased 12.9%, while the number of ECW agencies, trained officers, and ECW devices increased 2.2%, 7.6% and 9.9%, respectively.
- ⇒ The ratio of agency-owned devices to trained officers increased each year from .56 in 2013 to .79 in 2018.
- ⇒ Of 1,647 unique ECW contacts involving a warning or deployment, 99.2% were people, and the remainder (n=13) were with animals or fowl. Of the human contacts (1,634), 90.5% were male, 63.3% were White, non-Hispanic, and the average age was 33.8 years.
- ⇒ Of the ECW contacts with people, 87.1% (1,423) began with the officer issuing at least one ECW warning; 46.5% of contacts submitted and there was no need for ECW deployment.
- ⇒ Officers deployed ECW weapons in about half (47.9%) of all ECW contacts.

Figure 1. Number of ECW Incidents by ECW Approved Agencies, 2018*



* Due to rounding of percentages to one decimal place, the total does not equal exactly 100%.

ECW INCIDENTS AND POLICE DEPARTMENTS

During 2018, six new police departments began reporting use of *electronic control weapons (ECW)*¹, raising the cumulative total to 281 *ECW agencies* in Massachusetts.

There were a total of 1,512 *ECW incidents*² reported in 2018; the number reported by each department ranged widely from zero (84 agencies) to 94 incidents (two agencies) (Appendix Table 1, pgs. 10-15). As shown in Figure 1, three-quarters (75.4%) of agencies had five or fewer incidents; 29.9% had no incidents and 45.6% had one to five incidents. Agencies reporting more than five incidents comprised 24.6% of the total, including nine agencies with 25 or more incidents. These nine agencies accounted for 35.4% (536) of all ECW incidents in 2018.

Appendix Figure 2, pg. 9 shows incidents by city/town within Massachusetts. The darker blue areas represent municipalities with the most incidents. White areas represent municipalities that do not have ECWs, and the light gray and light blue colors represent municipalities with the lowest number of incidents (0, 1-2, and 3-5, respectively). The cities and towns with no ECW incidents or the lowest number of ECW incidents are concentrated in the Berkshire, Franklin and Hampshire counties.

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

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

CURRENT TRENDS

Figure 2 illustrates growth in the number of ECW incidents reported each year, but the amount of growth over the period fluctuates. The beginning of the period experienced minimal growth in the number of incidents from 2013 to 2014 (3.3%) with two years of larger growth in 2015 and 2016. Growth in incidents from 2016 to 2017 was slightly less at 7.9%, then 2018 showed a 12.9 increase%. Overall, the number of incidents increased 59.3% from 2013 to 2018, averaging 11.9% per year (Figure 2 and Table 1).

The Massachusetts map (Appendix Figure 1, pg. 8) displays ECW growth for municipal police departments from 2005 through 2018. The map shows the greatest concentration of cities and towns that did not have ECWs in 2018 are in the western region of the state, particularly Berkshire, Franklin and Hampshire counties. Middlesex county also has a number of municipal police departments that do not have ECWs.

Each year from 2013 to 2017, growth in the number of ECW agencies, officers, and devices frequently outpaced growth in the number of ECW incidents (Table 1). For example, from 2014 to 2015, ECW incidents grew by 12.4% while the number of approved agencies grew by 17.9%, sworn officers increased 19.5%, ECW trained officers increased 21.4%, and ECW agency-owned devices increased 25.8%. The most recent period 2017 to 2018 shows an opposite pattern: for 2018, growth in the number of incidents (12.9%) outpaced growth in the number of ECW approved agencies (1.8%), ECW sworn officers (3.1%), ECW trained officers (7.6%) and agency-owned devices (9.9%) . During the five-year period between 2013 and 2018, the average growth of agency-owned ECW devices surpassed that seen in incidents, agencies, sworn, and ECW trained officers.

The ratio of ECW incidents to ECW trained officers decreased over the last five years: from .18 in 2014 to .15 in 2018. Additionally, the ratio of agency-owned devices to trained officers increased each year, from .63 in 2014 to .79 in 2018.

Figure 2. ECW Incidents and Percent Change, Calendar Years 2013-2018

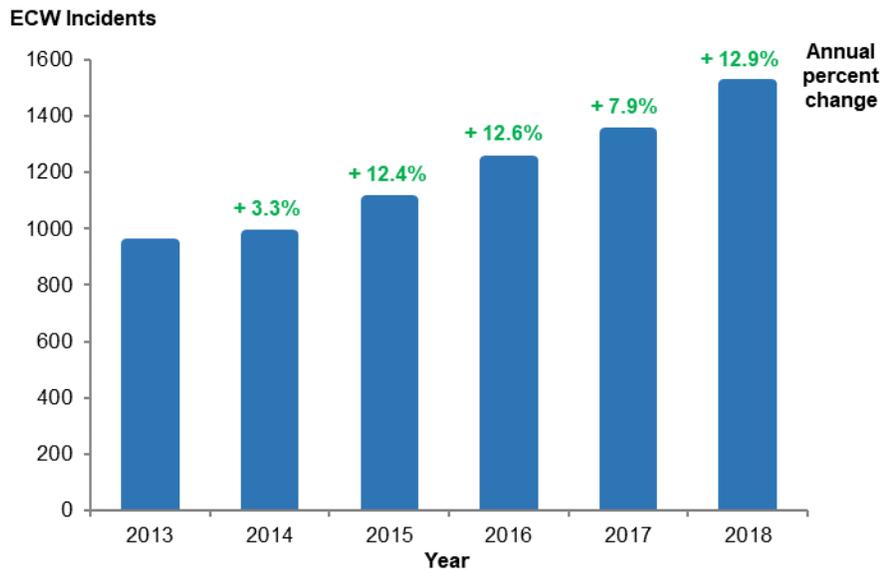


Table 1. Characteristics of ECW Approved Agencies, 2013-2018

	Number						Annual Percent Change				
	2013	2014	2015	2016	2017	2018	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
ECW Incidents	949	980	1,102	1,241	1,339	1,512	3.3%	12.4%	12.6%	7.9%	12.9%
ECW Agencies	172	195	230	250	275	281	13.4%	17.9%	8.7%	10.0%	2.2%
Sworn Officers ^a	8,648	9,318	11,139	14,385	15,106	15,574	7.7%	19.5%	29.1%	5.0%	3.1%
ECW Trained Officers	4,620	5,363	6,512	8,215	9,691	10,425	16.1%	21.4%	26.2%	18.0%	7.6%
ECW Agency-Owned Devices	2,586	3,358	4,223	5,626	7,481	8,219	29.9%	25.8%	33.2%	33.0%	9.9%

^a Sworn officers serving in ECW agencies.

ECW CONTACTS

From January 1, 2018 through December 31, 2018, ECW approved agencies reported 1,647 **ECW contacts**.³ Thirteen contacts were animals or fowl such as turkeys or dogs. The remaining 1,634 contacts were people.

The majority (90.5%) of the 1,634 contacts involved male subjects (Appendix Table 2, pg. 16). Almost two-thirds comprised White, non-Hispanic subjects (63.3%), followed by Black, non-Hispanic subjects (17.3%), Hispanic subjects (15.9%), and subjects of other races (1.0%).⁴ More than half of subjects were between 20 and 34 years of age (52.5%), and more than one-third (39.4%) were between 35 and 59 years (Appendix Table 3, pg. 16). Individuals younger than 20 years of age (6.2%) and individuals 60 years of age or older (1.4%) represented the smallest proportion of ECW subjects. The average age for subjects was 33.8 years.

³Multiple 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.

⁴*Other* comprises race categories of American Indian/Alaska Native, Asian, and a combination of two or more races.

ECW WARNINGS AND SUBMISSIONS

Of the 1,634 ECW contacts with human subjects, 87.1% (1,423) began with the officer issuing at least one **ECW warning** (**verbal warning**, **laser warning**, and/or **spark warning**)⁵ in attempt to gain the subject’s compliance. As shown in Table 2, officers issued just one warning in 43.2% of contacts, with verbal warnings being the most common (579 of 615, 94.2%). The majority of contacts (56.8%) involved multiple warnings, of which verbal and laser warnings comprised the bulk (709 of 808, 87.8%). For contacts who received only one warning, verbal warnings had the highest rate of compliance (33.1%); for contacts with multiple warnings, a combination of verbal and laser warnings had the highest rate of compliance (57.4%).

A smaller number of contacts (177 or 11.0%) received no warning prior to ECW deployment. Agencies indicated that sudden actions by the subject (i.e., subjects becoming immediately combative during handcuffing) required immediate **ECW deployment** (**probe deployment**, **5– second cycle**, and/or **stun deployment**)⁶ 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.

Table 2. ECW Warning Types by Submissions, 2018

Characteristic	Warnings		Submissions		Percent that Submit
	Number	Percent	Number	Percent	
Total	1,423	100%	662	100%	46.5%
<u>One Warning</u>	615	43.2%	245	37.0%	39.8%
Verbal	579	40.7%	219	33.1%	37.8%
Laser	34	2.4%	25	3.8%	73.5%
Spark	2	0.1%	1	0.2%	--
<u>Multiple Warnings</u>	808	56.8%	417	63.0%	51.6%
Verbal/laser	709	49.8%	380	57.4%	53.6%
Verbal/spark	34	2.4%	14	2.1%	41.2%
Laser/spark	1	--	0	--	--
Verbal/laser/spark	64	4.5%	23	3.5%	35.9%

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

⁵ECW 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 warning— a spoken warning whereby an officer indicates to a subject that an ECW may be used. These warnings can be direct, “Stop or you will be tased,” or indirect such as when an officer verbally warns other officers that an ECW is about to be deployed (e.g., “Taser, Taser, Taser”).

⁶ECW 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.

CONTACT CHARACTERISTICS

Table 3 presents data on the contacts for which subject characteristics are known. The data show officers' use of warnings and/or ECW weapons deployments by subject sex, race/ethnicity, and age. The data reveals a consistent pattern across all of the subject groups: a) in about 5 out of 10 contacts, the officer issues an ECW warning with no subsequent ECW weapon deployment, b) in about 4 out of 10 contacts, the officer issues an ECW warning followed by an ECW weapon deployment, and c) in about 1 out of 10 contacts, the officer deploys an ECW weapon with no prior ECW warning.

Appendix tables 2 and 3 (pg. 16) breakdown the data slightly differently, looking at contacts with a warning or contacts with an ECW deployment by subject sex, race/ethnicity, and age. The percentages are similar by sex, and differ slightly by race/ethnicity, and age. Those in the White, non-Hispanic category and Hispanic category had the highest proportion of contacts with warnings (88.6% and 88.0%, respectively), while those in the "Other", and the Black, non-Hispanic categories had the highest percentage of contacts with an ECW deployment (58.8% and 51.4%, respectively). Older subjects in the 55-59 years, and 60-64 years age categories received the highest percent of contacts with a warning (94.4% and 94.1%, respectively). Additionally, subjects in the oldest and youngest age groups had the smallest percentage of contacts with an ECW deployment: 60-64 years (23.5%), 55-59 years (40.7%), 17 or younger (38.1%), and 18-19 years (41.4%).

Table 3. Percent of Contacts With a Warning and/or ECW Weapon Deployment by Subject Characteristic, 2018^a

Characteristic		Contacts with a Warning, No ECW Deployment		Contacts with a Warning and ECW Deployment		Contacts with an ECW Deployment, No Warning		Total
		Number	Percent	Number	Percent	Number	Percent	Number
Sex	Total	832	51.5%	595	36.8%	188	11.6%	1,615
	Male	763	51.6%	546	36.9%	171	11.6%	1,480
	Female	69	51.1%	49	36.3%	17	12.6%	135
Race/ Ethnicity	Total	812	51.5%	594	37.6%	172	10.9%	1,578
	White, non-Hispanic	543	52.3%	385	37.1%	110	10.6%	1,038
	Black, non-Hispanic	135	48.0%	106	37.7%	40	14.2%	281
	Hispanic	138	52.1%	97	36.6%	30	11.3%	265
	Other	6	--	7	--	3	--	16
Age	Total	826	51.4%	594	37.0%	187	11.6%	1,607
	Less than 20 Years	58	59.2%	29	29.6%	11	11.2%	98
	20 – 24 Years	128	52.9%	75	31.0%	39	16.1%	242
	25 – 29 Years	176	52.9%	114	34.2%	43	12.9%	333
	30 – 34 Years	157	56.1%	94	33.6%	29	10.4%	280
	35 – 44 Years	160	45.1%	159	44.8%	36	10.1%	355
	45 – 54 Years	100	44.8%	99	44.4%	24	10.8%	223
	55 Years or Older	47	61.8%	24	31.6%	5	--	76

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

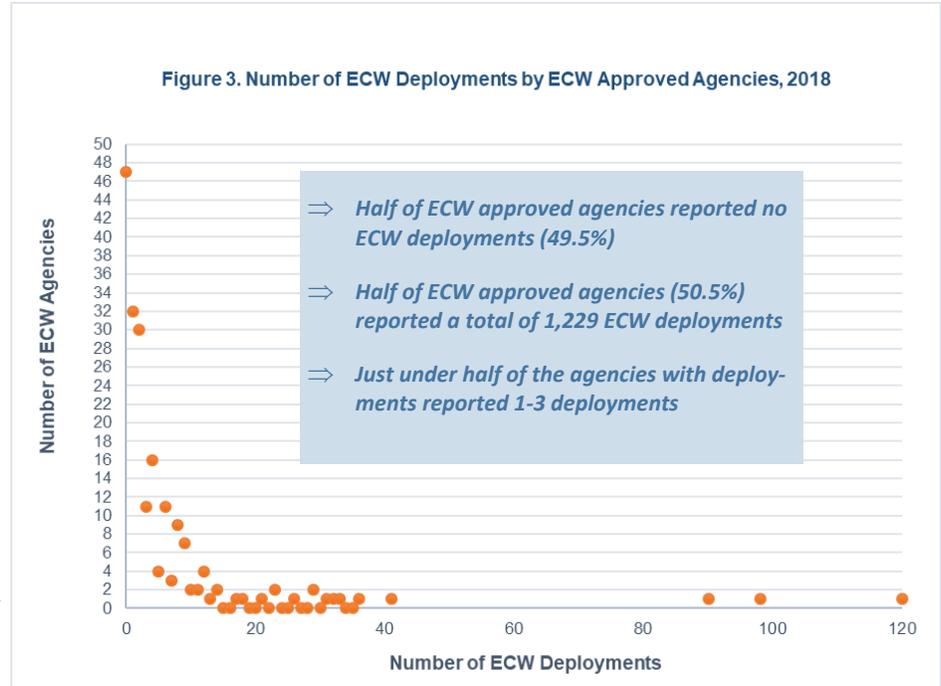
^a Excludes unknown/missing from totals: sex (n=3), race/ethnicity (n=16), age (n=8), and deployments/warnings (n=16).

ECW DEPLOYMENTS

Of the 281 agencies with ECWs in 2018, 110 (50.5%) reported one to 120 deployments and 130 agencies (49.5%) reported no deployments during 2018 (Figure 3). The 110 agencies reported a total of 1,229 weapon (probe and/or stun) deployments. Of the agencies with ECW deployments, just under half (48.2%) reported between one and three deployments.

Appendix Figure 3, pg. 17 maps the number of deployments by agency. There are a minimal number of municipalities colored blue, indicating overall low numbers of deployments.

Appendix Table 4, pgs. 18-23 provides information on the type of deployment by department, revealing slightly higher overall usage of probe deployments (51.2%), compared with stun deployments (48.8%); the number of probe deployments per department is more widely dispersed (1 to 81) than the number of stun deployments (1 to 69).



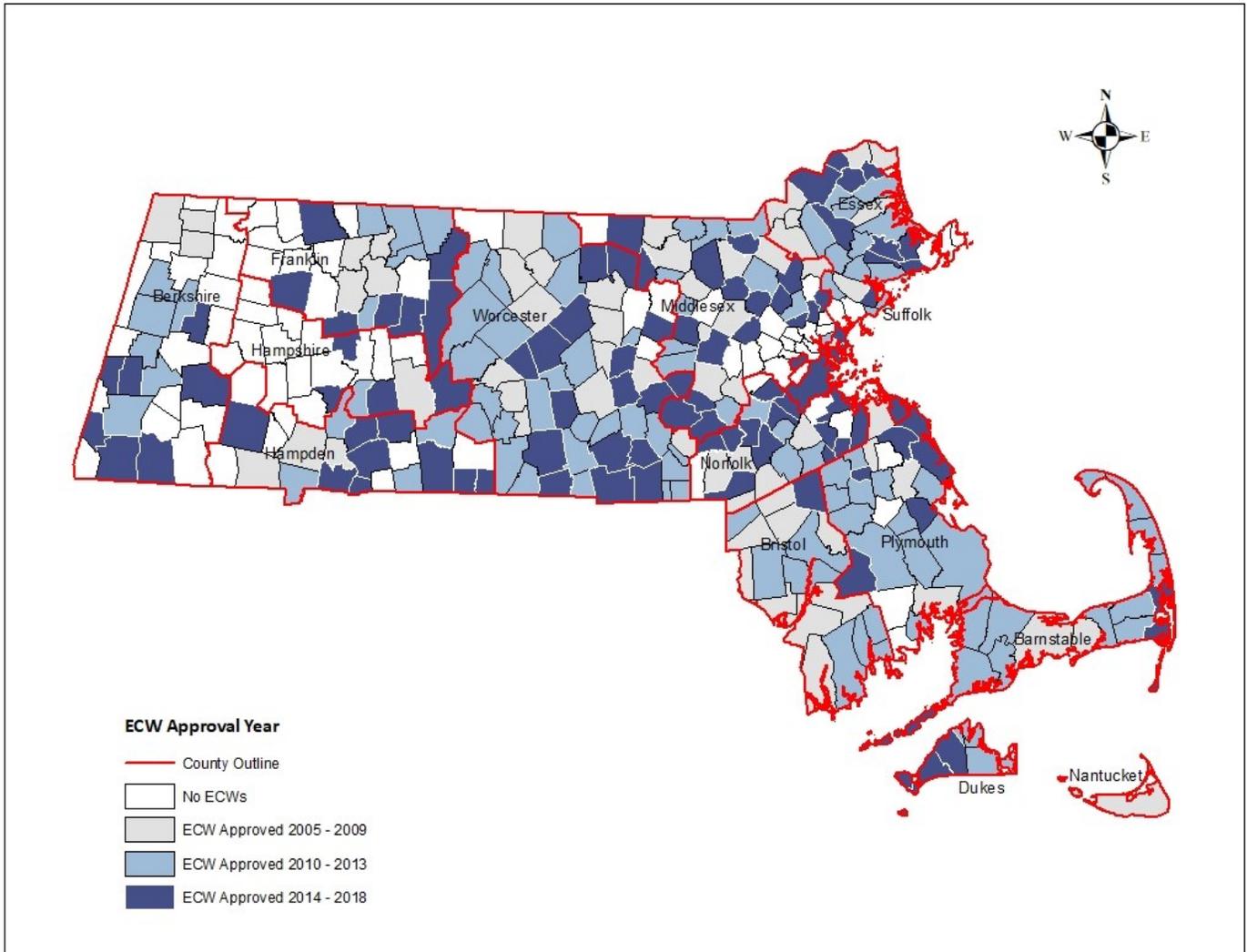
Officers deployed ECW weapons in about half (47.9%) of the 1,634 human contacts; overall, subjects submitted to ECW deployments 67% of the time (Table 4). Slightly more than half of the deployments (51.3%) involved individual probe deployments (the firing of two small dart-like probes from the ECW, which attach to the subject); 40.5% involved individual stun deployments (bringing the ECW device into direct contact with the subject's skin or clothing); 8.2% involved a combination of probe and stun deployments. Subjects submitted to individual stun deployments more often than individual probe deployments (74.4% and 65.9%, respectively). Combined probe and stun deployments had a submission rate of 37.5%.

Table 4. Distribution of ECW Submissions by Deployment Type, 2018*

<u>Characteristic</u>	<u>ECW Deployments</u>		<u>ECW Submissions</u>		<u>Percent that Submit</u>
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	
Total	783	100.0%	525	100.0%	67.0%
Probe	402	51.3%	265	50.5%	65.9%
Stun	317	40.5%	236	45.0%	74.4%
Combined Probe and Stun	64	8.2%	24	4.6%	37.5%

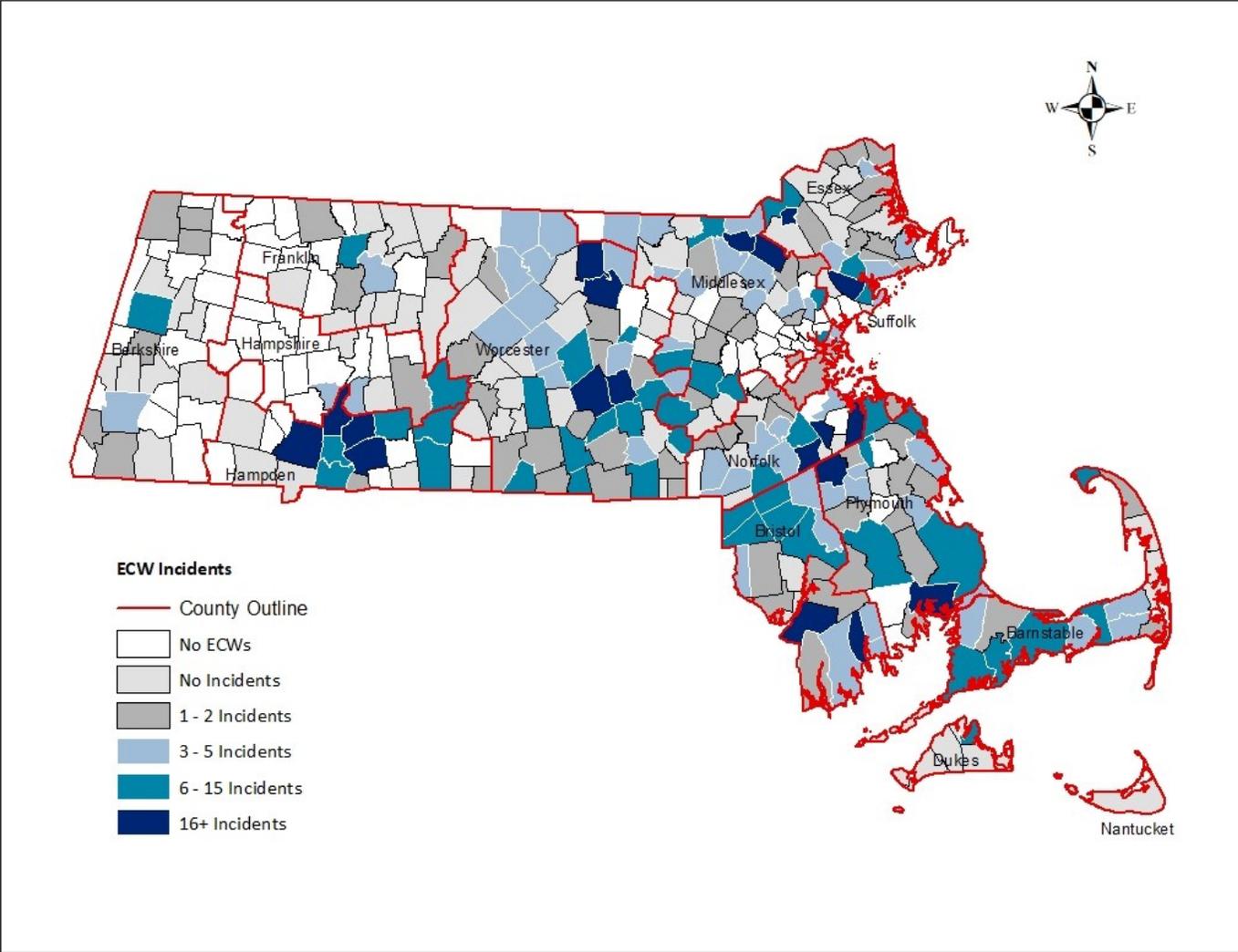
* excludes cases where subject's sex was not reported or subject was not a person.

Appendix Figure 1. Massachusetts Law Enforcement Agency ECW Growth, 2005—2018^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Figure 2. Massachusetts ECW Incidents in 2018^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Table 1. Number of Municipal and Non-municipal ECW Incidents, 2014-2018

		Number of Incidents and Year				
Agency Type	Agency Name	2014	2015	2016	2017	2018
Total		978	1,102	1,241	1,339	1,512
Non-municipal		0	2	64	85	117
	Amtrak Police ^a	--	--	--	--	0
	Bridgewater State University	--	--	3	2	2
	Cape Cod Regional Law Enforcement	0	0	0	1	0
	Central MA Law Enforcement Council	--	1	0	0	0
	Clark University	--	0	0	0	1
	MA State Police	0	0	61	81	94
	Massasoit Community College	0	0	0	1	2
	MV Police Tactical RT	0	1	0	0	0
	University of Massachusetts, Lowell ^a	--	--	--	--	0
	University of Massachusetts, Memorial	--	--	--	0	4
	University of Massachusetts Worcester	--	--	--	0	14
Municipal		978	1,100	1,177	1,254	1,395
	Abington	2	1	1	1	1
	Acushnet	5	6	3	7	4
	Adams	1	3	2	0	1
	Agawam	--	--	--	0	11
	Amesbury	0	0	0	4	1
	Andover	2	3	1	2	0
	Aquinnah	0	0	0	0	0
	Ashburnham	4	3	2	0	4
	Ashfield	--	--	--	0	0
	Ashland	--	0	5	6	2
	Athol	26	7	4	0	0
	Attleborough	6	12	7	5	8
	Auburn	8	5	2	3	2
	Avon	--	1	1	0	0
	Ayer	4	3	3	3	3
	Barnstable	25	27	26	24	15
	Barre	4	4	10	5	4
	Becket	0	0	0	0	0
	Bedford	--	--	0	2	3
	Belchertown	4	0	3	2	1
	Berkley	0	0	1	0	2
	Bernardston	0	1	0	0	0
	Beverly	0	7	9	7	4
	Billerica	2	4	2	0	4
	Blackstone	1	3	1	5	1
	Blandford	--	0	0	0	0
	Bolton	--	--	6	0	0
	Boston	--	--	1	4	1
	Bourne	7	3	3	1	3
	Boxborough	2	2	0	0	0
	Boxford	0	0	0	1	0
	Boylston	--	--	1	2	5
	Brewster	0	3	4	2	3
	Bridgewater	2	4	3	0	2
	Brockton	30	27	15	26	22
	Brookfield	7	5	4	1	0
	Burlington	--	--	0	0	0
	Canton	2	4	2	4	7
	Carlisle	--	--	--	0	0
	Carver	0	5	0	0	1
	Charlton	--	0	1	2	2

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2014-2018

Agency Type	Agency Name	Number of Incidents and Year				
		2014	2015	2016	2017	2018
Municipal						
	Chatham	--	--	0	0	1
	Chelmsford	2	1	4	6	5
	Chelsea	8	5	6	2	5
	Chicopee	--	1	16	25	44
	Chilmark	--	0	0	0	0
	Clinton	15	10	3	4	9
	Cohasset	--	--	1	0	1
	Colrain	--	--	--	0	1
	Concord	0	1	1	2	1
	Dalton	0	1	0	1	0
	Danvers	12	10	12	4	8
	Dartmouth	9	9	5	3	4
	Dedham ^a	--	--	--	--	2
	Deerfield	1	2	1	0	1
	Dennis	1	10	7	4	7
	Dighton	0	2	0	0	0
	Douglas	--	0	5	3	1
	Dover	1	1	0	0	0
	Dracut	3	5	7	4	3
	Dudley	--	--	0	3	2
	Dunstable	0	0	3	0	0
	Duxbury	1	2	1	0	1
	East Bridgewater	4	1	4	1	5
	East Brookfield	1	0	2	1	0
	Eastham	0	0	2	1	0
	Easthampton	--	--	--	2	4
	Easton	--	1	8	4	3
	Edgartown	4	3	2	2	0
	Egremont	--	--	--	0	1
	Erving	1	1	0	0	0
	Essex	--	0	3	2	3
	Everett	17	23	14	14	8
	Fairhaven	2	2	4	3	4
	Fall River	29	36	30	36	32
	Falmouth	22	20	14	11	8
	Fitchburg	--	0	14	27	19
	Foxborough	7	7	6	6	7
	Framingham	7	8	14	10	13
	Franklin	4	5	7	8	4
	Freetown	7	1	1	4	1
	Gardner	13	13	10	11	5
	Georgetown	0	0	0	0	0
	Gill	1	0	0	0	0
	Gosnold	0	0	0	0	0
	Grafton	5	7	12	4	6
	Granby	--	--	--	0	0
	Granville	0	0	0	0	0
	Great Barrington	12	5	2	2	5
	Greenfield	6	3	9	10	6
	Groton	0	1	0	0	0
	Groveland	0	0	0	0	0
	Hamilton ^a	--	--	--	--	1
	Hampden	0	1	1	0	0
	Hanson	4	2	3	3	0
	Hardwick	1	1	5	2	1

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2014-2018

		Number of Incidents and Year				
Agency Type	Agency Name	2014	2015	2016	2017	2018
Municipal						
	Harwich	3	2	6	4	3
	Hatfield	--	--	--	0	0
	Haverhill	--	0	0	0	0
	Hingham	7	3	8	1	6
	Hinsdale	--	--	--	0	0
	Holbrook	--	--	0	0	0
	Holden	3	0	2	5	12
	Holland	--	--	0	0	1
	Holliston	0	0	3	2	0
	Holyoke	27	9	23	34	27
	Hopedale	2	0	0	0	0
	Hopkinton	--	--	--	6	6
	Hubbardston	4	1	2	1	3
	Hudson	6	4	2	6	5
	Hull	2	7	3	1	8
	Ipswich	0	3	3	0	0
	Kingston	--	3	5	6	5
	Lakeville	0	16	5	5	1
	Lanesborough	1	0	0	1	0
	Lawrence	57	52	34	22	23
	Lee	0	0	0	1	0
	Leicester	--	1	4	3	0
	Lenox	0	1	1	0	1
	Leominster	10	17	22	12	34
	Leverett	--	--	--	0	0
	Lincoln	--	--	0	1	2
	Littleton	1	3	4	4	3
	Longmeadow	--	--	0	0	1
	Lowell	--	--	26	61	63
	Ludlow	--	0	0	0	13
	Lunenburg	0	0	0	0	4
	Lynnfield	0	0	1	2	0
	Manchester-by-the-Sea	--	--	--	0	1
	Mansfield	3	8	8	3	13
	Marblehead	1	1	3	4	4
	Marion	1	5	5	1	1
	Marlborough	11	10	9	11	7
	Marshfield	5	7	5	3	5
	Mashpee	4	5	11	11	8
	Maynard	5	4	3	5	0
	Medfield	--	--	--	1	2
	Medway	--	--	--	0	2
	Mendon	1	2	0	0	1
	Merrimac	--	2	0	1	1
	Methuen	3	13	17	18	6
	Middleborough	15	7	7	12	11
	Middleton	3	0	0	4	3
	Milford	6	6	5	2	7
	Millbury	10	6	7	3	6
	Millis	--	--	--	3	1
	Millville	2	0	0	0	0
	Monson	--	--	--	2	7
	Montague	5	0	0	1	4
	Nantucket	2	1	3	1	0

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2014-2018

		Number of Incidents and Year				
Agency Type	Agency Name	2014	2015	2016	2017	2018
Municipal						
	Natick	7	8	8	7	14
	Needham	--	2	4	5	2
	New Bedford	105	82	63	69	89
	New Braintree	0	0	0	1	0
	New Marlborough	--	0	0	0	0
	New Salem	--	--	0	0	0
	Newbury	0	1	0	2	2
	Newburyport	--	0	0	6	3
	Norfolk	4	1	2	0	0
	North Adams	1	1	2	5	1
	North Andover	0	0	3	1	2
	North Attleborough	2	2	2	3	7
	North Brookfield	1	0	7	3	0
	North Reading	0	1	3	3	1
	Northborough	0	2	5	1	2
	Northbridge	--	--	1	1	4
	Northfield	0	0	0	0	0
	Norton	9	6	7	11	10
	Norwell	--	0	3	0	1
	Norwood	10	6	4	3	3
	Oak Bluffs	4	4	5	2	10
	Oakham	0	4	1	0	0
	Orange	--	0	5	2	2
	Orleans	0	4	1	2	0
	Oxford	10	3	13	15	12
	Palmer	13	7	11	9	11
	Paxton	0	2	0	0	3
	Peabody	3	1	5	9	21
	Pembroke	4	5	10	5	2
	Pepperell	4	4	8	4	3
	Petersham	0	0	0	0	0
	Phillipston	0	0	0	0	1
	Pittsfield	11	8	11	14	8
	Plainville	5	0	3	1	0
	Plymouth	22	23	17	16	9
	Plympton	2	2	0	1	1
	Princeton	--	--	--	0	0
	Provincetown	2	5	4	4	6
	Quincy ^a	--	--	--	--	4
	Randolph	--	6	19	16	16
	Raynham	5	5	9	10	5
	Rehoboth	3	1	2	1	1
	Revere	0	21	15	5	5
	Rockland	8	7	2	9	7
	Rowley	1	0	2	1	2
	Rutland	--	1	4	1	4
	Salem	--	0	2	4	6
	Salisbury	1	0	0	0	1
	Sandwich	2	0	3	2	2
	Scituate ^a	--	--	--	--	10
	Seekonk	7	5	11	8	4
	Sharon	1	0	0	3	3
	Sheffield	0	4	1	1	1
	Sherborn	0	1	0	0	0

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2014-2018

		Number of Incidents and Year				
Agency Type	Agency Name	2014	2015	2016	2017	2018
Municipal						
	Shirley	--	0	2	4	0
	Shrewsbury	0	0	0	0	18
	Shutesbury	--	--	1	3	0
	Somerset	1	0	3	2	0
	South Hadley	3	5	9	2	4
	Southborough	0	0	1	1	4
	Southbridge	15	21	15	28	15
	Southwick	1	0	0	2	0
	Spencer	2	10	3	2	8
	Springfield	--	14	65	81	94
	Sterling	3	0	2	2	1
	Stockbridge	--	2	0	0	0
	Stoneham	--	--	--	0	3
	Stoughton	13	20	10	14	18
	Stow	--	0	0	0	0
	Sturbridge	6	10	4	6	2
	Sudbury	0	0	0	1	2
	Sunderland	0	0	0	0	0
	Sutton	--	0	0	0	1
	Swampscott	2	0	0	0	0
	Swansea	4	4	5	5	2
	Taunton	27	12	10	7	13
	Templeton	3	1	0	3	3
	Tewksbury	9	14	18	8	17
	Tisbury	0	2	0	0	0
	Topsfield	0	0	0	0	1
	Townsend	0	1	1	2	3
	Truro	2	0	2	0	1
	Tyngsborough	1	7	2	2	9
	Upton	0	0	0	0	0
	Uxbridge	0	0	8	6	6
	Wakefield	--	--	3	3	8
	Wales	--	--	0	0	0
	Walpole	2	11	3	10	5
	Ware	--	--	--	5	13
	Wareham	27	24	15	14	24
	Warren	0	1	1	0	0
	Warwick	0	0	0	0	0
	Webster	11	13	9	12	8
	Wellfleet	0	0	0	1	0
	Wenham	--	0	1	0	1
	West Boylston	2	1	0	3	1
	West Bridgewater	1	5	0	3	4
	West Brookfield	2	1	0	2	1
	West Newbury	--	--	--	0	0
	West Springfield	6	16	19	10	12
	West Stockbridge	--	0	0	0	0
	West Tisbury	0	0	0	0	0
	Westborough	--	--	1	2	8
	Westfield	14	23	10	12	17
	Westford	--	--	--	0	2
	Westminster	1	4	1	1	0
	Westport	1	1	1	0	2
	Westwood	0	0	5	0	2

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2014-2018

		Number of Incidents and Year				
Agency Type	Agency Name	2014	2015	2016	2017	2018
Municipal						
	Weymouth	--	0	6	27	16
	Whately	--	--	--	0	0
	Whitman	--	11	4	6	4
	Williamstown	2	2	0	2	2
	Wilmington	--	--	--	0	2
	Winchendon	1	6	4	8	4
	Winchester	--	0	0	0	1
	Woburn	3	4	2	1	4
	Worcester	9	59	45	63	59
	Wrentham	3	11	5	7	4
	Yarmouth	10	6	4	7	5

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

^a Agency began using Electronic Control Weapons during 2018, therefore the agency does not have a full year of data to report.

Appendix Table 2. Distribution of ECW Contacts, Warnings, and Deployments by Subject Sex and Race/Ethnicity, 2018

Characteristic	Contacts		Warnings		Deployments		Percent of Contacts with a Warning	Percent of Contacts with a Weapon Deployment
	Number	Percent	Number	Percent	Number	Percent		
Total	1,634	100.0%	1,430	100.0%	783	100.0%	87.5%	47.9%
<u>Sex</u>								
Male	1,496	91.6	1,309	91.5	717	91.6	87.5	47.9
Female	135	8.3	118	8.3	66	8.4	87.4	48.9
Unknown	3	0.2	3	0.2	0	.0	---	---
<u>Race/Ethnicity</u>								
White, non-Hispanic	1,049	64.2	929	65.0	495	63.2	88.6	47.2
Black, non-Hispanic	284	17.4	242	16.9	146	18.6	85.2	51.4
Hispanic	267	16.3	235	16.4	127	16.2	88.0	47.6
Other ^a	17	1.0	13	0.9	10	1.3	76.5	58.8
Unknown	17	1.0	11	0.8	5	0.6	64.7	29.4

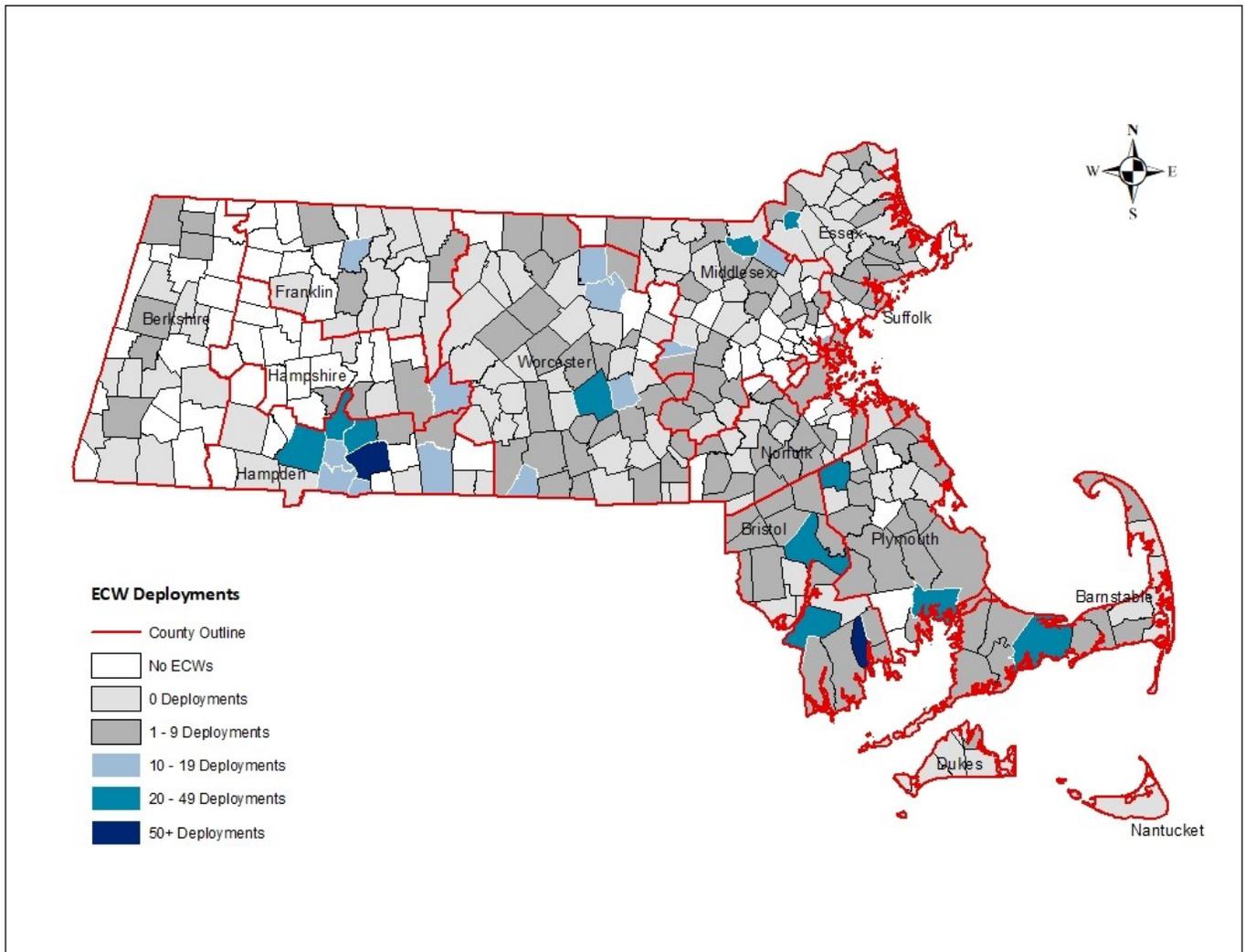
^aThe race/ethnicity categories of American Indian/Alaska native, Asian, Native Hawaiian or other Pacific Islander, two or more races, and other (specified) comprise *other*.

Appendix Table 3. Distribution of ECW Contacts, Warnings, and Deployments by Subject Age, 2018

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	1,634	100.0%	1,430	100.0%	783	100.0%	87.5%	47.9%
17 or Younger	42	2.6	35	2.4	16	2.0	83.3%	38.1%
18-19 Years	58	3.5	52	3.6	24	3.1	89.7%	41.4%
20-24 Years	244	14.9	203	14.2	114	14.6	83.2%	46.7%
25-29 Years	334	20.4	291	20.3	157	20.1	87.1%	47.0%
30-34 Years	281	17.2	251	17.6	123	15.7	89.3%	43.8%
35-39 Years	201	12.3	178	12.4	113	14.4	88.6%	56.2%
40-44 Years	162	9.9	142	9.9	82	10.5	87.7%	50.6%
45-49 Years	138	8.4	125	8.7	74	9.5	90.6%	53.6%
50-54 Years	88	5.4	74	5.1	49	6.3	84.1%	55.7%
55-59 Years	54	3.3	51	3.6	22	2.8	94.4%	40.7%
60-64 Years	17	1.0	16	1.1	4	0.5	94.1%	23.5%
65 or Older	6	0.4	4	0.3	3	0.4	--	--
Unknown	9	0.6	8	0.6	2	0.3	--	--

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

Appendix Figure 3. Massachusetts ECW Deployments in 2018^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Table 4. Number of Municipal and Non-municipal ECW Deployments, Calendar Year 2018

Agency Type	Agency Name	Number of ECW Deployments		
		Probe Cycles	Stuns	Total
Total		629	600	1,229
Non-municipal		85	41	126
	Amtrak Police	0	0	0
	Bridgewater State University	1	0	1
	Cape Cod Regional Law Enforcement	0	0	0
	Central MA Law Enforcement Council	0	0	0
	Clark University	0	0	0
	MA State Police	81	39	120
	Massasoit Community College	0	0	0
	MV Police Tactical RT	0	0	0
	University of Massachusetts, Lowell	0	0	0
	University of Massachusetts, Memorial	1	1	2
	University of Massachusetts Worcester	2	1	3
Municipal		544	559	1,103
	Abington	0	0	0
	Acushnet	3	1	4
	Adams	2	0	2
	Agawam	8	3	11
	Amesbury	2	0	2
	Andover	0	0	0
	Aquinnah	0	0	0
	Ashburnham	3	0	3
	Ashfield	0	0	0
	Ashland	3	1	4
	Athol	0	0	0
	Attleborough	6	0	6
	Auburn	2	2	4
	Avon	0	0	0
	Ayer	0	0	0
	Barnstable	12	11	23
	Barre	1	0	1
	Becket	0	0	0
	Bedford	2	1	3
	Belchertown	0	2	2
	Berkley	1	1	2
	Bernardston	0	0	0
	Beverly	1	5	6
	Billerica	1	0	1
	Blackstone	0	0	0
	Blandford	0	0	0
	Bolton	0	0	0
	Boston	0	1	1
	Bourne	2	0	2
	Boxborough	0	0	0
	Boxford	0	0	0
	Boylston	0	0	0
	Brewster	0	0	0
	Bridgewater	1	3	4
	Brockton	22	9	31
	Brookfield	0	0	0
	Burlington	0	0	0
	Canton	2	4	6
	Carlisle	0	0	0
	Carver	1	0	1
	Charlton	1	0	1

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2018

Agency Type	Agency Name	Number of ECW Deployments		
		Probe Cycles	Stuns	Total
Municipal				
	Chatham	0	0	0
	Chelmsford	1	1	2
	Chelsea	3	6	9
	Chicopee	8	13	21
	Chilmark	0	0	0
	Clinton	0	2	2
	Cohasset	4	0	4
	Colrain	1	0	1
	Concord	0	0	0
	Dalton	0	0	0
	Danvers	0	1	1
	Dartmouth	2	1	3
	Dedham ^a	2	0	2
	Deerfield	1	0	1
	Dennis	1	1	2
	Dighton	0	0	0
	Douglas	0	0	0
	Dover	0	0	0
	Dracut	0	0	0
	Dudley	1	1	2
	Dunstable	0	0	0
	Duxbury	0	0	0
	East Bridgewater	2	0	2
	East Brookfield	0	0	0
	Eastham	0	0	0
	Easthampton	3	5	8
	Easton	1	0	1
	Edgartown	0	0	0
	Egremont	0	0	0
	Erving	0	0	0
	Essex	0	1	1
	Everett	9	1	10
	Fairhaven	2	3	5
	Fall River	28	8	36
	Falmouth	2	6	8
	Fitchburg	5	9	14
	Foxborough	0	2	2
	Framingham	5	4	9
	Franklin	5	3	8
	Freetown	0	0	0
	Gardner	1	0	1
	Georgetown	0	0	0
	Gill	0	0	0
	Gosnold	0	0	0
	Grafton	2	0	2
	Granby	0	0	0
	Granville	0	0	0
	Great Barrington	0	3	3
	Greenfield	15	3	18
	Groton	0	0	0
	Groveland	0	0	0
	Hamilton ^a	1	0	1
	Hampden	0	0	0
	Hanson	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2018

Number of ECW Deployments				
Agency Type	Agency Name	Probe Cycles	Stuns	Total
Municipal				
	Hardwick	0	0	0
	Harwich	2	2	4
	Hatfield	0	0	0
	Haverhill	0	0	0
	Hingham	0	0	0
	Hinsdale	0	0	0
	Holbrook	0	0	0
	Holden	1	5	6
	Holland	0	0	0
	Holliston	0	0	0
	Holyoke	13	16	29
	Hopedale	0	0	0
	Hopkinton	2	0	2
	Hubbardston	2	0	2
	Hudson	1	11	12
	Hull	5	4	9
	Ipswich	0	0	0
	Kingston	0	1	1
	Lakeville	1	0	1
	Lanesborough	0	0	0
	Lawrence	12	20	32
	Lee	0	0	0
	Leicester	0	0	0
	Lenox	0	1	1
	Leominster	3	14	17
	Leverett	0	0	0
	Lincoln	0	0	0
	Littleton	1	0	1
	Longmeadow	3	9	12
	Lowell	18	23	41
	Ludlow	3	4	7
	Lunenburg	1	0	1
	Lynnfield	0	0	0
	Manchester-by-the-Sea	0	0	0
	Mansfield	0	3	3
	Marblehead	4	5	9
	Marion	0	1	1
	Marlborough	1	3	4
	Marshfield	2	6	8
	Mashpee	0	2	2
	Maynard	0	0	0
	Medfield	0	0	0
	Medway	1	1	2
	Mendon	0	1	1
	Merrimac	0	0	0
	Methuen	2	0	2
	Middleborough	2	0	2
	Middleton	0	0	0
	Milford	6	3	9
	Millbury	0	2	2
	Millis	0	0	0
	Millville	0	0	0
	Monson	5	7	12
	Montague	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2018

Agency Type	Agency Name	Number of ECW Deployments		
		Probe Cycles	Stuns	Total
Municipal				
	Nantucket	0	0	0
	Natick	1	3	4
	Needham	0	2	2
	New Bedford	60	30	90
	New Braintree	0	0	0
	New Marlborough	0	0	0
	New Salem	0	0	0
	Newbury	0	0	0
	Newburyport	0	1	1
	Norfolk	0	0	0
	North Adams	1	0	1
	North Andover	0	0	0
	North Attleborough	1	7	8
	North Brookfield	0	0	0
	North Reading	0	0	0
	Northborough	0	0	0
	Northbridge	0	0	0
	Northfield	0	0	0
	Norton	5	0	5
	Norwell	1	0	1
	Norwood	0	0	0
	Oak Bluffs	3	1	4
	Oakham	0	0	0
	Orange	3	1	4
	Orleans	0	0	0
	Oxford	3	1	4
	Palmer	3	6	9
	Paxton	0	0	0
	Peabody	3	3	6
	Pembroke	0	0	0
	Pepperell	0	0	0
	Petersham	0	0	0
	Phillipston	0	0	0
	Pittsfield	8	0	8
	Plainville	0	0	0
	Plymouth	4	2	6
	Plympton	0	1	1
	Princeton	0	0	0
	Provincetown	4	0	4
	Quincy ^a	0	0	0
	Randolph	4	5	9
	Raynham	0	1	1
	Rehoboth	0	1	1
	Revere	2	2	4
	Rockland	5	3	8
	Rowley	1	1	2
	Rutland	1	1	2
	Salem	3	5	8
	Salisbury	0	0	0
	Sandwich	3	2	5
	Scituate ^a	0	1	1
	Seekonk	0	4	4
	Sharon	0	1	1
	Sheffield	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2018

Agency Type	Agency Name	Number of ECW Deployments		
		Probe Cycles	Stuns	Total
Municipal				
	Sherborn	0	0	0
	Shirley	0	0	0
	Shrewsbury	3	10	13
	Shutesbury	0	0	0
	Somerset	0	0	0
	South Hadley	1	1	2
	Southborough	1	1	2
	Southbridge	5	6	11
	Southwick	0	0	0
	Spencer	5	1	6
	Springfield	29	69	98
	Sterling	0	0	0
	Stockbridge	0	0	0
	Stoneham	0	2	2
	Stoughton	3	3	6
	Stow	0	0	0
	Sturbridge	1	0	1
	Sudbury	2	4	6
	Sunderland	0	0	0
	Sutton	0	0	0
	Swampscott	0	0	0
	Swansea	0	0	0
	Taunton	20	3	23
	Templeton	0	0	0
	Tewksbury	4	8	12
	Tisbury	0	0	0
	Topsfield	0	0	0
	Townsend	4	3	7
	Truro	1	0	1
	Tyngsborough	0	3	3
	Upton	0	0	0
	Uxbridge	2	2	4
	Wakefield	2	4	6
	Wales	0	0	0
	Walpole	0	4	4
	Ware	4	6	10
	Wareham	16	13	29
	Warren	0	0	0
	Warwick	0	0	0
	Webster	6	2	8
	Wellfleet	0	0	0
	Wenham	1	0	1
	West Boylston	1	2	3
	West Bridgewater	0	0	0
	West Brookfield	0	0	0
	West Newbury	0	0	0
	West Springfield	4	10	14
	West Stockbridge	0	0	0
	West Tisbury	0	0	0
	Westborough	0	3	3
	Westfield	9	17	26
	Westford	0	0	0
	Westminster	0	0	0
	Westport	1	1	2

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2018

		Number of ECW Deployments		
Agency Type	Agency Name	Probe Cycles	Stuns	Total
Municipal				
	Westwood	1	1	2
	Weymouth	0	6	6
	Whately	0	0	0
	Whitman	0	3	3
	Williamstown	1	1	2
	Wilmington	0	0	0
	Winchendon	0	1	1
	Winchester	0	0	0
	Woburn	5	2	7
	Worcester	19	14	33
	Wrentham	1	2	3
	Yarmouth	1	4	5

^a These agencies began using ECW's in 2018, therefore they might not have a full year of data to report.

TERMS AND DEFINITIONS

These terms and definitions are provided to police departments on the ECW reporting forms that they submit twice a year.

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— an individual officer's warning and/or deployment of an ECW towards a single subject.

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 warning— a spoken warning whereby an officer indicates to a subject that an ECW may be used. These warnings can be direct, "Stop or you will be tased," or indirect such as when an officer verbally warns other officers that an ECW is about to be deployed (e.g., "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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