Council Technology Application Committee Meeting

Wednesday, March 21, 2007
5:00 P.M. to 7:00 P.M.
Hayward City Hall
777 B St. Hayward
Conference Room 4A
Hayward, CA 94541

AGENDA

Public Comments: (Note: For matters not otherwise listed on the agenda. The Committee welcomes your comments under this section but is prohibited by State Law from discussing items not listed on the agenda. Your item will be taken under consideration and referred to staff.)

1. Minutes of January 24, 2007
2. Use of Technology for Community Surveying
3. Member Comments

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Council Technology Application Committee (CTAC)
Meeting Minutes of January 24, 2007

Council Members Present:, Bill Quirk and Bill Ward,

Staff Present: Jesús Armas, Fran David, Clancy Priest, and Millie Saad.

Others: None

I. Public Comment: None.

II. Approval of Minutes
The Committee accepted the minutes of September 27, 2006

III. Status of Next-G Services in Hayward

NextG Networks does not provide the backfill services that are needed in Hayward. Councilmember Ward asked if there is a way to map neighborhoods where cell phone service is deficient. Tech Services staff cannot undertake that, and the cell phone companies do not disclose specific coverage data.

City staff has some cursory drive arounds and found Verizon has better coverage that Cingular and Sprint. The Stonebrae developer is concerned about the cell phone coverage and wants to meet with cell phone providers with city staff to encourage more installations.

Councilmember Quirke presented some other ideas included providing the infrastructure by a vendor neutral company. Staff will discuss this issue again with cellular phone company representatives. Councilmember Ward wants staff to get more information about other areas in Hayward, besides the hills, that are having cell phone coverage problems, and map it out.

III. Status of WiFi in the Community

The MetroFi business model changed and they significantly altered their original contract proposal. Now MetroFi wants the City to be the "anchor tenant" and to pay for the service, which is not a good investment at this time. Technology Services continues to maintain the downtown WiFi and the other WiFi at the Weekes Branch Library. Staff has spoken with the shopping center about expanding coverage to B St and Mission Blvd.

IV. Use of WEB for Community Surveying

The group discussed ways in which to use the City website to get resident input. The City website provided an online survey for the BIA during the holidays. While it was a simple process with no registration, and was not using statistical sampling, it provided a test for other uses.

A long-range approach to get resident input is through a CRM or 311 system. One may be tied to the Teleworks system used on the City website. With any tool, there is the challenge of reaching out to the city's diverse communities.

The web could also be used to get input about issues like graffiti which is addressed by a number of departments. Complaints come in through a variety of ways – voice mail, email, etc. Need a simpler system.

V. Member Comments

There was a question about identity theft information on the website. The Police webpage does have resources.

VI. Next Meeting

Councilmember Quirk will not be able to attend the next two meetings at the current starting time. However, changing the starting time to 5PM would address the conflict.

CITY OF HAYWARD

STAFF REPORT

AGENDA DATE 03/21/2007

AGENDA ITEM _____

TO: Council Technology Application Committee

FROM: City Manager

SUBJECT: Use of Technology for Community Surveying

RECOMMENDATION

It is recommended that the Committee review and comment on this report.

BACKGROUND

At the June 21, 2006 meeting, the Committee asked that staff define a project for the year defining how the City might use the WEB for community surveys. Staff was tasked with developing categories of questions to review with the Council technology Application Committee (CTAC), and well as reviewing and recommending software options for conducting the survey.

At the January 24, 2007 meeting, staff reported on an informal survey conducted for the Downtown Business Improvement District (BIA) over the Holidays. This was viewed by staff as an opportunity to have an on-line interaction that could provide information and experience with on-line surveying using a software application we already owned (Class Apps).

While the BIA Holiday voting process was a simple process with no respondent registration, and was not utilizing any valid statistical sampling, it provided an opportunity for staff to gain some experience in setting up simple surveys, and helped focus staff effort on questions that need to be addressed before moving forward on something more complex such as community surveys. CTAC requested a more focused report for the 3/21/07 meeting of the CTAC.

DISCUSSION

Project Outline: There are multiple tasks defined by staff in implementing and completing this project: (1) clarify the purpose of the survey effort; (2) identify and gain Council concurrence on subject-matter areas on which to survey; (3) identify the target group to survey; (4) determine what process or tools to use in conducting the survey; (5) identify costs of conducting and completing the survey; (6) conduct or oversee the survey; (7) analyze and interpret the data collected during the survey; (8) report the results to Council; and (9) define a way to incorporate the public opinion gathered through the survey into the City's future priority-setting process.

The ultimate goal of a successful survey is to obtain reliable feedback from participants that can be translated into action to achieve optimal service delivery by the organization. To achieve this, participants must be confident in the process; they must believe that the organization has a

genuine interest in hearing their opinions; and they generally, although not always, expect that their responses are confidential and anonymous.

In order to maximize participation, potential respondents need to know that the organization has a genuine interest in listening to their candid opinions and has sincere plans to incorporate the feedback in future decisions. In turn, the organization must trust the results, and be confident that the data is accurate and meaningful. It generally seeks to limit respondents to a selected population with one set of responses per respondent so that the organization is confident that responses reflect the opinions of the selected respondents, and are not inadvertently or intentionally "weighted".

The process of configuring and conducting the survey to gather information is important and needs to be well thought out to determine what information is wanted and how the results will be evaluated. Survey researchers use a variety of mediums to conduct surveys, such as the Internet, personal or telephone interviews, or questionnaires sent through the mail.

Survey Components: The questions of which population segment(s) to survey, what topics to include in the survey, how to pay for the survey, and how to respond to the survey results extend beyond the scope of CTAC. However, the question of how to conduct the survey involves an analysis of available tools, and most particularly how best to utilize technology and technology-related resources in this project including, but not limited to, the WEB, email, text messaging, and related technologies. Therefore, this report assumes that the City does desire to conduct a community survey or surveys, and focuses on the potential use of technology to accomplish that goal.

Many elements can impact the validity of survey results. Among the most significant are how the intended population is identified, the construction of the survey instrument, the survey methodologies and how they are implemented, the response rate of those surveyed, and the interpretation of the survey results. One of the few things nearly everyone currently agrees about in survey research is that response rates are falling, and have been falling for many years. One widely cited report describes response rates for the University of Michigan's national Survey of Consumer Attitudes as falling on average one percentage point over the past twenty-five years, with the decline accelerating in more recent years. This high-standard survey achieved a response rate of 72% in 1979, but had declined to 48% in 2003 despite significant efforts (at great expense) to slow or reverse the trend. The California Health Interview survey, one of the most extensive single-state surveys conducted anywhere, achieved response rates of 38% in 2001 and 34% in 2003.

General population surveys such as we might conduct in the City of Hayward often involve compromises between scientific standards, time pressures, and budget limitations. Recent survey research suggests that low response rates may not skew the results as much as researches once believed. However, that same research also indicates that non-response rates have a much greater impact on the validity of results when the population being surveyed encompasses a significant proportion of non-English-speaking populations.

Approaches to Surveying: There are several methods that can be used to conduct community surveys – mail, phone, in-person interviews, drop materials or interviews at points of service (e.g., libraries, Permit Center, Revenue Collections, Police Department, etc.), WEB-based applications, email, other technologies (such as text messaging and pod casts), or any combination of these techniques. All are valid approaches and all have distinct strengths and weaknesses. This report focuses on analyzing the use of WEB applications and email as primary survey tools.

Use of Technology to Survey[1]: The induction of the Internet into survey research methods brought with it technological breakthroughs and difficulties. Being able to collect individual's thoughts, interests, opinions, behaviors, and attitudes in this format has advantages and disadvantages.

Advantages – Advantages include quick response time, lower cost, and a better sense of anonymity for those responding. Collecting data online, in general, takes comparatively less time and is less expensive than traditional survey techniques. In an annual study on the influence of the Internet on Americans, the results indicated 78.6% of Americans went online in 2005 at an average of 13.3 hours per week, with 66.2% of those individuals using home access. A vast number of studies reveal a less inhibited, more open and honest response pattern with online participants, which may be due to the physical distance inherent in Web-based responses.

In a study using both Web-based and pencil-and-paper surveys, researchers found a mean response speed of 5.97 days for the Web-based surveys compared to 16.46 days for mailed surveys. The turn around time for Web-based surveys has been reported as two to three days by other researchers, with 80% of responses collected in the first three days, most of which are submitted within the first 24 hours. The speed of return is due to such factors as the absence of printing and mailing, and the increased frequency with which Americans check email. A report from the USC Annenberg School (2005) found 90% of Americans who go online use email and check electronic messages several times a day on average.

Some researchers have argued that the quality of responses gathered using Internet-based methods is at least equal to the quality of traditional methods, and is in some cases better, especially with regards to sensitive topics of inquiry. While confidentiality is difficult to guarantee in any setting, Web-based survey methods seem to offer individuals a better sense of anonymity, leading to a decreased likelihood of response bias and increased response rate.

Several studies have provided researchers with evidence suggesting Web-based surveys are more practical and desirable than traditional methods of survey research with "hard-to-reach" populations. Web-based surveys have the potential to reach participants around the community regardless of their physical access to City Hall, libraries, or other public facilities. Because of the ease with which information can be put into different languages (or even translated simultaneously on-line), e-surveys, even in the English-language, may overcome language and

[1] Much of this section was constructed relying on a paper authored by Jennifer A Weber and Kelly D Bradley of the University of Kentucky entitled "Strengths and Weaknesses of Conducting Web-based Surveys: A Review of the Literature":

other culturally-related barriers. Internet access to populations across the City may result in larger sample sizes, which increases the power and reliability of the survey data.

Another advantage of Web-based surveys is the programming services and software involved, which helps assure reliability and validity of surveys. Web-based survey instruments can be created and deployed through various Web-based programs and software packages. Most programs have the ability to require participants to respond to certain, if not all questions, on the survey. The response requirements of Web-based instruments decrease the likelihood of missing data and response errors, making the response set more reliable and valid. Many of the Web-based formats of surveys offer instant response collection over the Internet, which eliminates the time needed for manually entering and compiling data.

Disadvantages – While the advantages and new opportunities provided by Web-based survey research are far-reaching, the limitations imposed by the methodologies also need to be noted. One of the most pronounced limitations applies to sampling bias, specifically to the lack of representation of various groups. Regardless of format, survey research techniques require reliability and validity of the instrument so that the measurement is credible and the subsequent data collected is of high quality.

Race, socioeconomic status, and age are variables by which Internet use differentiation is present. The Pew International and American Life Project (2003) characterized users and nonusers in 2003. Of the 58% of Americans estimated to go online in the Pew study, only 8% were African American and 9% were Hispanic. The study's estimates found only 18% of users had incomes less than $35,000. The report described nonusers as persons from a minority group with a modest or less than modest income and education (25% of nonusers were without a high school diploma). Fifty percent of nonusers were older than 50 years, 30% were retired, 16% were unemployed, and 26% were disabled (compared to only 12% of users). Simply stated, Web-based instruments are limited by a threat to external validity. Further, there is evidence that Internet users within a subculture are different than nonusers within the same culture. Therefore, the internal validity may also be threatened if the variables distinguishing users from nonusers interfere with the constructs intended to be measured by the instrument.

Another disadvantage threatening the reliability and validity of Web-based surveys is nonresponse. Nonresponse errors refer to solicited participants' choice not to take part in a study. The increase in Internet abuse, privacy concerns, commercial advertisements, and "junk" emails have all negatively impacted actual response rates in WEB-based surveys. Lower response rates do not necessarily equate to an increase in nonresponse errors, and assuring valid responses and thereby minimizing the creation of error in statistical measurement can be a difficult task for survey researchers regardless of the approach taken for data collection.

Other limitations related to Web-based survey methodologies include the occurrences of multiple responses from a single participant and the receipt of unsolicited responses. Participants may either intentionally submit their responses multiple times, or unintentionally hit the submit button more than once. Along the same lines, unsolicited responses may occur if the solicitation for participation is passed from the intended party to an outside participant that was not originally included in the sampling frame nor detected in the final data set. Researchers may be able to counter this by using e-surveying services, which can provide assistance in validating the origin and uniqueness of responses by tracking email and IP addresses. Finally, length of survey is

critical when utilizing the WEB. Internet users have low tolerance for lengthy surveys and will tend to "drop off" in the middle if the survey is over 10-15 "pointed' questions.

Hardware and software problems can exist including a difference in browsers, which may present the same Java Script differently; platforms and processors; and monitors, which display graphical images differently or not at all. Differences in appearance of the survey for participants can cause differential responses, leading to poor reliability.

CONCLUSION

Surveying a random sampling of the community is one of the most accurate ways to get community feedback. A carefully constructed survey helps ensure that a wider variety of residents have a chance to be heard, and allows Council and staff to determine the majority opinion as well as hear the opinions of "smaller" populations. Utilizing the Internet exclusively in surveying will likely not yield reliable results on most issues. Rather, WEB usage in surveying should either be part of a well constructed arsenal of tools, or considered for short, quick snapshots of opinion that must be viewed as indicators rather than a statistically valid reflection of public opinion. Contradictions to this may be any survey directed specifically at Internet users or demographic groups known to utilize the Internet at a higher and more consistent rate than the general population.

Shortterm: Given the tradeoffs among survey approaches, the fact that the City has not yet formally planned for a formal community "base" survey, the amount of staff resources available, and the relative cost of these different approaches, it appears productive to attempt some "snapshot" surveys using the Internet, and employing primarily one of the WEB-based applications such as Survey Monkey. Using the City's in-house software (ClassApps[2]) as reported last Committee meeting is not feasible at this time given that it is very limited, would need to be augmented by an additional component, and that staff time is not available to install and configure the additional application or to manage the survey process in house.

It is suggested that the City Manager select one of the WEB-based providers of surveys, which can best and most cost-effectively enable the City to establish a pilot survey program: a brief summary of offered WEB-based survey options is attached to this report. Guided by Council priorities as defined in the budget and elsewhere, Committee members and staff should engage in discussion and identify a suitable topic (or topics) around which staff can construct the pilot survey. Once a pilot has been completed utilizing the WEB pilot approach, staff will complete a report back to CTAC evaluating the value of the output from the pilot and identifying next steps.

Experts in the field suggest that whenever utilizing the Internet (WEB-based, e-mail, or both), other supporting activities need to occur such as providing advance notice to intended or targeted participants; sending e-mail and mailed reminders to participate; and providing incentives to

[2] The current version of our software application, Class Apps, can handle restricted voting. However, it requires a potential voter to initiate a request to vote, wait for a password to be sent, and then apply the password to gain access to voting. It may be preferable to have a system that allows spontaneous access while still preventing or reducing the opportunity for vote loading through multiple votes from the same source. This is a more sophisticated approach than is currently available through Class Apps.

participate, such as a chance to win money or gift certificates. All these are geared toward increasing response rate.

The cost of WEB-based survey options is frequently driven by number of questions on the survey, number of participants, number of languages required, and complexity of the required reporting. Costs could range from $50 to $250 per one month of service plus City staff time.

Longterm: Community surveys are valuable tools for gathering information related to setting City priorities or on-going decision-making. One of the most valuable approaches to this tool is to conduct an extensive community-wide "base" survey that establishes perspectives and opinions on a wide variety of issues, and from which the City can measure its performance going forward. The cost of this type of survey is more likely in the vicinity of $25-$50,000 depending on the extent of the survey questions, the methods used, and the desired response rate. And the value is maximized if a similar survey, carefully constructed to parallel and build on the base survey, is conducted about every two years. It is suggested that this become part of the preparation for the next two-year budget cycle.

Prepared by:

Fran David
Assistant City Manager

Approved by:

Jesús Armas
City Manager

Review of web-based survey tools

by Marion Kuipers, Information Systems - August 2005

General comments: The functionality of these tools was very similar. None of them seem to pay much attention to the respondent interface or visual impact. The main emphasis is on ease of production and data collection and features such as integration with email lists.

Name	Visual impact	Special features	Data capture	Price	Privacy/security
Survey Monkey	Demo has simple attractive layout with clear instructions and easy navigation	Can include: ▪ skip logic ▪ randomization of response options; ▪ logos; ▪ create custom theme; ▪ pop-up invitations on website	Can download into Excel or SPSS	Basic sub FREE (10 questions & 100 responses per survey); $19.95 per month for up to 1000 responses + unlimited no. of questions	Security – they reserve the right to record and analyze IP addresses and cookies; Data can be deleted on request but there may be some residual data.
Zoomerang	Not as appealing as Survey Monkey. Navigation rather clunky, questions and instructions not clearly differentiated, unattractive font	Survey programming service; Sample survey respondent service; Survey translation service; Can send reminder and check response status of respondents.	Results can be downloaded into spreadsheet	Basic sub FREE (same as above); $350 p.a. or $99 for three months - unlimited surveys and unlimited responses	No reference on website to Terms and Conditions, security or confidentiality
Survey Gold	Better than Zoomerang but not as good as Survey Monkey. Rather monotonous and uninteresting. Couldn't try navigation	Can be used on paper, phone or web; Numerous features	Exportable to SPSS, Excel, dBase, HTML, Data Interchange Format, tab-delimited text	30 day free trial Individual licence $199 (one user, unlimited responses); No additional charges	Promises will NOT use IP addresses, cookies or other unique identifiers, or share data
QuestionPro	Looks very like Survey Gold. Dull and unappealing	Can be embedded in websites and newsletters; Most features as	Can download to Excel	30 day free trial Free University	Collects and analyses data re. Users but protects privacy and confidentiality of

Name	Visual impact	Special features	Data capture	Price	Privacy/security
		above		Research Licences; Corporate Licence (up to 15000 annual responses) $299 per month;	respondents. Does not allow sharing of survey data.
Poll Monkey	Could not find usable demo.	As above; Multi lingual polls Custom themes.	Results downloadable in multiple formats.	Basic sub FREE (<responses per month); Professional $19.95 per month (<20,000 responses per month)	Collect and uses cookie and other data re users; Does not sell or disclose data to other bodies.
Advanced Survey	Hard to say as cannot review without signing up	Account based system, can be used by anyone with an email address; Email and web suveys	Downloadable as delimited text, XML or for statistical analysis	Basic account FREE (unlimited questions/ surveys/ responses); Enhanced account $20.83 per month	As above. Some ambiguity in privacy statement
Web Surveyor	Large number of templates to choose from + custom templates	Web server hosted, or self hosted surveys; Browser based or downloadable software	Export raw data to Excel, SAS, SPSS, Lotus, Access and more	From $1495 to $4995 p.a. depending on use of Gateway and/or support	Collects and uses IP and cookie data for internal purposes. Otherwise guarantees privacy and no sharing of data.