DATE:	**October 4, 2019**
REGARDING:	**2017- 2018 Metal Theft Claims (Public Dissemination)**
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This Fore**CAST**℠ report analyzes copper, aluminum, brass, and bronze theft claims identified in ISO ClaimSearch® with a date of loss between January 1, 2017 and December 31, 2018 for the purpose of reporting any theft trends or patterns that may exist in the data. **Please note** that the ISO ClaimSearch® is a dynamic dataset. Some claims may be voided or updated by the member companies entering the data and therefore may not reflect the exact numbers reported in previous or subsequent reports.

Executive Summary

There were 5,904 claims identified in ISO ClaimSearch® for the theft of copper, aluminum, brass, and/or bronze with a date of loss between January 1, 2017 and December 31, 2018. Overall, metal theft claims decreased 4%, from 3,017 in 2017 to 2,887 in 2018. Of the 5,904 metal theft claims, the vast majority (95%) pertained to the theft of copper and 59% were against personal policies while 41% were against commercial policies.

Between 2017 and 2018, New Jersey had the most metal theft claims with 570. Pennsylvania and Ohio had the second and third most metal theft claims with 488 and 410 respectively. Connecticut had the highest rate of claims per capita and the New York-Newark-Jersey City, NY-NJ-PA Core Based Statistical Area (CBSA)[1] ranked first in ISO ClaimSearch® metal theft claims with 415.

When the number of metal theft claims and copper prices were compared, there was a slight correlation (0.47) between the values from 2017 to 2018. While copper prices increased in 2017 and decreased in 2018, the number of metal theft claims identified in ISO ClaimSearch® slightly decreased from 2017 to 2018.

Metal Theft Introduction

The U.S. Department of Energy has estimated that metal theft costs U.S. businesses around $1 billion a year[2]. Some states and cities have taken measures to combat metal theft, such as requiring scrap yards to check identification of any individual who sells them scrap metal, note the license plate of the vehicle used to transport the metal, maintain the information on file, pay the seller with check instead of cash, or retain the scrap metal for a designated amount of time to allow law enforcement an opportunity to identify stolen materials before it is recycled. However, identifying stolen metal is not always possible and opposition to these laws has made it difficult to get effective measures passed in some areas. Even in areas where such laws exist, some unscrupulous scrap dealers may not abide by them and enforcement of the laws has not always been a major priority until recent years when increases in metal thefts brought more attention to the problem. Some states and local governments have increased the penalties associated with metal theft or are charging thieves with additional crimes if the theft caused damage to infrastructure or created a hazard to the public.

The following section discusses the analysis of ISO ClaimSearch® metal theft records including an analysis of the metals terms, keywords identified, distribution of claims over time, relationship to copper prices, and geographic distribution of metal theft claims.

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[1] Core Based Statistical Areas (CBSAs) are defined by the United States Office of Management and Budget. CBSAs consist of a core urban area with a population of at least 10,000 and the surrounding communities that have a strong economic and social ties to the core area.
[2] (US Dept. of Energy, 2007)

Metal Theft Claims in ISO ClaimSearch®

This section of the report analyzes the claims identified in ISO ClaimSearch® as involving the theft of copper, aluminum, brass, and/or bronze. ISO ClaimSearch® is a database designed to help insurers, self-insurers, law enforcement agencies, and state fraud bureaus detect and prevent fraud, evaluate risk, and process meritorious claims by providing a central repository of claims. Insurers and agencies with access can query this database to research prior loss histories, identify claims patterns, and detect suspect claims.

A total of 5,904 claims for the theft of copper, aluminum, brass, and/or bronze were identified[3] in ISO ClaimSearch® with a DOL between January 1, 2017 and December 31, 2018. Of the 5,904 total claims, 5,581 (95%) referenced copper in the loss description, 259 (4%) referenced aluminum, 47 (1%) referenced bronze, and 45 (1%) referenced brass[4]. There were 3,497 (59%) claims against personal policies, while 2,404 (41%) were on commercial policies[5].

The following tables show the number of claims that referenced the common keywords in the loss description[6] and the number of claims that referenced each metal:

Common Keywords	2017-2018 Claims
"pipe" or "piping"	1,093
"plumbing"	981
"wire" or "wiring"	773
"a/c" or " ac " or "air cond" or "hvac"	725
"line"	224
"tube" or "tubing"	81
"roof"	77
"coil"	38
"gutter" or "spout"	23

Metal Type	2017-2018 Claims
Copper	5,581
Aluminum	259
Bronze	47
Brass	45

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[3] There is no exact method for extracting metal theft claims from ISO ClaimSearch®. For this report, a claim was determined to be a metal theft claim if the loss description for the claim contained "cop", "brass", "bronz", or "alum", as well as either: a) one of the terms "stole", "theft", "thief", "thieves", "theif", "theives", "took", "steal", "robber", "robbed", "miss", "cut", "rip", "break", "broke", "tore", "gone", "remov", "burg", or "vand" is in the loss description; or b) the loss type is theft, burglary, or vandalism related.

[4] Some claims identified more than one of the metal terms.

[5] 3 claims listed a policy type that could not be identified as either personal or commercial in nature.

[6] Some claims may contain more than one of the keywords identified, while others may not contain any.
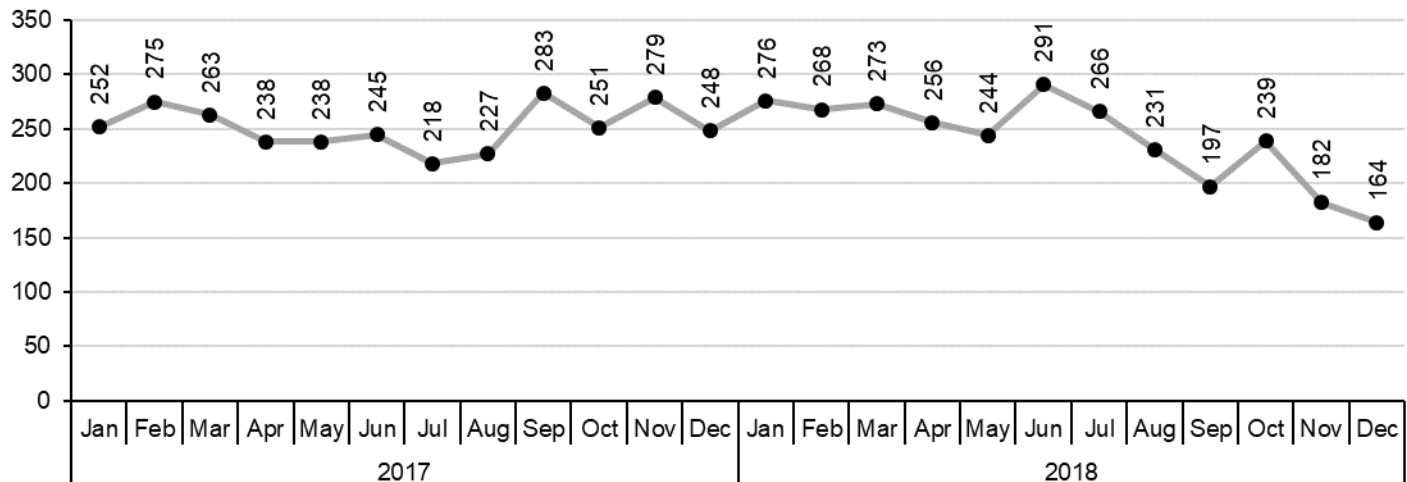
The following chart displays the number of metal theft claims that occurred by Loss Year from January 1, 2017 through December 31, 2018. The overall number of metal theft claims decreased by 4% when comparing 2017 (3,017) to the 2018 (2,887).

Metal Theft Claims in ISO ClaimSearch® by Loss Year
2017 - 2018

The following chart shows the number of metal theft claims that occurred per month from January 1, 2017 through December 31, 2018. It should be noted that there is often a delay before claims are entered into ISO ClaimSearch®[7]. Claims that occurred in 2018 and earlier but were entered in the 1st quarter of 2019 are included in the following chart to minimize the impact of these delays. However, some months may still be underrepresented in the data, particularly the final months of 2018.
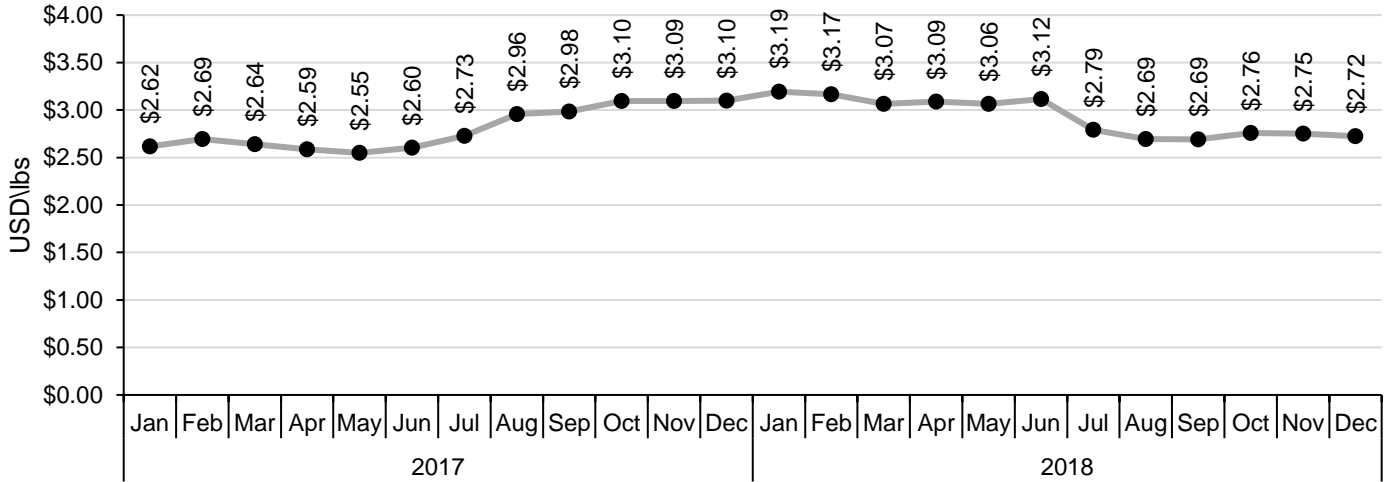
Metal Theft Claims in ISO ClaimSearch® by Loss Month

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[7] There was an average of 48.9 days between a claim occurring and it being entered into ISO ClaimSearch®, therefore the last months of the data are likely to be underreported.

When compared with the graph of copper prices for the same time period there is a slight correlation (0.47) between metal prices and the number of identifiable metal theft claims. While the annual number of identifiable metal theft claims slightly declined from 2017 to 2018, the average price of copper increased in 2017 and decreased in 2018.

COMEX Copper Price Monthly Averages

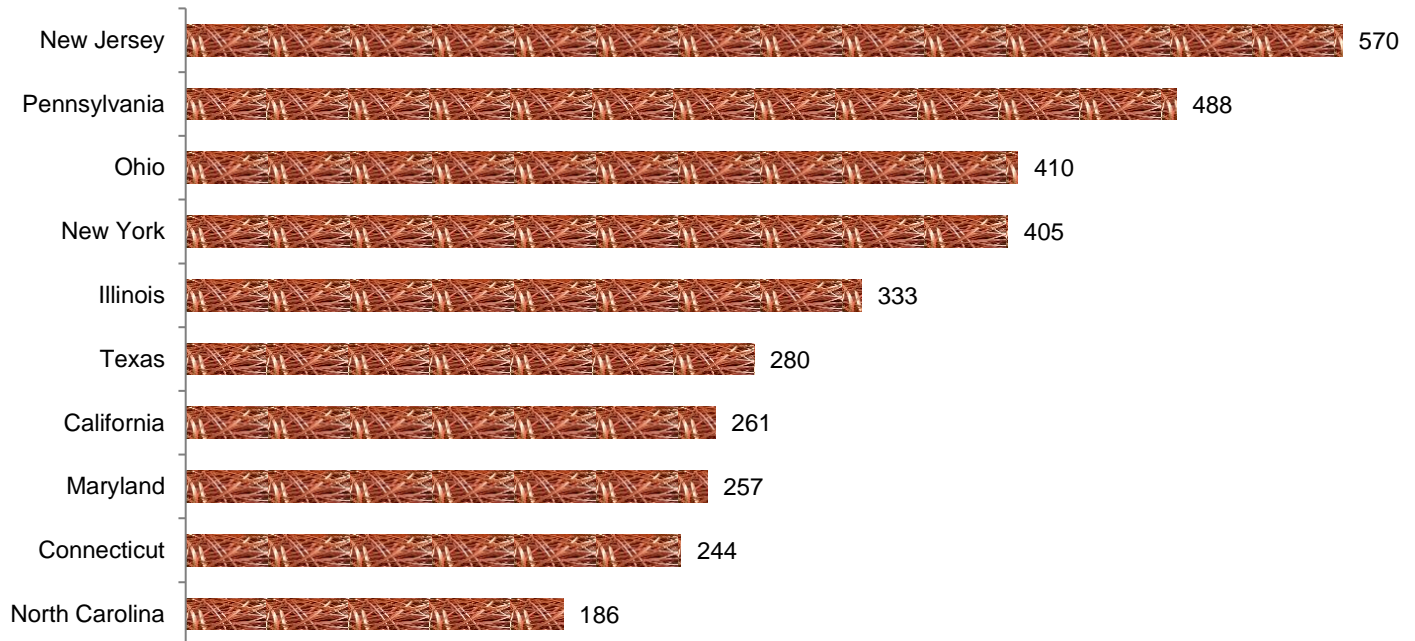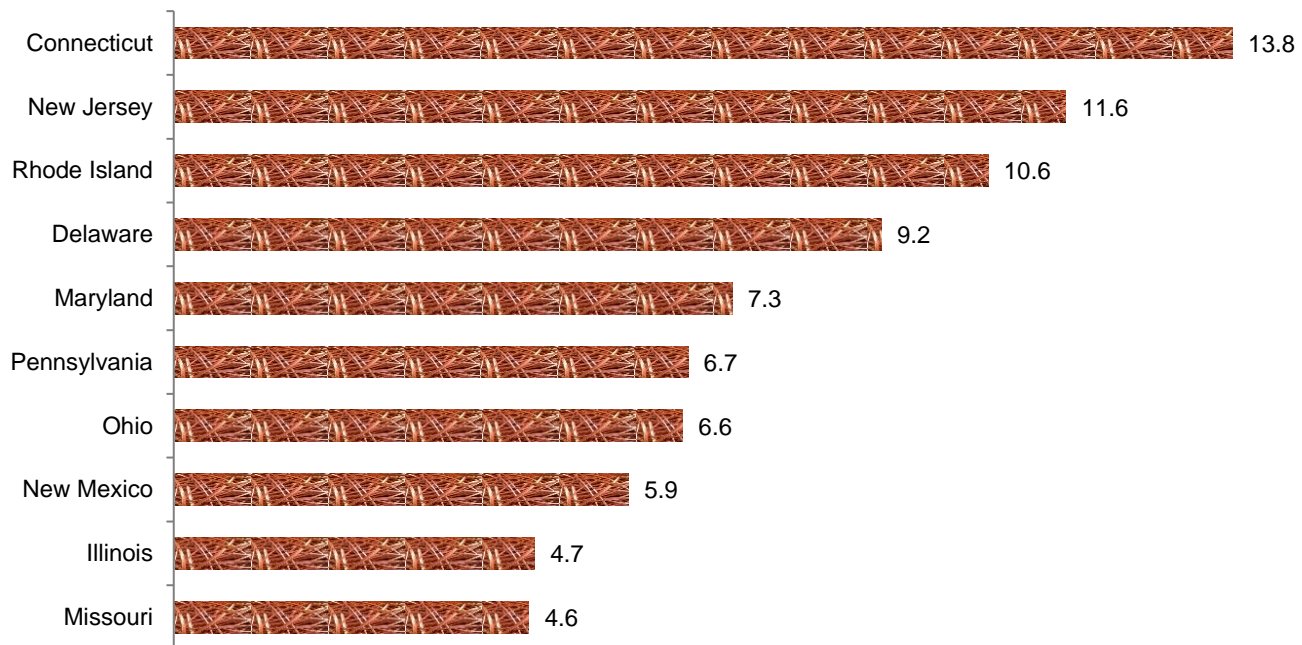|	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	$2.62	$2.69	$2.64	$2.59	$2.55	$2.60	$2.73	$2.96	$2.98	$3.10	$3.09	$3.10	$3.19	$3.17	$3.07	$3.09	$3.06	$3.12	$2.79	$2.69	$2.69	$2.76	$2.75	$2.72
				2017												2018								

Metal Theft Claims by Loss State

The following charts visualize the top 10 Loss States associated with the most metal theft claims in ISO ClaimSearch® first by the number of claims, then by the number of claims per 100,000 residents[8], and then by Loss Year .

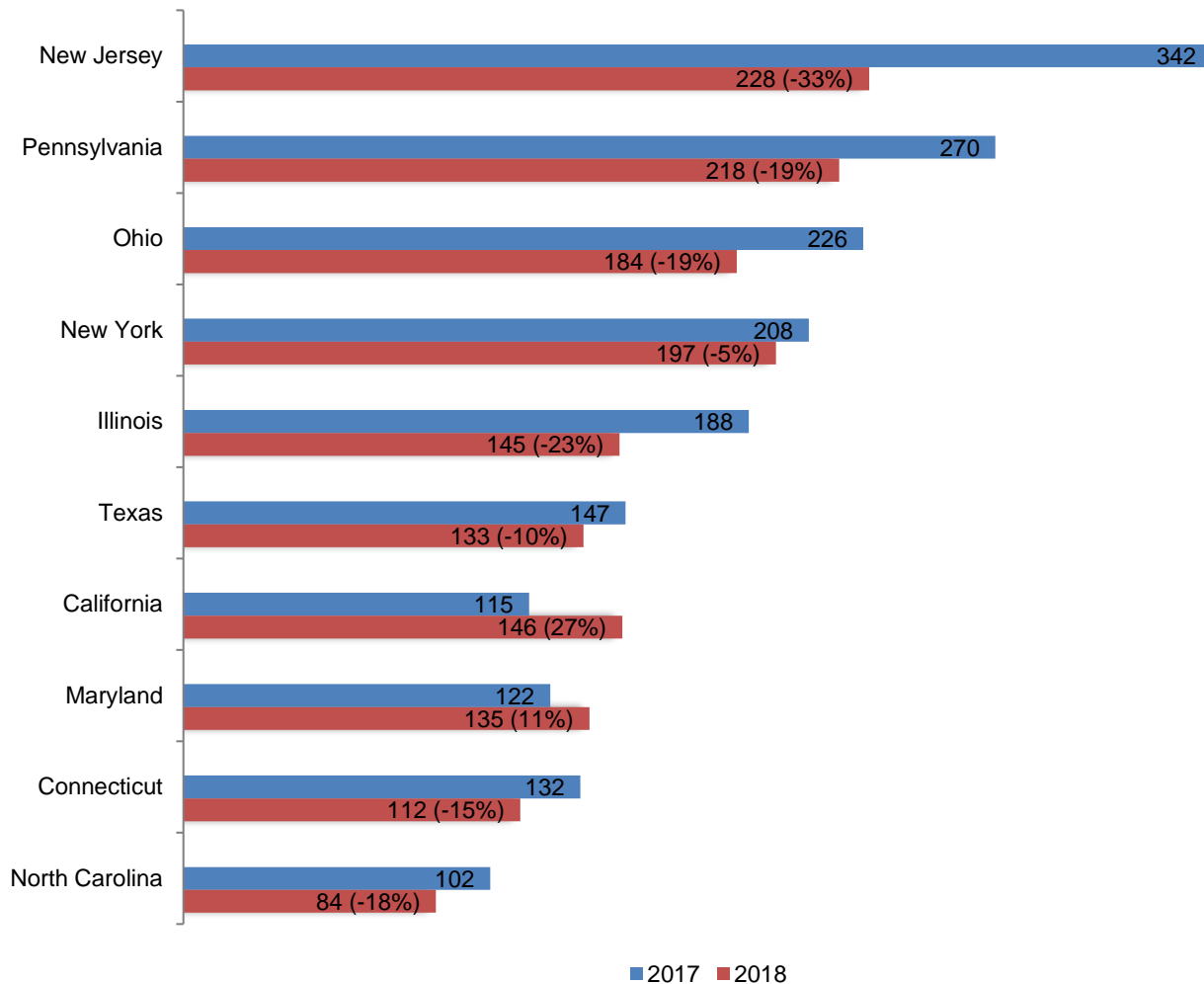[8] State populations were calculated using the 2018 state population estimates from www.census.gov.

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Ten States with the Most Metal Theft Claims in ISO ClaimSearch® (2017 - 2018)

State	Claims
New Jersey	570
Pennsylvania	488
Ohio	410
New York	405
Illinois	333
Texas	280
California	261
Maryland	257
Connecticut	244
North Carolina	186

Ten States with the Most Metal Theft Claims per 100,000 Residents (2017 - 2018)

State	Claims per 100,000
Connecticut	13.8
New Jersey	11.6
Rhode Island	10.6
Delaware	9.2
Maryland	7.3
Pennsylvania	6.7
Ohio	6.6
New Mexico	5.9
Illinois	4.7
Missouri	4.6

Metal Theft Claims by Loss State and Loss Year
2017 - 2018

New Jersey was the Loss State with the highest number of metal theft claims identified in ISO ClaimSearch®, followed by Pennsylvania and Ohio. Of the top 10 Loss States with this highest number of metal theft claims, New Jersey displayed the largest decrease (-33%) in metal theft claims from 342 in 2017 to 228 in 2018. On the other hand, California and Maryland were observed to have increases from 2017 to 2018, 27% and 11% respectively. When ranked by claims per 100,000 residents, Connecticut was identified as the top Loss State with 23.0 claims per 100,000, followed by New Jersey and Rhode Island, ranked 2nd and 3rd respectively.
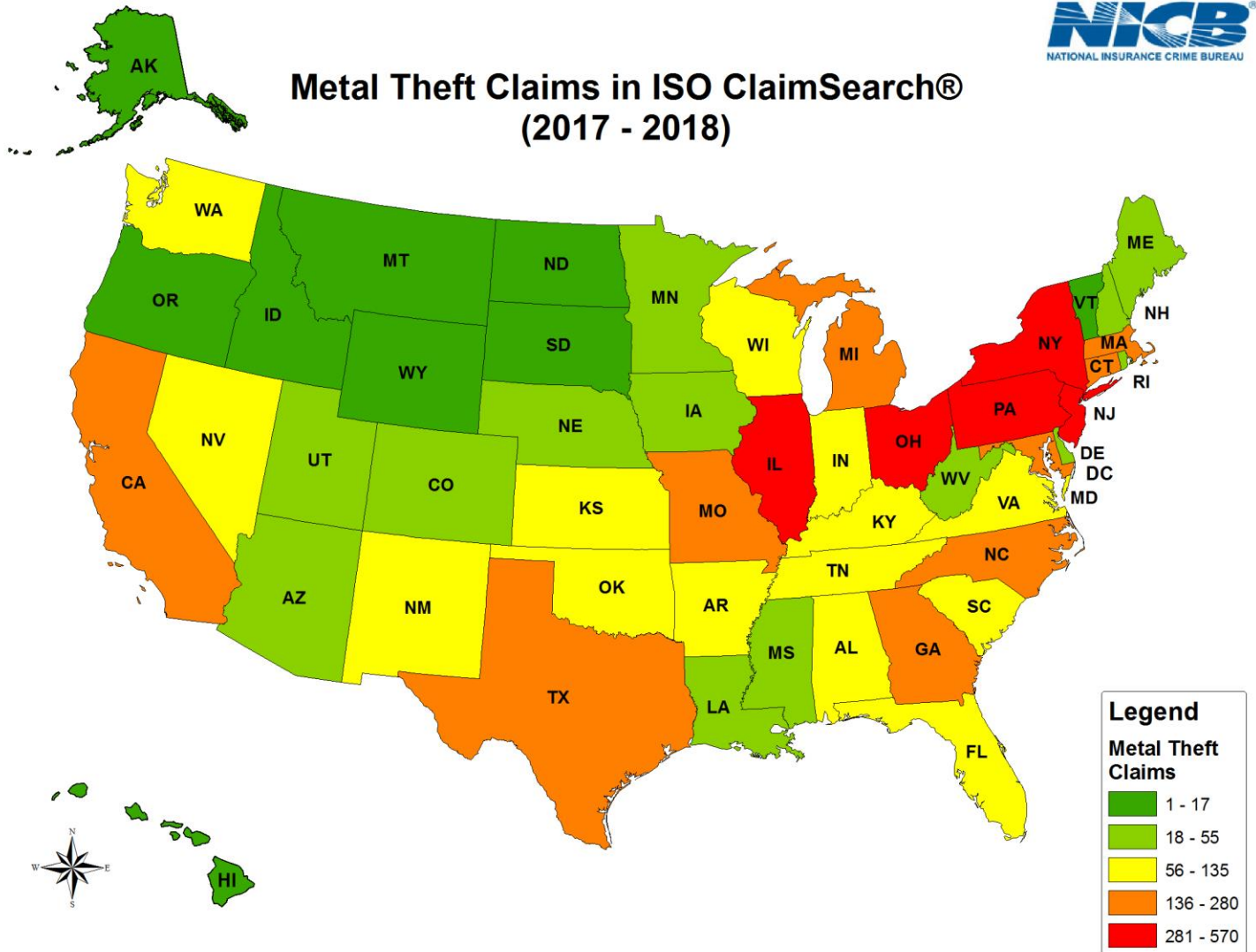
The following table, in alphabetical order by Loss State, shows the number of claims per Loss State for all 50 states and the District of Columbia, as well as the number of claims per 100,000 residents. Following this table are maps displaying the number of metal theft claims per Loss State and by claims per 100,000 residents.

Loss State	Population	Claims	Claims / 100,000 Residents	Rank by Number of Claims	Rank by Claims / 100,000 Residents
Alabama	4,887,871	135	2.8	15	10
Alaska	737,438	7	0.9	44 (tie)	35
Arizona	7,171,646	55	0.8	29	42
Arkansas	3,013,825	76	2.5	20 (tie)	17
California	39,557,045	261	0.7	7	45
Colorado	5,695,564	48	0.8	34	39
Connecticut	3,572,665	244	6.8	9	1
Delaware	967,171	50	5.2	32	3
District of Columbia	702,455	19	2.7	42	12
Florida	21,299,325	124	0.6	16	46
Georgia	10,519,475	168	1.6	13	28
Hawaii	1,420,491	1	0.1	50 (tie)	50
Idaho	1,754,208	1	0.1	50 (tie)	51
Illinois	12,741,080	333	2.6	5	13
Indiana	6,691,878	107	1.6	17	27
Iowa	3,156,145	52	1.6	31	25
Kansas	2,911,505	76	2.6	20 (tie)	14
Kentucky	4,468,402	105	2.3	18	18
Louisiana	4,659,978	44	0.9	36	37
Maine	1,338,404	30	2.2	39	19
Maryland	6,042,718	257	4.3	8	5
Massachusetts	6,902,149	177	2.6	11	15
Michigan	9,995,915	161	1.6	14	26
Minnesota	5,611,179	43	0.8	37	43
Mississippi	2,986,530	45	1.5	35	29
Missouri	6,126,452	175	2.9	12	9
Montana	1,062,305	4	0.4	48	48
Nebraska	1,929,268	49	2.5	33	16
Nevada	3,034,392	57	1.9	27 (tie)	22
New Hampshire	1,356,458	20	1.5	41	30
New Jersey	8,908,520	570	6.4	1	2
New Mexico	2,095,428	70	3.3	22	8
New York	19,542,209	405	2.1	4	21
North Carolina	10,383,620	186	1.8	10	23
North Dakota	760,077	6	0.8	46 (tie)	41
Ohio	11,689,442	410	3.5	3	7
Oklahoma	3,943,079	69	1.7	23	24
Oregon	4,190,713	7	0.2	44 (tie)	49
Pennsylvania	12,807,060	488	3.8	2	6
Rhode Island	1,057,315	54	5.1	30	4
South Carolina	5,084,127	57	1.1	27 (tie)	32
South Dakota	882,235	6	0.7	46 (tie)	44
Tennessee	6,770,010	64	0.9	24	36
Texas	28,701,845	280	1.0	6	34
Utah	3,161,105	28	0.9	40	38
Vermont	626,299	17	2.7	43	11
Virginia	8,517,685	97	1.1	19	31
Washington	7,535,591	63	0.8	25	40
West Virginia	1,805,832	39	2.2	38	20
Wisconsin	5,813,568	61	1.0	26	33
Wyoming	577,737	3	0.5	49	47

The below map displays the number of ISO ClaimSearch® metal theft claims by Loss State between 2017 and 2018.
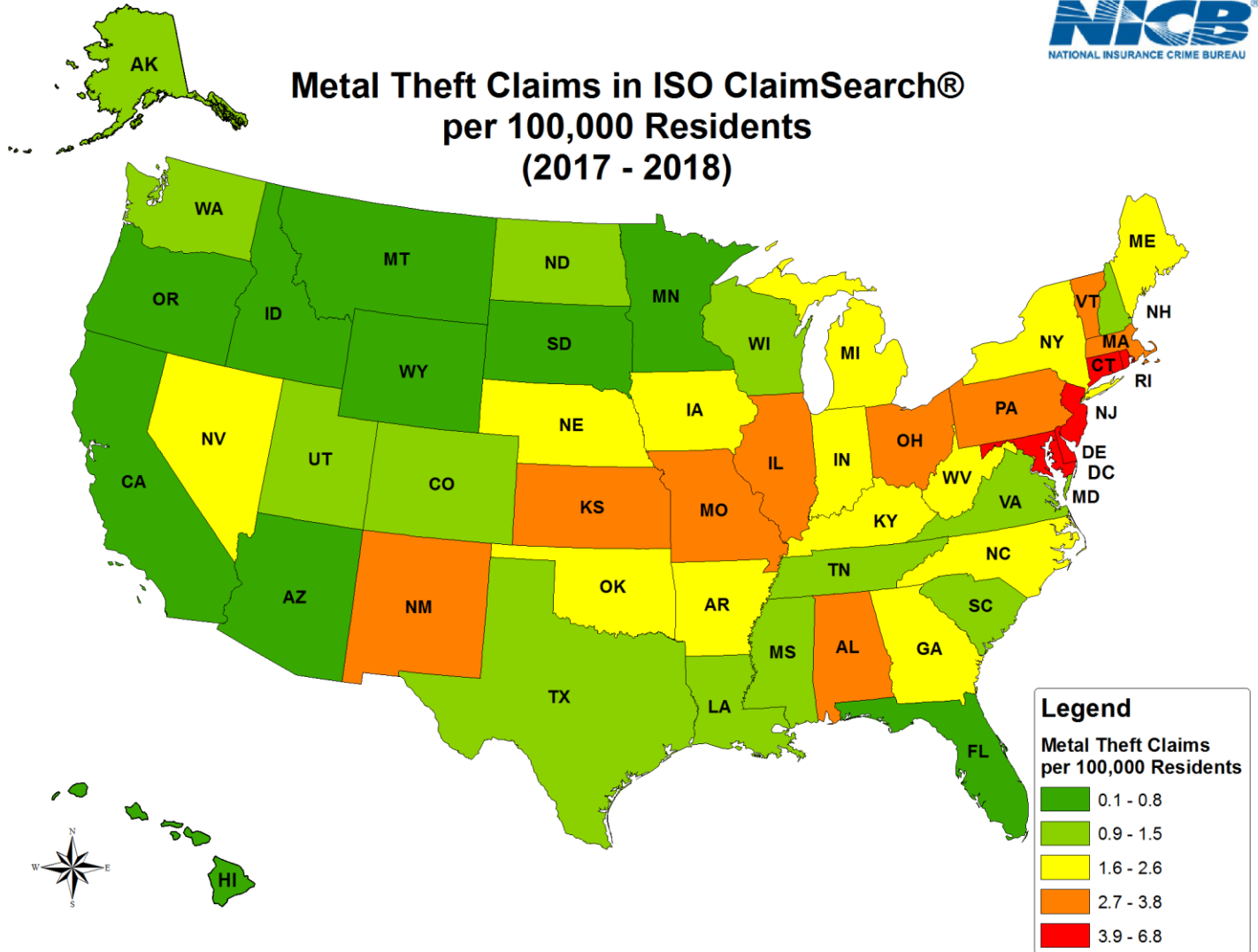

Metal Theft Claims in ISO ClaimSearch®
(2017 - 2018)

Legend
Metal Theft Claims

- 1 - 17
- 18 - 55
- 56 - 135
- 136 - 280
- 281 - 570

The following map displays the number of ISO ClaimSearch® metal theft claims per 100,000 residents by Loss State between 2017 and 2018.

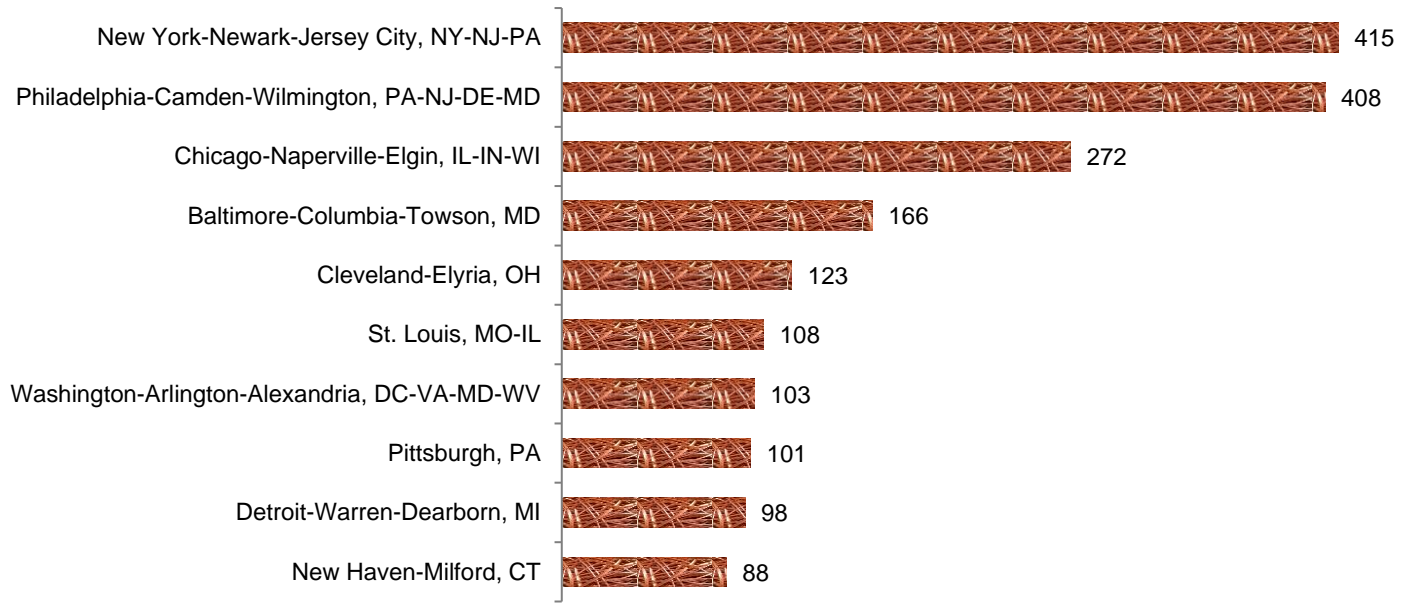Metal Theft Claims in ISO ClaimSearch®
per 100,000 Residents
(2017 - 2018)

Legend

Metal Theft Claims per 100,000 Residents

- 0.1 - 0.8
- 0.9 - 1.5
- 1.6 - 2.6
- 2.7 - 3.8
- 3.9 - 6.8

Metal Theft Claims by CBSA

The following chart shows the 10 CBSAs with the most metal theft claims in ISO ClaimSearch® [9] between January 1, 2017 and December 31, 2018.

Ten CBSAs with Most Metal Theft Claims in ISO ClaimSearch® (2017 - 2018)

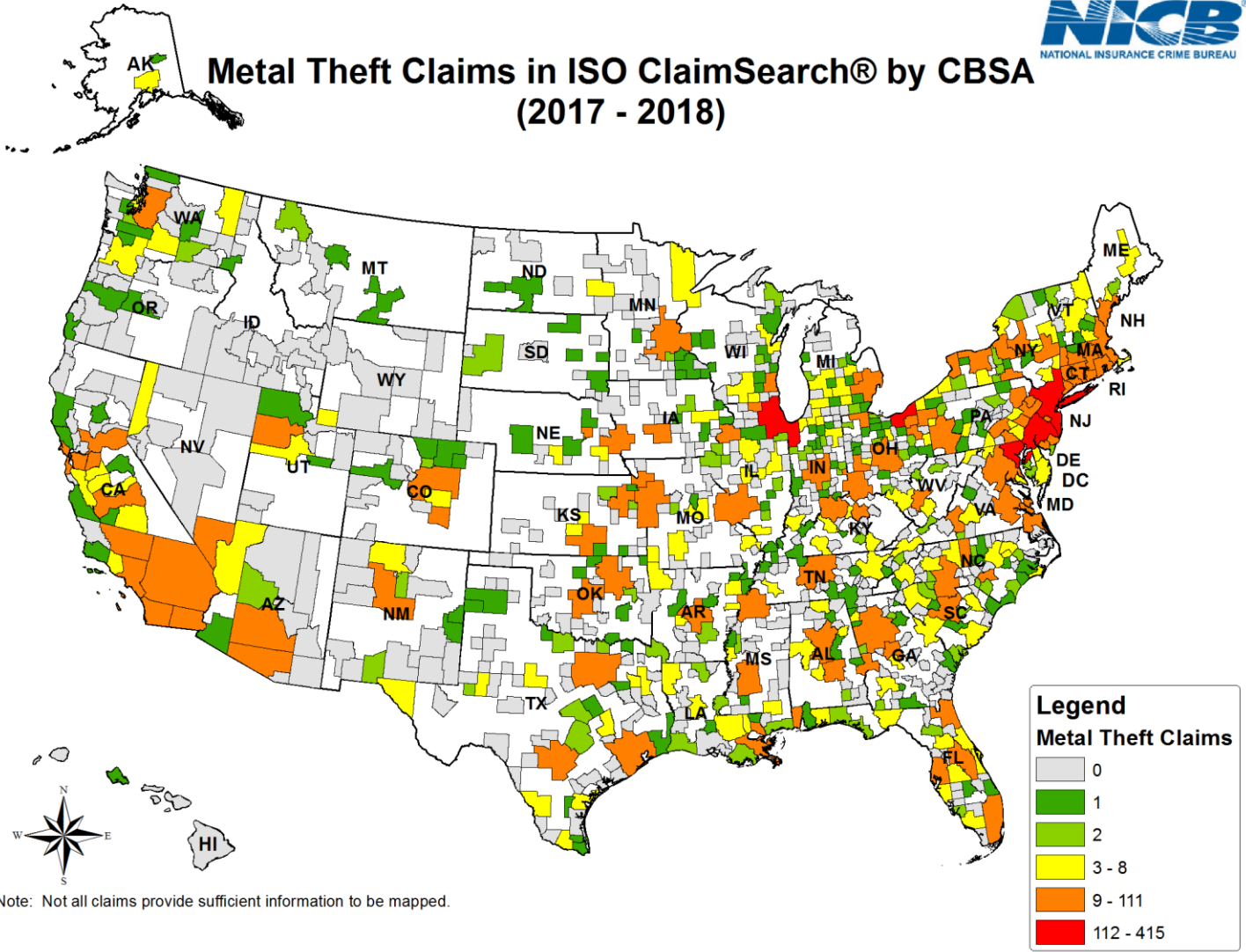| CBSA	Claims
New York-Newark-Jersey City, NY-NJ-PA	415
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	408
Chicago-Naperville-Elgin, IL-IN-WI	272
Baltimore-Columbia-Towson, MD	166
Cleveland-Elyria, OH	123
St. Louis, MO-IL	108
Washington-Arlington-Alexandria, DC-VA-MD-WV	103
Pittsburgh, PA	101
Detroit-Warren-Dearborn, MI	98
New Haven-Milford, CT	88

The New York-Newark-Jersey City, NY-NJ-PA CBSA had the largest number of metal theft claims from 2017 through 2018, followed by Philadelphia-Camden-Wilmington, PA-NJ-DE-MD and Chicago-Naperville-Elgin, IL-IN-WI CBSAs.

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[9] Please note that 444, 8% of the total metal theft claims, were either located outside of a CBSA or did not provide sufficient information to be included in a CBSA.

The below map displays the number of ISO ClaimSearch® metal theft claims by CBSA between 2017 and 2018.

Metal Theft Claims in ISO ClaimSearch® by CBSA (2017 - 2018)

Legend
Metal Theft Claims
- 0
- 1
- 2
- 3 - 8
- 9 - 111
- 112 - 415

Note: Not all claims provide sufficient information to be mapped.

Metal Theft Resources

- http://www.isri.org/stop-metals-theft

Institute of Scrap Recycling Industries website that has information and tools for law enforcement, prosecutors, recyclers, and legislators; including a database of state laws related to metal theft.

- http://www.scraptheftalert.com/

Institute of Scrap Recycling Industries website that "is a tool for law enforcement that allows you to alert the scrap industry of significant thefts of materials in the United States and Canada. Upon validation and review, alerts you post are broadcast by email to all subscribed users within a 100 mile radius of where the incident occurred."

- https://popcenter.asu.edu/content/theft-scrap-metal-0

Arizona State University Center for Problem-Oriented Policing webpage with information on metal theft and possible responses to reduce its occurrence.