



Date: April 19, 2013

Regarding: **Metal Theft Claims and Questionable Claim Referrals from January 1, 2010 to December 31, 2012**

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This *ForeCAST*SM report analyzes copper, bronze, brass, and aluminum theft claims identified in Insurance Services Organization (ISO) ClaimSearch and NICB Questionable Claim referrals (QCs) from January 1, 2010 to December 31, 2012 in order to identify any trends or patterns that may exist in the data.

Executive Summary

There were a total of 33,775 claims identified for the theft of copper, bronze, brass, or aluminum submitted to ISO ClaimSearch between January 1, 2010 and December 31, 2012. Of the 33,775 total claims, 96% pertained to the theft of copper. Fifty-five percent of the claims were on commercial policies, while 45% were on personal policies. When the number of metal theft claims per month and monthly average copper prices are compared, the number of claims filed is found to have a statistically significant correlation with the price of copper.¹

From January 1, 2010 to December 31, 2012, there were 330 NICB Questionable Claims submitted involving the theft of copper, aluminum, brass, or bronze. Of the 330 total QCs, 95% pertained to the theft of copper. Seventy (70) percent were on personal policies, while 30% were on commercial policies.

Ohio was identified as the loss state with the most metal theft claims in ISO ClaimSearch, with 23% more claims than Texas, the state with the 2nd largest number of claims. However, in Questionable Claims Ohio ranked 4th, while Illinois topped the rankings. Illinois had 27% more QCs than Texas, the 2nd ranked state in Questionable Claims. Rhode Island tops the rankings when ranked by number of ISO ClaimSearch metal theft claims per 100,000 residents, followed by Ohio and Delaware.

The New York-Northern New Jersey-Long Island, NY-NJ-PA Core Based Statistical Area (CBSA)² ranked 1st in ISO ClaimSearch metal theft claims from 2010 to 2012. The Chicago-Naperville-Joliet, IL-IN-WI CBSA had the largest number of ISO ClaimSearch metal theft-related NICB Questionable Claims.

¹ The Pearson's correlation coefficient between the number of metal theft claims per month and the average monthly copper price was .514 (significant at the .001 level).

² 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 strong economic and social ties to the core area.

Metal Theft Overview

Law enforcement agencies across the country and around the globe started seeing increased numbers of thefts of metals such as copper, bronze, brass, and aluminum in the years leading up to the recent economic downturn. Copper prices were at record highs, increasing the attractiveness of the metal as a target for theft. Thieves have been willing to go to almost any length to obtain the metal. They have stripped sheets of metal from building rooftops, stolen memorial decorations from cemeteries, ripped apart air conditioners for the copper coils within, and stripped homes and buildings of wiring and piping. Construction sites are frequent victims because metal is often left on site unguarded and relatively unsecured. Farm equipment such as irrigation pipes and fixtures are also targeted. The thieves can endanger the safety of themselves and those in the surrounding community, and weaken the infrastructure vital to our everyday lives. Unoccupied buildings have exploded due to gas lines being stolen, stretches of highway have been left dark after thieves stole wiring from utility poles, and tornado warning sirens have been rendered inoperable due to wiring being stolen. Thieves have removed wiring from traffic and railway signals and even posed as utility workers in order to remove large sections of thick utility cable from the sewers beneath city streets. Some thieves have been electrocuted trying to steal live electrical wiring.

In some cases the crimes are committed by drug addicts looking to get some quick cash. In other cases, the crimes are committed by organized groups or opportunistic thieves, such as employees of businesses that work with metal. Regardless of the motive, the damage caused by such thefts is often several times the value of the metal stolen, leaving the victims with hefty repair costs which are then often passed on to insurance companies. The U.S. Department of Energy has estimated that metal theft costs U.S. businesses around \$1 billion a year³. 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 from the scrap industry has made it difficult to get effective measures passed in some areas. Even in areas where such laws exist, some unscrupulous scrap dealers do 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. These are just a few examples of measures put in place to try to reduce the incidence of metal theft.

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, 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 other agencies with access can query this database to research prior loss histories, identify claims patterns, and detect suspect claims.

³ (US Dept. of Energy, 2007)

A total of 33,775 claims for the theft of copper, bronze, brass, or aluminum were identified in ISO ClaimSearch between January 1, 2010 and December 31, 2012⁴. Of the 33,775 total claims, 32,568 related to copper, 965 to aluminum, 233 to brass, and 166 to bronze⁵. There were 18,510 commercial policy claims (55%), while 15,254 (45%) were on personal policies⁶.

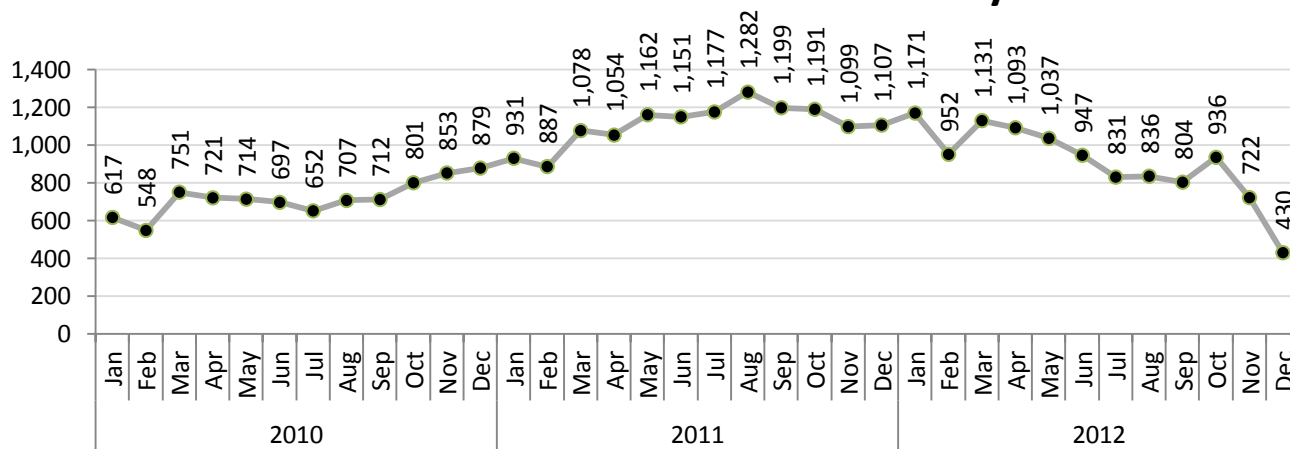
The following tables show the number of claims containing common keywords identified in the data⁷ and the number of claims relating to each metal:

Common Keywords	2010-2012 Claims
"pipe" or "piping"	7,417
"wire" or "wiring"	6,343
"a/c" or " ac " or "air cond"	5,604
"plumbing"	3,827
"line"	1,028
"tube" or "tubing"	785
"gutter" or "spout"	527
"roof"	499
"coil"	374

Metal Type	2010-2012 Claims
Copper	32,568
Aluminum	965
Brass	233
Bronze	166

The following chart shows the number of metal theft claims per month for the January 1, 2010 through December 31, 2012 time period. It should be noted that there is often a delay before claims are entered into ISO ClaimSearch, and therefore some months may be underrepresented in the data, particularly November and December 2012⁸.

Metal Theft Claims in ISO ClaimSearch by Month



⁴ 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 one of the terms "stole", "theft", "thief", "thieves", "took", "steal", or "missing". Loss types that were seen to include almost exclusively unrelated claims were filtered from the data, as well as claims that contained terms found to result in false positives, e.g. "Copperas".

⁵ Some claims contained more than one of the metal terms.

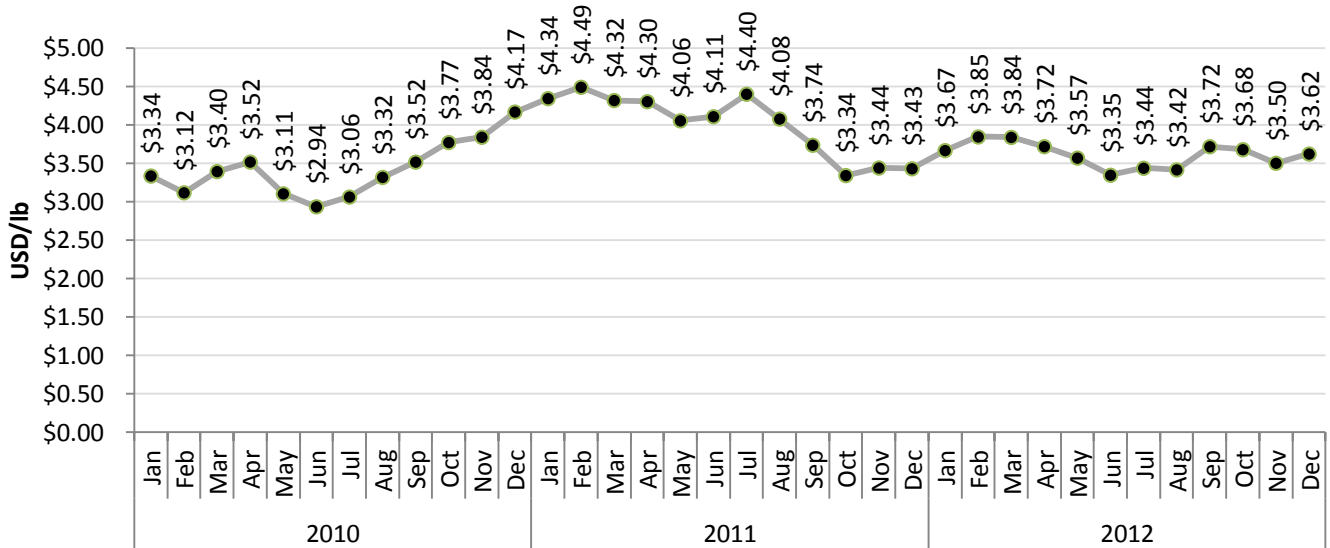
⁶ 11 claims listed policy types that could not be identified as either commercial or personal in nature.

⁷ Some claims may contain more than one of the keywords identified, while others may not contain any.

⁸ Note: There was an average delay of 47 days between a claim occurring and it being entered into ISO ClaimSearch, therefore the latter months of the data are likely underreported, particularly November and December 2012. Of the metal thefts reported between 1/1/2010 and 12/31/2012, 915 had dates of loss prior to 1/1/2010 and were not included in the graph.

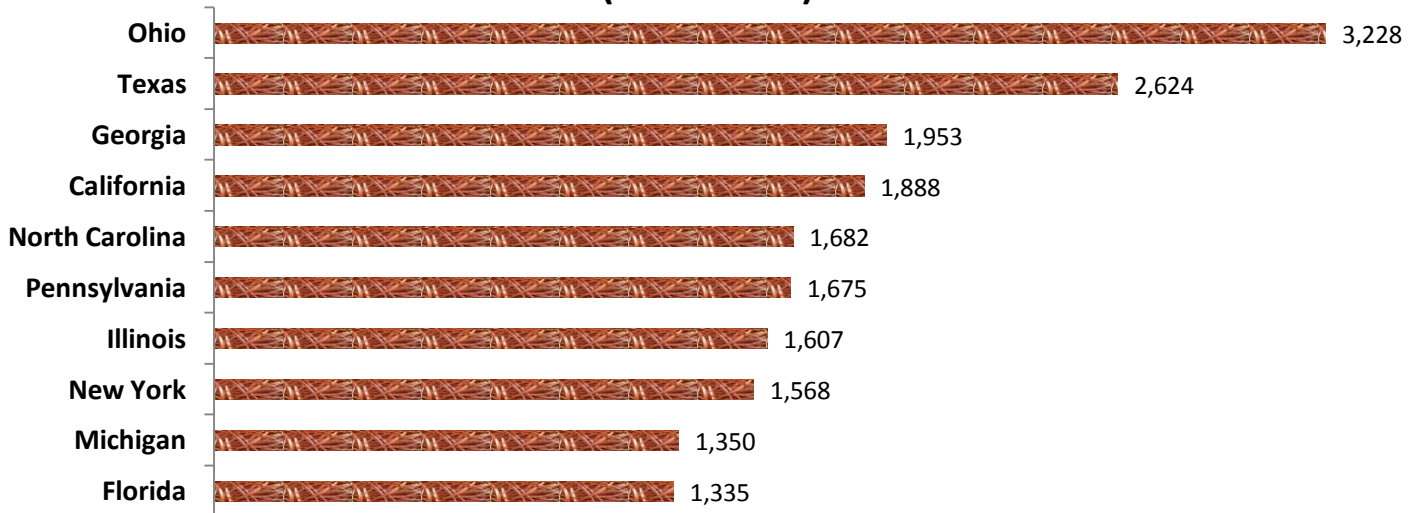
When compared with the graph of copper prices for the same time period a strong correlation between metal prices and the number of metal theft claims was found to exist⁹.

COMEX Copper Price Monthly Averages



The following chart shows the 10 loss states associated with the most metal theft claims in ISO ClaimSearch¹⁰:

Ten States with Most Metal Theft Claims in ISO ClaimSearch (2010-2012)



Ohio was the state with the greatest number of metal theft claims in ISO ClaimSearch, followed by Texas and Georgia.

⁹ Copper price data was obtained from <http://www.iwg-copper.com/price-history/index.cfm>. The Pearson's correlation coefficient between the number of metal theft claims per month and the average monthly copper price was .514 (significant at the .001 level).

¹⁰ Note: 23 claims either did not have the loss state field populated, or it was populated with invalid entries / locations outside the US.

The following table, in alphabetical order by state, shows the number of claims per state for all 50 states and the District of Columbia, as well as the number of claims per 100,000 residents:

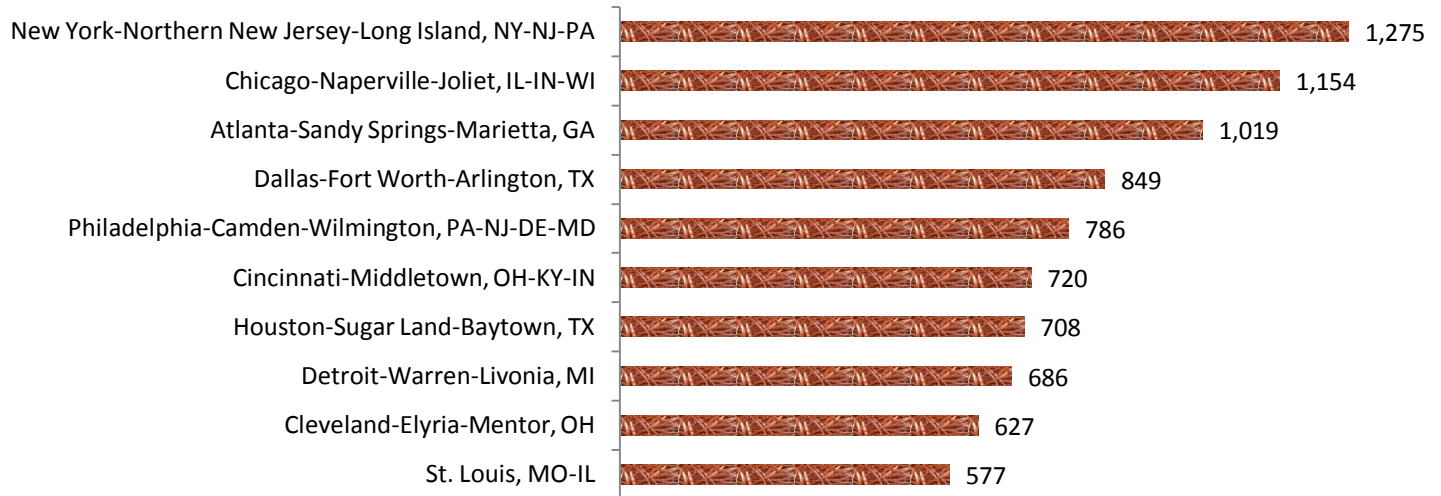
State	2010-2012 Claims	2012 Population ¹¹	2010-2012 Claims / 100,000 Residents	Rank by Number of Claims	Rank by Claims / 100,000 Residents
Alabama	733	4,822,023	15.201	17	12
Alaska	7	731,449	0.957	50 (tie)	51
Arizona	681	6,553,255	10.392	18	23
Arkansas	605	2,949,131	20.515	20	5
California	1,888	38,041,430	4.963	4	40
Colorado	305	5,187,582	5.879	28	37
Connecticut	639	3,590,347	17.798	19	9
Delaware	231	917,092	25.188	33	3
District of Columbia	40	632,323	6.326	44	36
Florida	1,335	19,317,568	6.911	10	33
Georgia	1,953	9,919,945	19.688	3	6
Hawaii	22	1,392,313	1.580	46	44
Idaho	25	1,595,728	1.567	45	45
Illinois	1,607	12,875,255	12.481	7	21
Indiana	846	6,537,334	12.941	15	19
Iowa	149	3,074,186	4.847	39	41
Kansas	299	2,885,905	10.361	29	24
Kentucky	929	4,380,415	21.208	13	4
Louisiana	447	4,601,893	9.713	24	27
Maine	250	1,329,192	18.808	32	7
Maryland	784	5,884,563	13.323	16	16
Massachusetts	907	6,646,144	13.647	14	14
Michigan	1,350	9,883,360	13.659	9	13
Minnesota	354	5,379,139	6.581	26	34
Mississippi	152	2,984,926	5.092	38	38
Missouri	1,097	6,021,988	18.217	12	8
Montana	15	1,005,141	1.492	47	46
Nebraska	138	1,855,525	7.437	40	32
Nevada	288	2,758,931	10.439	30	22
New Hampshire	203	1,320,718	15.370	36	11
New Jersey	1,175	8,864,590	13.255	11	17
New Mexico	215	2,085,538	10.309	35	25
New York	1,568	19,570,261	8.012	8	31
North Carolina	1,682	9,752,073	17.248	5	10
North Dakota	8	699,628	1.143	49	49
Ohio	3,228	11,544,225	27.962	1	2
Oklahoma	359	3,814,820	9.411	25	28
Oregon	56	3,899,353	1.436	43	47
Pennsylvania	1,675	12,763,536	13.123	6	18
Rhode Island	309	1,050,292	29.420	27	1
South Carolina	594	4,723,723	12.575	21	20
South Dakota	9	833,354	1.080	48	50
Tennessee	553	6,456,243	8.565	22	29
Texas	2,624	26,059,203	10.069	2	26
Utah	128	2,855,287	4.483	41	42
Vermont	85	626,011	13.578	42	15
Virginia	531	8,185,867	6.487	23	35
Washington	223	6,897,012	3.233	34	43
West Virginia	157	1,855,413	8.462	37	30
Wisconsin	287	5,726,398	5.012	31	39
Wyoming	7	576,412	1.214	50 (tie)	48

When ranked by claims per 100,000 residents, Rhode Island moves to the top of the rankings, followed by Ohio, Delaware, Kentucky, and then Arkansas.

¹¹ US Census Bureau - Annual Estimates of the Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2012

The following chart shows the 10 CBSAs with the most metal theft claims in ISO ClaimSearch¹²:

Ten CBSAs with Most Metal Theft Claims in ISO ClaimSearch (2010-2012)



The New York-Northern New Jersey-Long Island, NY-NJ-PA CBSA is the CBSA with the largest number of metal theft claims from 2010-2012, followed by the Chicago-Naperville-Joliet, IL-IN-WI and Atlanta-Sandy Springs-Marietta, GA CBSAs.

¹² Note: 5,819 metal theft claims, 17.2% of the total number, either did not list a loss city or listed one that is not included in a CBSA.

Metal Theft Claims Submitted as NICB Questionable Claims

NICB member companies can submit claims that they believe may contain some element of fraud to NICB as Questionable Claims (QCs). This section of the report analyzes the QCs identified as involving the theft of copper, brass, bronze, or aluminum. There were a total of 330 metal theft QCs submitted between January 1, 2010 and December 31, 2012¹³. Of the 330 total QCs, 312 were related to copper, 21 to aluminum, 4 to brass, and 3 to bronze¹⁴. There were 231 QCs (70%) on personal policies, while 99 (30%) were on commercial policies¹⁵.

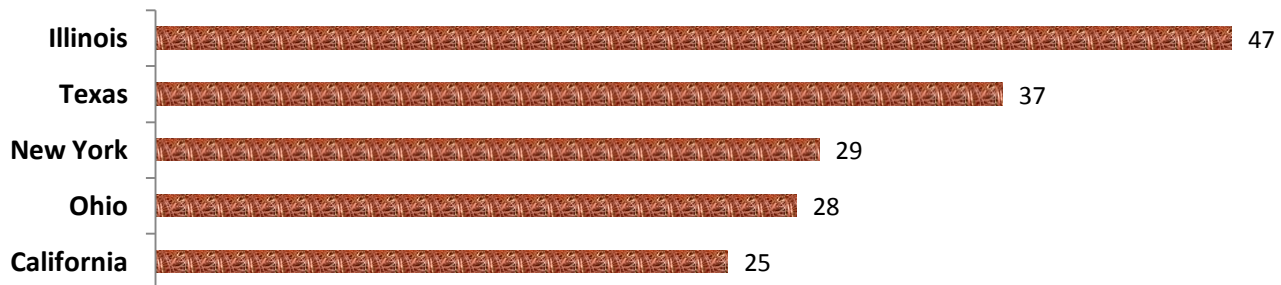
The QC data was queried further to determine which types of items were most commonly stolen. The following tables show the number of claims containing common keywords identified in the data¹⁶ and the number of QCs relating to each metal:

Common Keywords	2010-2012 QCs
“pipe” or “piping”	173
“wire” or “wiring”	118
“a/c” or “ ac ” or “air cond”	46
“plumbing”	43
“line”	41
“roof”	39
“tube” or “tubing”	11

Metal Type	2010-2012 QCs
Copper	312
Aluminum	21
Brass	4
Bronze	3

The following chart shows the 5 loss states associated with the most metal theft QCs:

Five States with Most Metal Theft QCs (2010-2012)



Illinois was the state of loss in the largest number of metal theft related NICB QCs, followed by Texas and New York.

¹³ There is no exact method for extracting metal theft Questionable Claims. For this report, a Questionable 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 one of the terms “stole”, “theft”, “thief”, “thieves”, “took”, “steal”, or “missing”. Loss types that were seen to include almost exclusively unrelated claims were filtered from the data, as well as claims that contained terms found to result in false positives, e.g. “Copperas”.

¹⁴ Some claims contained more than one of the metal terms.

¹⁵ 2 Questionable Claims did not list a policy type.

¹⁶ Some QCs may contain more than one of the keywords listed, while others may not include any.

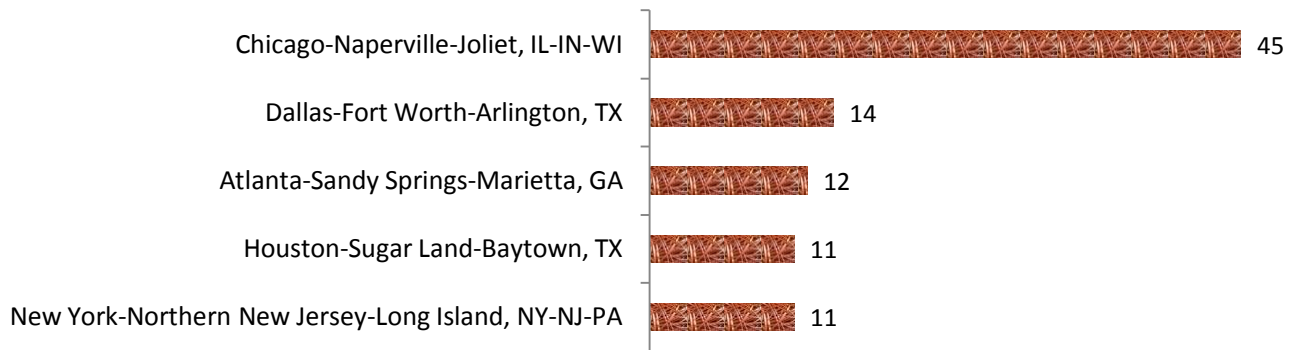
The following table shows the number of QCs for all 50 states and the District of Columbia, as well as the ratio of QCs to every 1,000 ISO ClaimSearch metal theft claims.

State	2010-2012 QCs	2010-2012 ISO Claims	2010-2012 QCs / 1,000 Claims	Rank by Number of QCs	Rank by QCs / 1,000 Claims
Alabama	11	733	15.01	10	8
Alaska	0	7	0.00	37 (tie)	37 (tie)
Arizona	2	681	2.94	25 (tie)	33
Arkansas	1	605	1.65	31 (tie)	35
California	25	1,888	13.24	5	10
Colorado	1	305	3.28	31 (tie)	32
Connecticut	4	639	6.26	17 (tie)	24
Delaware	0	231	0.00	37 (tie)	37 (tie)
District of Columbia	0	40	0.00	37 (tie)	37 (tie)
Florida	8	1,335	5.99	13 (tie)	25
Georgia	15	1,953	7.68	8	19
Hawaii	0	22	0.00	37 (tie)	37 (tie)
Idaho	0	25	0.00	37 (tie)	37 (tie)
Illinois	47	1,607	29.25	1	1
Indiana	7	846	8.27	15	18
Iowa	0	149	0.00	37 (tie)	37 (tie)
Kansas	2	299	6.69	25 (tie)	21
Kentucky	1	929	1.08	31 (tie)	36
Louisiana	2	447	4.47	25 (tie)	28
Maine	0	250	0.00	37 (tie)	37 (tie)
Maryland	10	784	12.76	11	11
Massachusetts	3	907	3.31	21 (tie)	31
Michigan	16	1,350	11.85	7	12
Minnesota	9	354	25.42	12	2
Mississippi	0	152	0.00	37 (tie)	37 (tie)
Missouri	12	1,097	10.94	9	14
Montana	0	15	0.00	37 (tie)	37 (tie)
Nebraska	0	138	0.00	37 (tie)	37 (tie)
Nevada	5	288	17.36	16	6
New Hampshire	0	203	0.00	37 (tie)	37 (tie)
New Jersey	3	1,175	2.55	21 (tie)	34
New Mexico	4	215	18.60	17 (tie)	3
New York	29	1,568	18.49	3	4
North Carolina	8	1,682	4.76	13 (tie)	27
North Dakota	0	8	0.00	37 (tie)	37 (tie)
Ohio	28	3,228	8.67	4	16
Oklahoma	3	359	8.36	21 (tie)	17
Oregon	0	56	0.00	37 (tie)	37 (tie)
Pennsylvania	17	1,675	10.15	6	15
Rhode Island	2	309	6.47	25 (tie)	22
South Carolina	2	594	3.37	25 (tie)	30
South Dakota	0	9	0.00	37 (tie)	37 (tie)
Tennessee	3	553	5.42	21 (tie)	26
Texas	37	2,624	14.10	2	9
Utah	2	128	15.63	25 (tie)	7
Vermont	1	85	11.76	31 (tie)	13
Virginia	4	531	7.53	17 (tie)	20
Washington	4	223	17.94	17 (tie)	5
West Virginia	1	157	6.37	31 (tie)	23
Wisconsin	1	287	3.48	31 (tie)	29
Wyoming	0	7	0.00	37 (tie)	37 (tie)

Illinois had the highest proportion of NICB QCs to the total number of metal theft claims in ISO ClaimSearch, followed by Minnesota, New Mexico, New York, and then Washington.

The following chart shows the 5 CBSAs in the most metal theft Questionable Claims¹⁷:

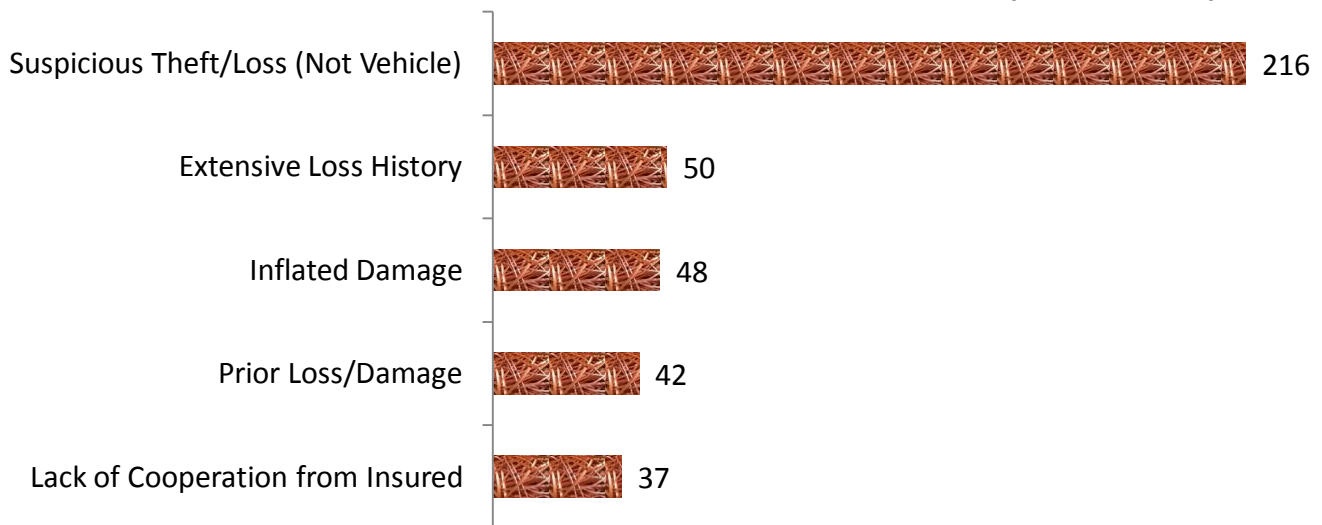
Five CBSAs with Most Metal Theft QCs (2010-2012)



Chicago-Naperville-Joliet, IL-IN-WI was the CBSA with the greatest number of metal theft Questionable Claims, with more than 3 times the QCs of the 2nd ranking CBSA, Dallas-Fort Worth-Arlington, TX.

NICB QCs can each list up to 7 referral reasons, allowing member companies to indicate what aspects of the claim lead to it being submitted to the NICB as a QC. There were a total of 668 referral reasons included in the 330 metal theft QCs from 2010 to 2012. The following chart shows the 5 referral reasons included most often in these QCs:

Five Referral Reasons with Most Metal Theft QCs (2010-2012)



Suspicious Theft/Loss (Not Vehicle) was the referral reason indicated in the greatest number of metal theft QCs, appearing in 65% of the metal theft QCs from 2010-2012.

¹⁷ Note: 26 metal theft Questionable Claims either did not list a loss city or listed one that is not included in a CBSA.

Conclusions

There were a total of 33,775 claims for the theft of copper, bronze, brass, or aluminum submitted to ISO ClaimSearch between January 1, 2010 and December 31, 2012. Of the 33,775 total claims, 96.4% pertained to the theft of copper, 2.9% to aluminum, 0.7% to brass, and 0.5% to bronze. Of these claims 55% were on commercial policies, while 45% were on personal policies. When the number of metal theft claims and copper prices are compared, a statistically significant correlation was found to be present¹⁸.

A total of 330 NICB Questionable Claims were identified as involving the theft of copper, aluminum, brass, or bronze. Of the 330 total Questionable Claims, 94.5% pertained to the theft of copper, 6.4% pertained to aluminum, 1.2% pertained to brass, and 0.9% pertained to bronze. There were 231 Questionable Claims (70%) on personal policies, while 99 (30%) were on commercial policies. One point of interest is that more than half of the ISO ClaimSearch metal theft claims were on commercial policies, however in the Questionable Claims dataset more than 2 out of 3 Questionable Claims were on personal policies.

The number of metal theft claims each month generally increased from January 2010 through August 2011. Beginning in September 2011, the number of claims per month began to generally decrease. The monthly decreases continue through much of 2012. In October 2012 an increase is seen, however the delay in claims being submitted to the database makes it difficult to determine if the increase continues in November and December 2012.

Ohio was the loss state in the most metal theft claims in ISO ClaimSearch, with 23% more claims than Texas, the state with the 2nd largest number of claims. However, in Questionable Claims Ohio ranked 4th, while Illinois topped the rankings. Illinois had 27% more QCs than Texas, the 2nd ranked state in Questionable Claims. When ranked by number of ISO ClaimSearch metal theft claims per 100,000 residents, Rhode Island tops the rankings, followed by Ohio and Delaware.

The New York-Northern New Jersey-Long Island, NY-NJ-PA Core Based Statistical Area (CBSA)¹⁹ ranked 1st in ISO ClaimSearch metal theft claims from 2010 to 2012. The Chicago-Naperville-Joliet, IL-IN-WI CBSA had the largest number of ISO ClaimSearch metal theft-related NICB Questionable Claims.

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¹⁹ 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 strong economic and social ties to the core area.

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