Advancing Sustainable Purchasing in U.S. Local Governments
Activity Overview and Project Timeline

In August 2017, the ASU team began its research project to assess sustainable purchasing in U.S. cities. The project occurred over an 18-month period, from August 1, 2016 to December 31, 2017. During that period, the project team developed a survey and administered it to officials in 791 U.S. cities in order to better understand the facilitators and barriers of sustainable purchasing in local government. Table 1 provides an overview of the project timeline.

Table 1: Timeline of Primary Research Activities

Month/Year	Activity
August 2016	• Onboard post-doctoral student and master-student • Hold initial project meeting and scope discussions • Review research literature on purchasing and local government sustainability
September 2016	• Generate preliminary survey items/questionnaire • Identify population frame and survey targets
October 2016	• Internal workshop of survey items • Host focus groups with the City of Phoenix • Gather contact information for the population frame and survey target • Develop a preliminary implementation timeline and protocol
November 2017	• Obtain approval from International City/County Management Association to use its name and logo on all survey materials • Finish collecting contact information for the population frame and survey targets • Finalize preliminary survey draft • Share survey draft with external stakeholder groups (e.g. ICMA, SPLC) • Convert the survey to Qualtrics online survey software • Initiate ASU's Institutional Review Board (IRB) Process for human subjects research
December 2017	• Receive IRB approval • Incorporate external stakeholder comments and feedback into survey instrument • Draw a subsample of the census/sample for a pretest (n=94) • Generate paper materials (invitation letters/follow-up post cards for pre-test) • Initiate pre-test of survey instrument (see protocol below for details)
January 2017	• Finalize the pre-test • Analyze the pre-test data • Make final adjustments to the survey instrument based on pre-test results. • Generate and prepare print materials (letters/follow-up postcards(2x)) for mailing • Initiate survey implementation (see protocol for details)
February 2017	• Implement survey • Initiate dissemination plan with stakeholders
March 2017	• Implement survey • Generate variable names and labels for preliminary codebook • Write data cleaning code in STATA

Table 1: Timeline of Primary Research Activities (continued)

Month/Year	Activity
April 2017	• Close survey (April 14th) • Download Data from Qualtrics system • Merge and clean data files using the data cleaning code • Merge American Community Survey, U.S. Census Bureau data with survey data
May 2017	• Generate preliminary analyses (frequencies and descriptive statistics) • Coordinate with ASU media services to develop report, executive summary, slide deck • Coordinate with college media team to develop podcasts, video clips, press release, project website, Facebook page, LinkedIn page • Present preliminary results at Sustainable Purchasing Leadership Council • Publish practitioner article in *LSE Business Review*; post on LinkedIn, Facebook, Twitter
June 2017	• Disseminate report • Disseminate materials distributed to stakeholders • Announce report on Twitter, Facebook, LinkedIn
July 2017	• Follow-up with stakeholders • Begin social media campaign – 1 Tweet per day; 1 Facebook poster/week for 6 weeks • Publish practitioner article in *Public Administration Review*; post on LinkedIn, Facebook, Twitter
Aug 2017	• Follow-up with stakeholders • Host webinar about project findings • Publish practitioner articles in *CitiesSpeak*; *Public Management Magazine*; announce on LinkedIn, Facebook, Twitter • Complete social media campaign • Submit interim report to VKRF
Sept-Nov 2017	• Present findings at NASPAA, ICMA and APPAM conferences
Dec 2017	• Advertise project activities on LinkedIn, Twitter, Facebook • Close-out of project with ASU IRB • Submit final report to VKRF

The following sections describe the processes through which the survey items were generated and constructed, in addition to process for identifying survey targets and implementing the survey.

Survey Design and Construction

Item Generation
The project team began generating items for the survey by looking at previous surveys and published research to determine whether prior surveys could be amended for our use. While surveys existed assessing sustainability in local governments (e.g. ICMA Local Government Survey), none were specific to sustainable public purchasing. For this reason, the team began the process of generating original survey questions around the following topics:

- The structure of purchasing decisions in a city
- City-level purchasing policies and practices
- Department-level purchasing policies and practices
- Information on sustainable products
- Information on vendor relationships
- Influence of external groups (e.g. citizens, higher-levels of government)

The initial list consisted of more than 100 survey questions. The team then held three lengthy workshop sessions in October 2016. During these sessions the team discussed each of the survey items, removed redundancies, edited items to provide clarity, and developed additional survey items. A preliminary survey was finalized at the end of October 2016.

Stakeholders
In November 2016, we distributed the preliminary survey to 31 individuals, representing 17 organizations (see Table 2). Stakeholders were identified using the team's professional networks. Additionally, the team reached out to leaders in prominent nonprofit organizations that promote sustainable purchasing. At the end of the first week of November, team members met with representatives in the Sustainable Purchasing Leadership Council, U.S. EPA, and the International City/County Management Association (ICMA) for more detailed feedback and to learn about complementary initiatives that both organizations were advancing. ICMA is the most widely recognized professional association for city leaders. It also offers guidance to local governments on how they can reduce their environmental problems, we asked whether ICMA would be willing to allow us to use their logo and indicate that they endorsed this research. In return, we would give them quicker access to survey findings and acknowledge ICMA in our publications.

Table 2: Project Stakeholders

Stakeholder Organization	Contact
1. Alameda County	Karen Cook
2. Alliance for Innovation	Karen Thorensen
3. ASU W.P. Carey School of Business	Kevin Dooley
4. ASU W.P. Carey School of Business	Shirley-Ann Behravesh
5. AZ State Department of Finance, Procurement Division	David Gonzales
6. Cardiff University	Maneesh Kumar
7. Cardiff University	Vasco Sanchez
8. City of Phoenix	Joe Giudice
9. City of Phoenix	Julie Reimenscheider
10. Industrial Economics	Anastasia O'Rourke
11. International City/County Management Association	Andrea Fox
12. International City/County Management Association	Jelani Newton
13. International City/County Management Association	Jessica Johnson
14. International City/County Management Association	Tad McGilliard
15. International Forum on Sustainable Value Chains	Joerg Hofstetter
16. Japan Ministry of the Environment	Naoto Suzuki
17. Responsible Purchasing Network	Alicha Culver
18. Sant'Anna School of Advanced Studies, Institute of Management	Francesco Testa
19. Sant'Anna School of Advanced Studies, Institute of Management	Silvia Sarti
20. Sustainable Purchasing Leadership Council	Cuhulain Kelly

Table 2: Project Stakeholders (continued)

Stakeholder Organization	Contact
21. Sustainable Purchasing Leadership Council	Jason Pearson
22. U.S. Environmental Protection Agency Headquarters	Alison Kinn-Bennett
23. U.S. Environmental Protection Agency Headquarters	Harry Lewis
24. U.S. Environmental Protection Agency Headquarters	Holly Elwood
25. U.S. Environmental Protection Agency Headquarters	Jenna Larkin
26. U.S. Environmental Protection Agency Headquarters	Katherine Donner
27. U.S. Environmental Protection Agency Region 9	John Katz
28. U.S. General Services Administration	Dana Arnold
29. University of New South Wales	Gavin Schwarz
30. Waseda University	Takuro Miyamoto
31. Waseda University	Toshi Arimura

Pre-Test Instrument

Once the team finalized the survey, it prepared for pre-testing. We first transferred the questions to Qualtrics Survey Software. Qualtrics was the online platform we used to administer the U.S. survey and compile the data. To ensure that the Qualtrics platform was working properly, the project team implemented multiple beta tests of the online survey. The team assessed the ordering of questions and number of questions per page. It also estimated the time it took to complete the survey and tested the survey's online functionality (e.g. skip logics).

The pre-test was subsequently submitted and approved by ASU's Institutional Review Board as complying with standards for research on human subjects.

Final Instrument

Following the pre-test, the team made only minor revisions to the survey. The final survey is available in Appendix 1 of this document.

Defining the Population Frame and the Targets of the Survey

Defining Survey Targets

In considering who we should survey, we first considered surveying individual purchasing officers. However, our review of the public purchasing research literature, showed that these individuals would have only a limited understanding of the barriers and drivers of sustainable purchasing in local governments. Focus group meetings with City of Phoenix purchasing officers and department directors confirmed this position.

Since we were interested in organization-level issues, we thus focused our attention on higher-level managers whose operations either were (1) related directly to purchasing, (2) substantially affected by purchasing, or (3) directly related to environmental management.

Additionally, we sought to include managers who are involved a range of purchases, including: (1) low-cost, routine purchase; (2) high-cost, routine purchase; and (3) high-cost, non-routine purchases that involve technical specifications.

These criteria led us to contacting directors in the following departments:
1) Finance Department (or equivalent)
2) Public Works Department (or equivalent)
3) Environmental Department (or equivalent)

Finance Department. In nearly all cities, the finance department has either a primary or strong supportive role in a city's purchasing activities. These departments tend to purchase a large number of items across the range of purchasing categories: a) low-cost, routine purchase; b) high-cost, routine purchase; and c) high-cost, non-routine purchases that involve technical specifications. Directors of these departments have detailed knowledge of cities' organization-wide purchasing policies and how they are implemented.

Public Works Department. Across cities, the public works departments tend to be one of the larger departments as they are generally responsible for a wide range of activities such as sewage, water and waste collection. Like the finance department, public works departments also tend to purchase a large number of items across a range of purchasing categories. Additionally, directors of public works departments generally have a good knowledge city purchasing policies and practices, as well as a reasonable understanding of environmental concerns.

Environmental Department. While not present in all cities, directors of environmental departments are tasked with the integration of environmental concerns into the city's routines and processes. These departments are not likely to have as many purchases of other departments. However, they have a strong understanding of how environmental concerns are being integrated into the city's operational practices and the extent to which sustainable purchasing is being implemented.

Identifying Survey Targets and Collecting Information (Process and Protocol)

Two graduate students and a postdoc took nine weeks to identify three directors (finance, environment, public works) per city, when possible. The graduate student assistants were each given 381 cities. The postdoc was assigned 763 cities to research. The city list was created using the 2010 US Census. The list was divided alphabetically, so that each research assistant would get a variety of different cities to research, and our results could be consistent. Cities 1-381 were assigned to one graduate assistant, 382-763 to the second graduate assistant, and 764-1525 were assigned to the full-time postdoctoral researcher.

Sample participants were identified by searching city websites. The following protocol was used to identify department contacts in each city:
1) In Google, student workers used search words, (e.g. The City of Phoenix) to find each city's official webpage.
2) Once located, city department information was searched for and located.
3) If available, student workers recorded the director's name, email address, phone number, and mailing address.

4) If information was not available, the workers conducted a Google search for the position and the city name. For example, if searching for the finance director of Seal Beach, California, students would enter the search term "Director of Finance, City of Seal Beach, CA" to identify an individual.
5) The student workers then searched the name of this individual in Google as well as work-related social media (e.g. Linked-In) to identify an email address.
6) Cities' web pages varied greatly. Some were very user-friendly while others were more difficult to navigate. Finance department information and public works information were not difficult to find, since most city webpages had a prominently displayed department pull-down menu. When a director could not be located, student workers next searched for the contact information for the Chief Financial Officer, or the city Controller/ Comptroller. In some cases (usually smaller cities) the treasurer also served as the CFO. The director of public works or an equivalent division was identified in each of our sample cities. When this was not possible, the contact information for the city engineer was used. Not uncommonly, the city engineer also served as the director of public works, especially for smaller cities. A majority of websites had a search mechanism which we used to look for environment-related divisions, since environment departments were as prominently displayed in department listings. Search words used to identify environment departments included the following: sustainability, environmental sustainability, environment, green. While most cities had an environmental sustainability commission or committee, very few had an official division or department manager.

During the sixth week, the team was increasingly concerned how long it was taking to develop our sample. A total of 685 cities still needed to be researched for contact information. We considered that smaller cities would be less likely to have sustainable purchasing activities and that we needed a sufficient number of cities with sustainable purchasing activities to assess variations in their activities. These factors combined caused us to shift our approach. We decided first to focus on completing the contact information for cities with populations $\geq$ 50,000 residents (311 cities had populations $\geq$ 50,000), and, second, to obtain a representative sample of cities with between 25,000 - 50,000 residents.

To address the first point, we divided the 311 cities with populations $\geq$ 50,000 among the student workers. Contact information was completed at the end of 8 weeks. To address the second point, we did post-hoc assessments of our existing sample and determined it was representative based on geographic location. We thus dropped the remaining 374 smaller cities.

Post-hoc checks of our overall sample indicate that indeed it is representative (but nonrandom) based on size, income and location. The sample contains 350 cities with populations under 50,000, 263 cities with 50,000 – 99,999, and 177 cities with populations of 100,000 or more.

Email Verification
We verified each director's emails using a verification service called DataValidation. Verification was needed because websites can be dated or contain misinformation, and some cities use firewalls on outside emails. We uploaded the list of city director emails to the DataValidation website. Data validation assigned email addresses a grade of either A, B, D, or F.

Grades of either A or B denote reliable email addresses. Grades of D and F denote either invalid emails or emails that would be rejected or sent directly to spam filters.

After using DataValidation to assess the quality of the director emails, we determined that 179 emails would likely be rejected. Recognizing that rejections could be due to firewalls on mass emailings, we grouped the 179 emails into small mailing batches of five or less to see if this approach would reduce the bounce-back rate. This process reduced the number of bounce-backs by 59. For the remaining 120 problematic emails, we manually re-verified them by entering them individually in Google. In some cases, the contacts were no longer valid because the directors had changed. In other cases, we discovered that the emails contained typos. After the reverification process, 10 problematic emails remained; these directors were dropped from the sample.

The final sample size was 1,796 department directors in 791 cities. Across the three different city departments, the sample consisted of:
- 44% Finance Directors
- 43% Public Works Directors
- 13% Environmental Division Managers.

Survey Pre-Test and Survey Implementation
To select our pre-test sample, we drew a random sample of 100 city directors from our list and then used a random number generator assign them 100 unique identification numbers. Three city directors were selected twice during this process. We dropped these directors from the pre-test sample, leading to a final sample of 94 directors. The pre-test sample consisted of 51% Finance Directors, 37% Public Works Directors, and 12% Environmental Division Managers.

The pre-test protocol consisted of sending a letter to directors via mail to alert them about the survey and to inform them that they would be receiving an email in a next couple of days. The email contained a web link to complete the survey (see Table 3 for a timeline of the pretest). The letter also alerted target respondents that the survey was co-sponsored with the ICMA. Letters were printed in the School of Public Affairs and personally signed in blue ink. They were posted using first class stamps.

The following week, we sent an email to pre-test city directors that contained a web-link to the Qualtrics survey. We timed the email arrival so that it would coincide closely with the receipt of their hard-copy notification letter. One day later, we sent a postcard reminder to city directors. Postcards were 6 inch x 4 inches and printed by the university's print services department. They included color and institutional logos for visual appeal. We used first class mail on the postcards to ensure quicker delivery. Additionally, first-class post ensures that if a postcard was undeliverable, it would be returned to the research team (third-class mail does not get returned). The following week, we send a second email with a survey link embedded. This email was expected to coincide with directors' receipt of the reminder postcard. The same day, we mailed a second postcard reminder and sent a third email with survey link was sent to directors.

After sending the letter, three emails, and two postcard reminders, our response rate was quite low (19%). For this reason, we made two rounds of phone calls non-respondent directors. The

morning that each director received a call, we sent an email to them with a link to the electronic survey. Appendix 2 contains the phone call protocol and scripts. For many of the phone calls, directors did not answer. In those cases, we left voice mail messages. In some instances, non-responding calls were directed to an administrative assistant where asked to leave a voice mail message on the director's voice mail rather than leave a note with the assistant. Phone calls increased our pretest response rate to 36%.

Table 3: Pretest Implementation Timeline

Date	Activity
Dec. 5, 2016	Pre-notification letter sent (see Appendix 2)
Dec.13, 2016	First email with survey link sent to pre-test cities
Dec.14, 2016	First postcard to cities mailed (expected arrival December 19)
Dec.19, 2016	Second email with survey link emailed
Dec.19, 2016	Second postcard to cities mailed (expected to arrive after Christmas). Holiday rush, and city-worker vacation time was calculated into our timeline
Dec. 28, 2016	Third email with survey link emailed to cities; response rate (prior to the email) was 19%
Jan. 4-6, 2017	75 phone calls were made to non-respondents; response rate prior to the start of calls was 20%
Jan. 11, 2017	60 phone calls made to non-respondents; response rate increased to 36%

Given the success of our pretest, we followed the same protocol for the remaining sample. Pretest surveys were combined with the remaining sample. A timeline of the full survey implementation is described in Table 4. In considering of the timing of our survey, to the best of our ability, we tried to avoid the budgeting season, which begins in March and would likely reduce response rates, especially from finance directors.

Table 4: Survey Implementation Timeline and Protocol for Remaining Sample

Date	Activity
Jan. 24, 2017	Full survey launched. Notification letter sent to cities
Jan. 31, 2017	First email with survey link sent to cities
Jan. 31, 2017	*Response was, 6.5%*
Feb. 2, 2017	First postcard sent to cities (expected to arrive by Feb. 7)
Feb. 6, 2017	*Response rate was 10.5%*
Feb. 7, 2017	Second email with survey link sent to director
Feb. 7, 2017	Second postcard sent to cities (expected to arrive by Feb. 14)
Feb. 13, 2017	*Response rate was 16%*
Feb. 14, 2017	Third email with survey link sent to cities
Feb. 20, 2017	*Response rate was 19.7%*
Feb. 21- Mar. 3, 2017	First round of phone calls to cities (see Appendix 2) -
Mar. 6, 2017	*Response rate was 28.5%.*
Mar. 7-17, 2017	Second round of phone calls to cities and emails with electronic survey links
Apr. 3, 2017	*Response rate was 33.8%*
Apr. 4, 2017	Final email sent to cities
Apr. 13, 2017	Survey closed. *Response rate was* 34.1%

Two deviations between the pretest and the full survey were that (1) we used scanned blue signatures in our initial letter to respondents given the volume of letters; (2) we hired two additional student workers to help make follow-up phone calls. A total of three students and a post-doc made the calls. As was the case in the pretest, an email was coordinated with each call so that the individual had quick access to the electronic survey. After the follow-up phone calls were made, our response rate increased to 34.1%. We then closed the survey.

Survey data were downloaded from Qualtrics and we created variable names for each survey item. We developed data cleaning code in STATA to address any data anomalies and to compile frequencies for each survey question/item. Frequencies were also used to develop our codebook.

We obtained secondary data from a variety of sources (including as the U.S. Census) to obtain city-level demographic information, voting information, and environmental group activity. These data were merged with the survey data. Our codebook explains each of these variables.

Nine months into the project, we began developing our professional report and initiating our media plan, described in Table 1.

Scaling Up

In scaling up this project or replicate the U.S. survey, we asked ourselves what we might have done differently. First, we would have used university's print services to print our initial letter to directors rather than doing this within the School of Public Affairs. Second, we would have had ASU's Print Services print the post cards with the mailing labels on them rather than having Print Services print the cards only (and then the ASU team print and adhere the mailing labels to postcards separately). We also would have had ASU Mail Services to post all letters and postcard reminders.

Third, we also would have monitored the process of identifying target respondents and collecting their contact information more closely. This process required significant attention to detail. When hiring students to undertake this process, future project teams should consider that individuals who lack this attention to detail will have greater error rates and time to complete the task.

Finally, in other country settings, relying on a consultant can increase efficiencies with survey execution. In some countries (e.g., Japan, China), consulting companies have significant expertise managing large survey protocols, and these companies relatively cost-effective. Project teams should consider the advantages of using a consultant rather than executing the survey in-house.

Appendix 1. Online Survey

ASU School of Public Affairs
ARIZONA STATE UNIVERSITY

ICMA

Introduction Text

The *Center for Organization Research and Design* in the *School of Public Affairs* at *Arizona State University (ASU)* in cooperation with the *International City/County Management Association (ICMA)* is conducting a study on government purchasing and procurement. As a department leader, we are interested in your perspectives and insights into procurement in your organization. While purchasing and procurement may constitute just a small portion of your position's responsibilities, your insights will give us a department-level perspective on purchasing processes.

The findings from this project may provide information helpful **to better understanding barriers and facilitators of effective purchasing and procurement in local governments**. We are also interested in the extent to which environmental sustainability is being considered in local government purchasing and procurement processes. In partnership with **ICMA**, we expect to diffuse our findings throughout the practitioner community. **Your participation will greatly enhance the quality of our results.**

Your participation will entail responding to a series of questions related to your workplace and should take about 10-15 minutes. Your responses are confidential. Results of this study may be published, but the published results will be presented in summary form only. Your identity will not be associated with your responses in any published format. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time.

If you have any questions about this research project, please feel free to call me at **602-496-0243**, or send an e-mail to *Dr. Melissa A. Duscha* at *mduscha@asu.edu*. Questions or concerns about your rights as a research participant should be directed to the *Social Behavioral IRB at Arizona State University* at 480-965-6788 or by email at *research.integrity@asu.edu*.

By completing the following survey, you are agreeing to participate in this research project. Participants must be 18 years of age or older. Please feel free to print and keep a copy of this page for your records.

Again, thank you for participating.

Dr. Melissa A. Duscha
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Take the survey

SECTION 1: City Level Procurement Practices

As a department manager, you have a broad perspective of your city's policies and activities. It is this perspective that we are interested in and the reason you are included in this study.

In this section of the survey, we will ask you to characterize aspects of your city's procurement system. Please answer the questions to the best of your knowledge and based on your perspective as a manager.

1. There are a variety of ways that cities conduct the purchasing of products and services. Please indicate the extent to which you agree with the following statements related to how **purchasing is conducted** in your city:

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree	Don't Know
The finance department conducts all purchasing	○	○	○	○	○	○
Individual departments do all of their own purchasing	○	○	○	○	○	○
Separate departments cooperate to make purchases	○	○	○	○	○	○
Departments coordinate with higher level offices to make purchases (e.g., city manager's office)	○	○	○	○	○	○
The finance department provides support for department purchasing	○	○	○	○	○	○

2. To the best of your knowledge, has your city implemented the following purchasing activities?

	Yes	No	Don't Know
Citywide contracts to reduce purchasing costs	○	○	○
An e-procurement system	○	○	○

2B. Please indicate whether your city has implemented the following elements in your e-procurement system:

	Yes	No	Don't Know
Online bid process	○	○	○
E-procurement training for purchasing officers	○	○	○
Tracking of e-procurement purchases	○	○	○
Database of environmentally friendly products and services	○	○	○

3. To the best of your knowledge, has your city **implemented a formal policy** pertaining to any of the following purchasing issues:

	Yes	No	Don't Know
Minority-owned business purchasing	○	○	○
Women-owned business purchasing	○	○	○
Environmentally sustainable purchasing*	○	○	○
Veteran-owned business purchasing	○	○	○
Local business purchasing	○	○	○
Small business purchasing	○	○	○

* Environmentally sustainable purchasing is the set of activities undertaken by an organization to implement purchasing that reduces negative effects on the environment.

SECTION 2: City Level Environmental Sustainability Policies/Practices

In this section, we ask several questions about your city's policies and practices related to environmental sustainability*.

* Environmental sustainability refers to activities that reduce negative effects on the environment.

4. Please indicate whether the following environmental practices have been implemented or adopted throughout your city.

	Yes	No	Don't Know
Tracking of spending on environmental sustainability activities	○	○	○
Setting goals and targets for environmental performance	○	○	○
Environmental training for all city employees	○	○	○
Internal audits of environmental performance	○	○	○
Publication of an environmental / sustainability report	○	○	○
Using an environmental management system	○	○	○

5. To the best of your knowledge, does your city have any of the following?

	Yes	No	Don't Know
Citywide environmental sustainability director	○	○	○
Citywide environmental sustainability committee	○	○	○
Citywide environmental sustainability policy	○	○	○
Energy usage conservation policy	○	○	○
Water usage conservation policy	○	○	○
Green building policy	○	○	○
Greenhouse gas emissions policy	○	○	○
Recycling policy	○	○	○
Citywide discussions about environmentally sustainable purchasing practices across units	○	○	○

6. Over the last five years, how important has each of the following **federal or state government programs** been in promoting environmental sustainability in your city?

	Very Important	Important	Moderately Important	Slightly Important	Not Important	Don't Know
Grants	○	○	○	○	○	○
Technical assistance (e.g., EPA Pollution Prevention Technical Assistance)	○	○	○	○	○	○
Voluntary programs (e.g., EPA Green Lights)	○	○	○	○	○	○
Awards/recognition programs	○	○	○	○	○	○
Educational programs	○	○	○	○	○	○

Section 3a Department Level Policies/Practices (PURCHASE QUESTIONS)

In this next set of questions, we will ask you about your departments' general purchasing policies and procedures. We are specifically interested in policies and procedures as they relate to three types of purchases made by your department:

1) <u>Routine, low-cost purchases</u> of products/services

2) <u>Routine, high-cost purchases</u> of products/services
3) <u>Non-routine, high-cost purchases</u> that require <u>technical specifications</u> of products/services

Routine refers to regular, repeated purchases. **Technical specifications** (e.g., scope of work) are the explicit characteristics of a purchase that describe the user's product and service requirements.

7. For each type of purchase, identify every level of approval that is required for authorization. Check all levels that apply for each type of purchase: (Please leave blank if you don't know)

	1. Routine, Low-Cost Purchases	2. Routine, High-Cost Purchases	3. Non-routine, High-Cost Purchases w/Technical Specifications
Departmental	☐	☐	☐
City Finance Office/Department	☐	☐	☐
City Executive Manager (Mayor or City Manager)	☐	☐	☐
City Council	☐	☐	☐

8. For each type of purchase, check the box if the following is used in your department's purchasing process. (Please leave blank if you don't know)

	1. Routine, Low-Cost Purchases	2. Routine, High-Cost Purchases	3. Non-Routine, High-Cost Purchases w/Technical Specifications
Approved vendor list	☐	☐	☐
Existing or prior contract	☐	☐	☐
Bid process	☐	☐	☐
Information system searches to find multiple options	☐	☐	☐
Information on the environmental impact of products	☐	☐	☐
Information on life cycle cost*	☐	☐	☐
Prior approval from unit budget/finance officer	☐	☐	☐
Prior approval from higher unit budget officer	☐	☐	☐
Ecolabels/certifications	☐	☐	☐
Preferred green products/services list	☐	☐	☐

* **Life cycle cost** refers to the expenses associated with a product's total life, from raw material extraction through materials processing, manufacturing, distribution, use, repair and maintenance, and disposal or recycling.

9. For each type of purchase, please indicate **how much time (in weeks) is typically required** between a _purchasing request being made_ by your department and _the actual approval of that request_:

Weeks

	0	5	10	15	20	25	30	35	40	45	50	55
1. Routine, Low-Cost Purchases												
2. Routine, High-Cost Purchases												
3. Non-Routine High-Cost Purchases w/Technical Specifications												

In the next section, we will ask you about the general aspects of purchasing in your department.

SECTION 3b: Department Level Policies/Practices

10. Departments may use a number of different information sources when making purchases. Please indicate whether each of the following information sources is available to your department when making purchasing decisions:

	Yes	No	Don't Know
Information on the environmental impact of products	○	○	○
Product ecolabels/certifications	○	○	○
Green product/service list	○	○	○
Minority business list	○	○	○
Small business list	○	○	○

11. There are many different criteria that may be considered in the purchase of a product or service. In thinking about your department's purchasing criteria, how important is each of the following characteristics of a product or service?

	Very Important	Important	Moderately Important	Slightly Important	Not Important	Don't Know
Purchase price	○	○	○	○	○	○
Execution of pre-existing contract agreements	○	○	○	○	○	○
Performance requirement	○	○	○	○	○	○
Buying from minority/women businesses	○	○	○	○	○	○
Buying from veteran businesses	○	○	○	○	○	○
Buying from local businesses	○	○	○	○	○	○
Greenhouse gas emissions reductions	○	○	○	○	○	○
Environmental impact (e.g., water use, solid waste)	○	○	○	○	○	○
Life-cycle cost of the product	○	○	○	○	○	○
Maintaining vendor relationships	○	○	○	○	○	○

12. How important are **technical specifications** to your department when managing the following aspects of purchases:

	Very Important	Important	Moderately Important	Slightly Important	Not Important	Don't Know
Complexity of the purchase	○	○	○	○	○	○
Uncertainty in identifying appropriate vendors	○	○	○	○	○	○
Higher level review processes	○	○	○	○	○	○
Environmental sustainability concerns	○	○	○	○	○	○

In this section of the survey, we will ask you about environmental sustainability policies and practices within your department. There are no right or wrong answers to these items. Please answer the questions based on your perspective as a department manager.

13. How influential are each of the following **individuals** or **organizations** in promoting environmental sustainability practices in your department?

	Very Influential	Influential	Moderately Influencial	Slightly Influential	Not Influential	Don't Know

Federal government	○	○	○	○	○	○
State government	○	○	○	○	○	○
Other city departments	○	○	○	○	○	○
City executive (manager or mayor)	○	○	○	○	○	○
City council	○	○	○	○	○	○
City employees	○	○	○	○	○	○
Citizens	○	○	○	○	○	○
Vendors	○	○	○	○	○	○
Business associations	○	○	○	○	○	○
Environmental groups or organizations	○	○	○	○	○	○

14. To what extent do you agree with the following statements as they relate to the sustainability policy in your department?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
Top managers are responsible for the implementation of environmental sustainability policies.	○	○	○	○	○	○
Mid-level managers are responsible for the implementation of environmental sustainability policies.	○	○	○	○	○	○
Staff employees are responsible for the implementation of environmental sustainability policies.	○	○	○	○	○	○

15. How important are the following concerns to your department?

	Very Important	Important	Moderately Important	Somewhat Important	Not Important	Don't Know
Energy conservation	○	○	○	○	○	○
Water conservation	○	○	○	○	○	○
Solid waste reduction	○	○	○	○	○	○
Greenhouse gas emissions reductions	○	○	○	○	○	○
Recycling	○	○	○	○	○	○
Air pollution reductions (ozone, smog)	○	○	○	○	○	○

16. Within your department, how important are environmental sustainability concerns to the purchase of the following types of products and services?

	Very Important	Important	Moderately Important	Somewhat Important	Not Important	Don't Know
Chemical products	○	○	○	○	○	○
Road construction/maintenance services	○	○	○	○	○	○
General construction services	○	○	○	○	○	○
Electrical products	○	○	○	○	○	○
Information technology hardware and services	○	○	○	○	○	○
Professional services	○	○	○	○	○	○
Transportation/fuels	○	○	○	○	○	○
Wood and paper products	○	○	○	○	○	○

17. In your view, to what extent does each of the following either **constrain** or **facilitate** your department's ability to implement environmentally sustainable purchasing?

	Strongly Facilitates	Facilitates	Neither Facilitates nor Constrains	Constrains	Strongly Constrains	Don't Know
Financial resources	○	○	○	○	○	○
Human resources	○	○	○	○	○	○
Employee attitudes	○	○	○	○	○	○
Law and regulation	○	○	○	○	○	○
Top Management	○	○	○	○	○	○

18. How important or unimportant are the following considerations in your department's purchasing decisions?

	Very Important	Important	Moderately Important	Somewhat Important	Not Important	Don't Know
Environmental sustainability of the products/services offered	○	○	○	○	○	○
Disposal costs	○	○	○	○	○	○
Reducing packaging waste	○	○	○	○	○	○
Life-cycle cost assessment	○	○	○	○	○	○
Recyclability or reuse	○	○	○	○	○	○

	Very Important	Important	Moderately Important	Somewhat Important	Not Important	Don't Know
Reducing greenhouse gas impacts	○	○	○	○	○	○

19. In thinking about your relationships with vendors, to what extent do you disagree or agree with the following statements about procurement/purchasing in your department?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
It is easy to switch vendors in my department	○	○	○	○	○	○
Many of my department's vendors offer environmentally friendly products and services	○	○	○	○	○	○
Vendors closely monitor our department's procurement decisions	○	○	○	○	○	○
Vendors often provide unreliable information about environmentally friendly products and services	○	○	○	○	○	○
Vendors help us learn about environmentally sustainable purchasing options	○	○	○	○	○	○

19B. We are interested in your overall assessment of the implementation of your city's environmentally sustainability purchasing policy.

	Very Unsuccessful -5	-4	-3	-2	-1	Neither Successful nor Unsuccessful 0	1	2	3	4	Very Successful 5
How would you assess your city's overall implementation of this policy?	○	○	○	○	○	○	○	○	○	○	○

SECTION 4: Department Structure and Culture

We would now like to ask you about aspects of your department's work setting and culture.

Rules and procedures exist in every organization and have important functions such as coordinating tasks and ensuring accountability. It is possible for organizations to have too many rules and procedures or not enough rules and procedures.

20. To what extent do you disagree or agree with the following statements?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
My department has too many rules and procedures	○	○	○	○	○	○
Employees in my department are constantly being checked on for rule violations	○	○	○	○	○	○

21. How frequently do you interact with your:

	Very Frequently	Frequently	Somewhat Frequently	Infrequently	Very Infrequently	Don't Know
City's executive manager (e.g., mayor or city manager)	○	○	○	○	○	○
City's council members	○	○	○	○	○	○

22. To what extent do you disagree or agree with the following statements about your department?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
This department has a strong commitment to innovation	○	○	○	○	○	○
We reward employees who develop innovative solutions	○	○	○	○	○	○
This department is a dynamic and entrepreneurial place	○	○	○	○	○	○
Most employees in this department are not afraid to take risks	○	○	○	○	○	○

23. How would you assess your department's overall financial standing over the past five years?

○ Very Strong

○ Strong

○ Neither Strong nor Weak

○ Weak

○ Very Weak

○ Don't Know

SECTION 5: Professional and Personal Information

In this last section, we would like to find out a little bit more about you. The following questions ask a few items about yourself and your career.

24. What is the official title of your current position?

25. How long have you worked for the city?

Answer in Years [⌄]

26. How long have you held your current position?

Answer in Years [⌄]

27. How many employees do you directly supervise?

# of Employees [⌄]

28. In a typical week, approximately how many hours do you spend on purchasing, procurement, or contracting activities?

Hours

| 0 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |

Appendix 2. Phone Protocol/Sample Management

Round 1

	Mon 2/20	Tues 2/21	Wed 2/22	Thurs 2/23	Fri 2/24
Melissa					
Jeff					
Jorge					
Caitlyn					

	Mon 2/27	Tues 2/28	Wed 3/1	Thurs 3/2	Fri 3/3
Melissa					
Jeff					
Jorge					
Caitlyn					

Round 2

	Mon 3/6	Tues 3/7	Wed 3/8	Thurs 3/9	Fri 3/10
Melissa					
Jeff					
Jorge					
Caitlyn					

	Mon 3/13	Tues 3/14	Wed 3/15		
Melissa					
Jeff					
Jorge					
Caitlyn					

Phone Scripts

General Script:
Hello my name is **[INSERT]**. I am work at Arizona State University and am part of a research team studying local government's purchasing practices. We have sent you several invitations to participate in our survey, but you have not responded. We are extremely interested in your participation. The information will be used to help students complete their degrees and help improve purchasing practices in local government.

Completing the survey should take about 15 minutes. Once again, we sincerely hope to include you in our research.

Responses to Concerns
If people get angry or upset:
1) We sincerely appreciate any time you are willing to give this study. If you would like to opt out, please let me know and I will take your name off our distribution list.
   Record their name and their email address.

If people are concerned about confidentiality:
2) I understand your concern, which is why we follow strict procedures to protect the confidentiality of all participants. No unique identifiers are stored or used that will be able to identify individual respondents.

If people are rude or aggressive:
    3) It was not our attention to bother you. If you like to opt out, please let me know and I will take your name off our distribution list.

Setup
Each Caller will get their own folder with a *contact list* and an *update list*. *Update lists* will include people that need: a) a link resent; or b) to be removed from survey participation.
A. Shared-folder
    1. Melissa's Folder (same for all callers)
        a. Melissa's *Contact List* (~350 based on 2/7/17)
        b. Melissa's *Update List* (Resends and Removals)
    2. Jeff's Folder
        a. ….
        b. ….
    3. Jorge's Folder
        a. ….
        b. ….
    4. Caitlyn's Folder
        a. ….
        b. ….
B. The contact lists will be created for Callers in advance. The contact list will contain an estimate of the date the phone call will be made based on an individual's work schedule. On the day we expect a Caller to make a phone call, Melissa will send an email to them in the morning with the link.

Work Organization—Tasks to be Completed
A. Callers will receive a spreadsheet specifically assigned to them containing the information (name, title, city, department) of the people they will be calling.
B. Spreadsheet will be included on a shared folder—where everyone has access, but in their own work folder.
C. Callers will summarize the phone call by filling out the following fields on their *Contact List* spreadsheet.
    1. Date
    2. Time of Call (Can be approximate by the hour)
    3. Answer (Y/N)
    4. Message (Y/N)
    5. Notes (Text summarizing concerns/questions/anything else that might be useful)
    6. Remove from distribution (Y—In the event of an explicit request to be pulled from the list)
    7. Send Link Again (Y/N)
D. In their personal folder, there will be a separate *Update List* that each caller will need to update on days they are working by 3:30pm. They will update this with cases where we need to send a new link or remove someone from the list. This way Melissa can immediately access *Update list* and handle the resending of links and managing the distribution on a daily basis without having to go through your contact sheet. *Update Lists* contain two separate sheets:
    1. Send Link Again List
        a. Melissa will then re-distribute the survey to these individuals again
        b. Melissa will initial to indicate they were sent.
    2. Remove from Distribution List
        a. Melissa will have access to all folders and will update survey distribution list in Qualtrics
        b. Melissa will initial to indicate they were removed from the distribution list (on Qualtrics)

Appendix 3. Mail Correspondence

Invitation Letter Template

Date

Name
Job Title
Address
City, State ZIP

Dear [INSERT NAME]

My name is Dr. Melissa Duscha and I am with the Center for Organization Research and Design (CORD) in the School of Public Affairs at Arizona State University. CORD is conducting a study sponsored by ICMA (the International City/County Management Association), on government purchasing and procurement, as well as environmental sustainability in . You have been identified as being a leader in your department. We are interested in your thoughts on purchasing in your local government.

While purchasing and procurement may constitute a small part of your position's responsibilities, your insights will give us a department-level perspective on purchasing processes. Specifically, we are interested in your insights on:
- The processes for different types of purchases
- The centralization of purchasing in your local government
- The ways your department obtains product information
- The processes for considering environmental sustainability in purchasing.

<u>In about a week you will receive an e-mail invitation to participate in a 10-15 minute web-based survey</u> to get your thoughts on aspects of your organization's process. <u>Your responses are confidential</u>. Your participation will help us better understand the facilitators and barriers to effective purchasing in local governments.

Results of this study may be published but presented in summary form only. Your identity will not be associated with your responses in any published format. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time.

The findings from this project may provide information helpful to better understanding purchasing and procurement in local governments.

If you have any questions about this research project, please feel free to call me at 602-496-0243, or send an e-mail to Dr. Melissa A. Duscha at mduscha@asu.edu. Questions or concerns about your rights as a research participant should be directed to the Social Behavioral IRB at Arizona State University at 480-965-6788 or by email at research.integrity@asu.edu.

We thank you for considering participating.

Sincerely,

/scanned signature in blue/

Dr. Melissa Duscha
Postdoctoral Researcher
Arizona State University | CORD | School of Public Affairs
602-496-0243 | mduscha@asu.edu

Follow-Up Postcard Template

Dear [INSERT NAME]

The Center for Organization Research and Design in the School of Public Affairs at Arizona State University (ASU) is conducting a study sponsored by ICMA of government purchasing and procurement. You have been identified as being a top official in your department. We are extremely interested in your thoughts and perspectives on purchasing in your local government.

While purchasing and procurement may constitute a small or minor part of your position, your insights will give us a department-level perspective on purchasing processes. Specifically,
- Different processes for different types of purchases based on dollar amount and technical specifications.
- The centralization of purchasing in your local government.
- The ways your organization obtains information on products.

In about a week, you will receive an email and a link to the survey. The findings from this project may provide information helpful to better understanding purchasing and procurement in local governments.

Your participation is extremely important to us.

If you have any questions about this research project, please feel free to call me at XXXX, or send an e-mail to Dr. Melissa A. Duscha at XXXXX@asu.edu. Questions or concerns about your rights as a research participant should be directed to the Social Behavioral IRB at Arizona State University at 480-965-6788 or by email at research.integrity@asu.edu.