## Supplemental Information:

Flying Blind: What Do Investors Really Know About Climate Change Risks in the U.S. Equity and Municipal Debt Markets?

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Table SI 1: **The average number of risks mentions is dominated by a discussion of transition risk and increases between the years 2009 and 2020.** The data below were collected using the Ceres Search Tool mentioned in the paper. In the paper, we present an upward trend in the percent of firms that discuss climate change risks in their annual 10-Ks. Below we present the average numbers of climate-related risk mentions by category for the entire Russell 3000. While less pronounced than the percent trend, it is clear from the data below that the average number of mentions for all three categories, per 10-K, also increase between 2009 and 2020.

Year	Non-Specific	Transition Risk	Physical Risk
2009	1.7	4.1	2.6
2010	3.3	6.9	3.3
2011	3.3	7.3	3.3
2012	3.1	6.9	3.4
2013	3.0	6.9	3.8
2014	2.9	6.8	3.9
2015	3.0	6.8	3.8
2016	2.8	6.6	3.5
2017	3.0	7.4	3.6
2018	3.0	7.3	3.9
2019	3.3	8.2	4.3
2020	4.0	10.1	5.0

*Source: Ceres/Cook/Morningstar 10-K Database and analysis by authors* 

Table SI 2: **The percent of companies saying anything about climate change in their 10-K filings increases between 2009 and 2020.** In the paper, as mentioned previously, we present an upward trend in the percent of firms that mention climate change at least once in their filings between 2009 and 2020. Below, that data was tabulated and broken down into the additional categories of physical and transition risk. The trend we presented for any type of climate-risk mention holds true for both physical and transition risk. Additionally, it is notable that while transition risk dominates in terms of number of mentions per 10-K (see Table SI 1), more companies mention physical risk at least once. It is possible that this is explained by the uniquely upward biased nature of the key-word search for physical risk; i.e. it is very easy to talk about flooding, hurricanes, and high temperatures in a context removed from climate change.

Year	Anything	Physical Risk	Transition Risk
2009	35%	30%	21%
2010	44%	37%	32%
2011	46%	39%	34%
2012	47%	40%	33%
2013	49%	42%	35%
2014	49%	42%	35%
2015	49%	43%	35%
2016	47%	40%	34%
2017	47%	40%	35%
2018	50%	42%	37%
2019	55%	47%	42%
2020	60%	52%	47%

Figure SI 1: **Transition risk has historically and continues to dominate risk discussion in 10-K filings.** The methodology for gathering this data is explained in Figure 1 and Figure 2 in the paper. In Figure 3 of the paper, we present a timeseries for the three categories of risk and their average number of mentions per 10-K. It is clear from that figure that transition risk dominates the discussion. Above is an aggregate distribution of all mentions from 2009-2019. The figure above echoes and bolsters the takeaway of Figure 3 – transition risk makes up the preponderance of the discussion. 2019 is the last year with a complete data set so it was used as the endpoint for the pie chart. In the figure above, the larger pie chart is looking at the percent of firms between 2009 and 2019 that said anything pertaining to climate change.

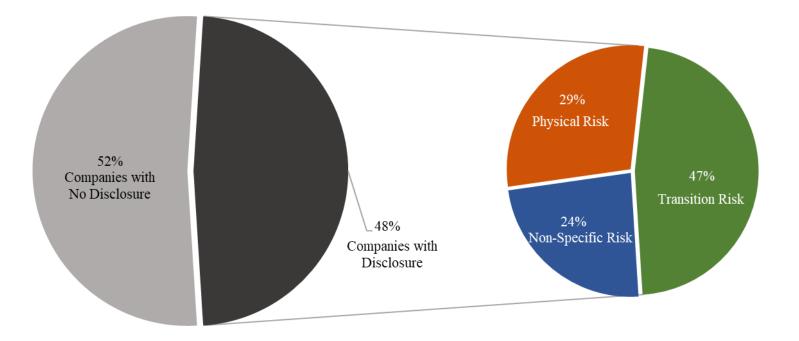


Table SI 3: A few sectors – oil and gas, coal mining, and power utilities – dominate the discussion of climate change, by volume. In Figure 4 of the main paper, we present a bar chart looking at the average number of climate-related risk mentions for each sector for the years 2009 and 2019. Below, we present the full dataset used to make that figure. 2019 was selected as the end point because it was the last year with a complete dataset.

Source: Ceres/Cook/Morningstar 10-K Database and analysis by authors

Sector	Year	Non-Specific	Transition Risk	Physical Risk
Services - Educational   (18%)	2019	4	0	1
Services - Educational   (18%)	2009	0	0	0
Medical Equipment   (17%)	2019	0	0	0
	2009	0	0	0
Pharmaceuticals   (20%)	2019	0	0	1
	2009	0	0	0
Banks & Financial Services   (25%)	2019	0	1	2
	2009	0	0	0
Media   (50%)	2019	0	2	3
	2009 2019	0	0	0
Services - Business-Related   (23%)	2019	0	0	0
	2009	0	1	1
Information Technology   (22%)	2009	0	0	0
	2019	0	4	3
Telecommunications   (29%)	2009	0	1	0
	2019	0	2	5
Apparel & Textiles   (77%)	2009	0	0	2
Consumer Coods + (40%)	2019	1	3	2
Consumer Goods   (49%)	2009	0	1	1
Retail   (72%)	2019	1	2	5
Ktar (72%)	2009	0	0	2
Wholesale   (63%)	2019	2	3	4
	2009	0	1	1
Services - Other   (40%)	2019	2	3	2
	2009	0	2	1
Electronics   (37%)	2019	1	6	1
	2009	1	2	0
Food and Beverage   (84%)	2019	3	4	7
	2009 2019	0 2	1 7	3 6
Real Estate   (65%)	2019	0	1	2
	2009	3	4	7
Entertainment & Recreation   (67%)	2009	0	1	3
	2019	0	1	4
Aerospace & Defense   (44%)	2009	0	1	3
Manufacturing (560/)	2019	2	3	3
Manufacturing   (56%)	2009	1	2	1
Agriculutre ((100%)	2019	4	6	17
	2009	0	0	7
Transportation   (85%)	2019	8	16	6
	2009	1	5	3
Hospitality   (82%)	2019	6	19	6
	2009	1 7	2	7
Automotive   (50%)	2019		13	1
	2009 2019	2 6	8 15	<u> </u>
Chemicals   (68%)	2019	2	7	2
	2009	17	35	9
Waste Management   (86%)	2009	5	8	1
	2019	3	8	18
Water Utility/Services   (86%)	2009	1	3	11
Insurance Services   (63%)	2019	1	3	14
	2009	1	1	13
Mining   (89%)	2019	11	25	17
	2009	4	7	4
Oil & Gas   (94%)	2019	23	38	14
	2009	7	8	7
Coal Mining ((100%)	2019	78	134	18
	2009	41	77	8
Electric Power & Gas Utilities   (97%)	2019	28	112	27
	2009	30	79	22

Figure SI 2: **Every sector in the Russell 3000 has a higher percent of firms discussing climate-related risk in their 10-K filings in 2019 than 2009.** In the paper, it was mentioned that the percent of firms discussing climate change in their 10-Ks increased between 2009 and 2020. By breaking this data down by sector, it is possible to see that while the direction of change (higher percentage of percentage) is shared among all sectors, the change in percentage is not. Certain sectors, like education and retail, had huge jumps in disclosure rates while pharmaceuticals had a more modest gain. As mentioned previously, 2019 was selected as the endpoint because it was the last year with a complete dataset at the time of scraping.

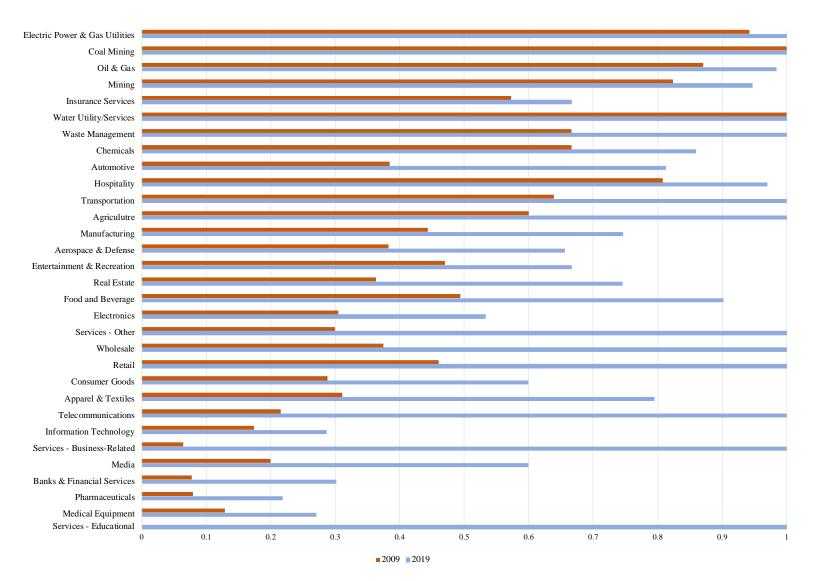


Table SI 4: **The percent deviation of risk mentions decreases over the years.** One obvious question to ask with the dataset is how dominated the total number of risk-mentions is by a few firms saying a lot relative to everyone else. A way to try and answer this question is to look at how the standard deviation and percent deviation (standard deviation over mean) change over time. While this will not give an absolute value of "domination," it can give a sense of the trend in the data. As seen below, the data seems to be dominated less and less by a few firms as the years go on. The decreasing percent deviation year-on-year indicates that the spread of risk-mentions is decreasing – meaning more firms are reporting near the average and that there are less outliers.

Year	Average of Non- specific Mentions	Average of Physical Risk Mentions	Average of Transition Risk Mentions	Average of Total Mentions	Standard Deviation of Non- specific Mentions	Standard Deviation of Physical Risk Mentions	Standard Deviation of Transition Risk Mentions	Standard Deviation of Total Mentions	Percent Deviation of Non-specific Mentions	Percent Deviation of Physical Risk Mentions	Percent Deviation of Transition Risk Mentions	Percent Deviation of Total Mentions
2009	1.7	2.6	4.1	8.4	8.8	9.6	20.0	33.6	514%	374%	491%	401%
2010	3.3	3.3	6.9	13.4	12.4	10.1	27.9	45.2	381%	309%	404%	337%
2011	3.3	3.3	7.3	14.0	12.0	9.4	27.8	44.2	364%	283%	379%	316%
2012	3.1	3.4	6.9	13.5	10.6	9.6	25.0	40.2	340%	279%	361%	299%
2013	3.0	3.8	6.9	13.8	10.4	10.5	24.5	39.7	341%	274%	353%	287%
2014	2.9	3.9	6.8	13.5	9.2	9.7	23.5	37.2	319%	252%	347%	275%
2015	3.0	3.8	6.8	13.6	9.5	9.1	23.4	37.2	322%	240%	343%	274%
2016	2.8	3.5	6.6	12.8	9.4	7.9	23.7	36.4	335%	229%	360%	284%
2017	3.0	3.6	7.4	14.0	10.0	8.9	26.7	40.7	334%	251%	361%	291%
2018	3.0	3.9	7.3	14.2	9.2	9.1	25.2	38.6	306%	235%	344%	272%
2019	3.3	4.3	8.2	15.8	9.3	9.0	27.0	39.6	285%	208%	329%	251%
2020	4.0	5.0	10.1	19.1	10.4	9.6	33.1	46.4	261%	191%	327%	242%

Table SI 5: **The sectors with the most risk discussion in 2009 are the most consistent over the years.** A second natural question to ask with the dataset is how consistent each sector is in the volume of their risk-disclosure. One way to try and answer this question is to look at the percent deviation of a sector's number of risk-mentions across the years. The sectors with the highest percent deviations are the ones with the biggest changes in the volume of risk-disclosure between 2009 and 2020. The column on the far right is an ordinal ranking of the sectors by their average total risk mentions over the 12 years. By pairing the two datasets (the ordinal ranking and the percent deviation), it becomes clear that the most verbose sectors are also the most consistent over the years. This also seems to provide evidence that the companies that said the least in 2009 played catch-up over the next 11 years – closing the gap between the most vocal and least vocal sectors.

Sector	Average of Non- specific Mentions	•	Average of Transition Risk Mentions	Average of Total Mentions	Standard Deviation of Non- specific Mentions	Standard Deviation of Physical Risk Mentions	Standard Deviation of Transition Risk Mentions	Standard Deviation of Total Mentions	Percent Deviation of Non-specific Mentions	Percent Deviation of Physical Risk Mentions	Percent Deviation of Transition Risk Mentions	Percent Deviation of Total Mentions	Ranking of Firms by Average total Mentions
Banks & Financial Services	0.1	1.0	0.5	1.6	1.2	3.2	3.5	5.9	911%	322%	695%	361%	27
Services - Educational	0.9	0.2	0.1	1.2	6.1	0.8	0.5	6.5	697%	383%	499%	551%	29
Pharmaceuticals/Health Care	0.1	0.5	0.2	0.9	0.8	2.1	1.4	3.4	635%	402%	639%	395%	30
Telecommunications	0.1	1.3	1.9	3.3	0.6	5.5	16.4	21.3	495%	434%	872%	647%	24
Information Technology	0.4	0.5	0.7	1.5	1.6	1.3	3.4	5.2	438%	295%	484%	348%	28
Medical Equipment Manufacturing	0.2	0.3	0.4	0.8	0.8	0.9	1.6	2.9	415%	338%	433%	345%	31
Services - Business-Related	0.6	0.5	0.7	1.7	2.2	2.2	2.5	5.7	393%	438%	376%	326%	26
Electronics	1.3	0.9	4.4	6.6	4.9	2.1	15.7	20.2	388%	227%	357%	306%	18
Apparel & Textiles	0.3	3.5	1.3	5.0	1.0	4.4	2.0	5.7	350%	127%	159%	113%	22
Media	0.1	1.2	0.5	1.8	0.3	3.3	2.3	4.1	312%	284%	450%	231%	25
Entertainment & Recreation	0.3	3.7	1.0	5.0	0.7	5.3	3.0	6.6	282%	146%	291%	133%	23
Insurance Services	1.1	14.8	2.2	18.1	3.0	21.5	6.6	24.9	266%	146%	292%	137%	10
Retail	0.7	3.7	1.7	6.2	1.9	5.4	3.6	8.7	264%	144%	209%	141%	20
Consumer Goods	1.3	1.4	3.8	6.5	3.5	2.9	11.2	15.9	263%	211%	294%	243%	19
Real Estate	1.5	4.0	4.8	10.3	3.9	6.4	19.8	24.9	261%	159%	413%	242%	13
Wholesale	1.5	3.1	2.7	7.3	3.7	7.3	5.8	13.3	251%	235%	217%	184%	17
Manufacturing & Industrial Materials	2.2	2.1	5.2	9.5	5.4	3.8	11.8	17.8	250%	181%	228%	188%	15
Aerospace & Defense	1.8	3.2	2.5	7.5	3.8	6.5	4.0	11.4	207%	200%	160%	150%	16
Services - Other	1.4	1.5	2.5	5.4	2.8	3.3	6.1	9.5	202%	217%	238%	176%	21
Hospitality & Tourism	4.0	6.2	7.9	18.2	6.9	7.8	11.9	19.8	170%	126%	150%	109%	9
Water Utility/Services	2.0	12.9	7.4	22.4	3.4	9.7	10.8	17.2	166%	75%	145%	77%	7
Automotive	5.6	0.8	10.2	16.6	9.3	1.2	18.8	27.4	166%	140%	184%	165%	12
Food & Beverages	1.9	5.1	2.9	9.9	3.0	5.9	5.0	11.1	158%	115%	175%	112%	14
Agriculture	2.2	10.9	3.8	16.9	3.0	9.9	4.2	16.1	135%	91%	110%	95%	11
Chemicals	5.3	4.3	14.8	24.5	7.0	6.3	18.9	28.5	132%	148%	128%	116%	6
Transportation	5.5	4.7	11.6	21.8	7.1	5.0	12.1	20.4	127%	108%	104%	93%	8
Mining	9.6	9.8	19.3	38.7	10.3	10.6	18.8	34.9	108%	108%	97%	90%	5
Waste Management	12.5	5.9	24.3	42.7	12.6	6.6	26.3	44.0	101%	112%	108%	103%	4
Electric Power & Gas Utilities	34.1	25.3	102.8	162.2	32.4	27.6	89.8	128.5	95%	109%	87%	79%	2
Oil & Gas	18.6	12.4	30.3	61.3	15.7	11.9	24.1	42.3	85%	96%	79%	69%	3
Coal Mining	60.3	11.7	112.6	184.6	30.0	10.1	53.8	89.0	50%	86%	48%	48%	1

 $Table \ SI \ 6: \ The \ sectors \ with \ the \ most \ risk \ discussion \ in \ 2009 \ are \ the \ most \ consistent \ over$ 

**the years.** We mention in the paper, in figure 2, that it appears that the increase in risk mentions over the years is primarily being driven by relatively quiet companies saying something, not vocal firms saying even more. This finding is further augmented by breaking that analysis down by sector. In the table below, it is clear that the quietest sectors (towards the top of the table) are the ones with the biggest changes from 2009 to 2020.

	All Risk Mentions							
Sector	Year	0	1-10	11-25	26-50	51-100	101-250	251+
Services - Educational	2009	100%	0%	0%	0%	0%	0%	0%
Services - Educational	2020	70%	20%	0%	0%	10%	0%	0%
Services - Business-Related	2009	94%	5%	0%	0%	1%	0%	0%
Services - Busiliess-Related	2020	59%	24%	9%	7%	1%	0%	0%
Banks & Financial Services	2009	92%	7%	1%	0%	0%	0%	0%
Balliks & Fillalicial Services	2020	58%	29%	11%	1%	1%	0%	0%
Pharmacouticals/Health Care	2009	92%	7%	1%	0%	0%	0%	0%
Pharmaceuticals/Health Care	2020	73%	25%	1%	1%	0%	0%	0%
	2009	87%	13%	0%	0%	0%	0%	0%
Medical Equipment Manufacturing	2020	74%	23%	4%	0%	0%	0%	0%
Information Tasks shows	2009	83%	15%	2%	0%	0%	0%	0%
Information Technology	2020	72%	21%	4%	2%	1%	0%	0%
<b>b d</b> = -1 <sup>1</sup> =	2009	80%	20%	0%	0%	0%	0%	0%
Media	2020	50%	38%	6%	6%	0%	0%	0%
Telecommunications	2009	78%	20%	0%	0%	2%	0%	0%
Telecommunications	2020	61%	29%	7%	0%	0%	0%	2%
Concernant Concerns	2009	71%	23%	4%	1%	0%	0%	0%
Consumer Goods	2020	26%	39%	19%	13%	2%	0%	2%
Consistent Build	2009	70%	24%	2%	4%	0%	0%	0%
Services - Other	2020	48%	25%	23%	5%	0%	0%	0%
Flasher	2009	70%	25%	1%	2%	2%	0%	0%
Electronics	2020	47%	30%	13%	5%	1%	5%	0%
	2009	69%	27%	4%	0%	0%	0%	0%
Apparel & Textiles	2020	22%	39%	39%	0%	0%	0%	0%
	2009	64%	26%	7%	3%	1%	0%	0%
Real Estate	2020	21%	29%	32%	13%	4%	1%	0%
	2020	63%	29%	6%	2%	0%	0%	0%
Wholesale	2003	18%	55%	18%	8%	0%	0%	0%
	2020	62%	26%	6%	6%	0%	0%	0%
Aerospace & Defense	2003	27%	50%	5%	18%	0%	0%	0%
	2020	62%	31%	0%	0%	0%	8%	0%
Automotive	2009		20%	10%	20%	20%		
	2020	30% 56%	35%	6%	0%	20%	0% 0%	<u>    0%    </u> 0%
nufacturing & Industrial Materials						4%		
	2020	18% 54%	45% 37%	18% 8%	15% 1%	0%	1% 0%	<u>    0%    </u> 0%
Retail								
	2020	17% 53%	47% 35%	28% 12%	8% 0%	<u>    0%</u> 0%	<u>    0%    </u> 0%	<u>    0%    </u> 0%
Entertainment & Recreation								
	2020	36% 51%	36% 35%	29% 13%	0% 1%	0%	<u> </u>	<u> </u>
Food & Beverages								
	2020	7%	38%	38%	12%	5%	0%	0%
Insurance Services	2009	43%	19%	18%	9%	11%	0%	0%
	2020	30%	22%	16%	22%	9%	0%	0%
Agriculture	2009	40%	20%	40%	0%	0%	0%	0%
	2020	0%	0%	33%	67%	0%	0%	0%
Transportation	2009	36%	30%	25%	10%	0%	0%	0%
	2020	4%	11%	42%	29%	15%	0%	0%
Chemicals	2009	33%	35%	15%	13%	4%	0%	0%
	2020	6%	22%	31%	22%	14%	4%	0%
Waste Management	2009	33%	33%	0%	33%	0%	0%	0%
	2020	17%	17%	0%	17%	17%	33%	0%
Hospitality & Tourism	2009	19%	46%	19%	15%	0%	0%	0%
	2020	4%	37%	22%	30%	4%	4%	0%
Mining	2009	18%	47%	18%	12%	6%	0%	0%
°	2020	0%	0%	31%	13%	38%	19%	0%
Oil & Gas	2009	14%	30%	30%	12%	12%	3%	0%
	2020	2%	3%	5%	14%	38%	38%	0%
	2009	6%	1%	7%	16%	22%	36%	12%
Electric Power & Gas Utilities						470/	6004	
	2020	2%	2%	0%	2%	17%	60%	18%
Coal Mining	2009	0%	17%	0%	0%	0%	83%	0%
	2020	0%	0%	0%	0%	20%	60%	20%
Water Utility/Services	2009	0%	42%	33%	25%	0%	0%	0%
	2020	8%	25%	8%	25%	33%	0%	0%

	Physical-risk Mentions											
0	1-5	6-10	11-25	26-50	51-100	101+						
100%	0%	0%	0%	0%	0%	0%						
80%	20%	0%	0%	0%	0%	0%						
97%	1%	1%	0%	0%	0%	0%						
63%	29%	5%	3%	0%	0%	0%						
94%	4%	1%	1%	0%	0%	0%						
65%	24%	7%	4%	0%	0%	0%						
93%	5%	1%	1%	0%	0%	0%						
76%	20%	2%	1%	0%	0%	0%						
94%	6%	0%	0%	0%	0%	0%						
81%	19%	0%	0%	0%	0%	0%						
91%	8%	1%	0%	0%	0%	0%						
79%	17%	2%	2%	0%	0%	0%						
87%	13%	0%	0%	0%	0%	0%						
63%	31%	0%	0%	6%	0%	0%						
78%	20%	2%	0%	0%	0%	0%						
71%	20%	2%	5%	0%	2%	0%						
79%	16%	4% 9%	0% 4%	0% 4%	0%	0%						
39% 74%	44% 24%	2%	4% 0%	<u>4%</u> 0%	0%	0% 0%						
60%	24%	18%	0%	0%	0%	0%						
77%	23%	18%	0%	0%	0%	0%						
64%	23%	3%	3%	0%	0%	0%						
71%	13%	11%	4%	0%	0%	0%						
28%	28%	28%	17%	0%	0%	0%						
65%	25%	5%	4%	1%	0%	0%						
25%	26%	25%	21%	2%	1%	0%						
67%	20%	2%	4%	0%	0%	0%						
37%	45%	13%	3%	3%	0%	0%						
65%	24%	3%	6%	3%	0%	0%						
50%	27%	9%	14%	0%	0%	0%						
69%	31%	0%	0%	0%	0%	0%						
60%	40%	0%	0%	0%	0%	0%						
65%	28%	6%	0%	0%	0%	0%						
39%	43%	10%	9%	0%	0%	0%						
58%	29%	7%	4%	1%	0%	0%						
26%	34%	26%	13%	0%	0%	0%						
53%	24%	18%	6%	0%	0%	0%						
36%	29%	14%	21%	0%	0%	0%						
58%	26%	11%	5%	1%	0%	0%						
10%	35%	27%	28%	0%	0%	0%						
44%	13%	11%	17%	7%	10%	0%						
34%	17%	9%	18%	18%	3%	0%						
40%	20%	0%	40%	0%	0%	0%						
0%	0%	0%	100%	0%	0%	0%						
41%	36%	15%	8%	0%	0%	0%						
15%	38% 40%	29%	16%	2%	0%	0%						
52%		4%	4%	0% 4%	0%	0%						
20% 50%	35% 50%	16% 0%	24% 0%	4% 0%	<u>    0%    </u> 0%	<u>0%</u> 0%						
33%	0%	17%	50%	0%	0%	0%						
23%	54%	4%	12%	8%	0%	0%						
22%	33%	19%	26%	0%	0%	0%						
29%	35%	24%	12%	0%	0%	0%						
6%	13%	25%	25%	25%	6%	0%						
17%	47%	21%	11%	2%	2%	0%						
4%	7%	27%	49%	13%	1%	0%						
7%	13%	19%	36%	19%	3%	3%						
3%	7%	5%	38%	35%	10%	2%						
17%	17%	33%	33%	0%	0%	0%						
0%	0%	20%	80%	0%	0%	0%						
0%	25%	33%	33%	8%	0%	0%						
17%	8%	8%	33%	33%	0%	0%						

Table SI 7: **Bond official statements from high-risk municipalities are slightly more likely to mention climate change than bonds from low-risk municipalities**. The data below was collected for the 590 counties in the United States with populations over 100,000 people. The risk category was determined by using expected income loss in 2080 from the Climate Impact Lab. For the municipalities, revenue and general obligation bonds after and including 2010 were included. On average 1-10 bonds for each municipality were checked for the words "climate change."

	Total Number of Bonds Checked	Number of GO Bonds	Number of Revenue Bonds	Number of Bonds that Say Climate Change	Number of GO Bonds	Number of Revenue Bonds	Percent of all Bonds	Percent of Revenue Bonds	Percent of GO Bonds	Percent of Mentions from Revenue Bonds
	1445	606	839	113	23	90	7.82%	10.73%	3.80%	79.6%
All										
	Total Number of	Number of Counties that	Percent of Counties that Discuss Climate							
	Counties Checked	Discuss Climate Change	Change							
	590	74	12.5%							
	Total Number of Bonds Checked	Number of GO Bonds	Number of Revenue Bonds	Number of Bonds that Say Climate Change	Number of GO Bonds	Number of Revenue Bonds	Percent of all Bonds	Percent of Revenue Bonds	Percent of GO Bonds	Percent of Mentions from Revenue Bonds
	713	303	410	50	10	40	7.01%	9.76%	3.30%	80.0%
Low Risk										
	Total Number of	Number of Counties that	Percent of Counties that Discuss Climate							
	Counties Checked	Discuss Climate Change	Change							
	295	33	11.2%							
	Total Number of Bonds Checked	Number of GO Bonds	Number of Revenue Bonds	Number of Bonds that Say Climate Change	Number of GO Bonds	Number of Revenue Bonds	Percent of all Bonds	Percent of Revenue Bonds	Percent of GO Bonds	Percent of Mentions from Revenue Bonds
	732	303	429	63	13	50	8.61%	11.66%	4.29%	79.4%
High Risk										
	Total Number of	Number of Counties that	Percent of Counties that Discuss Climate							
	Counties Checked	Discuss Climate Change	Change							
	295	41	13.9%							

Table SI 8: **High-risk municipalities are slightly more likely to mention climate change in their bond Official Statements than low-risk bonds; and coastal communities are overrepresented in that group.** The same method as mentioned in Table SI 4 was employed to collect the data below. The standout finding here is that coastal communities are overrepresented (in terms of percent of climate change mentions that come from coastal communities compared to the percent of counties that are coastal) by a factor of 2.

	Total Number of Counties Checked	Number of Coastal Counties	Percent of Counties that Discuss Climate Change				Percent of Disclosures that come From Coastal Counties	Over-representation factor
All	590	151	12.5%	8%	25%	26%	51%	2.01
	Total Number of Counties Checked	Number of Coastal Counties	Percent of Counties that Discuss Climate Change	Percent of non-Coastal Counties that Discuss Climate Change	Percent of Coastal Counties that Discuss Climate Change		Percent of Disclosures that come From Coastal Counties	Over-representation factor
Low Risk	295	77	11.2%	8%	21%	26%	48%	1.86
	Total Number of	Number of Coastal Counties		Percent of non-Coastal Counties that Discuss		Percent of Counties that		Over-representation factor
High Risk	Counties Checked 295	74	Change 13.9%	Climate Change 9%	Discuss Climate Change	are Coastal 25%	come From Coastal Counties	2.14

Table SI 9: **Raw bond data for all 590 counties checked.** Below are the full results of the bond sampling performed for all 590 counties ranked by risk. In the list below, the lowest-risk counties are first. The 590 counties were pulled from the Climate Impact Lab full dataset. Only counties with populations over 100,000 were selected. They were then ranked by median expected percent income loss for the year 2080 (loss estimate also came from the Climate Impact Lab). The coastal designation was determined by referencing a list of all coastal U.S. counties produced by the National Oceanic and Atmospheric Administration. For the bond sampling, general obligation and revenue bonds between 2010 and 2020 were checked. For a full list of the types of bonds checked, see Table SI 7.

<b>Ct</b>	Chaka	Constal(2)	Demolation	A		Participation of the second states	
County Oneida County	State NY	Coastal(?) No	Population 233,980	Ave \$	rage Income 37,793.00	Estimated Income Loss -4.96%	Percent of Bonds that Say Climate Change 0%
Linn County	OR	No	118,360	\$	31,783.00	-4.90%	0%
St. Louis County	MN	No	200,490	\$	39,201.00	-4.28%	0%
Penobscot County	ME	No	153,610	\$	35,030.00	-3.91%	0%
Humboldt County	CA	Yes	134,680	\$ \$	35,273.00	-3.91%	0%
Skagit County Lane County	WA OR	Yes Yes	118,010 354,480	Ş Ş	40,701.00 35,391.00	-3.51% -3.31%	20%
Bonneville County	ID	No	106,880	\$	38,198.00	-3.29%	0%
St. Lawrence County	NY	Yes	112,470	\$	31,541.00	-3.12%	0%
Androscoggin County	ME	No	107,510	\$	35,517.00	-3.00%	0%
Deschutes County	OR	No	161,750	\$	39,033.00	-2.76%	25%
Whatcom County	WA PA	Yes No	204,830 141,530	\$ \$	39,507.00	-2.76%	25%
Cambria County Broome County	NY	NO	141,530	\$ \$	35,824.00 37,255.00	-2.73%	0%
Anchorage Municipality	AK	Yes	298,630	\$	59,575.00	-2.57%	0%
Berkshire County	MA	No	130,230	\$	45,261.00	-2.55%	0%
Cowlitz County	WA	No	101,780	\$	35,860.00	-2.49%	33%
Marion County	OR	No	320,090	\$	33,210.00	-2.48%	0%
Thurston County	WA	Yes	258,710	\$	41,047.00	-2.48%	0%
Yamhill County Kennebec County	OR ME	No No	100,770 121,590	\$ \$	34,330.00 38,246.00	-2.46%	0%
Pierce County	WA	Yes	812,360	\$	41,171.00	-2.25%	0%
Snohomish County	WA	Yes	732,940	\$	42,818.00	-2.18%	33%
Mercer County	PA	No	115,750	\$	34,303.00	-2.17%	0%
Jackson County	OR	No	206,360	\$	35,774.00	-2.09%	0%
Barnstable County	MA	Yes	214,850	\$ ¢	56,963.00	-2.01%	0%
Weber County Fairbanks North Star Borough	UT AK	No No	236,540 100,230	\$ \$	33,335.00 50,997.00	-1.97% -1.96%	0%
Jefferson County	CO	No	545,620	\$	46,392.00	-1.89%	0%
Missoula County	MT	No	111,050	\$	38,013.00	-1.86%	0%
Kootenai County	ID	No	142,300	\$	34,832.00	-1.80%	0%
Kitsap County	WA	Yes	254,660	\$	43,956.00	-1.72%	0%
Cumberland County	ME	Yes	284,050	\$ \$	48,881.00	-1.64%	0%
Litchfield County Clackamas County	CT OR	No No	187,420 383,540	\$ \$	52,358.00 47,110.00	-1.63% -1.60%	0%
Niagara County	NY	Yes	214,860	\$	37,526.00	-1.53%	0%
Clark County	WA	No	437,510	\$	41,508.00	-1.49%	67%
Brown County	WI	No	253,010	\$	44,005.00	-1.42%	0%
Fond du Lac County	WI	No	101,700	\$	40,285.00	-1.42%	0%
Spokane County	WA WI	No	475,700	\$ \$	37,488.00	-1.37% -1.36%	25% 0%
Marathon County Ashtabula County	OH	No No	134,690 100,260	\$	40,433.00 31,741.00	-1.35%	0%
Washington County	OR	No	547,740	\$	45,309.00	-1.33%	0%
Sheboygan County	WI	No	114,950	\$	45,504.00	-1.30%	0%
Windham County	СТ	No	117,940	\$	38,847.00	-1.26%	0%
Providence County	RI	Yes	629,370	\$	41,502.00	-1.25%	0%
Luzerne County Saginaw County	PA MI	No No	321,280 198,270	\$ \$	38,129.00 31,893.00	-1.24%	33%
St. Clair County	MI	No	160,560	\$	35,521.00	-1.22%	0%
Muskegon County	MI	No	170,150	\$	31,214.00	-1.16%	0%
Lackawanna County	PA	No	214,510	\$	39,926.00	-1.15%	0%
Erie County	NY	Yes	920,210	\$	43,180.00	-1.12%	0%
Mahoning County	OH	No	235,790	\$	38,239.00	-1.11%	0%
Tompkins County Macomb County	NY MI	No No	103,040 847,750	\$ \$	36,790.00 38,028.00	-1.10%	0%
King County	WA	Yes	2,008,500	ş \$	66,138.00	-1.03%	56%
Blair County	PA	No	127,000	\$	36,964.00	-1.00%	0%
Oswego County	NY	No	121,650	\$	33,680.00	-0.98%	0%
Jefferson County	NY	Yes	120,920	\$	42,767.00	-0.97%	0%
Genesee County	MI	No	418,060	\$	32,737.00	-0.96%	0%
Multnomah County Schenectady County	OR NY	Yes No	758,820 155,050	\$ \$	44,618.00 42,767.00	-0.93% -0.91%	0%
Trumbull County	ОН	No	207,440	\$	33,199.00	-0.89%	0%
Worcester County	MA	No	806,130	\$	46,537.00	-0.86%	0%
Monroe County	NY	Yes	748,580	\$	44,961.00	-0.86%	0%
Merrimack County	NH	No	146,990	\$	46,336.00	-0.85%	0%
Portage County	OH	No	161,340	\$	37,347.00	-0.83%	0%
Washington County	WI ME	No No	132,580	\$	46,714.00	-0.82%	0%
York County Lake County	OH	NO	199,060 229,370	\$ \$	41,409.00 41,750.00	-0.74%	0%
Kenosha County	WI	No	167,350	\$	37,898.00	-0.71%	0%
Onondaga County	NY	No	467,180	\$	43,109.00	-0.71%	0%
Winnebago County	WI	No	168,630	\$	39,606.00	-0.66%	0%
Kern County	CA	No	856,500	\$	34,386.00	-0.66%	25%
Douglas County Bay County	OR MI	Yes No	107,080 107,080	\$ \$	32,547.00 34,759.00	-0.64%	0%
Ontario County	NY	No	107,080	\$	44,004.00	-0.60%	0%
Milwaukee County	WI	No	954,520	\$	40,644.00	-0.53%	50%
Yellowstone County	MT	No	151,890	\$	42,662.00	-0.52%	0%
Columbiana County	ОН	No	106,440	\$	32,537.00	-0.52%	0%
Douglas County	CO	No	298,580	\$	58,354.00	-0.48%	0%
Rockingham County	NH	No	297,840	\$	58,592.00	-0.48%	0%
Racine County Albany County	WI NY	No Yes	194,680 306,190	\$ \$	41,187.00 50,781.00	-0.48% -0.47%	0%
Outagamie County	WI	No	178,880	\$ \$	41,825.00	-0.47%	0%
Sussex County	NJ	No	146,990	\$	50,169.00	-0.44%	0%
Calhoun County	MI	No	134,760	\$	33,456.00	-0.44%	0%
144 - I C	NV	No	429,090	\$	43,125.00	-0.43%	0%
Washoe County Hampshire County	MA			Ŧ	41,462.00	-0.42%	0%

Santa Fe County	NM	No	146,390	\$ 46,349.00	-0.39%	
El Paso County	CO	No	645,720	\$ 40,611.00	-0.38%	
Strafford County	NH	No	124,540	\$ 40,266.00	-0.38%	
Chittenden County	VT	No	158,640	\$ 50,293.00	-0.37%	
rie County	PA	Yes	280,800	\$ 37,455.00	-0.36%	
Ottawa County	MI	No	269,450	\$ 37,127.00	-0.34%	
akima County	WA	No	246,720	\$ 35,679.00	-0.34%	
hautauqua County	NY	Yes	133,460	\$ 33,089.00	-0.33%	
ristol County	MA	Yes	550,770	\$ 42,924.00	-0.31%	
Valworth County	WI	No	103,050	\$ 38,093.00	-0.31%	
lillsborough County	NH	No	402,600	\$ 53,524.00	-0.30%	
olland County	CT	No	151,930	\$ 47,524.00	-0.30%	
oconino County	AZ	No	135,950	\$ 36,622.00	-0.27%	
/right County	MN	No	127,320	\$ 39,312.00	-0.23%	
ackson County	MI	No	160,160	\$ 32,389.00	-0.22%	
aton County	MI	No	107,970	\$ 34,208.00	-0.22%	
lymouth County	MA	Yes	499,080	\$ 54,040.00	-0.21%	
orfolk County	MA	Yes	682,750	\$ 72,801.00	-0.18%	
aratoga County	NY	No	222,410	\$ 54,540.00	-0.17%	
au Claire County	WI	No	100,840	\$ 40,621.00	-0.17%	
ass County	ND	No	156,840	\$ 51,613.00	-0.15%	
/ashington County	RI	Yes	126,250	\$ 52,154.00	-0.09%	
an Diego County	CA	Yes	3,183,400	\$ 48,990.00	-0.07%	8
utler County	PA	No	185,090	\$ 47,829.00	-0.06%	
/aukesha County	WI	No	392,620	\$ 59,139.00	-0.05%	
alamazoo County	MI	No	255,020	\$ 38,723.00	0.01%	
uffolk County	NY	Yes	1,500,400	\$ 54,526.00	0.05%	
coming County	PA	No	117,300	\$ 37,724.00	0.08%	3
anta Clara County	CA	No	1,841,100	\$ 71,670.00	0.09%	
Ister County	NY	Yes	181,710	\$ 39,577.00	0.09%	
ennington County	SD	No	104,550	\$ 40,819.00	0.10%	
gham County	MI	No	282,270	\$ 34,735.00	0.11%	
liddlesex County	CT	Yes	165,520	\$ 56,641.00	0.11%	
ensselaer County	NY	No	159,570	\$ 40,983.00	0.14%	
liddlesex County	MA	Yes	1,540,200	\$ 66,918.00	0.15%	
utchess County	NY	Yes	297,340	\$ 45,126.00	0.16%	:
ew London County	CT	Yes	274,540	\$ 48,561.00	0.17%	
/estchester County	NY	Yes	961,850	\$ 86,604.00	0.18%	
/eld County	CO	No	264,190	\$ 36,034.00	0.19%	
1edina County	ОН	No	173,700	\$ 44,623.00	0.21%	
an Mateo County	CA	Yes	740,740	\$ 85,798.00	0.28%	10
an Luis Obispo County	CA	Yes	274,530	\$ 43,379.00	0.29%	10
akota County	MN	No	405,070	\$ 50,190.00	0.30%	
larin County	CA	Yes	256,140	\$ 93,349.00	0.30%	
ane County	WI	No	503,290	\$ 49,265.00	0.31%	
llegan County	MI	No	111,940	\$ 36,493.00	0.32%	
an Francisco County	CA	Yes	829,690	\$ 85,061.00	0.35%	4
Imsted County	MN	No	147,160	\$ 47,055.00	0.35%	
tark County	OH	No	374,840	\$ 38,696.00	0.35%	
arimer County	CO	No	310,840	\$ 40,680.00	0.36%	
/ashington County	MN	No	244,110	\$ 51,017.00	0.36%	
ent County	RI	Yes	164,900	\$ 48,790.00	0.37%	
ent County	MI	No	614,550	\$ 44,817.00	0.38%	
ssex County	MA	Yes	756,760	\$ 54,584.00	0.38%	
	PA			· · · ·		
ehigh County		No	355,270	\$ 42,750.00	0.42%	
ake County	IL	No	701,510	\$ 64,155.00	0.43%	
ichland County	OH	No	122,590	\$ 32,506.00	0.43%	
uffolk County	MA	Yes	749,500	\$ 61,612.00	0.45%	
orain County	OH	No	301,700	\$ 37,906.00	0.45%	
ummit County	OH	No	540,870	\$ 42,467.00	0.45%	
airfield County	СТ	No	935,290	\$ 97,392.00	0.45%	
entre County	PA	No	155,580	\$ 38,171.00	0.46%	
unterdon County	NJ	No	126,590	\$ 74,622.00	0.48%	
ontra Costa County	CA	Yes	1,079,400	\$ 61,290.00	0.49%	
tearns County	MN	No	151,650	\$ 38,000.00	0.51%	
oulder County	CO	No	305,480	\$ 55,163.00	0.51%	
auphin County	PA	No	269,860	\$ 43,597.00	0.52%	
rapahoe County	CO	No	596,050	\$ 55,980.00	0.52%	:
/ayne County	OH	No	114,990	\$ 32,879.00	0.54%	
noka County	MN	No	336,130	\$ 41,331.00	0.55%	
ennepin County	MN	No	1,184,800	\$ 62,571.00	0.58%	
orthampton County	PA	No	299,360	\$ 42,724.00	0.61%	
uPage County	IL	No	926,930	\$ 58,958.00	0.62%	
ampden County	MA	No	466,540	\$ 41,900.00	0.63%	
ebanon County	PA	No	135,580	\$ 38,851.00	0.64%	
akland County	MI	No	1,220,600	\$ 57,483.00	0.64%	
anta Cruz County	CA	Yes	266,630	\$ 49,195.00	0.65%	
artford County	CT	No	897,700	\$ 54,295.00	0.66%	
cott County	MN	No	135,250	\$ 47,149.00	0.66%	
omerset County	NJ	Yes	328,690	\$ 78,163.00	0.68%	
linnehaha County	SD	No	175,510	\$ 47,329.00	0.71%	
ew York County	NY	Yes	1,625,200	\$ 141,410.00	0.72%	
lorris County	NJ	No	497,630	\$ 78,693.00	0.73%	
andoval County	NM	No	135,320	\$ 35,191.00	0.73%	
vingston County	MI	No	183,010	\$ 44,255.00	0.73%	
oudoun County	VA	NO			0.74%	
			338,170			
/arren County	NJ	No	107,550	\$ 46,172.00	0.75%	
rederick County	MD	No	239,670	\$ 51,191.00	0.79%	
orter County	IN	No	165,660	\$ 43,411.00	0.79%	
/ashtenaw County	MI	No	351,300	\$ 46,144.00	0.80%	
Ionterey County	CA	Yes	426,410	\$ 43,444.00	0.83%	
/ashington County	PA	No	208,430	\$ 46,250.00	0.83%	
ew Haven County	СТ	Yes	864,030	\$ 47,858.00	0.84%	
range County	NY	Yes	373,940	\$ 42,521.00	0.85%	
	WI	No	160,270	\$ 36,844.00	0.86%	
Rock County	PA	110	1.230.400		0.86%	

Wood County	ОН	No	128,660	\$ 39,072.00	0.94%	0%
Denver County	со	No	633,870	\$ 60,080.00	0.94%	14%
Ventura County	CA	Yes	835,480	\$ 48,345.00	0.97%	0%
Fayette County	PA	No	135,480	\$ 35,611.00		0%
Cache County	UT	No	115,960	\$ 29,376.00	0.98%	0%
Mercer County Napa County	CA NJ	No No	369,060 139,140	\$ 59,508.00 \$ 51,944.00	0.98%	0%
McHenry County		No	307,780	\$ 44,735.00	1.00%	0%
Nassau County	NY	Yes	1,350,900	\$ 71,445.00	1.09%	0%
Ramsey County	MN	No	520,920	\$ 45,254.00	1.09%	0%
Bucks County	PA	Yes	626,190	\$ 59,586.00	1.09%	0%
Monroe County	MI	No	150,840	\$ 36,822.00	1.11%	0%
Placer County	CA	No	361,450	\$ 52,175.00	1.11%	0%
Burlington County	NJ	Yes	451,210	\$ 51,390.00	1.11%	0%
Rockland County	NY	Yes	317,830	\$ 52,134.00	1.13%	0%
St. Joseph County Benton County	IN WA	No No	266,570 182,400	\$ 38,378.00 \$ 40,652.00	1.16% 1.16%	0% 67%
La Crosse County	Wi	No	116,830	\$ 41,193.00	1.10%	0%
Middlesex County	NJ	Yes	824,450	\$ 50,261.00	1.17%	0%
Hamilton County	IN	No	289,570	\$ 60,343.00	1.19%	0%
Licking County	ОН	No	167,720	\$ 37,679.00	1.25%	0%
San Juan County	NM	No	128,370	\$ 33,742.00	1.26%	0%
Chester County	PA	No	506,320	\$ 69,020.00	1.26%	0%
Lucas County	ОН	No	437,380	\$ 38,789.00	1.27%	0%
Beaver County	PA	No	170,220	\$ 39,701.00	1.32%	0%
Wayne County	MI	No	1,792,800	\$ 34,876.00	1.33%	0%
Alameda County	CA	Yes	1,556,200	\$ 51,746.00	1.38%	50%
Fairfax County Sonoma County	CA	No Yes	380,380 490,840	\$ 72,453.00 \$ 45,218.00	1.39% 1.45%	0%
Elkhart County	IN	No	199,240	\$ 34,544.00	1.45%	25%
Bergen County	NJ	Yes	920,440	\$ 71,380.00	1.48%	0%
DeKalb County	IL	No	104,690	\$ 33,454.00	1.49%	0%
Union County	NJ	Yes	545,000	\$ 54,649.00	1.50%	0%
Ocean County	NJ	Yes	580,710	\$ 42,499.00	1.50%	0%
Delaware County	ОН	No	181,150	\$ 61,519.00	1.51%	0%
Howard County	MD	No	299,690	\$ 66,891.00	1.53%	0%
Cuyahoga County	OH	No	1,265,900	\$ 47,116.00	1.55%	0%
Ada County	ID	No	408,890	\$ 41,643.00	1.57%	0%
Charles County Santa Barbara County	MD CA	Yes Yes	150,790 430,730	\$ 49,596.00 \$ 49,307.00	1.58% 1.60%	100%
Cumberland County	PA	No	239,200	\$ 46,547.00	1.60%	33%
Arlington County	VA	Yes	221,950	\$ 81,684.00	1.62%	0%
Kane County	IL	No	521,840	\$ 41,016.00	1.62%	0%
Monongalia County	WV	No	100,530	\$ 39,525.00	1.63%	0%
El Dorado County	CA	No	180,610	\$ 53,961.00	1.64%	0%
LaPorte County	IN	No	111,160	\$ 35,024.00	1.64%	0%
Winnebago County	IL	No	291,920	\$ 36,372.00	1.66%	0%
Kendall County	IL.	No	118,150	\$ 39,432.00	1.67%	0%
St. Mary's County	MD PA	Yes	109,000	\$ 49,101.00	1.69%	0%
Adams County Canyon County	ID	No No	101,540 193,860	\$ 40,335.00 \$ 26,123.00	1.69% 1.69%	0%
Lancaster County	PA	No	526,770	\$ 39,422.00	1.05%	0%
Anne Arundel County	MD	No	550,720	\$ 58,393.00	1.79%	0%
Cumberland County	NJ	Yes	157,790	\$ 34,170.00	1.80%	0%
Will County	IL	No	682,190	\$ 41,990.00	1.81%	0%
Washington County	MD	No	149,160	\$ 38,429.00	1.82%	0%
Berkeley County	WV	No	107,060	\$ 35,300.00	1.85%	0%
Black Hawk County	IA	No	131,660	\$ 38,883.00	1.86%	0%
Lake County	IN	No	493,190	\$ 37,127.00		0%
Atlantic County	NJ	Yes	275,570	\$ 41,927.00		0%
Montgomery County Montgomery County	MD PA	No No	1,006,500 809,620	\$ 73,909.00 \$ 75,153.00		0%
New Castle County	IFA	I NO	809,020	\$ 75,155.00		0%
	DF	Yes	546 020	\$ 49,215,00	1 93%	
Camden County	DE NJ	Yes Yes	546,020 513.100	\$ 49,215.00 \$ 44,742.00	1.93%	
Camden County Cook County	DE NJ IL	Yes	513,100	\$ 44,742.00	1.94%	0%
Camden County Cook County Prince William County	NJ	1			1.94% 1.94%	
Cook County	NJ IL	Yes No	513,100 5,232,300	\$ 44,742.00 \$ 49,734.00	1.94% 1.94%	0% 0%
Cook County Prince William County Allen County Passaic County	NJ IL VA IN NJ	Yes No Yes No No	513,100 5,232,300 158,080 360,830 505,010	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00	1.94% 1.94% 1.96% 1.97% 1.97%	0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County	NJ IL VA IN NJ PA	Yes No Yes No No No	513,100 5,232,300 158,080 360,830 505,010 151,590	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00	1.94% 1.94% 1.96% 1.97% 1.97% 1.97%	0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County	NJ IL VA IN NJ PA PA	Yes No Yes No No No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00	1.94% 1.94% 1.96% 1.97% 1.97% 1.97% 2.00%	0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County	NJ IL VA IN NJ PA PA OH	Yes No Yes No No No No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00 \$ 41,402.00	1.94% 1.94% 1.96% 1.97% 1.97% 1.97% 2.00% 2.02%	0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city	NJ IL VA IN NJ PA PA OH VA	Yes No Yes No No No Yes	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02%	0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city	NJ IL VA IN NJ PA PA OH VA VA	Yes No Yes No No No Yes No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.08%	0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city Stafford County	NJ IL VA IN NJ PA PA OH VA VA VA	Yes No Yes No No No No Yes No Yes	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.02% 2.08%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city	NJ IL VA IN NJ PA PA OH VA VA	Yes No Yes No No No Yes No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.08% 2.09%	0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Falls Church city Stafford County Alexandria city	NJ IL VA IN PA PA OH VA VA VA VA	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 77,152.00 \$ 76,165.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Greene County Fairfax city Falis Church city Stafford County Alexandria city Salt Lake County	NJ           IL           VA           IN           PA           PA           OH           VA           VA           VA           VA           UT           MI           OH	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           No           No           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 155,060 137,190	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 47,586.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 40,623.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city	NJ           IL           VA           IN           PA           PA           VA           VA           VA           VA           OH           VA           VA           VA           VA           OH           VA	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 41,824.00 \$ 43,445.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 40,623.00 \$ 34,659.00 \$ 34,659.00 \$ 47,586.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.10% 2.10% 2.12% 2.22%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city Polk County	NJ           IL           VA           IN           NJ           PA           OH           VA           IA	Yes No No No No No Yes No Yes No No No No No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 41,824.00 \$ 43,445.00 \$ 72,453.00 \$ 72,550.00 \$ 34,659.00 \$ 34,659.00 \$ 44,333.00 \$ 48,333.00 \$ 48,333.00 \$ 48,333.00 \$ 48,333.00 \$ 48,758.00 \$ 48,333.00 \$ 48,333.00 \$ 48,758.00 \$ 48,333.00 \$ 48,333.00 \$ 48,758.00 \$ 48,333.00 \$ 48,333.00 \$ 48,758.00 \$ 48,333.00 \$ 48,333.00 \$ 48,333.00 \$ 48,758.00 \$ 48,333.00 \$ 48,	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09% 2.10% 2.12% 2.16% 2.12% 2.22%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city Polk County Davis County	NJ           IL           VA           IN           NJ           PA           OH           VA           UT           MI           OH           VA           UT           MI           OH           VA	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 76,165.00 \$ 37,505.00 \$ 34,659.00 \$ 48,333.00 \$ 37,559.00 \$ 37,559.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09% 2.10% 2.16% 2.16% 2.16% 2.22%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city Polk County Berks County Berks County	NJ           IL           VA           IN           PA           PA           OH           VA           VA           VA           VA           VA           VA           VA           UT           MI           OH           VA           UT           MI           OH           VA	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 1,36,660 137,190 158,080 443,980 316,020 413,250	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 41,824.00 \$ 43,445.00 \$ 43,445.00 \$ 43,445.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 40,623.00 \$ 34,659.00 \$ 47,586.00 \$ 34,659.00 \$ 37,559.00 \$ 41,758.00 \$ 41,758.00 \$ 41,758.00 \$ 37,559.00 \$ 34,7580.00 \$ 37,559.00 \$ 34,7580.00 \$ 37,559.00 \$ 34,798.00 \$ 3	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09% 2.09% 2.09% 2.10% 2.12% 2.16% 2.22% 2.25%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Westmoreland County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city Polk County Davis County Davis County Virginia Beach city	NJ           IL           VA           IN           PA           PA           OH           VA           UT           IA           UT           PA           OH	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,250	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 41,824.00 \$ 43,445.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00 \$ 47,532.00 \$ 40,623.00 \$ 34,659.00 \$ 34,659.00 \$ 47,586.00 \$ 48,333.00 \$ 47,559.00 \$ 47,758.00 \$ 47,758.00 \$ 47,758.00 \$ 50,297.00 \$ 50,207.00 \$ 50,	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.02% 2.03% 2.09% 2.10% 2.10% 2.10% 2.22% 2.23% 2.25% 2.25% 2.25% 2.29%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Polk County Davis County Davis County Berks County Urignina Beach city Utah County	NJ           IL           VA           IN           PA           PA           OH           VA	Yes           No           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 413,250 443,270 539,600	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00 \$ 72,453.00 \$ 72,550.00 \$ 34,659.00 \$ 37,555.00 \$ 48,333.00 \$ 37,555.00 \$ 41,798.00 \$ 50,297.00 \$ 30,875.00 \$ 30,	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.10% 2.12% 2.16% 2.12% 2.23% 2.25% 2.25% 2.27% 2.29%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Manassas Park city Davis County Davis County Berks County Uriginia Beach city Utah County Allen County	NJ           IL           VA           IN           NJ           PA           OH           VA           UT           IA           UT           PA           OH	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,270 539,600 105,280	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,424.00 \$ 41,402.00 \$ 72,453.00 \$ 41,402.00 \$ 72,453.00 \$ 47,532.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 74,586.00 \$ 34,659.00 \$ 43,333.00 \$ 37,559.00 \$ 41,798.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 35,237.00 \$ 35,	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.10% 2.12% 2.16% 2.12% 2.23% 2.25% 2.25% 2.27% 2.29%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Polk County Davis County Davis County Berks County Urignina Beach city Utah County	NJ           IL           VA           IN           PA           PA           OH           VA           UT           MI           OH           VA           VA           VA           UT           PA           VA           UT           PA           VA           VA           VA	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 413,250 443,270 539,600	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00 \$ 34,659.00 \$ 33,559.00 \$ 41,798.00 \$ 43,333.00 \$ 37,559.00 \$ 41,798.00 \$ 30,875.00 \$ 30,875.00 \$ 35,237.00 \$ 35,	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.08% 2.09% 2.12% 2.16% 2.25% 2.25% 2.25% 2.25% 2.27% 2.29% 2.29% 2.30%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Davis County Devik County Berks County Urignia Beach city Utah County Sarpy County	NJ           IL           VA           IN           PA           PA           OH           VA           UT           PA           OH           NE	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 380,380 184,150 380,380 134,370 146,930 1,064,400 1,66,060 137,190 158,080 316,020 413,250 443,970 539,600 105,280	\$ 44,742.00 \$ 49,734.00 \$ 47,786.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 37,559.00 \$ 34,659.00 \$ 37,559.00 \$ 33,237.00 \$ 35,237.00 \$ 35,237.00 \$ 34,241.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09% 2.10% 2.10% 2.12% 2.23% 2.25% 2.25% 2.25% 2.25% 2.25% 2.29% 2.29% 2.29% 2.30% 2.30% 2.30%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Passaic County Franklin County Franklin County Greene County Failfax city Falls Church city Stafford County Alexandria city Salt Lake County Clark County Clark County Clark County Davis County Davis County Davis County Berks County Virginia Beach city Utah County Allen County Sarpy County Essex County Essex County	NJ           IL           VA           IN           PA           OH           VA           UT           PA           VA           UT           OH           VA           UT           OH           NE           NJ	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 138,080 443,980 316,020 443,250 445,770 539,600 105,280 788,430	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00 \$ 40,623.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,559.00 \$ 37,559.00 \$ 30,875.00 \$ 50,297.00 \$ 30,875.00 \$ 55,237.00 \$ 41,241.00 \$ 55,2404.00 \$ 55,404.00	1.94% 1.94% 1.96% 1.97% 1.97% 2.00% 2.02% 2.02% 2.02% 2.08% 2.09% 2.09% 2.09% 2.10% 2.12% 2.16% 2.22% 2.23% 2.25% 2.25% 2.29% 2.30% 2.30% 2.30%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Allen County Franklin County Franklin County Franklin County Greene County Fairfax city Falls Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Clark County Davis County Davis County Davis County Utah County Sarpy County Essex County Harford County Hudson County Hudson County	NJ           IL           VA           IN           PA           PA           OH           VA           UT           MI           OH           VA           UT           PA           VA           UT           NJ           MD           NJ           NJ	Yes           No           Yes           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           Yes           Yes           No           Yes	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,250 443,770 539,600 105,280 10	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 37,559.00 \$ 34,659.00 \$ 37,559.00 \$ 37,559.00 \$ 37,559.00 \$ 37,559.00 \$ 35,237.00 \$ 30,875.00 \$ 35,237.00 \$ 37,237.00 \$ 37,00 \$ 37,0	1.94%           1.94%           1.96%           1.96%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.03%           2.09%           2.10%           2.12%           2.23%           2.25%           2.29%           2.29%           2.30%           2.30%           2.35%           2.40%           2.40%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Prince William County Fasaic County Franklin County Franklin County Fairfax city Falls Church city Stafford County Alexandria city Salt Lake County Glark County Clark County Davis County Davis County Davis County Berks County Utah County Utah County Allen County Sarpy County Essex County Harford County Williamson County Linn County Linn County	NJ           IL           VA           IN           PA           PA           OH           VA           NH           NJ           MD           TN           IA	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           No           No           No           No           No           No           No           Yes           Yes           No           No           Yes           No           No           No           No           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,250 443,770 539,600 105,280 788,430 248,700 193,040 556,880 215,210	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00 \$ 43,445.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00 \$ 40,623.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,659.00 \$ 34,59.00 \$ 35,237.00 \$ 30,875.00 \$ 42,524.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 47,1819.00 \$ 45,432.00 \$ 45,750.00 \$ 45,432.00 \$ 45,452.00 \$ 45,	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.09%           2.09%           2.10%           2.10%           2.12%           2.23%           2.23%           2.23%           2.23%           2.23%           2.23%           2.30%           2.30%           2.30%           2.34%           2.35%           2.40%           2.41%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0
Cook County Prince William County Allen County Prince William County Franklin County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Saft Lake County Gark County Clark County Davis County Davis County Davis County Utah County Utah County Lahen County Harford County Harford County Williamson County Hudson County Lon County Johnson County Johnson County	NJ           IL           VA           IN           PA           OH           VA           VA	Yes           No           No           No           No           No           No           Yes           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 413,250 105,280 105,290 105,280 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 105,290 10	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 41,824.00 \$ 38,370.00 \$ 41,824.00 \$ 38,074.00 \$ 43,445.00 \$ 72,453.00 \$ 72,550.00 \$ 34,659.00 \$ 34,659.00 \$ 37,559.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 35,237.00 \$ 35,237.00 \$ 35,237.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,654.00 \$ 49,650.00 \$ 40,505.00 \$ 40,505.00 \$ 40,505.00 \$ 40,505.00 \$ 40,505.00 \$ 40,505.00 \$ 40,784.00 \$ 40,505.00 \$ 40,784.00 \$ 40,505.00 \$ 40,	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.03%           2.09%           2.10%           2.12%           2.13%           2.23%           2.23%           2.29%           2.30%           2.30%           2.30%           2.40%           2.40%           2.41%	0%           0%
Cook County Prince William County Allen County Prince William County Fasasic County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Davis County Davis County Davis County Urignia Beach city Utah County Allen County Allen County Killiamson County Hudson County Linn County Linn County Cecil County Cecil County	NJ           IL           VA           IN           PA           PA           OH           VA           MI           OH           VA           MD           IN           IA           IN           IA           IN           IA	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 146,930 1,664,400 156,060 137,190 158,080 443,980 316,020 443,980 316,020 443,250 105,280 105,280 105,280 105,280 193,040 656,880 215,210 143,560 101,820	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,824.00 \$ 38,074.00 \$ 41,402.00 \$ 72,453.00 \$ 41,402.00 \$ 72,453.00 \$ 47,532.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 40,623.00 \$ 44,589.00 \$ 44,589.00 \$ 44,589.00 \$ 43,559.00 \$ 41,798.00 \$ 43,337.00 \$ 41,798.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 41,241.00 \$ 50,297.00 \$ 35,237.00 \$ 41,241.00 \$ 45,432.00 \$ 49,668.00 \$ 49,668.00 \$ 47,819.00 \$ 44,5432.00 \$ 40,650.00 \$ 39,660.00	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.03%           2.09%           2.10%           2.12%           2.12%           2.22%           2.23%           2.23%           2.30%           2.30%           2.40%           2.40%           2.41%           2.42%           2.46%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Prasaic County Franklin County Franklin County Franklin County Greene County Fairfax city Falls Church city Stafford County Alexandria city Salt Lake County Berrien County Clark County Clark County Davis County Davis County Utah County Utah County Sarpy County Essex County Harford County Hudson County Hudson County Linn County Baltimore County	NJ           IL           VA           IN           PA           PA           OH           VA           UT           MI           PA           OH           VA           UT           PA           OH           VA           UT           PA           NU           NI           NI           NJ           IA           IN           IA           IN           MD           MD	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           Yes           No           No           Yes           Yes           Yes           Yes           Yes	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,250 445,770 539,600 105,280 105,280 105,280 105,280 105,280 103,040 656,880 215,210 143,560 101,820 818,430	\$ 44,742.00 \$ 49,734.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 41,424.00 \$ 43,445.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 47,532.00 \$ 47,532.00 \$ 47,532.00 \$ 47,586.00 \$ 47,586.00 \$ 47,586.00 \$ 47,586.00 \$ 47,586.00 \$ 47,586.00 \$ 44,798.00 \$ 30,875.00 \$ 50,297.00 \$ 30,875.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 47,819.00 \$ 47,5432.00 \$ 47,5432.00 \$ 33,660.00 \$ 33,060.00 \$ 33,060.00 \$ 33,004.00 \$ 33,004.00 \$ 53,004.00 \$ 54,004,004 \$ 54,004,004 \$ 53,004.00 \$	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.02%           2.09%           2.10%           2.10%           2.12%           2.23%           2.25%           2.27%           2.29%           2.30%           2.30%           2.30%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.40%           2.46%	0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
Cook County Prince William County Allen County Prince William County Fasaic County Franklin County Franklin County Fairfax city Falls Church city Stafford County Alexandria city Salt Lake County Glark County Utak County Davis County Davis County Davis County Utah County Utah County Utah County Utah County Sarpy County Harford County Harford County Williamson County Harford County Linn County Johnson County Butler County Butler County	NJ           IL           VA           IN           PA           PA           OH           VA           ND           ND           MD           OH	Yes           No           No           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           No           No           No           No           No           No           Yes           No           No           No           No           No           No           No           No           Yes           No           No           Yes           No           No           Yes           No           Yes           No	513,100 5,232,300 158,080 360,830 505,010 151,590 363,100 164,150 380,380 380,380 134,370 146,930 1,064,400 156,060 137,190 156,060 443,980 316,020 443,770 539,600 105,280 788,430 248,700 193,040 565,880 215,210 143,560 101,820 818,430 370,830	\$ 44,742.00 \$ 49,734.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,402.00 \$ 72,453.00 \$ 73,509.00 \$ 33,875.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 30,875.00 \$ 41,241.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 49,668.00 \$ 40,505.00 \$ 39,660.00 \$ 39,660.00 \$ 33,004.00 \$ 33,004.00 \$ 38,884.00	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.09%           2.10%           2.10%           2.12%           2.23%           2.23%           2.23%           2.23%           2.23%           2.30%           2.30%           2.40%           2.40%           2.41%           2.42%           2.46%           2.46%	0%           0%
Cook County Prince William County Allen County Allen County Franklin County Franklin County Franklin County Franklin County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Gark County Davis County Davis County Davis County Utah County Utah County Utah County Lahen County Harford County Harford County Harford County Hidson County Utah County Linn County Johnson County Battlin County Salt County Linn County Battlin County Battlin County Battlin County Battlin County Battlin County Linn County Battlin County Douglas County Bouglas County	NJ           IL           VA           IN           PA           OH           VA           WT           NH           NU           NU           NU           NJ           NA           IA           IN           MD           OH           NE	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           Yes           Yes           No	513,100 5,232,300 158,080 360,830 360,830 360,830 360,830 360,830 360,830 380,380 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 413,250 105,280 105,880	\$ 44,742.00           \$ 49,734.00           \$ 47,786.00           \$ 47,786.00           \$ 83,70.00           \$ 41,824.00           \$ 38,370.00           \$ 41,824.00           \$ 43,807.00           \$ 41,402.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 77,505.00           \$ 77,505.00           \$ 41,758.00           \$ 41,758.00           \$ 41,758.00           \$ 50,297.00           \$ 55,247.00           \$ 55,247.00           \$ 49,668.00           \$ 49,668.00           \$ 49,658.00           \$ 49,658.00           \$ 49,650.00           \$ 40,505.00           \$ 33,004.00           \$ 33,004.00           \$ 38,884.00           \$ 52,113	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.02%           2.03%           2.10%           2.12%           2.13%           2.23%           2.23%           2.29%           2.30%           2.30%           2.30%           2.40%           2.41%           2.42%           2.42%           2.42%           2.46%           2.46%           2.46%           2.47%	0%           0%
Cook County Prince William County Allen County Allen County Franklin County Franklin County Franklin County Franklin County Greene County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Clark County Clark County Davis County Davis County Davis County Uriginia Beach city Utah County Allen County Allen County Hudson County Hudson County Uiliamson County Linn County Battler County Battler County Battler County Cecil County Douglas County York County	NJ           IL           VA           IN           PA           PA           OH           VA           VA           VA           VA           VA           VA           VA           VA           VA           UT           MI           OH           VA           UT           PA           OH           VA           UT           PA           OH           VA           UT           PA           VA           UT           PA           VA           UT           PA           VA           UT           PA           NE           NJ           IA           IN           MD           OH           NE           PA	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           Yes           No           No           Yes           No	513,100 5,232,300 158,080 360,830 360,830 360,830 360,830 360,830 380,380 380,380 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 443,980 316,020 443,980 316,020 443,980 105,280 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,356 104,350	\$ 44,742.00 \$ 49,734.00 \$ 47,586.00 \$ 38,370.00 \$ 38,370.00 \$ 38,370.00 \$ 38,074.00 \$ 38,074.00 \$ 41,824.00 \$ 41,402.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 72,453.00 \$ 40,623.00 \$ 40,623.00 \$ 44,589.00 \$ 44,589.00 \$ 44,589.00 \$ 43,559.00 \$ 47,586.00 \$ 47,586.00 \$ 43,337.00 \$ 41,798.00 \$ 43,659.00 \$ 43,659.00 \$ 43,659.00 \$ 43,659.00 \$ 33,759.00 \$ 41,798.00 \$ 44,593.00 \$ 44,593.00 \$ 45,468.00 \$ 55,404.00 \$ 45,432.00 \$ 43,659.00 \$ 43,668.00 \$ 45,432.00 \$ 33,04.00 \$ 34,923.00 \$ 41,923.00 \$ 41,	1.94%           1.94%           1.96%           1.96%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.03%           2.09%           2.10%           2.12%           2.12%           2.23%           2.25%           2.25%           2.25%           2.23%           2.30%           2.30%           2.30%           2.40%           2.40%           2.40%           2.46%           2.46%           2.46%           2.47%	0%           0%
Cook County Prince William County Allen County Allen County Franklin County Franklin County Franklin County Franklin County Fairfax city Fails Church city Stafford County Alexandria city Salt Lake County Gark County Davis County Davis County Davis County Utah County Utah County Utah County Lahen County Harford County Harford County Harford County Hidson County Utah County Linn County Johnson County Battlin County Salt County Linn County Battlin County Battlin County Battlin County Battlin County Battlin County Linn County Battlin County Douglas County Bouglas County	NJ           IL           VA           IN           PA           OH           VA           WT           NH           NU           NU           NU           NJ           NA           IA           IN           MD           OH           NE	Yes           No           Yes           No           No           No           No           Yes           No           Yes           No           Yes           No           Yes           Yes           Yes           No	513,100 5,232,300 158,080 360,830 360,830 360,830 360,830 360,830 360,830 380,380 164,150 380,380 134,370 146,930 1,064,400 156,060 137,190 158,080 443,980 316,020 413,250 105,280 105,880	\$ 44,742.00           \$ 49,734.00           \$ 47,786.00           \$ 47,786.00           \$ 83,70.00           \$ 41,824.00           \$ 38,370.00           \$ 41,824.00           \$ 43,807.00           \$ 41,402.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 72,453.00           \$ 77,505.00           \$ 77,505.00           \$ 41,758.00           \$ 41,758.00           \$ 41,758.00           \$ 50,297.00           \$ 55,247.00           \$ 55,247.00           \$ 49,668.00           \$ 49,668.00           \$ 49,658.00           \$ 49,658.00           \$ 49,650.00           \$ 40,505.00           \$ 33,004.00           \$ 33,004.00           \$ 38,884.00           \$ 52,113	1.94%           1.94%           1.96%           1.97%           1.97%           1.97%           2.00%           2.02%           2.02%           2.02%           2.02%           2.02%           2.09%           2.10%           2.12%           2.22%           2.23%           2.25%           2.29%           2.30%           2.30%           2.30%           2.40%	0%           0%

Delaware County	IN	No	117,310	\$ 30,938.00	2.59%	0%
Johnson County	KS	No	559,950	\$ 61,099.00	2.62%	0%
Johnson County	IA	No	136,910	\$ 43,724.00	2.66%	0%
McLean County	IL	No	172,420	\$ 42,770.00	2.66%	0%
Scott County	IA	No	168,830	\$ 47,269.00	2.67%	0%
Woodbury County	IA	No	102,330	\$ 36,016.00	2.67%	0%
Marion County	IN	No	918,580	\$ 39,247.00	2.68%	0%
Richmond County	NY	Yes	470,980	\$ 45,467.00	2.69%	0%
Franklin County	ОН	No	1,196,900	\$ 44,142.00	2.69%	0%
Kings County	NY	Yes	2,574,900	\$ 37,829.00	2.71%	0%
Henderson County	NC	No	108,120	\$ 35,160.00	2.77%	100%
LaSalle County	IL	No	112,880	\$ 37,010.00	2.77%	0%
Chesterfield County	VA	Yes	323,850	\$ 46,137.00	2.81%	0%
Peoria County	IL	No	187,190	\$ 47,431.00	2.82%	0%
Schuylkill County	PA	No	147,290	\$ 35,802.00	2.91%	0%
Fairfield County	ОН	No	147,450	\$ 38,751.00	2.93%	0%
Orange County	NC	No	137,730	\$ 51,381.00	2.98%	0%
Hendricks County	IN	No	150,720	\$ 41,392.00	2.98%	0%
Queens County	NY	Yes	2,280,600	\$ 38,072.00	2.99%	0%
Delaware County	PA	Yes	560,920	\$ 53,051.00	3.00%	0%
Gloucester County	NJ	Yes	289,670	\$ 44,392.00 \$ 42,133.00	3.02%	0%
Lancaster County	KY	No	293,470 123,260	\$ 42,133.00 \$ 40,625.00	3.04%	0%
Boone County Warren County	OH	No No	217,650	\$ 46,703.00	3.08%	0%
•	NC					
Wake County	IL	No No	952,610 112,930	\$ 50,381.00 \$ 34,013.00	3.09%	0%
Kankakee County Orange County		Yes	-		3.14%	0%
Hamilton County	CA OH	No	3,089,900 802,360	\$ 53,390.00 \$ 49,057.00	3.14%	0%
Rock Island County	IL	No			3.14%	0%
Clermont County	OH	NO	147,070 199,220	\$ 38,824.00 \$ 40,704.00	3.17%	0%
	KY	NO	305.250	\$ 40,704.00 \$ 42,508.00	3.17%	20%
Fayette County Champaign County	KY IL	No No	204,010	\$ 42,508.00 \$ 36,491.00	3.17%	20%
Champaign County Chesapeake city	VA	No No	204,010	\$ 36,491.00 \$ 44,506.00	3.18%	0%
Iredell County	NC	NO	162,720	\$ 44,506.00 \$ 38,719.00	3.24%	0%
Mecklenburg County	NC	No	968,780			0%
Cherokee County	GA	NO	220,910	\$ 50,210.00 \$ 39,163.00	3.26% 3.27%	0%
Tazewell County	GA	NO	136,090	\$ 39,163.00	3.27%	0%
Midland County	TX	No	130,090	\$ 91,441.00	3.32%	0%
Forsyth County	GA	No	187,830	\$ 45,876.00	3.35%	20%
Kenton County	KY	No	161,670	\$ 43,198.00	3.37%	33%
Benton County	AR	No	232,740	\$ 67,832.00	3.41%	0%
Mesa County	CO	No	147,720	\$ 36,418.00	3.44%	0%
Tippecanoe County	IN	No	178,180	\$ 32,507.00	3.45%	0%
Fulton County	GA	No	977,950	\$ 63,134.00	3.46%	0%
Los Angeles County	CA	Yes	9,974,900	\$ 47,713.00	3.49%	67%
Washington County	TN	No	124,900	\$ 36,215.00	3.52%	0%
Sullivan County	TN	No	156,670	\$ 36,424.00	3.53%	0%
District of Columbia	DC	No	635,040	\$ 68,973.00	3.54%	8%
Hanover County	VA	Yes	100,430	\$ 49,437.00	3.57%	0%
Buncombe County	NC	No	244,360	\$ 37,998.00	3.63%	50%
Onslow County	NC	Yes	183,890	\$ 45,277.00	3.64%	0%
Kent County	DE	No	167,670	\$ 36,701.00	3.64%	0%
Collin County	TX	No	837,480	\$ 56,573.00	3.65%	0%
Monroe County	IN	No	141,290	\$ 32,716.00	3.74%	0%
Randall County	TX	No	124,900	\$ 39,985.00	3.75%	0%
Madison County	IN	No	130,280	\$ 31,293.00	3.79%	0%
St. Charles County	MO	No	368,790	\$ 43,455.00	3.82%	0%
Cobb County	GA	No	708,040	\$ 47,734.00	3.88%	0%
Yolo County	CA	No	204,270	\$ 42,477.00	3.91%	50%
Henrico County	VA	Yes	315,430	\$ 48,545.00	3.91%	33%
Prince George's County	MD	No	883,760	\$ 43,347.00	3.92%	0%
St. Louis County	MO	No	1,000,800	\$ 59,799.00	3.93%	0%
Bronx County	NY	Yes	1,414,200	\$ 30,804.00	3.95%	0%
Boone County	MO	No	168,590	\$ 39,868.00	4.02%	0%
Coweta County	GA	No	130,880	\$ 36,842.00	4.06%	0%
Solano County	CA	Yes	420,720	\$ 38,675.00	4.07%	0%
Baltimore city	MD	No	622,950	\$ 40,353.00	4.10%	0%
Douglas County	KS	No	113,340	\$ 35,211.00	4.10%	0%
Yavapai County	AZ	No	212,510	\$ 31,016.00	4.10%	0%
San Joaquin County	CA	No	701,640	\$ 33,519.00	4.16%	0%
Sacramento County	CA	No	1,448,800	\$ 41,913.00	4.18%	100%
Gwinnett County	GA	No	840,220	\$ 33,596.00	4.21%	0%
Newport News city	VA	No	180,490	\$ 37,625.00	4.22%	0%
Denton County	ТΧ	No	707,960	\$ 44,765.00	4.23%	0%
Hardin County	KY	No	107,050	\$ 37,471.00	4.30%	0%
Sangamon County	IL	No	199,250	\$ 40,699.00	4.31%	0%
Philadelphia County	PA	Yes	1,550,400	\$ 40,063.00	4.35%	67%
Sedgwick County	KS	No	503,820	\$ 45,332.00	4.37%	0%
Stanislaus County	CA	No	522,130	\$ 34,029.00	4.38%	0%
Vigo County	IN	No	108,590	\$ 32,949.00	4.45%	0%
Kanawha County	WV	No	192,150	\$ 43,194.00	4.48%	0%
Union County	NC	No	208,390	\$ 39,646.00	4.50%	0%
Sussex County	DE	Yes	203,190	\$ 39,381.00	4.52%	0%
Hampton city	VA	No	136,840	\$ 38,238.00	4.57%	0%
Durham County	NC	No	282,310	\$ 43,291.00	4.57%	0%
Montgomery County	ОН	No	534,970	\$ 39,227.00	4.59%	0%
Fort Bend County	ТΧ	No	626,700	\$ 51,876.00	4.62%	0%
Knox County	TN	No	441,140	\$ 42,290.00	4.62%	0%
Tulsa County	ОК	No	614,460	\$ 55,345.00	4.63%	0%
DeKalb County	GA	No	708,300	\$ 41,923.00	4.71%	0%
Guilford County	NC	No	500,890	\$ 39,467.00	4.73%	0%
Jackson County	MO	No	677,390	\$ 40,407.00	4.73%	0%
Cass County	MO	No	100,440	\$ 37,387.00	4.75%	0%
Davidson County	TN	No	649,140	\$ 52,658.00	4.76%	50%
Canadian County	OK	No	122,610	\$ 40,016.00	4.77%	0%
Fayette County	GA	No	107,430	\$ 50,978.00	4.80%	0%
Wicomico County	MD	Yes	100,470	\$ 35,203.00	4.82%	0%
Norfolk city	VA	No	246,150	\$ 37,244.00	4.83%	0%
		No		\$ 35,008.00	4.91%	
Rutherford County	TN	NU	274,210	3 33,008.00	4.51/0	0%

Hall County	GA	No	185,080	\$	33,453.00	4.95%	0%
Potter County	TX	No	122,750	\$	38,032.00	4.96%	0%
Bernalillo County	NM	No	673,000	\$	37,422.00	4.97%	0%
Forsyth County Clay County	NC MO	No No	357,970 227,690	\$ \$	41,491.00 41,049.00	4.97%	0%
Washington County	AR	No	211,730	\$	32,974.00	5.03%	0%
Columbia County	GA	No	132,560	\$	41,665.00	5.07%	0%
Kings County Macon County	CA	No No	151,340 110,040	\$ ¢	29,679.00	5.09%	0%
Wilson County	TN	NO	110,040	\$ \$	41,229.00 39,677.00	5.15% 5.18%	0%
Madera County	CA	No	152,240	\$	30,785.00	5.21%	0%
Henry County	GA	No	208,440	\$	31,818.00	5.36%	0%
Richmond city Cleveland County	VA OK	Yes No	211,530 266,120	\$ \$	47,975.00 39,002.00	5.38% 5.41%	0%
Cumberland County	NC	No	323,100	\$	36,916.00	5.41%	0%
Montgomery County	TN	No	185,360	\$	39,531.00	5.41%	0%
Catawba County	NC	No	154,520	\$	35,930.00	5.43%	0%
Shawnee County Carroll County	KS GA	No No	178,900 111,450	\$ \$	39,924.00 31,233.00	5.45% 5.46%	0%
Gaston County	NC	No	208,200	\$	35,103.00	5.47%	0%
Lee County	AL	No	148,040	\$	31,991.00	5.53%	0%
Dallas County	TX	No	2,456,700	\$	50,300.00	5.55%	0%
Washington County Bradley County	UT TN	No No	144,640 101,120	\$ \$	28,076.00 37,358.00	5.56% 5.58%	0%
Navajo County	AZ	No	106,970	\$	26,010.00	5.61%	0%
Shelby County	AL	No	200,960	\$	44,562.00	5.63%	0%
Merced County	CA	No	261,780	\$	30,793.00	5.65%	0%
Tulare County Travis County	CA TX	No No	451,500 1,097,100	\$ \$	31,895.00 52,285.00	5.66%	0%
Craven County	NC	No	105,310	\$	38,813.00	5.71%	0%
Pitt County	NC	No	172,900	\$	35,042.00	5.79%	0%
Paulding County	GA	No	145,070	\$	29,983.00	5.81%	0%
Sumner County Jefferson County	TN KY	No No	166,160 751,330	\$ \$	37,832.00 44,657.00	5.82%	0%
Cabarrus County	NC	No	184,490	\$ \$	37,599.00	5.84%	0%
New Hanover County	NC	Yes	209,130	\$	40,030.00	5.90%	20%
Greenville County	SC	No	466,760	\$	39,399.00	5.92%	0%
Greene County Charleston County	MO SC	No Yes	280,690 365,470	\$ \$	37,055.00 48,404.00	5.93% 5.93%	0%
Oklahoma County	OK	No	742,640	\$	48,404.00	5.94%	
Ascension Parish	LA	No	112,170	\$	48,393.00	5.96%	0%
Harris County	ТХ	Yes	4,263,100	\$	54,431.00	6.02%	0%
Vanderburgh County	IN	No	180,780	\$ \$	40,522.00	6.06%	0%
Tarrant County Fresno County	TX CA	No No	1,882,800 948,240	\$ \$	44,655.00 34,142.00	6.06% 6.07%	0%
Butte County	CA	No	221,280	\$	34,630.00	6.12%	0%
St. Johns County	FL	Yes	202,260	\$	57,098.00	6.15%	0%
Davidson County	NC	No	163,540	\$	34,269.00	6.19%	0%
Madison County Jefferson County	AL MO	No No	342,870 220,100	\$ \$	43,558.00 35,038.00	6.22%	0%
Collier County	FL	Yes	332,870	\$	72,488.00	6.29%	0%
Brunswick County	NC	Yes	112,140	\$	34,581.00	6.31%	0%
Lubbock County Warren County	ТХ КҮ	No No	286,100 117,190	\$ \$	36,258.00 32,928.00	6.36% 6.47%	0%
Randolph County	NC	No	142,330	\$	31,160.00	6.51%	0%
Pulaski County	AR	No	389,060	\$	46,593.00	6.53%	0%
Comanche County	OK	No	126,610	\$	35,851.00	6.54%	0%
Beaufort County Okaloosa County	SC FL	Yes Yes	167,780 190,440	\$ \$	45,122.00 43,512.00	6.57% 6.61%	0%
St. Tammany Parish	LA	Yes	239,350	\$	50,523.00	6.65%	0%
Blount County	TN	No	124,020	\$	35,882.00	6.66%	0%
Alamance County	NC	No	153,670	\$	34,379.00	6.68%	0%
Honolulu County Montgomery County	HI TX	Yes No	976,750 485,120	\$ \$	48,165.00 53,551.00	6.69% 6.71%	100%
Hamilton County	TN	No	345,660	\$	42,870.00	6.74%	0%
Harnett County	NC	No	122,210	\$	30,968.00	6.76%	0%
Williamson County	ТХ	No	456,590	\$	37,134.00	6.79%	0%
Clark County Parker County	NV TX	No No	1,998,600 119,760	\$ \$	38,713.00 45,214.00	6.80% 6.80%	14%
Bartow County	GA	No	100,480	\$ \$	45,214.00 31,694.00	6.81%	0%
Houston County	GA	No	146,200	\$	37,724.00	6.87%	0%
Newton County	GA	No	101,020	\$ ¢	27,301.00	6.90%	0%
Wayne County Franklin County	NC MO	No No	124,500 101,390	\$ \$	34,484.00 35,989.00	6.91% 6.92%	0%
Bell County	TX	No	323,150	\$	40,029.00	6.94%	0%
Douglas County	GA	No	133,930	\$	30,221.00	6.94%	0%
York County	SC	No	234,570	\$ ¢	36,700.00	6.96%	0%
Shasta County San Bernardino County	CA	No No	178,420 2,080,700	\$ \$	35,758.00 31,064.00	6.98% 6.99%	0%
Berkeley County	SC	Yes	189,490	\$	33,837.00	7.00%	0%
Lafayette Parish	LA	No	227,060	\$	52,028.00	7.01%	0%
Sumter County	SC IN	No	108,060	\$ ¢	34,723.00	7.08%	0%
Clark County Madison County	IN	No No	111,920 268,040	\$ \$	36,725.00 38,329.00	7.25%	0%
Pickens County	SC	No	119,660	\$	30,670.00	7.25%	0%
Saline County	AR	No	111,670	\$	34,956.00	7.32%	0%
Lexington County	SC IL	No No	270,110	\$ \$	38,263.00	7.33%	25%
St. Clair County Spartanburg County	SC	No No	268,790 288,420	\$ \$	37,180.00 36,537.00	7.34%	0%
Brazoria County	тх	Yes	324,700	\$	40,114.00	7.47%	0%
Leon County	FL	Yes	283,850	\$	36,421.00	7.47%	0%
Hays County Clayton County	TX GA	No No	168,860 266,250	\$ \$	33,579.00 24,915.00	7.60%	0%
Rowan County	GA NC	NO	137,920	\$ \$	24,915.00 30,173.00	7.67%	0%
		No	939,940	\$	43,744.00	7.73%	0%
Shelby County	TN	110					
Shelby County Maricopa County	AZ	No	3,942,900	\$	40,424.00	7.76%	0%
Shelby County Maricopa County St. Louis city	AZ MO	No No	3,942,900 319,270	\$	36,745.00	7.78%	67%
Shelby County Maricopa County	AZ	No	3,942,900	· ·			

Alachua County	FL	No	251,710	\$	37,111.00	7.97%	50%
Ector County	TX TX	No	144,440	\$	43,804.00	8.00%	0%
Wichita County Comal County	TX	No No	131,700 115,100	\$ \$	40,009.00 47,877.00	8.02% 8.05%	0%
Sebastian County	AR	No	127,370	\$	35,948.00	8.08%	0%
El Paso County	TX	No	831,140	\$	31,002.00	8.10%	0%
Bay County Santa Rosa County	FL	Yes Yes	171,990 158,400	\$ \$	37,249.00 36,874.00	8.13% 8.14%	0%
Hawaii County	н	Yes	188,950	\$	33,219.00	8.15%	75%
Jefferson Parish	LA	Yes	434,580	\$	44,202.00	8.15%	0%
DeSoto County Bossier Parish	MS LA	No No	166,360 123,070	\$ \$	35,388.00 39,531.00	8.15% 8.18%	0%
Jefferson County	AL	No	657,950	ې \$	47,156.00	8.22%	0%
Galveston County	ТΧ	Yes	301,470	\$	44,866.00	8.23%	0%
Imperial County	CA	No	177,440	\$	30,575.00	8.23%	0%
Whitfield County Dona Ana County	GA NM	No No	103,190 214,210	\$ \$	29,815.00 29,935.00	8.23% 8.25%	0%
Ellis County	TX	No	153,830	\$	35,462.00	8.26%	0%
Houston County	AL	No	103,370	\$	36,566.00	8.30%	0%
Jasper County	MO	No	115,380 163,430	\$ \$	34,412.00	8.34% 8.35%	0%
Aiken County Palm Beach County	SC FL	No Yes	1,358,600	ې \$	36,136.00 64,782.00	8.49%	50%
Cochise County	AZ	No	131,920	\$	35,468.00	8.52%	0%
Terrebonne Parish	LA	Yes	111,730	\$	40,727.00	8.54%	0%
Clarke County Taylor County	GA TX	No No	120,270 134,100	\$ \$	27,205.00 39,892.00	8.65% 8.71%	0%
Anderson County	SC	No	189,370	ې \$	39,892.00	8.82%	0%
Wyandotte County	KS	No	159,300	\$	28,002.00	8.82%	0%
Livingston Parish	LA	Yes	131,940	\$	35,166.00	8.82%	0%
Tom Green County Kaufman County	TX TX	No No	113,520 106,680	\$ \$	39,856.00 35,322.00	8.83% 8.83%	0%
Martin County	FL	Yes	148,850	\$ \$	66,896.00	8.83%	0%
Orleans Parish	LA	Yes	370,170	\$	45,204.00	8.85%	0%
Richland County	SC	No	393,680	\$ ¢	37,103.00	8.87%	25%
Smith County Indian River County	TX FL	No Yes	214,940 140,610	\$ \$	41,133.00 60,584.00	8.88% 8.94%	0%
Montgomery County	AL	No	229,430	\$	39,248.00	8.94%	0%
Florence County	SC	No	138,060	\$	35,095.00	8.97%	33%
Guadalupe County	TX CA	No	139,710	\$	35,995.00	9.02%	0%
Riverside County Duval County	FL	No Yes	2,268,000 880,600	\$ \$	31,879.00 40,404.00	9.09%	17%
Johnson County	TX	No	153,530	\$	35,518.00	9.10%	25%
Brazos County	ТΧ	No	200,570	\$	30,912.00	9.13%	0%
Hinds County	MS AL	No Yes	248,300	\$ \$	37,662.00 38,228.00	9.36% 9.41%	0%
Baldwin County Chatham County	GA	Yes	190,560 276,710	\$ \$	38,228.00	9.41%	25%
Yuma County	AZ	No	202,260	\$	27,617.00	9.46%	0%
Morgan County	AL	No	120,060	\$	33,721.00	9.54%	0%
Lowndes County Pima County	GA AZ	No No	114,670 993,090	\$ \$	31,261.00 35,838.00	9.57% 9.58%	0%
Gregg County	TX	No	122,900	\$	48,110.00	9.59%	0%
Bexar County	TX	No	1,788,900	\$	39,285.00	9.74%	0%
Bibb County	GA	No	156,180	\$	35,211.00	9.79%	0%
Seminole County East Baton Rouge Parish	FL LA	Yes No	431,410 444,300	\$ \$	40,357.00 41,081.00	9.82%	25% 50%
Orange County	FL	Yes	1,202,100	\$	36,569.00	9.88%	0%
Horry County	SC	Yes	281,990	\$	30,639.00	10.02%	25%
Escambia County Ouachita Parish	FL LA	Yes No	304,210 155,350	\$ \$	35,927.00 35,421.00	10.09% 10.13%	33%
Caddo Parish	LA	No	257,330	ş	43.481.00	10.13%	0%
Clay County	FL	Yes	194,290	\$	35,720.00	10.28%	0%
Hillsborough County	FL	Yes	1,282,000	\$	40,878.00	10.36%	50%
Grayson County Richmond County	TX GA	No No	121,630 201,970	\$ \$	35,044.00 31,436.00	10.43% 10.52%	0%
Tuscaloosa County	AL	No	198,640	\$	34,248.00	10.55%	0%
Jackson County	MS	Yes	139,970	\$	33,886.00	10.58%	0%
Muscogee County	GA	No	200,040	\$	37,275.00	10.59%	0%
Rapides Parish Jefferson County	LA TX	No Yes	132,110 251,400	\$ \$	39,638.00 38,046.00	10.69% 10.79%	0%
Calcasieu Parish	LA	Yes	194,650	\$	37,728.00	10.92%	0%
Calhoun County	AL	No	117,260	\$	32,006.00	10.97%	0%
Robeson County Broward County	NC FL	No Yes	135,370 1,819,800	\$ \$	25,733.00 41,886.00	11.00% 11.20%	0%
McLennan County	TX	No	239,510	\$ \$	41,886.00 34,009.00	11.20%	0%
Tangipahoa Parish	LA	Yes	123,770	\$	33,111.00	11.31%	0%
Miami-Dade County	FL	Yes	2,611,000	\$ ¢	40,514.00	11.31%	23%
Nueces County Mobile County	TX AL	Yes Yes	347,930 413,960	\$ \$	40,769.00 33,267.00	11.73% 12.01%	0%
Etowah County	AL	No	104,320	\$	31,875.00	12.01%	0%
Harrison County	MS	Yes	193,690	\$	34,148.00	12.21%	0%
Pinal County	AZ	No	388,110	\$ ¢	24,151.00	12.21%	0%
Sarasota County Brevard County	FL	Yes Yes	386,050 547,670	\$ \$	50,976.00 37,794.00	12.73% 12.82%	0%
Webb County	TX	No	259,990	\$	27,159.00	13.00%	0%
Osceola County	FL	No	288,970	\$	26,770.00	13.60%	17%
Lee County Sumter County	FL	Yes No	644,990 102,820	\$ \$	40,248.00	14.16% 14.24%	0%
Sumter County Manatee County	FL	Yes	102,820 334,070	\$ \$	35,300.00 39,183.00	14.24%	0%
St. Lucie County	FL	Yes	283,560	\$	32,330.00	14.44%	0%
Volusia County	FL	Yes	497,090	\$	34,486.00	14.68%	50%
Cameron County Pinellas County	TX FL	Yes Yes	416,050 922,270	\$ \$	23,921.00 44,108.00	14.68% 14.87%	100%
	FL	Yes	303,450	\$ \$	33,946.00	14.87%	0%
Lake County	TX	No	807,730	\$	22,658.00	15.88%	0%
Hidalgo County			202 4 70	I ć .	26,320.00	16.95%	0%
Hidalgo County Mohave County	AZ	No	203,170	\$			
Hidalgo County Mohave County Polk County	AZ FL	Yes	615,760	\$	31,654.00	17.48%	0%
Hidalgo County Mohave County	AZ						
Hidalgo County Mohave County Polk County Marion County	AZ FL FL	Yes No	615,760 334,500	\$	31,654.00 31,692.00	17.48% 19.12%	0% 0%

Table SI 10: **The list of municipal bond types sampled.** Many naming permutations exist within the bond market, so the names of the bonds on the MSRB website did not always directly match the categories below, but these are the themes we looked for. If we were looking at a municipality with more than five bonds in one category between 2010 and 2020, we would randomly sample two to three.

Name	Туре
General Obligation	General Obligation
Refinance	General Obligation
Tax and Revenue Anticipation Note	General Obligation
School District	General Obligation
Fire Protection District	General Obligation
Water and Power	Revenue
Sewer	Revenue
Roads	Revenue
Transportation	Revenue
Ports	Revenue
Hospitals and Health	Revenue
Public Work	Revenue
Facilities Revenue	Revenue
Public Facilities	Revenue
Redevelopment and Redevelopment Agencies	Revenue
Special Obligation	Revenue
Apartment Revenue	Revenue
Housing Revenue	Revenue
Public Housing	Revenue
Waterworks	Revenue
Utilities	Revenue
Airport	Revenue
Electricity Plant	Revenue
Housing Authority	Revenue
Wastewater System	Revenue
Solid Waste Revenue	Revenue
Toll Revenue	Revenue

Figure SI 3: **State heat map of percent of bonds that mention climate change.** To create the above chart, all the sampled bonds were lumped together by state. The above heat map shows the percentage of sampled bonds issued by municipalities in a state that mention climate change at least once. While exposed to a relatively low level of risk, Washington and California are two of the three highest reporting states, in terms of percent of bonds that mention climate change. Hawaii is the state with the highest percent of bonds that mention climate change.



Figure SI 4: **There is seemingly no relationship between climate risk exposure, bond maturity length, and climate risk disclosure.** The data above is a scatterplot of county general obligation bonds. The bonds are plotted based on the exposure of the issuing municipality to climate change (as scored by the Climate Impact Lab) and the maximum maturity length of the bonds tied together by an Official Statement. Green dots are bonds that mentioned climate change in their Official Statements and red are bonds with Official Statements that did not mention climate change. The bonds were chosen by first looking at all 590 U.S. counties with populations over 100,000. Then by using the MSRB database, their most recent general obligation bond Official Statement was sampled for the keyword "climate change." If the Official Statement did mention climate change, then general obligation bonds from earlier years were checked in descending order (e.g. 2019, then 2018, then 2017... etc.) until the Official Statements stopped mentioning climate change. All of these bonds were then catalogued above in the scatterplot as green dots. If the most recent general obligation bond did not mention climate change, then no earlier bonds were checked. Additionally, since Official Statements typically tie together a whole string of bonds with different maturity dates, the longest maturity date was selected for the official statement. So the Y-axis on the scatterplot is showing maximum maturity length.



• Do Not Mention Climate Change • Mention Climate Change

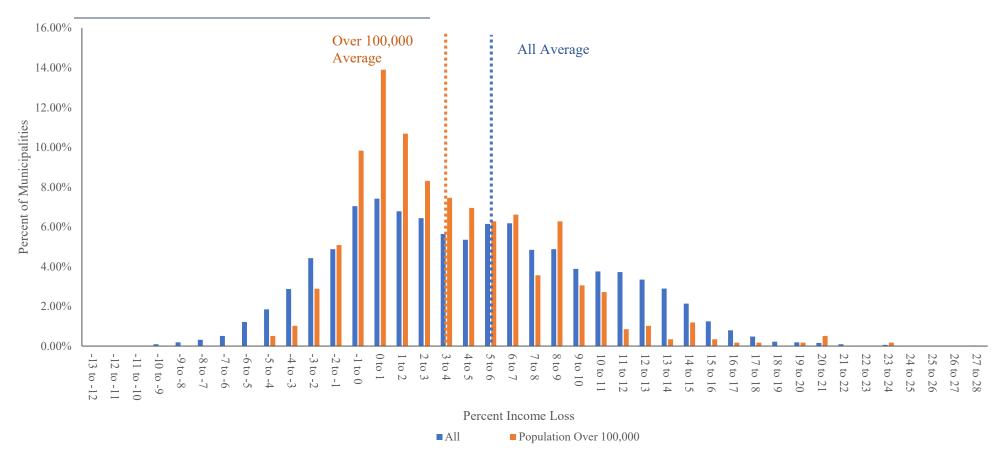


Figure SI 5: **Municipalities with populations over 100,000 are slightly unrepresentative of all municipalities.** In the paper, we present an analysis of municipal bond disclosure rates compared to climate-risk exposure. As a sampling heuristic we only looked at municipalities with populations over 100,000 people – since larger municipalities were likelier to have multiple recent bond offerings for us to sample. The figure above however, by comparing the distribution of climate-risk exposure for all municipalities and just the ones we sampled, shows that our heuristic skews the dataset slightly to lower risk municipalities. While it is desirable for a sample to represent the full population in most cases, we do not think the skew in the sampled municipalities introduces problematic errors into the analysis. Since we are looking at a correlation between risk and disclosure, and not just averaging across our sample, the skew is not propagated into the key findings. A more problematic finding would be that larger municipalities are systematically more likely to discuss climate-risk; such a relationship was not investigated for this paper. Additionally, using the aforementioned (in the main paper) dataset provided by Dr. Painter, we find no meaningful difference in issuance size or maturity date between high and low-population municipalities.

Source: Climate Impact Lab and analysis by authors