

2022 CFS NONRESPONDERS & CONTACT STRATEGY

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Any opinions and conclusions expressed herein are those of the author and do not reflect the views of the U.S. Census Bureau.

The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data [Project No. P-7504831, Disclosure Review Board (DRB) approval number: CBDRB-FY24-ESMD015-001].

Intro to the Commodity Flow Survey

- The Commodity Flow Survey (CFS) is a quarterly survey for one year and it takes place every five years (ending in 2 and 7)
- The CFS is part of the Economic Census though it is conducted separately.
- Sponsored by the Dept. of Transportation's Bureau of Transportation Statistics and conducted by the Census Bureau
- The survey is the primary source of national- and subnational-level data on domestic freight shipments by establishments in mining, manufacturing, wholesale, auxiliaries and selected retail and services trade industries in the 50 states and DC
- It produces annual estimates of shipping volumes by mode & commodity at various levels of geographic detail & moving from one geography to another

Methodology – NAICS Industry Coverage

- The following industries were sampled:
 - 21 – Mining, except oil & gas
 - 31, 32, 33 – Manufacturing
 - 42 – Wholesale
 - 45 & 51 – Select retail & services trades
 - Electronic shopping & mail-order houses, fuel dealers & publishers
 - Auxiliaries of multi-establishment companies
 - 484 – Truck transportation
 - 4931 – Warehousing and storage
 - 551114 – Corporate, Subsidiary, and Regional Managing Offices

Methodology – Establishment Sampling

- The sample was chosen to represent a variety of establishment sizes and a variety of geographic locations across these industries.
- The sample design stratifies establishments by a measure of size that is based on annual total value of shipments.
- This ensures that different-sized establishments are represented in the sample.
 - For example, small single-unit establishments, large multi-unit establishments and those in between.

Survey Questions

- Location-level
 - 2021 total shipment value
 - The number of shipments during sample week & value of those shipments
- Shipment-level
 - Product description
 - Shipment value & weight
 - Destination information
 - Mode of transportation
 - Temperature control & hazmat status
- Contact Information
 - Mailing & Shipping address
 - Contact person, title, phone & email
- Survey Experience
 - Remarks
 - Time to complete survey

Contact Strategy

- 3 contacts per quarter
 - Initial mailout
 - Due Date Reminder
 - Followup for nonresponse
- Initial Contact/Survey Mailout
 - Survey invitations (letter with survey ID & login key) mailed to mailing address on file
 - Used contact information from the previous 2017 CFS if the same establishment was sampled in 2022
 - Took mailing addresses from the Business Register
 - Was addressed to the company, no attention text or specific contact name on envelope or letter
- Due Date Reminder
 - Sent a few weeks before a quarter's survey due date
 - Email for respondents who had created a Portal account and started the survey
 - Mailed for those who had not yet completed the survey
- Followup for Nonresponders
 - Combination of calls from customer service reps and emails
 - Contact information from other Census Bureau surveys used for call followups
- Eblasts
 - After an email was obtained for an establishment, contact strategy moved from a paper letter to email

New 2022 CFS

- Expanded number of establishments sampled
 - The 2017 CFS sampled roughly 100k establishments, while 2022 CFS sampled 165k
- Survey available only online
- Use of the Census Portal for survey response and communication with survey analysts
- Expanded NAICS that are take-alls
- No pre-canvass prior to initial mailout to determine if locations shipped

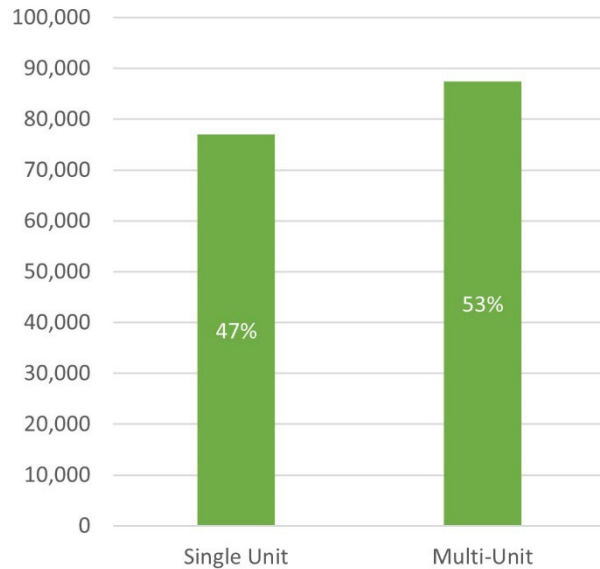
Types of Response

- There are various ways to measure nonresponse to the 2022 CFS because there are a variety of ways to consider someone has responded, including
 - Complete and usable data for all four quarters' surveys
 - Unusable data for all four quarters' surveys
 - Complete and usable or unusable data for 1, 2 or 3 quarters
 - Partial data for 1, 2, 3 or 4 quarters
 - Status update for the sampled establishment (non-shipper, closed)
- I've chosen to focus on those establishments that did not respond at all compared to those that responded in any way for any of the quarters, regardless of data quality and completeness
- The following slides are based on unweighted counts

Count of Establishments – Company Type

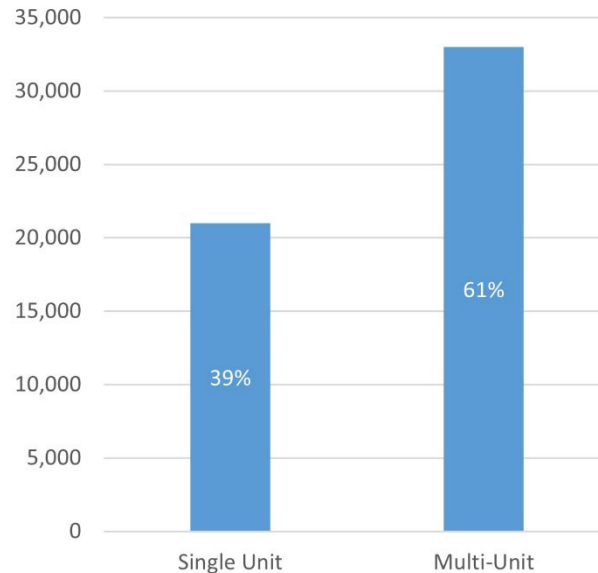
Sample

165,000



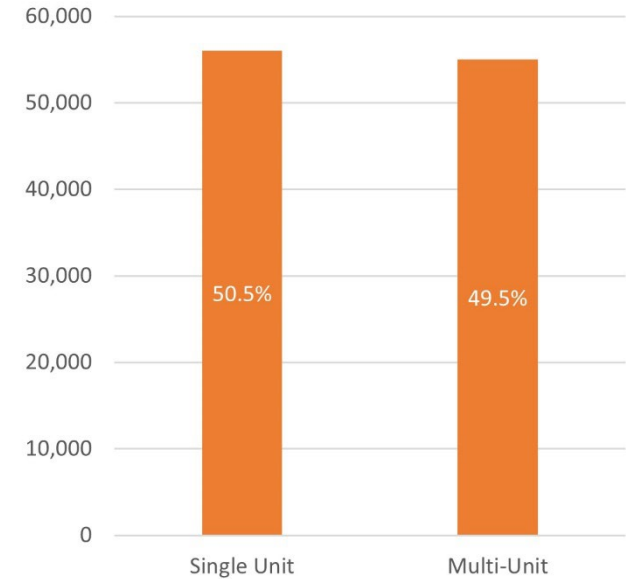
Nonresponders

54,000



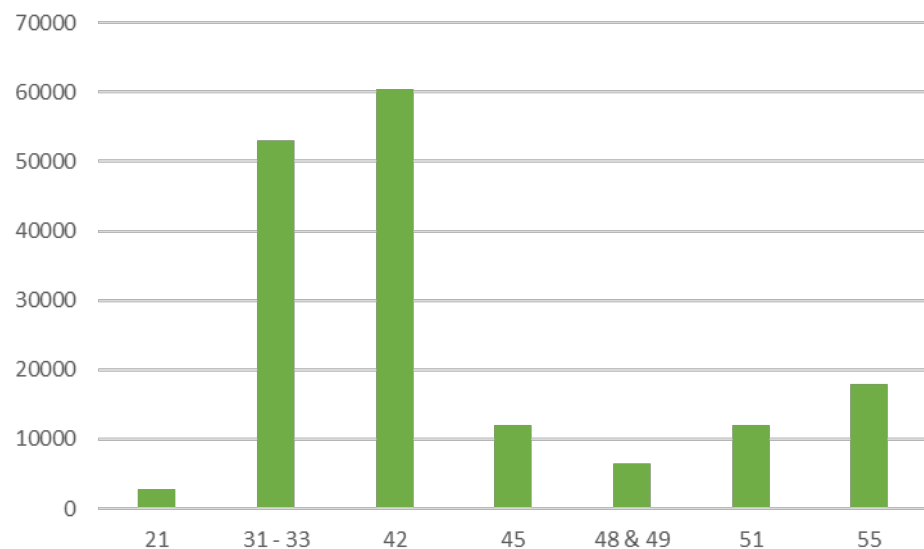
Any Response

111,000

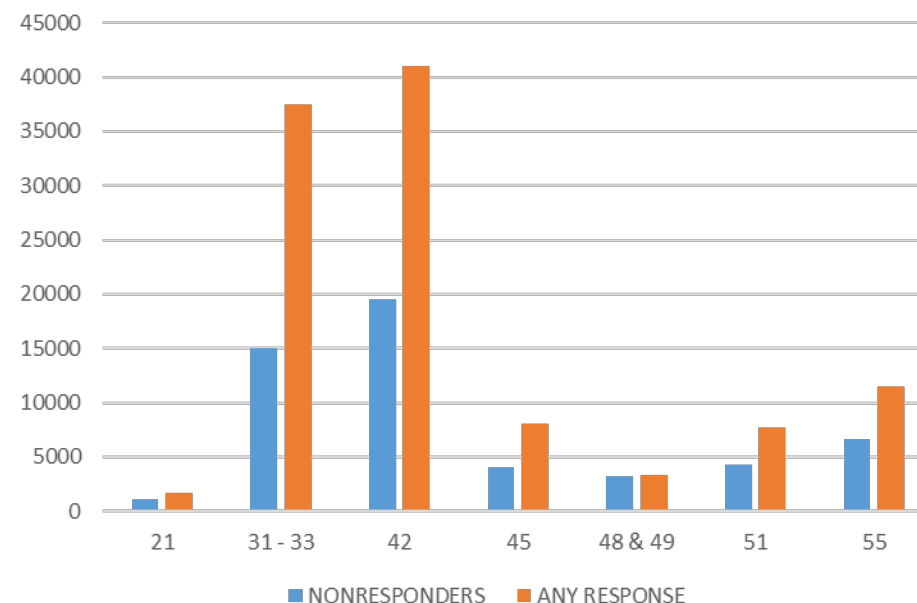


Count of Establishments – Combined 2-Digit NAICS

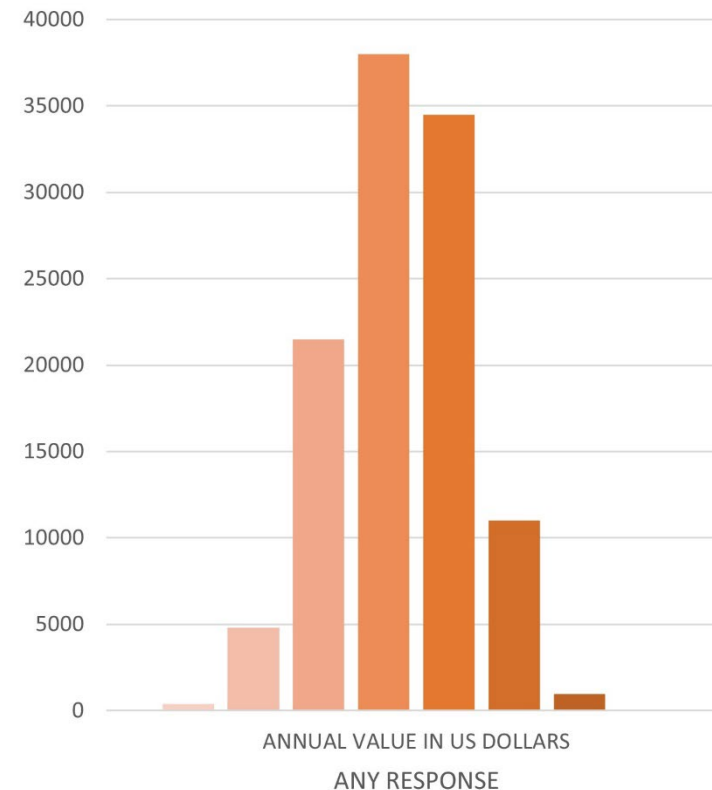
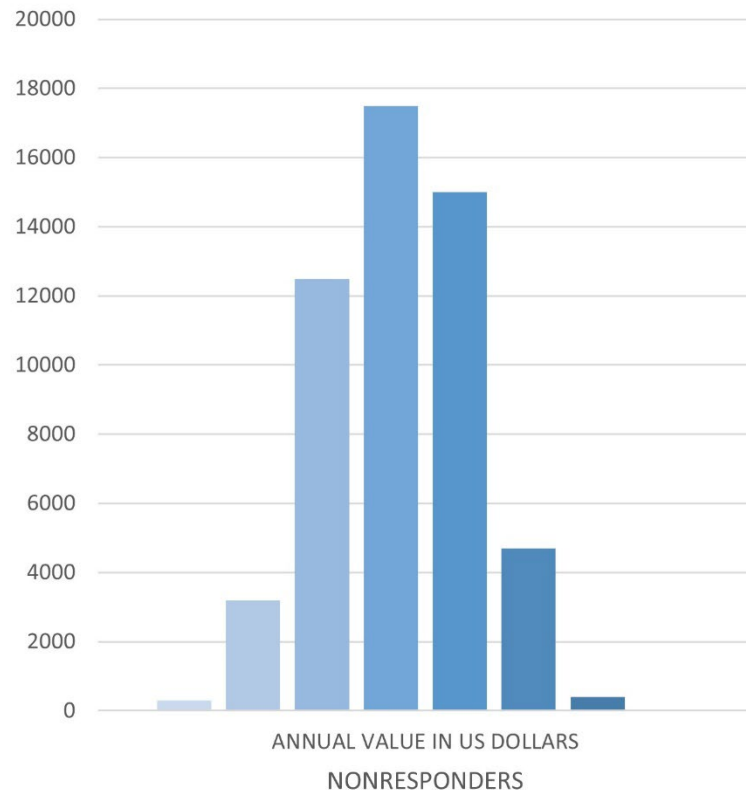
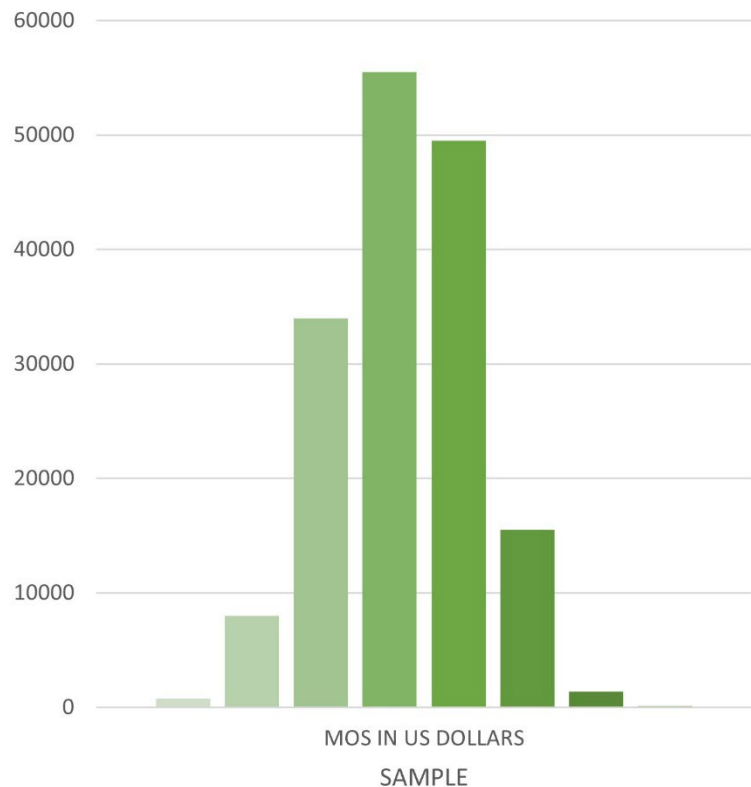
Sample



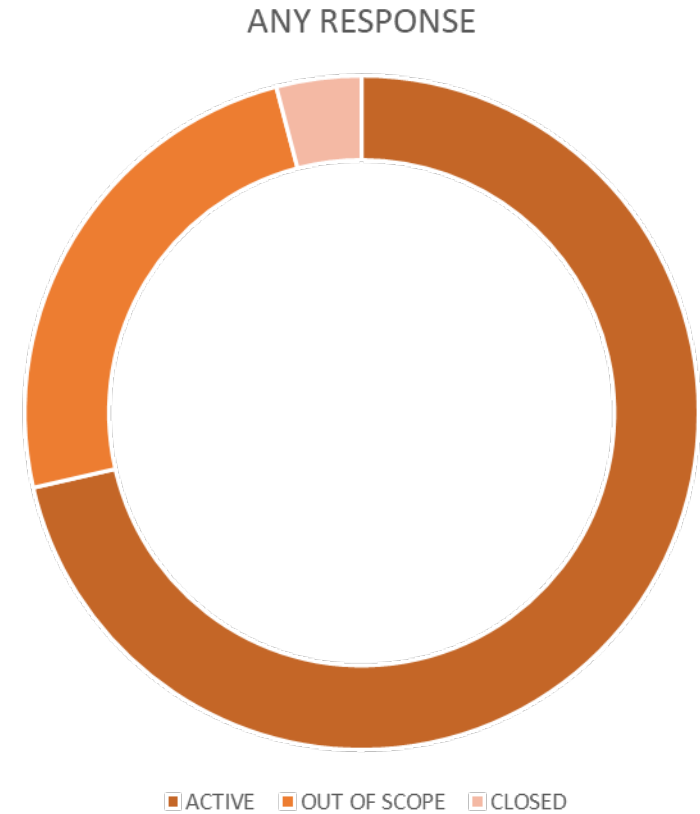
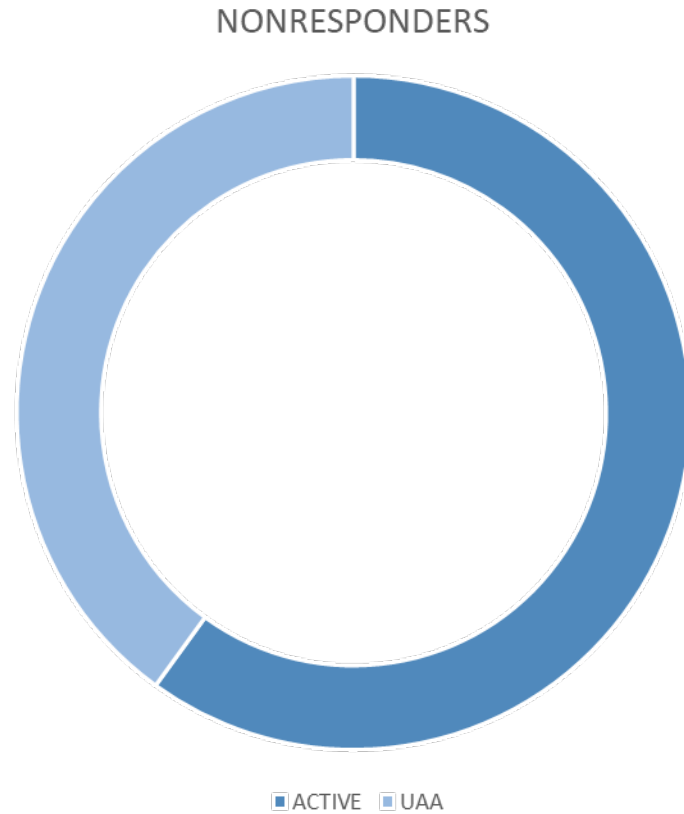
Nonresponders & Any Response



Count of Establishments – Measure of Size



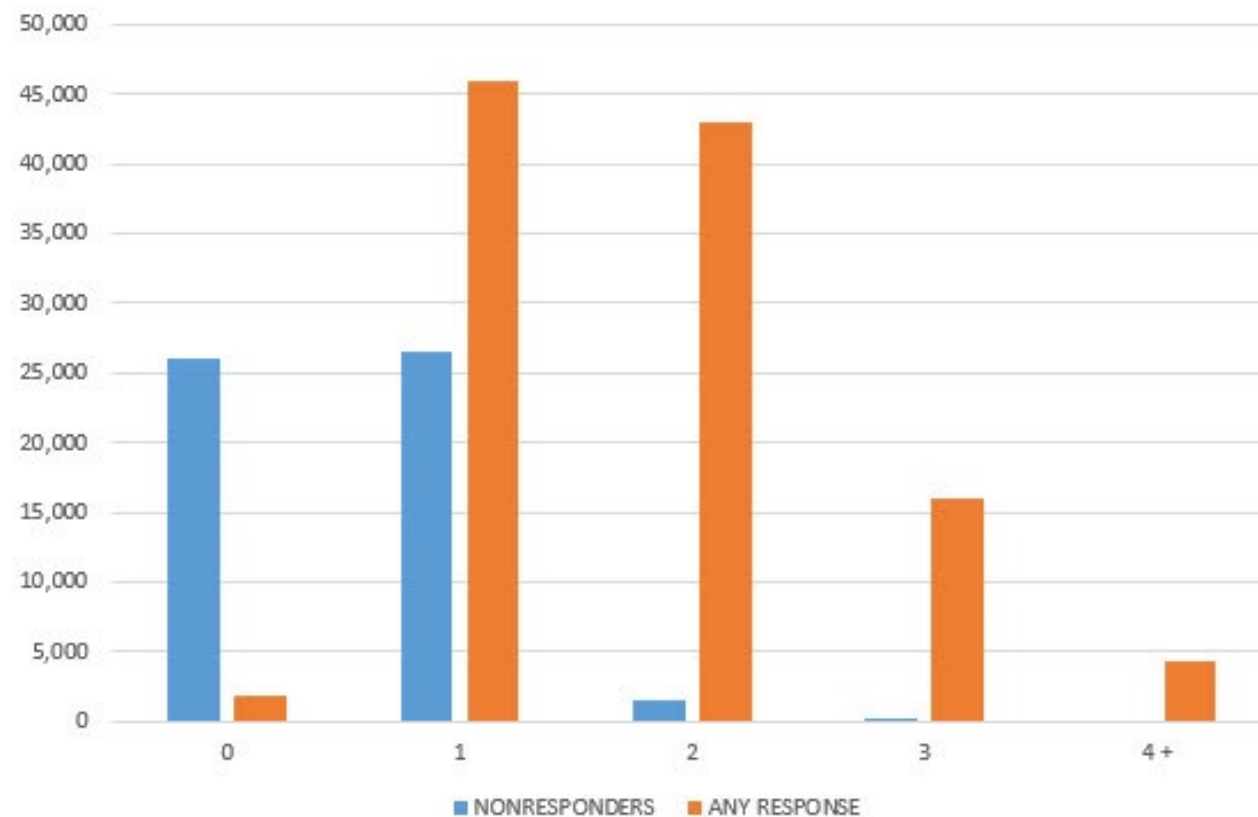
Count of Establishments – Establishment Status



Count of Establishments – Contact Information

- Each establishment in the sample started with 1 or no contact
- Contact information was not used in the Q1 initial mailout

Nonresponders & Any Response



Due to rounding, counts may not be additive

Some Observations

- In many cases the survey is not getting to the right person
- For a variety of reasons
 - UAA
 - Closed
 - Non-shipping location
 - No contact information

Undeliverable As Addressed (UAA)

- Location-based survey, not company-based
- Reasons
 - Incomplete street address
 - Locations were vacant
 - New company moved onto property
 - Wrong company name
 - Postal carrier error

Closed Establishments & Non-Shippers

- Closed status
 - Knowing this early in the survey would save on mailing, fewer UAAs
- Non-shippers not reporting is an issue
 - Knowing an establishment does not ship helps with our weighting

Specific Contact on Correspondence

- **More multi-unit companies were nonresponders**
 - Suspect this is because it was hard to know where/who to send the survey to in a big company
 - HQ/corporate office or individual locations?
 - Who at either location? (name or no name or no dept mentioned or title)
- **The Q1 initial survey invitation was not addressed to anyone at the company – only the company name and mailing address were included on the envelope**
- **Is it better to put a name on the envelope?**
 - Will addressing it to a particular person (who may have left the company, etc.) hinder or help response?
 - Will addressing it to a company department (e.g., accounting, HR, logistics, etc.) hinder or help response? Will this vary by NAICS and/or company size?
- **Although email is now available, what is the best way to use this information?**
 - Can we trust 5-year-old email addresses (taken from the prior survey's respondent information)?

Some Challenges

- Employee turnover at sampled establishments and corporate offices
- Company name changes, mergers, moving to new locations
- Determining where to send the initial survey invitation
 - Mailing vs Shipping Addresses
 - In some companies or industries, it may be more effective to send a letter to the plant, others to corporate offices
- Determining whether it's best to direct the survey invitation to a specific contact or department
 - This may vary by industry and company size (MOS proxy)
- Determining who would be the correct contact person
 - Person with access to shipping details is often different from person who would fill out other government surveys

Ideas for Improvement

- **Updating Addresses**

- Systematic review of mailing addresses prior to mailing
- Web scraping program to pull company names associated with list of sampled shipping and mailing addresses
- Monitor UAAs for potential address and/or company name changes throughout quarters and update as needed

- **Finding Correct Contact**

- Email the survey from the start
- Web scraping of email address for companies missing contact name/email
- Pull contact info/email from respondents of other Census surveys
- Incorporate the ability to send the survey/email to more than one person
- Pre-survey to determine correct contact with wider sample of 2027 CFS sample
- Have corporate complete and/or distribute survey for sampled locations
 - For multi-unit companies only

- **Updating Statuses & Finding Non-Shippers**

- Incorporate ability to report this outside of the Portal
- Non-survey methods
 - Web scraping
 - Satellite image analysis
 - Econ Census responses

- **Pre-Mailout Email**

- Include a short survey in the body of the email
 - Who is correct contact for upcoming survey? (Ask for email address)
 - Is the location active?
 - Any address updates?
 - Does the sampled location ship?
 - Want to report for more than one sampled location?

- **Using Administrative & 3rd Party Sources & Direct Company Feeds**

- Could help with all of the above issues

Conclusion

- Despite challenges in 2022, the CFS collected more shipment data than it ever has before
- In 2027 we will have more contact information than ever before and less costly ways to contact respondents (i.e., email)
- We are exploring the pros and cons, benefits and limitations, of using email invitations vs paper letters and assigning contacts on the initial mailout
- How to lessen response burden on non-shippers whose response we need
- Additional research needed
 - Different strategies depending on the NAICS or MOS?
- Conduct survey and publish data more frequently while reducing respondent burden & cost

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2017 CFS Methodology

<https://www.census.gov/programs-surveys/cfs/technical-documentation/methodologies.html>