



# ACEC COVID-19 BUSINESS IMPACT SURVEY - WAVE 1

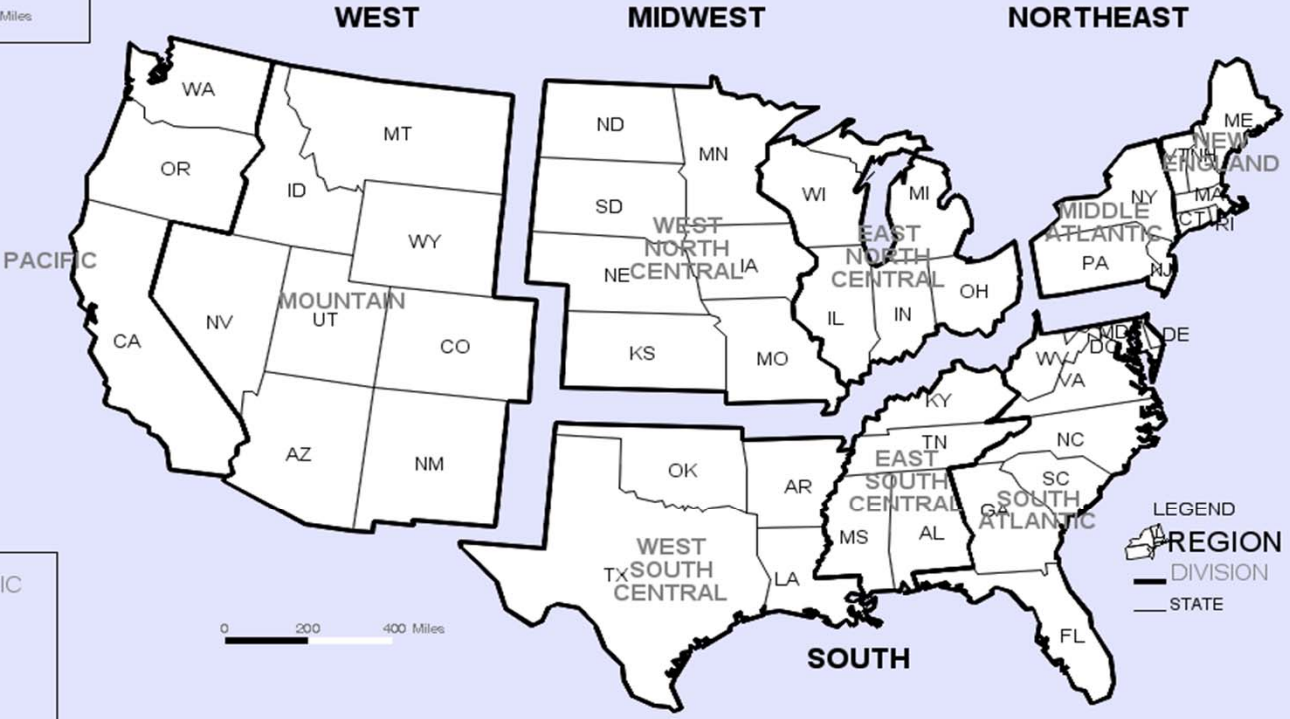
March 22, 2020

# TABLE OF CONTENTS

- Demographics
- Travel Restrictions
- Workstyle Impacts
- Business Impacts
- Other Impacts
- Methodology
- Statistical Notes
- Appendix

# DEMOGRAPHICS

# Census Regions and Divisions of the United States

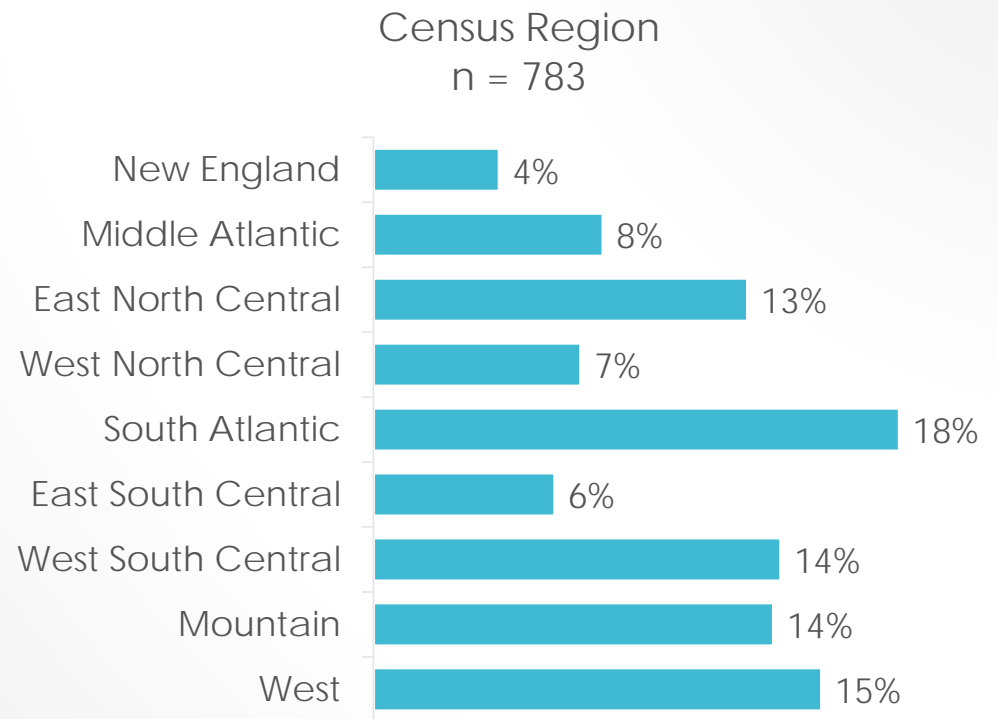


U.S. Department of Commerce Economics and Statistics Administration U.S. Census Bureau (Not) Prepared by the Geography Division

Imitation of [http://www.census.gov/geo/www/us\\_regdiv.pdf](http://www.census.gov/geo/www/us_regdiv.pdf)

## RESPONDENTS' ORGANIZATIONS ARE HEADQUARTERED IN A VARIETY OF LOCATIONS AROUND THE UNITED STATES.

- Throughout this report meaningful, statistically significant differences by geographic region are noted.

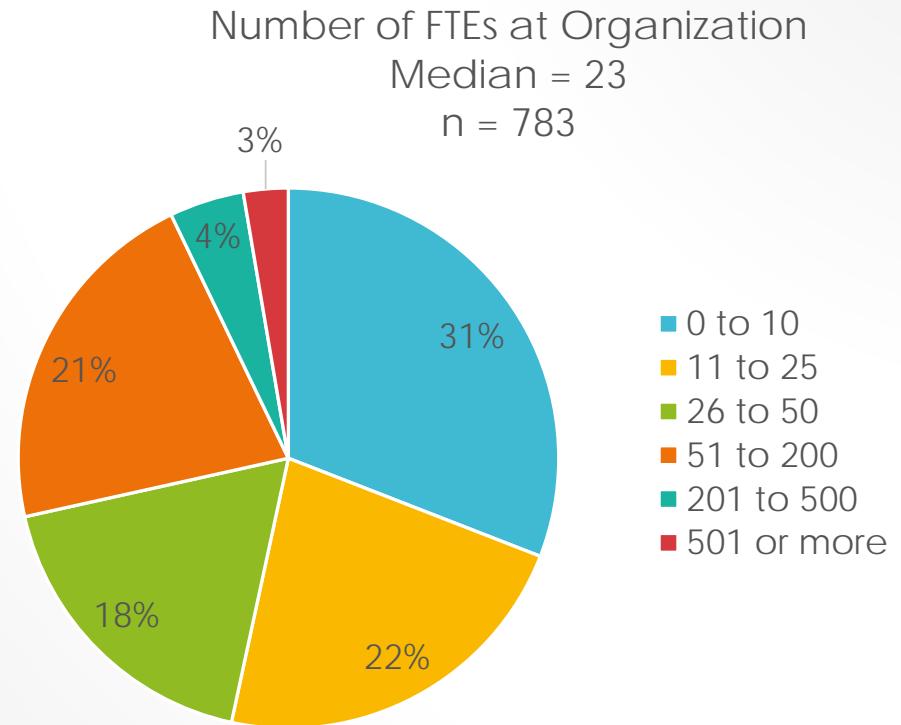


Q11. In which state is your organization headquartered?

# MORE THAN HALF (53%) OF RESPONDENTS INDICATE THERE ARE 25 OR FEWER FULL-TIME EQUIVALENTS AT THEIR ORGANIZATION.

- The largest organization in this survey reported 11,000 FTEs.
- Although the *average* number of FTEs is 107, the *median* is 23, indicating that some very large firms are skewing the average size. Therefore, the median is a more helpful metric to use in this analysis.
- The median FTE by geographic region is:

- New England = 27
  - Middle Atlantic = 50
  - East North Central = 38
  - West North Central = 44
  - South Atlantic = 24
  - East South Central = 12
  - West South Central = 15
  - Mountain = 19
  - West = 20
- Larger than the norm
- Smaller than the norm

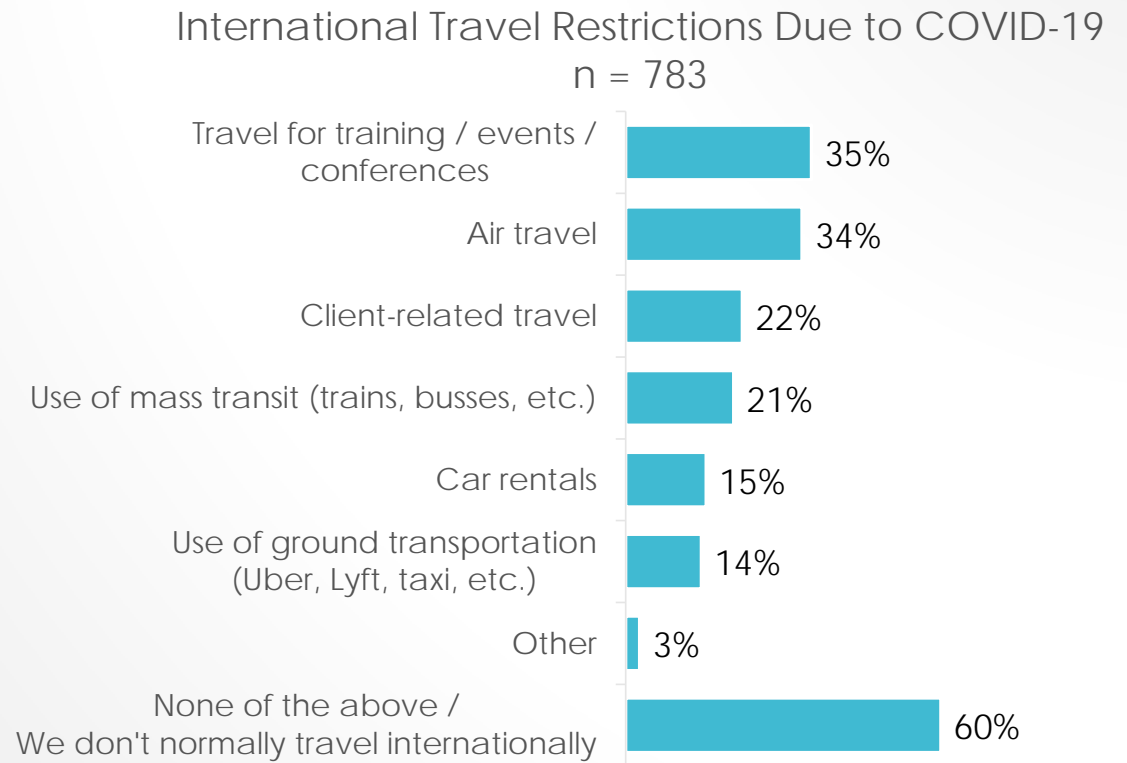


Q12. How many full-time equivalent employees (FTEs) do you have? If you are not sure, please provide your best estimate.

# TRAVEL RESTRICTIONS

## ALTHOUGH 60% OF ORGANIZATIONS INDICATED THEY DO NOT NORMALLY TRAVEL INTERNATIONALLY, AMONG THOSE THAT DO, NEARLY ALL HAVE RESTRICTED TRAVEL FOR TRAINING / EVENTS / CONFERENCES AND AIR TRAVEL.

- As detailed on the following slide there are some statistically significant differences by region. The most notable are:
  - Organizations in **New England** are more likely than others to have limited travel for training / events / conferences, air travel and client-related travel.
  - Organizations in the **West North Central** are more likely than others to have limited air travel.
  - Organizations in the **South Atlantic** are more likely than others to have limited nearly all types of travel.
  - Organizations in the **East South Central** are less likely than others to have limited nearly all types of travel.



Q2. As a result of COVID-19, which of the following, if any, has your company restricted or prohibited regarding international travel?  
Select All That Apply



## INTERNATIONAL TRAVEL RESTRICTIONS DUE TO COVID-19 BY GEOGRAPHIC REGION

	Total	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	West
Travel for training / events / conferences	35%	47%	37%	33%	45%	40%	27%	35%	30%	31%
Air travel	34%	44%	35%	29%	36%	41%	24%	31%	31%	31%
Client-related travel	22%	29%	26%	21%	24%	30%	16%	17%	18%	21%
Use of mass transit (trains, busses, etc.)	21%	24%	23%	14%	18%	28%	16%	22%	18%	19%
Car rentals	15%	15%	15%	9%	13%	24%	10%	11%	16%	18%
Use of ground transportation (Uber, Lyft, taxi, etc.)	14%	15%	13%	10%	13%	22%	10%	14%	12%	15%
Other	3%	3%	2%	1%	4%	4%	0%	3%	5%	2%
None of the above / We don't normally travel internationally	60%	53%	60%	64%	53%	54%	69%	61%	64%	63%

**Indicates significantly higher percentage**

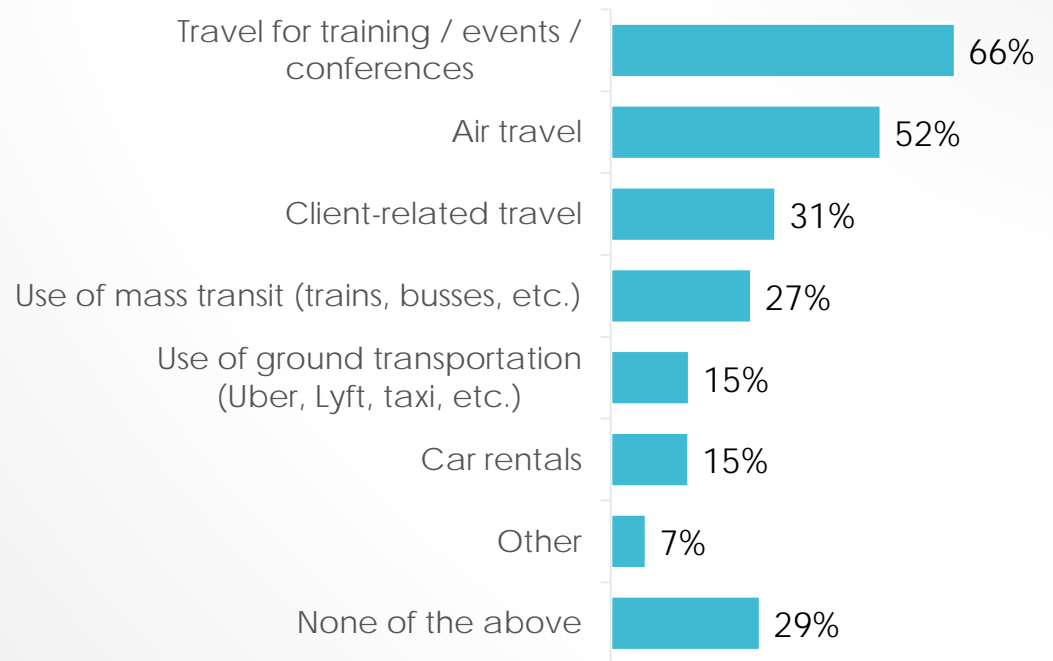
**Indicates significantly lower percentage**

Q2. As a result of COVID-19, which of the following, if any, has your company restricted or prohibited regarding international travel?  
Select All That Apply

## MOST ORGANIZATIONS HAVE IMPLEMENTED SOME TYPE OF DOMESTIC TRAVEL RESTRICTIONS (71%), MOST NOTABLY FOR TRAINING / EVENTS / CONFERENCES (66%) AND AIR TRAVEL (52%).

- As detailed on the following slide there are many statistically significant differences by region. Some general take-aways are:
  - Travel restrictions in **New England**, the **Middle Atlantic** and the **West North Central** areas are generally higher than other areas.
  - Travel restrictions in **East South Central**, **West South Central** and the **Mountain** areas are generally lower than other areas.

### Domestic Travel Restrictions Due to COVID-19 n = 778



Q3. As a result of COVID-19, which of the following, if any, has your company restricted or prohibited regarding domestic travel?  
Select All That Apply

## DOMESTIC TRAVEL RESTRICTIONS DUE TO COVID-19 BY GEOGRAPHIC REGION

	Total	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	West
Travel for training / events / conferences	66%	74%	<b>77%</b>	68%	<b>75%</b>	67%	<b>57%</b>	62%	<b>59%</b>	62%
Air travel	52%	<b>68%</b>	60%	<b>46%</b>	53%	<b>59%</b>	<b>45%</b>	<b>46%</b>	<b>45%</b>	50%
Client-related travel	31%	29%	<b>40%</b>	<b>38%</b>	31%	35%	<b>18%</b>	<b>23%</b>	31%	32%
Use of mass transit (trains, busses, etc.)	27%	35%	<b>37%</b>	<b>20%</b>	27%	32%	22%	26%	<b>21%</b>	26%
Use of ground transportation (Uber, Lyft, taxi, etc.)	15%	<b>24%</b>	16%	<b>9%</b>	16%	18%	14%	12%	14%	18%
Car rentals	15%	<b>26%</b>	18%	<b>10%</b>	13%	19%	<b>8%</b>	<b>8%</b>	16%	19%
Other	7%	6%	10%	9%	7%	9%	0%	4%	5%	9%
None of the above	29%	<b>21%</b>	<b>19%</b>	28%	<b>20%</b>	25%	<b>41%</b>	33%	<b>36%</b>	29%

**Indicates significantly higher percentage**

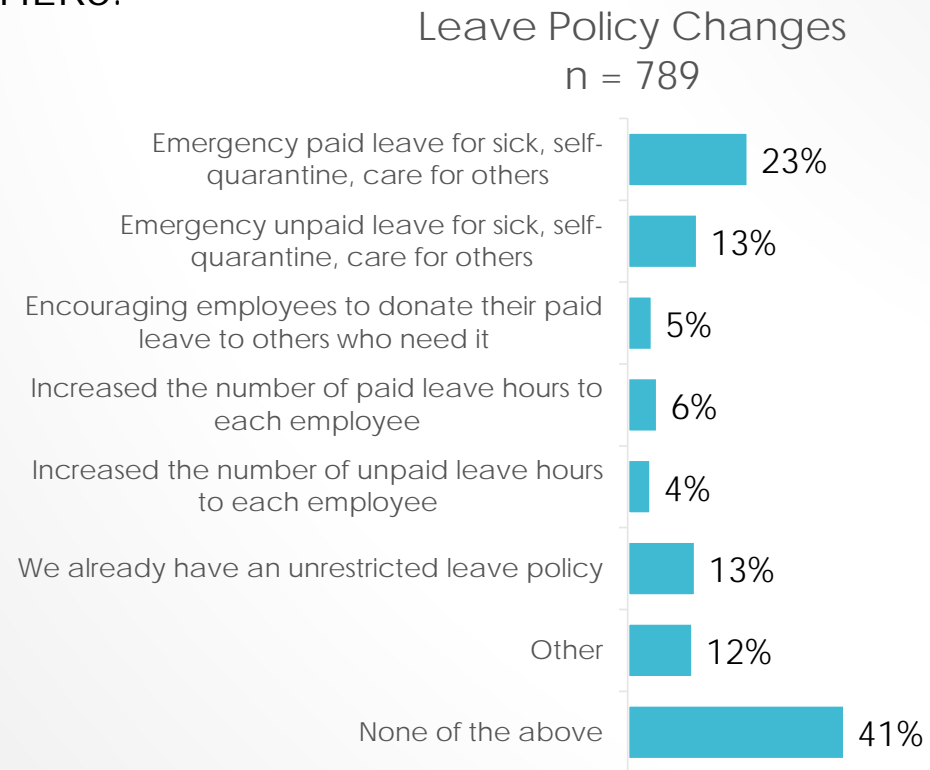
**Indicates significantly lower percentage**

Q3. As a result of COVID-19, which of the following, if any, has your company restricted or prohibited regarding domestic travel?  
Select All That Apply

# WORKSTYLE IMPACTS

FEWER THAN HALF OF ORGANIZATIONS (46%) HAVE CHANGED THEIR LEAVE POLICY. MOST NOTABLE AMONG THESE ARE EMERGENCY PAID LEAVE (23%) OR UNPAID LEAVE (13%) FOR THOSE WHO BECOME SICK, MUST SELF-QUARANTINE OR CARE FOR OTHERS.

- As detailed on the following slide there is one region in particular with statistically significant differences.
  - Organizations in **New England** are the most likely to have implemented changes to their leave policy in the wake of COVID-19.



Q5. Which of the following, if any, has your company implemented regarding its leave policy? Select All That Apply

# LEAVE POLICY CHANGES BY GEOGRAPHIC REGION

	Total	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	West
Emergency paid leave for sick, self-quarantine, care for others	23%	<b>35%</b>	23%	19%	21%	26%	24%	21%	24%	20%
Emergency unpaid leave for sick, self-quarantine, care for others	13%	15%	10%	14%	11%	12%	14%	13%	16%	15%
Encouraging employees to donate their paid leave to others who need it	5%	<b>18%</b>	7%	4%	2%	4%	6%	6%	5%	3%
Increased the number of paid leave hours to each employee	6%	3%	10%	6%	5%	4%	4%	6%	4%	8%
Increased the number of unpaid leave hours to each employee	4%	<b>12%</b>	5%	6%	4%	3%	4%	1%	5%	7%
We already have an unrestricted leave policy	13%	<b>18%</b>	10%	<b>7%</b>	<b>5%</b>	<b>9%</b>	12%	<b>17%</b>	<b>19%</b>	<b>18%</b>
Other	12%	12%	<b>16%</b>	<b>7%</b>	13%	12%	10%	9%	<b>17%</b>	<b>16%</b>
None of the above	41%	<b>26%</b>	44%	<b>56%</b>	<b>52%</b>	<b>47%</b>	<b>33%</b>	41%	<b>31%</b>	<b>31%</b>

**Indicates significantly higher percentage**

**Indicates significantly lower percentage**

Q5. Which of the following, if any, has your company implemented regarding its leave policy? Select All That Apply

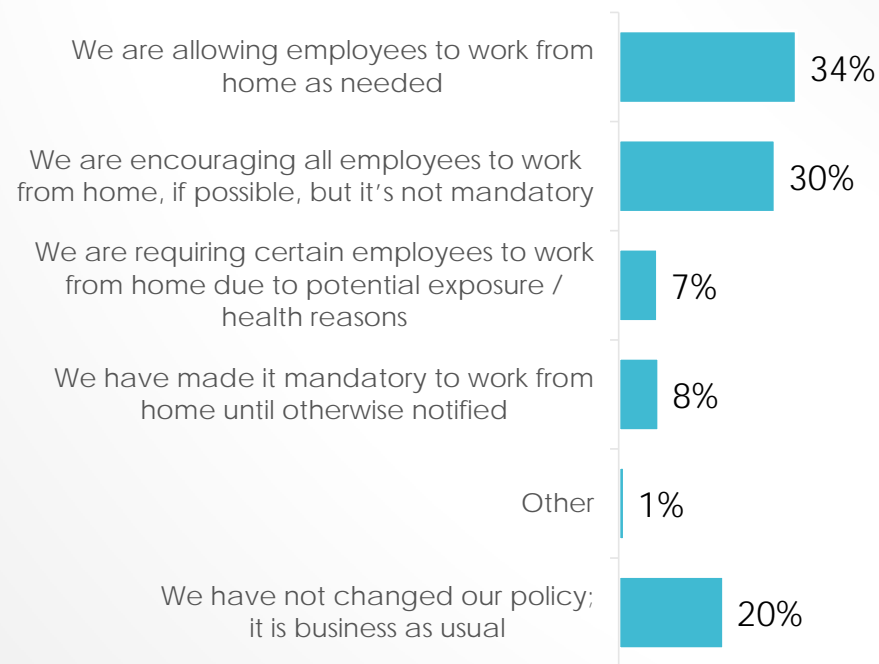
EIGHT OUT OF TEN ORGANIZATIONS HAVE IMPLEMENTED SOME TYPE OF TELEWORK POLICY. THE MOST COMMON ARE ALLOWING EMPLOYEES TO WORK FROM HOME AS NEEDED (34%) OR ENCOURAGING TELEWORK IF POSSIBLE (30%).

- As detailed on the following slide there are some statistically significant differences by region. The most notable are:

- Organizations in **New England** and the **Middle Atlantic** are more likely than others to encourage working from home, if possible, or mandating telework.
- Although a majority of organizations in the **West North Central, East South Central and West South Central** have made policy changes, they are somewhat less likely to have made them compared to other regions.

### Telework / Work From Home Policy

n = 794



Q4. Which one of the following best describes your current telework / work from home policy?

## TELEWORK / WORK FROM HOME POLICY BY GEOGRAPHIC REGION

	Total	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	West
We are allowing employees to work from home as needed	34%	24%	29%	38%	43%	37%	39%	30%	36%	28%
We are encouraging all employees to work from home, if possible, but it's not mandatory	30%	50%	37%	34%	21%	29%	20%	22%	33%	30%
We are requiring certain employees to work from home due to potential exposure / health reasons	7%	3%	8%	6%	4%	8%	10%	13%	6%	7%
We have made it mandatory to work from home until otherwise notified	8%	15%	16%	9%	5%	6%	2%	2%	4%	15%
Other, please specify	1%	0%	2%	0%	0%	2%	0%	0%	1%	3%
We have not changed our policy; it is business as usual	20%	9%	8%	14%	27%	18%	29%	34%	20%	17%

**Indicates significantly higher percentage**

**Indicates significantly lower percentage**

Q4. Which one of the following best describes your current telework / work from home policy?



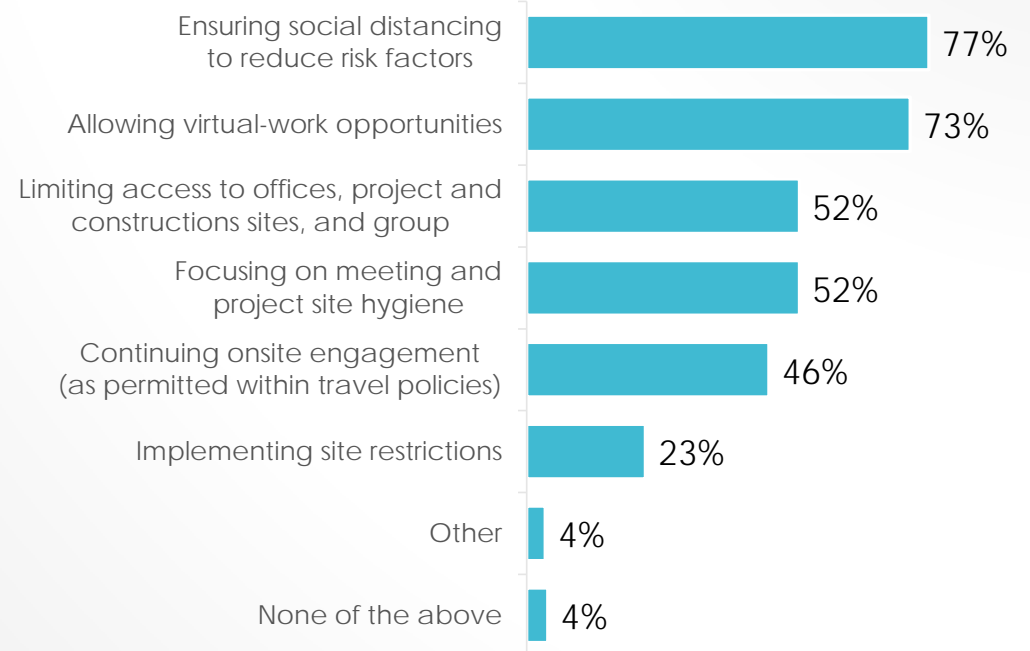
NEARLY ALL ORGANIZATIONS (96%) HAVE IMPLEMENTED CHANGES TO THE WAY THEY ARE CONDUCTING CLIENT WORK. TOP AMONG THESE ARE SOCIAL DISTANCING (77%) AND VIRTUAL WORK (73%).

- As detailed on the following slide there are some statistically significant differences by region. The most notable are:

- Organizations in the **Northeast** and the **Midwest** regions are more likely than others to have implemented various measures.
- Organizations in the **South** and **West** regions are somewhat less likely to have made certain changes compared to other regions.

### Methods of Working With Clients to Ensure Work Continuation

n = 791



Q6. In which of the following ways, if any, are you working with your client counterparts to ensure projects can be executed and work can continue? Select All That Apply

## METHODS OF WORKING WITH CLIENTS TO ENSURE WORK CONTINUATION BY GEOGRAPHIC REGION

	Total	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	West
Ensuring social distancing to reduce risk factors	77%	94%	79%	81%	88%	72%	84%	73%	68%	74%
Allowing virtual-work opportunities	73%	82%	81%	76%	75%	76%	45%	66%	74%	76%
Limiting access to offices, project and construction sites, and group	52%	68%	58%	49%	50%	47%	41%	53%	45%	62%
Focusing on meeting and project site hygiene	52%	47%	40%	61%	64%	55%	59%	47%	49%	45%
Continuing onsite engagement (as permitted within travel policies)	46%	53%	53%	46%	46%	47%	51%	45%	45%	40%
Implementing site restrictions	23%	44%	21%	20%	23%	24%	16%	20%	19%	23%
Other	4%	3%	5%	2%	2%	3%	6%	4%	4%	4%
None of the above	4%	3%	5%	3%	0%	4%	2%	6%	7%	2%

Indicates significantly higher percentage

Indicates significantly lower percentage

Q6. In which of the following ways, if any, are you working with your client counterparts to ensure projects can be executed and work can continue? Select All That Apply

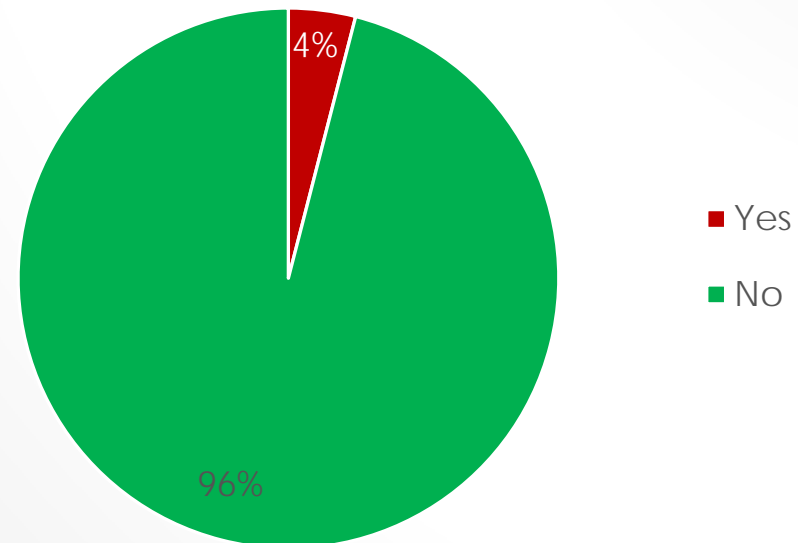
# BUSINESS IMPACTS

## VERY FEW ORGANIZATIONS (4%) REPORT PROBLEMS WITH PUBLIC CLIENTS DUE TO PROTECTIVE MEASURES CONFLICTING WITH CONTRACT TERMS.

- Although percentages vary by region, there are no statistically significant differences:

- New England = 6% "Yes"
- Middle Atlantic = 6%
- East North Central = 6%
- West North Central = 4%
- South Atlantic = 3%
- East South Central = 2%
- West South Central = 5%
- Mountain = 6%
- West = 2%

Problems With Public Clients Due to Protective Measures Conflicting with Contract Terms  
n = 791



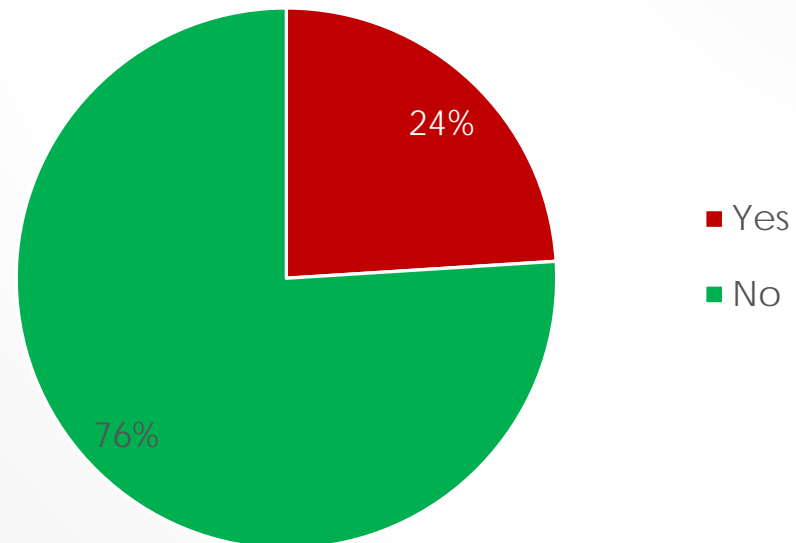
Q7. Has your company experienced problems with public clients when protective measures may conflict with contract terms?

## ROUGHLY ONE-FOURTH OF ORGANIZATIONS (24%) REPORT DELAYS IN RFPs/RFQS OR AWARDS DUE TO COVID-19.

- Although percentages vary by region, only one region has a statistically significant difference:

- New England = 18% "Yes"
- Middle Atlantic = 35% — Significantly larger
- East North Central = 24%
- West North Central = 25%
- South Atlantic = 23%
- East South Central = 21%
- West South Central = 28%
- Mountain = 23%
- West = 22%

Delays in RFPs/RFQs or Awards Due to COVID-19  
n = 787



Q9. Is your firm experiencing delays in the issuance of RFPs/RFQs or awards as a result of COVID-19?

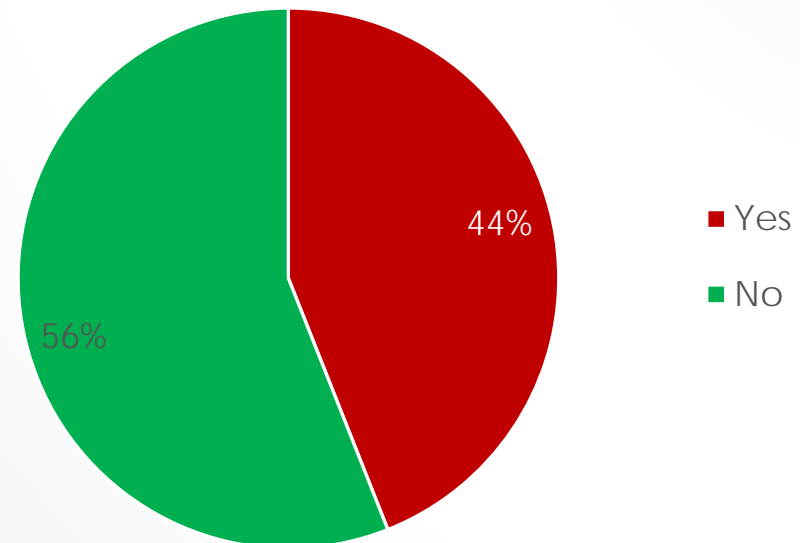
## NEARLY HALF OF ORGANIZATIONS (44%) REPORT PROJECT DELAYS OR CANCELLATIONS DUE TO COVID-19.

- Although percentages vary by region, only one region has a statistically significant difference:

- New England = 52% "Yes"
- Middle Atlantic = 52%
- East North Central = 40%
- West North Central = 39%
- South Atlantic = 43%
- East South Central = 33%
- West South Central = 38%
- Mountain = 47%
- West = 50%

— Significantly smaller

Project Delays or Cancellations Due to COVID-19  
n = 785



Q8. Is your firm experiencing project delays or cancellations as a result of COVID-19?

# OTHER IMPACTS

WHEN ASKED TO DESCRIBE ANY OTHER BUSINESS ISSUES THAT ORGANIZATIONS ARE EXPERIENCING RELATED TO COVID-19 RESPONDENTS ANSWERS FELL INTO SEVERAL MAIN CATEGORIES:

- Significant interest in what will pass Congress and how it will affect their business - particularly small firms
- Many not experiencing major project delays as of now but expecting that to change
- Worry that work will slow - starting to see it happening
- Worry that clients will pay more slowly (particularly public clients) or not at all - starting to see it happening
- Office going remote resulting in uncertainty of workflow
- General employee distraction due to depth of crisis and rate of change
- Economic uncertainty



# METHODOLOGY

- The Institute for Association and Nonprofit Research (IFANR) invited individuals from among the database list of member companies provided by the American Council of Engineering Companies (ACEC) to participate in this survey. One invitation was sent per member company.
  - Data collection occurred on March 17 and 18, 2020.
  - A total of 3,456 invitations were emailed, although 294 bounced and 17 opted-out, resulting in a total of 3,145 potential respondents.
  - Individuals who did not respond to the first email were sent one follow-up reminder.
  - In all, 794 individuals responded to the email invitations for an overall **response rate of 25%**.
- Individuals could respond using a laptop/desktop computer, tablet or smartphone; 12% of respondents completed the survey using a mobile device.
- Throughout this report meaningful, statistically significant differences are noted by geographic region.

# STATISTICAL NOTES

- Statistically significant differences are evaluated at a 95% confidence interval (for a description of tests used, please see the Appendix).
- There is no margin of sampling error as this was a census of all individuals in the ACEC database.
- Although every effort was taken to minimize survey bias, there is no way to completely eliminate all sources of potential bias. Sources of potential bias include, but are not limited to, the following:
  - Non-response bias
  - Confounding bias
  - Question wording bias
  - Question order bias
  - Habituation
  - Sponsor bias
  - Confirmation bias

# APPENDIX

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# TESTS OF SIGNIFICANCE FOR MEANS

## **F-test**

When the mean is displayed for a row variable, MarketSight first runs an Analysis of Variance (ANOVA) using an F-test. Doing so tests the hypothesis that the means of multiple normally distributed populations, all having the same variance, are equal.

MarketSight tests whether or not the row variable's means are equal to one another for all columns in the crosstab. Rejecting the test hypothesis implies that at least one of the column means is significantly different from the others.

## **Fisher's Least Significant Difference (LSD) test**

If the statistics option to "Correct for Type I errors in all comparisons" is disabled, MarketSight will run Fisher's LSD test for both Pairwise tests and Contrast tests of means. MarketSight only runs Fisher's LSD test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

Fisher's LSD test is a relatively powerful test because it uses the pooled variance estimate from the F-test, thus taking advantage of the increased sample size of all columns in the crosstab. Pooling the variance is valid because MarketSight explicitly tests for equality of variance among all columns prior to running the associated F-test.

Although the test is more powerful than either the Tukey HSD or Scheffé tests, it is more susceptible to Type I error when running multiple simultaneous tests.

# TESTS OF SIGNIFICANCE FOR MEANS (CONT)

## **Scheffé test**

If the statistics option to "Correct for Type I errors in all comparisons" is enabled, MarketSight will run the Scheffé test for Contrast tests of means. MarketSight only runs the Scheffé test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

The Scheffé test is a conservative test for running multiple Contrast tests of Means which controls the overall Type I error rate for all possible contrasts based on the selected Confidence Level.

## **Tukey-Kramer tests**

MarketSight will run Tukey-Kramer test for Pairwise tests of means. MarketSight only runs Tukey-Kramer test if the ANOVA F-test first rejects the null hypothesis that all column means are equal to one another.

Tukey-Kramer test is a conservative test for running multiple Pairwise comparisons of Means. It controls the overall Type I error rate across a number of related Pairwise tests based on the selected Confidence Level.

# TESTS OF SIGNIFICANCE FOR PROPORTIONS

## **Chi-squared**

When a Row Variable displays the Column % or Count option for individual Values, MarketSight runs a Chi-squared test. This test examines whether there is a relationship between the Column Variable(s) and the Row Variable.

Chi-squared tests involve a comparison of "actual" cell counts to "expected" cell counts in a crosstab.

The expected count for each cell is derived from a Row Variable's actual counts as follows: multiply the cell's row total by its column total, then divide by the sum total of all observations.

If the actual cell counts for one or more cells differ materially from their expected counts, the Chi-squared test may produce a statistically significant result which implies there is a relationship between the Column Variable(s) and the Row Variable.

A modified version of a Chi-Squared test is run for Multiple Response Variables.

# TESTS OF SIGNIFICANCE FOR PROPORTIONS (CONT)

## **Fisher's Exact**

For 2x2 crosstabs with small sample sizes, the Chi-squared test may be unreliable. Therefore, MarketSight runs an alternate test, Fisher's Exact Test, if more than 20% of the cells in a 2x2 crosstab have an expected cell count less than 5, or if any cells in a 2x2 cross-tab have an expected cell count less than 1.

Fisher's Exact Test calculates the true probability of observing a particular set of actual cell counts in a 2 x 2 crosstab, assuming that row and column totals are held constant.

Fisher's Exact Test is not run for Multiple Response Variables.

## **z-test**

MarketSight runs Z-tests for both Contrast and Pairwise tests of Column Proportions. A Z-test is used to test for a difference between two column proportions. The column proportions involved in the test are the cell counts divided by their respective column totals.

A Z-test is only run when the cells being compared have actual counts greater or equal to 5 and the column sample size minus the actual cell counts is greater than or equal to 5. If these data sufficiency conditions are not met, MarketSight runs Fisher's Exact Test instead.

A modified version of a Z-test is run for Multiple Response Variables.

# THANK YOU!



**Research conducted by Joseph Bates**

Research Consultant  
ACEC Research Institute  
Institute@acec.org

