

**PANAMA CANAL EXPANSION STUDY (PCES) OUTREACH PROGRAM AND
SUPPLY CHAIN CONSORTIUM SURVEY (2133-New)**

B. Collection of Information Employing Statistical Methods - The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When Item 17 on the Form OMB 83-I is checked, "Yes," the following documentation should be included in the Supporting Statement to the extent that it applies to the methods proposed:

a. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

The “universe” of interest for this study is comprised of firms who export or import goods that may either currently pass through the Panama Canal, or may be diverted there in the future once the Canal expansion is complete. The purpose of the study is to develop information on the price sensitivity of major shippers, as they will be the primary source of market response. The SCC members, as noted in the subsequent paragraph, comprise a ready-made group of firms with the scope of operations most likely to reflect the participants in export/import trade of interest in this study. They also provide a cost-effective source of respondents for this type of survey.

The polling survey will be sent to individuals representing approximately 2,516 companies who are members of the Supply Chain Consortium (SCC). Duplication will not occur as Tompkins Associates, the firm managing the SCC, has software and tracking methods that permit individuals to collaborate within each form and provide a single response.

Additionally, the “universe” of interest for this study is comprised of firms who export or import goods that may either currently pass through the Panama Canal, or may be diverted there in the future once the Canal expansion is complete. There is no known source of publically available information concerning these activities. The purpose of the study is to develop information on the price sensitivity of major shippers, as they will be the primary source of market response. The SCC members, as noted in the subsequent paragraph, comprise a ready-made group of firms with the scope of operations most likely to reflect the participants in export/import trade of interest in this study. They also provide a cost-effective source of respondents for this type of survey.

The companies that comprise the membership of the SCC were selected based on the characteristics of their business model; specifically a purchaser and/or distributor of physical goods (as opposed to services) across a multi-modal, international supply chain. Individuals within these organizations were identified based on title and department (entity) in order to further increase the likelihood of reaching appropriate individuals.

We anticipate that we will contact all 2,516 firms in the SCC. The survey tool has seven screening questions that will ask the respondent if their company has any input into the use of the Panama Canal. If the respondent does not go beyond the seven screening questions, they will have completed the survey. We will have captured their responses and will include their entities as not having a decision process engaged (nor do they plan on doing so at this point in time) for using the expanded Canal. Thus the survey can identify from the total population, how many firms and entities (and their type) are not currently engaged with developing criteria for the Canal routing for their cargo.

Previous surveys administered using a similar format, have averaged a 5% to 7% response rate based on firm-level responses. Based on linking the surveys with the overall PCES outreach program, the anticipated stratification and follow-up strategy described in section below, and the general level of interest in the effects of the Panama Canal, as well as the screening questions, we feel this response rate will rise significantly to around 10% of the total number of firms, and will represent over 80% of the total gross revenues of SCC member firms. The 10% figure is the un-weighted response rate. The largest firms include those with relatively high revenues, as shown in Table 3 of the enclosed supporting statement.

As explained in Part A, we are interested in the larger shippers because these shippers set market rates and practice (e.g., location of Distribution Centers). This is simply a statistic drawn from the information currently available about the membership of the SCC.

b. Describe the procedures for the collection of information including: * Statistical methodology for stratification and sample selection, * Estimation procedure, * Degree of accuracy needed for the purpose described in the justification, * Unusual problems requiring specialized sampling procedures, and * Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Member firms in the Supply Chain Consortium represent companies responsible for generating over \$2.3 trillion in gross revenues each year. These firms include most of the largest shippers, manufacturers and logistics firms in the U.S. The distribution of firms by size and the total number in each size category is shown in Table 3.

Table 3 – Number of Companies by Revenue in Supply Chain Consortium

Revenue	Representation (by percentage)	Number of Companies
Top 10	0.4%	10
>\$20B - \$45B	0.7%	18
>\$10B - \$20B	1.4%	34
>\$5B - \$10B	2.1%	52
>\$1B - \$5B	3.8%	95
\$250M - \$1B	14.7%	370
<\$250M	59.7%	1,502
Privately Held	17.3%	435
		2,516

Revenue	Representation (by percentage)	Number of Companies	Collective Revenue (in Billions)	Gross Revenues (by % of \$2,330 Billion)	Gross Revenues (Cumulative Percentage)	Expected Response Rate
Top 10	0.4%	10	\$ 551.9	23.7%	23.7%	100%
>\$20B - \$45B	0.7%	18	\$ 453.9	19.5%	43.2%	90%
>\$10B - \$20B	1.4%	34	\$ 570.9	24.5%	67.7%	75%
>\$5B - \$10B	2.1%	52	\$ 363.3	15.6%	83.3%	35%
>\$1B - \$5B	3.8%	95	\$ 244.4	10.5%	93.8%	30%
\$250M - \$1B	14.7%	370	\$ 116.3	5.0%	98.8%	10%
<\$250M	59.7%	1,502	\$ 27.9	1.2%	100.0%	5%
Privately Held	17.3%	435	\$ -			10%
		2,516	\$ 2,328.5			10%

Percent of Total Revenue (not including privately held firms) - Source: Tomkins Associates, Inc., 2011.

We estimate that respondents will represent firms that comprise 80% of these gross revenues, and that 35% of respondents will represent firms with over \$1.0 billion in annual gross revenues.

Responses will be solicited through e-mails and electronic communications that are routinely used by Tompkins Associates in soliciting survey responses. In addition, we will notify each of the employees registered with Tompkins as representatives of their respective firms (approximately 4,500 people) about the survey, its importance, and its relevance to their own decision-making. The software and systems used by Tompkins will assure that a single response is provided by each company responding to the survey, avoiding duplication of effort.

Members of the Supply Chain Consortium will be notified of the survey by e-mail. Based on the relevancy of the study to their operations and past experience, this level of communications is expected to yield responses from 10% of all companies in the Supply Chain Consortium. Larger companies responsible for the greatest revenue generation, and with more resources and greater volumes of traffic involved in import and export shipments, are likely to respond in greater proportions than those with only domestic shipments. However, all responses will be entered into the database and used in our analysis.

Some of the largest member firms – those with more than \$5 billion in gross revenues will be contacted directly by Tompkins Associates. These firms – especially the ten to twelve largest – establish the standards and make the market for international shipping. In addition, key shippers in each of the revenue classes listed in Table 3 will be contacted directly regarding their participation, and tracking, follow-up and post-response contacts will be made to assure the most representative response possible from the Supply Chain Consortium member firms.

This is a membership survey. All members of the Supply Chain Consortium have committed to participate in periodic surveys, and all have been solicited in the past for similar survey efforts. Tompkins Associates maintains a comprehensive database of all SCC members and will be tracking responses. Members have consented to be contacted for follow-up and for purposes of encouraging participation.

Key Estimators/Factors:

The survey is designed to help provide insight into the factors that may motivate future use of the Panama Canal and U.S. ports offering service through the expanded canal via international shipping. As noted in A.2, the information from this survey will be summarized for reference by MARAD and for documentation in the technical reports, and will be used in estimating the likely changes in freight traffic flows between West Coast, Gulf Coast, and East Coast ports, as part of the technical analysis developed for Phases 2 and 3 of the Study. The survey results will also provide insights to shippers' perspectives on, and their knowledge about and importance they attribute to key elements

in their routing decision processes. This survey is designed to provide a qualitative and very rough quantitative sense of shippers' expectations and likely reactions. MARAD does not expect the survey to produce detailed data on changes in cargo volumes moving through specific ports.

The following factors constitute the main objectives of the survey:

- Modal Profile for Inbound and Outbound Shipments
- Export/Import Profile for Inbound and Outbound Shipments
- Inland Origins/Destinations for Outbound/Inbound Shipments
- Global Sourcing for Inbound and Outbound Shipments
- Port ranges used for Inbound and Outbound Shipments
- Factors contributing to port selection for Inbound and Outbound Shipments
- Containerized Inbound and Outbound Shipments
- Potential Use of Expanded Panama Canal

The survey design allows for responses for all types of shippers in the SCC, even those who do not intend to use or have control of routing relative to the Panama Canal expansion. These responses as well as those from firms with varying degrees of routing control and selection will be tabulated and assessed within the survey design.

We will use reminders, call-backs and analysis of characteristics of SCC respondents as surveys are completed to address potential response bias. In addition to monitoring "real-time" characteristics of on-line responses, we will use available information about SCC members to target several of the larger shippers in the SCC. These larger firms (greater than \$20 billion in gross annual revenue) set the patterns for logistics decisions in the shipping industry and are the most trade-oriented firms (those involved in both export and import activity). They will be identified and contacted directly to solicit their responses to the survey. We have targeted firms representing 30% of the \$2.3 trillion in aggregate SCC gross revenue (over \$5 billion in firm revenue) for direct contact. Further, we have identified the top 10 largest firms in the SCC. We will attempt to get all of these firms to respond with direct contact, if the general solicitation/e-mail requests fail to produce results.

Because this is a policy-oriented study, and not a travel demand or simulation study, and because there are no publicly available sources of data or analysis that have addressed the issues of price sensitivity to Panama Canal routing, we believe that this survey will provide a first-of-its kind source of information that is reliable enough to support the intent of the study. Weighting of raw survey results will be done using both revenue and industry type based on the profile information contained in the SCC database. We propose to use firm size (as measured by gross revenues) and industry sector (retail, manufacturer or distributor) as factors in the weighting process. Both of these measures are available for the entire membership of the non-private members of Supply Chain Consortium.

Tables 5 and 6 below display example raw cross-tabulated survey responses of industry and import/export status with annual revenue. Given the very small sample sizes in these cells, extreme caution will be exercised in analyzing and interpreting all results from the survey. This survey is designed to provide a qualitative and very rough quantitative sense of shippers' expectations and likely reactions. Despite careful efforts to achieve reasonable response from large firms, it cannot provide precise statistical estimates that can be generalized to the target population.

Table 5 – Example Raw Survey Results:

Annual Revenue					
Import / Export Profile					
Ver. Hori.	Both import and export goods	Import goods only	Export goods only	Neither import nor export	Total
>\$45 billion	5 7.9% 50.0%	5 27.8% 50.0%	0 0.0% 0.0%	0 0.0% 0.0%	10 10.8% 100.0%
>\$20B - \$45B	2 3.2% 66.7%	0 0.0% 0.0%	1 25.0% 33.3%	0 0.0% 0.0%	3 3.2% 100.0%
>\$10B - \$20B	9 14.3% 100.0%	0 0.0% 0.0%	0 0.0% 0.0%	0 0.0% 0.0%	9 9.7% 100.0%
>\$5B - \$10B	7 11.1% 70.0%	2 11.1% 20.0%	0 0.0% 0.0%	1 12.5% 10.0%	10 10.8% 100.0%
>\$1B - \$5B	17 27.0% 68.0%	4 22.2% 16.0%	1 25.0% 4.0%	3 37.5% 12.0%	25 26.9% 100.0%
\$250M - \$1B	12 19.0% 66.7%	4 22.2% 22.2%	1 25.0% 5.6%	1 12.5% 5.6%	18 19.4% 100.0%
< \$250 million	11 17.5% 61.1%	3 16.7% 16.7%	1 25.0% 5.6%	3 37.5% 16.7%	18 19.4% 100.0%
Total	63 100.0% 67.7%	18 100.0% 19.4%	4 100.0% 4.3%	8 100.0% 8.6%	93 100.0% 100.0%

Table 6 – Industry Distribution

Import / Export Profile				
BBP Membership				
Ver. Hori.	Distributor	Manufacturer	Retailer	Total
Both import and export goods	4 66.7% 6.3%	35 70.0% 55.6%	24 64.9% 38.1%	63 67.7% 100.0%
Import Goods Only	1 16.7% 5.6%	9 18.0% 50.0%	8 21.6% 44.4%	18 19.4% 100.0%
Export Goods Only	0 0.0% 0.0%	2 4.0% 50.0%	2 5.4% 50.0%	4 4.3% 100.0%
Neither import nor export	1 16.7% 12.5%	4 8.0% 50.0%	3 8.1% 37.5%	8 8.6% 100.0%
Total	6 100.0% 6.5%	50 100.0% 53.8%	37 100.0% 39.8%	93 100.0% 100.0%

c. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

The Supply Chain Consortium is a membership organization that encourages member firms to participate in polls of this nature. A three-step process of invitation/reminder/reminder is used, with participants automatically removed from the distribution list of prospective contributors before follow-up e-mails are sent. Invitations and reminders (two reminders are sent, the first being one week after the initial poll was published and the second was after 2 weeks) are sent in both HTML and plain-text format as well as edited to reduce the possibility of getting flagged as "spam," and therefore delivered to the largest percentage of targeted participants possible. Participants will be provided with a proprietary report of findings to generate interest in taking part. Furthermore, reminder e-mails will incorporate preliminary results as "teasers" to entice participation. We expect that the "teasers" will only be top-line information, such as characteristics of respondents to-date. However, the summary will only be provided to participants after the survey has been completed.

The Supply Chain Consortium Survey entails submitting a list of questions to representatives of the 2,516 firms that are members of the Supply Chain Consortium as reported in the membership database. While the term 'survey' is used to describe this inquiry, it should be understood that this will effectively be a census of the organization's membership with respect to the issues in question, as it will not be a sample of the membership, but involve the entire universe of the companies, departments and individuals with primary shipping decision-making in relevant shipping company departments that make up the consortium. Because the subjects of the survey will be the entire "population" and because this "population" is well documented and understood (based on membership information already on file and prior responses of the Supply Chain Consortium members to other surveys), the response and non-response by individual/company/industry and the characteristics of the responding and non-responding segments of the membership can be readily tracked and analyzed.

For example, the research team will know with certainty the industry, market share, relative size, geographic location and firm characteristics of the non-responding members of the Consortium. This will enable the team to create a profile of non-respondents, which will serve two purposes:

- (1) Characterizing the significance of non-response in terms of share of the shipping market, or share of freight sensitive to particular factors at stake in the analysis, and
- (2) Identifying the need and scope of follow-up questioning, either through successive rounds of the survey or through depth interviews or other methods

of inquiry suited to the non-responding group.

The survey is designed, and has been specifically pre-tested, to include a small number of screening questions that will allow respondents to provide quick responses and exit the survey. Pre-testing has shown that this process requires between one (1) and five (5) minutes. Information about the estimated time to complete the survey based on the characteristics of shipping patterns (e.g., importers, exporters, domestic-only, etc.) will be communicated to potential respondents in advance so that they will have a reasonable expectation of the time to complete the survey.

Communication of time to complete, the composition of the membership, and their pre-determined willingness to participate in these kinds of surveys are expected to increase the likely response rate for this survey. However, even the most carefully structured surveys and pre-determined willingness of a group to be surveyed cannot guarantee that non-response issues will be minimized.

When non-response is encountered, either subsequent to successive rounds of solicitation or through direct communication, the characteristics of the non-respondents will be known. Response/non-response will be tracked by company size, industry type (e.g., retailer, manufacturer, etc.), location and shipping characteristics (e.g., container, bulk, etc.) If there is an element of this stratification of the membership that is under-responding or non-responsive, individuals in these under/non-responsive groups will be contacted directly to either prompt a response or to determine why a response was not forthcoming. This background information on non-response will be summarized in the report developed as part of this survey, and will be used to assess the effects non-response on any observations or conclusions developed through the survey.

The summary report will include a descriptive profile of the Supply Chain Consortium's membership with regard to all of the characteristics covered by the survey. The purpose and application of the survey will be to bring the Supply Chain Consortium's experience, judgment and knowledge of shipping markets to bear on the larger study, and not to make broader inferences about shippers outside of the consortium. We will be using information obtained in the one-on-one surveys, information from listening sessions and other data sources, such as U.S. Army Corps of Engineers data and privately available databases described in reports produced for this series to develop additional information about potential shipping responses to expanded Panama Canal operations. These data will be developed and presented in the technical reports being prepared as part of the larger study that the survey supports. Because the Supply Chain Consortium and its members include some of the largest shippers as well as a broad range of businesses involved in moving goods to and from U.S. ports, the results of the survey will provide qualitative and very rough quantitative sense of shippers' expectations and likely reactions.

d. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from ten (10) or more respondents. A proposed test or set of test may be submitted for approval separately or in combination with the main collection of information.

Two types of pre-testing were employed for this survey instrument. First, employees of the consultant team who were not directly involved in constructing the survey were assigned scenarios based on a range of potential shipper characteristics (e.g., container versus bulk shippers, exporters versus importers versus domestic shippers, etc.) Individuals were then asked to complete the survey to identify both the time needed to complete questions (e.g., a test of the time requirements based on the assumption that respondents would be able to answer questions relatively quickly based on knowledge of their companies), and to test to be sure that the branching and logic of the on-line survey accurately directed respondents to the appropriate sets of questions (e.g., if a respondent indicated that they were only exporting and the survey directed them to question about imports, the instrument “failed” and this failure was noted and corrected.) Once failures were corrected and re-run, approximately twenty (20) scenarios were tested. The time-to-complete ranged from one (1) minute to fifteen (15) minutes for the web-based survey and was dependent on whether the scenario described a respondent as a domestic shipper (the shortest times) to a shipper involved in both exporting and importing (up to 15 minutes).

Once these functional pre-tests were complete, the survey instrument was tested on a set of nine (9) Supply Chain Consortium members who volunteered to test the instrument. These nine pre-testers were representative of the types and sizes of shippers who are members of the Supply Chain Consortium. A summary of the pre-test respondents is provided in the tables below.

Industry Type	Number of Pre-Test Respondents
Wholesaler / Distributor	1
Retailer	2
Manufacturer	4
Logistics Service Provider / 3PL / 4PL	1
Other	1
Total Pre-Testers	9

Industry Size	Number of Pre-Test Respondents
>\$25 billion annual revenue	5
Between \$10 billion and \$2 billion	1
Between \$1 billion and \$10 million	3
Total Pre-Testers	9

The time required by the pre-testers corresponded well with the scenario-based testing undertaken by the developers of the survey, with the times ranging from one (1) minute to twenty (20) minutes to complete the survey. As anticipated, businesses involved in both importing and exporting required the most time to complete the survey, while those involved in domestic-only shipments requires the least. The response times and shipper types are summarized below:

Time to Complete (minutes)	Number of Pre-Test Respondents	Shipper Type
1	1	Domestic Shipper
8	1	Export Only
10	1	Import & Export
12	1	Import Only
15	4	Import & Export/Import Only
20	1	Import & Export
Total Pre-Testers	9	

e. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

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