



Evaluation of the Social Networking and Planning Project

Part of the Innovative Small Research Projects to Advance Public Participation Related to Public Transportation Planning

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Introduction

The Social Networking and Planning Project (SNAPP) is a project of the Texas Citizen Fund, an Austin-based nonprofit. The project is funded by a Federal Transit Administration grant. SNAPP worked collaboratively with the City of Austin, nonprofit organizations, blogs, media outlets, and interested parties to allow as many people as possible to communicate about Austin mobility.

This report presents results of an evaluation of the SNAPP project. The information provided here was extracted from web-based data collected throughout the SNAPP project on 29 project indicators. The indicator data provides a quantitative assessment of the project activities and accomplishments across SNAPP.

Purposes of the Evaluation

Discussions with SNAPP leaders identified two priority purposes for the evaluation activities:

- National program accountability to stakeholders (i.e., Congress, FTA, the City of Austin, and other partner organizations for this project).
- Project improvement and guidance for future outreach efforts of this type.

Overarching Evaluation Questions

The SNAPP project developed the following overarching evaluation questions that focus on the priority purposes of the evaluation:

- What does SNAPP contribute to planning practice and policy by
 - Conducting outreach to develop and disseminate effective and translatable public engagement initiatives?
 - Creating a critical mass online as direct input into decisions to be made?
 - Increasing electronic participation and collaboration to support decision making?
 - Increasing participation by younger adults and proficient social networkers?
 - Collecting and analyzing public comments?
- How is public engagement implemented in SNAPP?
- How are partner organizations engaged in SNAPPs' activities, and how does participation build community capacity?

Project Indicators

After identifying the priority purposes and overarching evaluation questions for the SNAPP evaluation, a list of possible indicators was developed. The main sources for this information included statements made by SNAPP team members during their project-mapping effort, work plans and progress reports prepared by SNAPP, and notes made during SNAPP conference calls. Both the evaluation staff and SNAPP staff reviewed the list to eliminate redundancies and select indicators based on relevance, meaningfulness, usefulness, and feasibility. The evaluation staff then reviewed the resulting list of indicators to determine which would:

- demonstrate project accountability,
- be suited for follow-up surveys, and
- allow for data collection.

The final SNAPP project list included 29 indicators (Appendix A) with associated measures. This report provides aggregate data from across the SNAPP project on the 29 indicators. The purpose of the indicator data is to provide an overall quantitative assessment of the SNAPP project activities and

accomplishments. The data included in this report reflects the project's performance from April – October of 2010.

It should be noted that this grant was used to undertake an experimental project that had not been attempted before. The experimental nature of this project meant several things. First at the onset of SNAPP there was uncertainty about the degree to which the public was discussing transportation-related issues. Without baseline information it was difficult for SNAPP to develop realistic targets for each indicator. In addition, because of the experimental nature of this project it was expected that there would be adaptations throughout the project through a series of trial and error strategies.

Methods

Data Collection

SNAPP is a web-based information system that began collecting public comments about transportation in Austin, Texas in April 2010. SNAPP focused their public engagement around two key sets of indicators: participants and communications. Some of the indicator data was collected monthly, while others were collected less frequently.

The SNAPP staff entered indicator data from May 2010 through October 2010. Most of the data summarized in this report came directly from SNAPP. The indicator data is based on the collection of microblog¹ posts.

SNAPP captured all microblog posts to SNAPP's blog, SNAPP partner blogs that were tagged with #snappatx or @snappatx, and RSS feeds to news blogs that primarily deal with transportation. In addition, SNAPP captured microblog comments on the SNAPPatx Facebook page and microblogs captured through Twitter keyword searches.

The evaluator interviewed Glenn Gadbois to collect further data to support this evaluation.

Data Management

SNAPP used a capture tool retrieving keyword relevant comments from multiple sources to a database for later analysis. The capture tool is a DOS application connected to an SQL database. Every fifteen minutes the capture tool searches the social media APIs and feeds the relevant comments into the database.

Organizing and managing the indicator data required several extraction, cleaning, recoding, and validation procedures to ensure accuracy and consistency. The data was extracted into an Excel spreadsheet and tables were developed from the spreadsheet.

Data were reviewed for duplication, error, or inaccuracy and were either excluded from analysis, coded, or recoded, as appropriate, by SNAPP staff. For example, if the word "Austin" was misspelled as "Ausin", a correction was made to ensure that the data was easily searchable.

SNAPP provided the data in both a raw and a processed format for the purposes of this evaluation.

The evaluator produced additional data as a result of interviews with Glenn Gadbois.

Analysis

The evaluation included further analysis of the data beyond that conducted by SNAPP. Data tables were created based on the datasets provided by SNAPP. These datasets describe inputs and outputs for the project. Mean, median, range, and total for selected indicator variables were calculated using Excel.

¹ Microblogging is a form of blogging that consists of a short sentence fragment, an image or embedded video.

Results

Participants

SNAPP targeted the capture of 10,000 comments per month. The average number of comment captures was 7,806 per month. Of the 10,000 captured comments per month, SNAPP wanted 4,000 of them to be relevant contributions. Contributions were considered relevant when they were about transportation in Austin. The actual numbers of relevant contributions were substantial, but they were significantly lower than what was desired, at an average of 1,462 per month.

SNAPP's goal was to have 300 participants make a contribution per week. The actual came close, with an average of 252 people contributing per week.

SNAPP faced challenges in generating 500 unique visitors and 1,500 site visits per week to the snapp.org website. The website averaged 105 unique visitors and 221 site visits per week. When the project launched in April, SNAPP was able to generate 107 Facebook fans and 132 Twitter followers. By the time the project finished in October, the number of Facebook fans had doubled to 203, while the number of Twitter followers had increased to 366. This is well below the goal of 1,000 Facebook fans, but more than the goal of 300 Twitter followers.

While the contributions were substantially lower than expected, the degree to which there were retweets was substantially higher than expected. The goal was 15 retweets per week, while the actual was 45 per week. This means that there was a high degree of sharing among those participating.

In the original SNAPP plan, the intent was to collect basic demographic information from 22.49% of viewers. However, the implementation of SNAPP did not include demographic data collection as originally conceived. Demographic data was available in aggregate from Facebook on the 203 fans, but because it was not collected in the way intended, SNAPP did not meet this indicator. A survey at the end of the project and two surveys conducting during the project collected demographic data. The surveys collected zip code information, but they did not collect ethnicity information. All of the participants in survey two provided demographic information, while 97 percent of those participating in survey one provided demographic information. On the post-project survey, 72.7 percent of respondents included demographic information.

In the end, the total number of participants was high, with more than 9,000 relevant comments and approximately 6,300 participants.

Level of Participation

SNAPP was particularly interested in having extended engagement with the public. One indicator of engagement was related to the website, with the goal of having 22.49 percent of visits last 60 or more seconds and a secondary goal of 2.25 percent of the visits resulting in comments. There was significant variation in the proportion of visitors engaging for more than 60 seconds, ranging from 4 to 22 percent. August was the only month in which 22 percent of visitors stayed for more than 60 seconds. While visitors stayed for a lower amount of time than the goal, they engaged by leaving comments at a much higher rate than anticipated, ranging from 12 to 65 percent on a monthly basis.

Level of participation was also measure through the degree to which Facebook fans liked, commented, or shared; the number of tweets and retweets; and the number of blog likes, comments, and shares. The goal was to have participation among 20 percent of Facebook Fans and Twitter followers. The goal was 2 percent of blog viewers would leave a comment. The level of interaction on Facebook was higher than expected, with between 11 and 98 percent participation. Twitter data was only available for April, when there was a 60 percent participation rate. After April, SNAPP moved to Twitalizer which provides

more sophisticated metrics. For the blog, SNAPP was able to track the number of comments (71), but it was not able to track the number of views, making it impossible to create a proportion of viewers.

One of the key lessons learned is that SNAPP set indicators without fully understanding the ability to measure for each of these indicators. Needed changes in the implementation of SNAPP changed the ability of SNAPP to collect measurements on certain indicators.

Communications

SNAPP sought to send out an initial launch email to 1,000 people and an average of 50 new emails per week. In the initial launch, SNAPP sent out emails to 979 people. More than 6,000 additional emails were distributed over the course of the project. These were concentrated in May and June.

On the media front, SNAPP's goal was to establish 10 media contacts, generating four stories about the launch and one new article per month. From the launch seven media stories were published. Following the first survey two media stories were published. After that point there were no news articles.² SNAPP developed 75 media contacts that received the press releases. In addition, the SNAPP administrator would contact four print and three blog reporters during the process. In total there were 275 contacts with media.

SNAPP's goal was 1,000 email messages inviting people to join SNAPP on Facebook/Twitter for the launch and then to send out 20 email invitations per week after that. After the initial launch SNAPP decided it would be better to focus recruitment via Facebook/Twitter itself. This meant that SNAPP was spending time selecting people to follow, inviting people from other fans/friends lists to participate and asking others to invite their fans/followers to join SNAPP. This strategy was difficult to track numerically. As a result it is unknown whether SNAPP reached out to 1,480 people.

SNAPP's goal was to create 350 coffee shop flyers for the launch. SNAPP did not create and distribute flyers. SNAPP chose to focus on other recruitment strategies instead.

An important part of the communication strategy was recruitment of partners through phone and email. The goal was to establish 25 partners for the launch and to make five new partners each week for the five weeks following the launch for a total of 50 partners. There were 24 partners³ that agreed to the RSS feed and helping with pushing messages out. SNAPP wanted to engage with partners on a monthly basis. Each month SNAPP would make contact with a portion of these partners, averaging 10 per month and share information, enlist participation to help with messaging and other tasks.

SNAPP was interested in providing information that would foster participation. The goal was to push out two original tweets/Facebook messages per day. The number of original messages per day varied from

² The City of Austin required SNAPP to have their press releases reviewed in advance. This caused a 2-3 week delay awaiting approval from the City. This delay was too long to keep SNAPP news fresh and SNAPP discontinued producing press releases.

In addition, as the media became to focus on the campaign season the City wanted SNAPP to stay away from specifically discussing the bond election.

³ Partners included Alliance for Public Transportation, Austinist, CAMPO, Capital Metro Blog, City of Austin, Congress for New Urbanism, Austin Chapter, Downtown Austin Alliance, DANA, Downtown Austin Blog, Econetwork Transportation Blog, Environment Texas, Fare Enough, FTA PTP, Hispanic Chamber of Commerce, League of Bicycle Voters, Light Rail Now, Off the Cuff, Mayor Leffingwell, Mellow Johnny's Bike Shop, Random Noodlings, Tate Austin Hahn, UrbanAustin.com, University of Texas Campus Environmental Center, and University of Texas Urban Development Society.

month to month, averaging from between one and a half to six. By June, the communications team was generating an average of four original messages per day.

The website and blog were to be updated every week. SNAPP made updates much more frequently, averaging between five to ten updates per week. SNAPP was successful in keeping their blog up to date with regular posts. Between April and November, a total of 150 blog posts (averaging 5 blog posts per week) were made. The number of blog postings varied greatly from month to month, with the largest concentration of blog postings in spring and early summer of 2010.

The goal was to have partners provide blog mentions, retweets, Facebook messages, and website updates about SNAPP five times per week. Across the project, partners referenced SNAPP an average of three times per week.

SNAPP's goal was to contact media five times per week. The average across the project was four per week. The number of contacts was highly variable, with high periods of media engagement in April and June and none in July through October.

SNAPP wished to build relationships to encourage participation. They sought to do this by responding to 20 tweets/Facebook posts per day, responding to 20 e-mails per day, and responding to five partner or media requests per week. Facilitators checked all Twitter/Facebook comments four times per day and responded to all of the posts. The number of media/partner requests was lower than expected, but SNAPP responded to an average of three per week. SNAPP did not collect data on an indicator about responding to email communication. In correspondence with the SNAPP administrator e-mail was used primarily to send out surveys and to push out specific information to partners. SNAPP responded to approximately five e-mails sent from participants.

SNAPP's initial intention was to conduct at least three surveys during each of the four planning processes and to provide survey responses for each within one week. Because of the shift in the scope of the project to the Austin Strategic Mobility Plan (ASMP), there was a change in the need for surveys. SNAPP conducted two surveys during the process and provided feedback within one week in each case.⁴ A third survey was conducted between May 8 and 16 on a potential transportation bond. SNAPP's goal was to have 100 members of the public respond to the surveys during the project period. The initial survey was successful, with 607 respondents. The survey attracted a wide age range of participants, with 21 percent of respondents 34 and younger. The second survey received 166 responses, with 34 percent female respondents and 23 percent 34 and younger.

The followers on Twitter and fans on Facebook were contacted and invited to complete a survey of their user experience with SNAPPatx. 55 people responded, a 7 percent response rate. The survey attracted 43 percent female and 26 percent were 34 and younger respondents.

SNAPP Outcomes and Impacts

SNAPP conducted pre- and post-project surveys of both staff at the City of Austin and key partners. Table 1 illustrates the expected and actual responses to the pre-project survey and Table 2 illustrates the same for the post-project survey results. SNAPP anticipated that between ten and 11 individuals would complete each survey. A total of ten people completed the pre-project survey and nine completed the post-project survey.

⁴ The number of surveys was limited because of the review time required at the City of Austin. For example, the second survey required four weeks of city review. This survey drafting effort required a high degree of time and the participation rate was not high enough to merit the time required. SNAPP chose to use its resources on direct engagement.

It should be noted that the surveys did not ask questions that matched the indicators originally established for the project. The following five questions were asked in the post-project survey: Given the report, how well did SNAPP do in pushing information out to the public? Given the report, how well do you think SNAPP engaged the public in decision making? How did SNAPP perform versus your [previously stated] ideal of public engagement? How do you think SNAPP helped with decision making? What do you think was frustrating about making decisions with information from SNAPP? Because the survey questions do not match with the indicators, only a portion of the indicators were measured.

The *Pre and Post-Project Qualitative Interviews – Summary of Work and Results* prepared by Chris Ewen provides further detail on the survey results.

Table 1. Pre-SNAPP Survey of COA Staff and Contractors

ISSUE	EXPECTED RESPONSES	ACTUAL RESPONSES
Knowledge about SNAPP	low familiarity	not measured
Level of experience/knowledge of social media by mode	mixed experience levels	not measured
Assumptions about social media’s ability to push out information	high expectations	high expectations
Assumptions about social media’s ability to inform decision making	low expectations	moderate expectations
Definition of role for public participation in planning decision making	mixed definitions	not measured
Expectation for SNAPP to help with communications, participation, and decision making on mobility and urban rail	low expectations	not measured
Concerns about possible negative impacts of SNAPP	skewed participation	skewed participation, quality of discourse, reliability, authenticity

Table 2. Post-SNAPP Survey of COA Staff and Contractors

ISSUE	EXPECTED RESPONSES	ACTUAL RESPONSES
Knowledge about SNAPP	high familiarity	not measured
Level of experience/knowledge of social media by mode	increased experience levels	not measured
Assumptions about social media’s ability to push out information	high positive	mixed from high positive to negative
Assumptions about social media’s ability to inform decision making	high positive	high positive
Definition of role for public participation in planning decision making	high attribution	not measured

Expectation for SNAPP to help with communications, participation, and decision making on mobility and urban rail	increased agreement on participation objectives and high positive	not measured
Concerns about possible negative impacts of SNAPP	high positive	mixed

Participant Direct Social Media Engagement in Decisions

In the original project plan, it was anticipated that there would be four phases of participation focused on each phase of the urban rail project. Between two and four reports were to be provided per phase for a total of 11 reports over the project period. However, the shift of the project's focus to the Austin Strategic Mobility Plan resulted in the need to change the reporting to the City. A total of seven reports were provided, once per month throughout the project period. SNAPP anticipated that the City would have followup subqueries to the reports. There were only three sub-queries requested. One request was for the click-through rate from Twitter, another requested the number of unique commenters as an indication of the diversity of comments, and one asked for more detail on the comments underlying sentiment.

Following the completion of the SNAPP, a post-project survey was completed. The goal was to have 30 percent of frequent social media participants attend an in-person event. While the City originally planned to hold meetings in the summer and fall, the City changed its public engagement strategy and did not hold additional meetings on the ASMP. The result is that the post-project survey did not include a question about participation in an in-person event.

Publications and Presentations

One of the goals of the FTA grants was to develop pilot projects that could be shared with other professionals. SNAPP requested an exemption that allowed for early release of information about SNAPP to the external evaluator for the purposes of academic work and presentation as the evaluator saw fit. A series of presentations about SNAPP and its progress were given in the following venues:

- National American Planning Association Conference, New Orleans, Louisiana: April 2010 (describing the project plan and intent of the engagement effort)
- Comparative Public Engagement in Governance in the US and China, Columbus, Ohio: July 2010 (describing the project plan, intent of the engagement effort, and project progress)
- Ohio Transportation Engineering Conference, Columbus, Ohio: October 2010 (describing the project plan, intent of the engagement effort, and project progress)

Future sharing of the results of SNAPP are planned:

- Presentations
 - City and Regional Planning Lecture Series at The Ohio State University: February 2011
 - National American Planning Association Conference, Boston, Massachusetts: April 2011
 - American Planning Association Chapters and Divisions Webcast Series, Online: April 2011
 - PlanningTech2011@MIT: April 2011
- Written Work
 - Project description article for Planetizen.com: February 2011
 - Research article for an academic peer-reviewed journal: Target 2012 publication

Limitations, Discussion, and Conclusions

This section of the evaluation provides an overall discussion of the data presented here as it relates to the project indicators.

Limitations

The indicator data provide substantial information to describe the SNAPP project; however, the data have the following limitations:

- The data are self-reported by SNAPP and only limited data was validated.
- Twitter changed the restrictions to the public timeline, making it impossible for SNAPP to collect comments in the same way throughout the project. This limited the overall ability to capture comments and, from there, the ability to then engage with those posting comments.
- This project depended on free analytic tools, such as Google Analytics and Twitalizer. However, these free tools meant that staff had to manually process data. Changes in these tools during the project period resulted in an inability to continue to collect data.
- The City of Austin changed the planning process, which in turn required SNAPP to change the project scope changed during the project. The result was a lack of collection of data to support a number of indicators.
- Little is known about the participants other than their “avatar” and limited demographic data. Participants may or may not have been citizens of Austin and part of the electorate.

SNAPP experienced a series of challenges throughout this experimental engagement process that necessitated changes along the way. In the initial April launch of SNAPP, the system was set up so that web-savvy users could immediately participate. The initial target audience for SNAPP was young adults and social-media-savvy young professionals. The initial launch of SNAPP was designed to communicate with these users. Shortly after the launch of SNAPP, neighborhood activists made compelling arguments to include additional users new to social media who had too little time to participate in traditional planning processes. In a SNAPP team meeting that the author observed, it became clear that key government agency partner staff, including the City of Austin, were not sufficiently savvy to figure out how to use the SNAPP system. During that meeting, the SNAPP staff demonstrated how to create a tweet on Twitter, how to use hash tags, and other features that are critical to the SNAPP system. SNAPP made improvements throughout April and May, adding web explanations of how to use SNAPP and creating an informational video that explains how SNAPP works. Additionally, SNAPP added information and phrases targeted to new users that went out as part of weekly messages. SNAPP also engaged in strong outreach to neighborhood groups through email distribution of surveys.

The response of neighborhood activists mentioned above is just one indication of a related challenge. The development of meaningful partnerships required much more time than originally expected. In addition, enthusiastic partners had an expectation of prompt responses to their needs and interests, which required more time than initially anticipated. SNAPP had an intern who worked through May to assist with relationship building. However, as the number of captured microblogs increased, staffing resources needed to be diverted to facilitate micro-participation. In turn, as the volume of micro-participation increased, there was demand to code and analyze. The coding and analysis process was more labor intensive than SNAPP expected. The original intent was to provide weekly reports to the City and other partners. However, SNAPP moved to monthly analysis early on, but there was a typical lag of 15 to 30 days for even the monthly analysis. This meant, effectively, that October’s data could not be provided to the City in advance of the bond election. That said, if SNAPP found an interesting comment or trends through weekly communications, they would relay the information to the City’s communications staff and/or their communications contractor. The analysis itself was limited because of

the time available, which is less than ideal. The promise of micro-participation is that it provides an opportunity to get close to real-time tracking of public input. SNAPP was initially designed to focus on public participation for the urban rail design and environmental analysis process. However, because of a series of delays in getting the project started and the City of Austin's decision to accelerate the ASMP process and slow its urban rail work, SNAPP shifted its focus. Instead of focusing on urban rail, beginning in April SNAPP focused on building awareness, issue education, and participation in the ASMP.

One challenge was how to increase the speed at which microblogs were processed and the analysis distributed. As the process moved forward, SNAPP added weekly meetings to debrief on the prior week's activities and develop agreements on the theme and content of communications for the following week. This improved SNAPP's ability to track, analyze, and respond to participation quickly and to focus on topics proactively when input was most critical.

Another significant limitation was the social networking applications themselves. As mentioned previously, the privacy settings on social networking sites sometimes require individual participants to opt-in and give permission before an organization like SNAPP can retrieve information from their URLs. Twitter, which has a public timeline, periodically increased limitations on access to their timeline, which required SNAPP to develop workaround options in order to sustain the microblog retrieval system across the multiple social networking applications.

A final limitation is the lag time in working through the bureaucratic structure to receive approvals. All surveys and press releases required City review. These reviews would often take weeks. This limited SNAPP's ability to engage with the public on a timely basis.

Discussion

SNAPP created evaluation questions that focus on what SNAPP is contributing to planning practice and policy, how public engagement is implemented in SNAPP, and how participation builds community capacity. These questions are in part answered through the series of performance indicators. While SNAPP's performance on many of the indicators is lower than the goal, there are a number of explanations that provide perspective.

This grant was used to conduct an experimental project that had not been attempted before. The experimental nature of this project meant a number of things. First, at the onset of SNAPP there was uncertainty about the degree to which the public was discussing transportation-related issues. Second, adaptations had to be made throughout the scope of the project through a series of trial and error strategies. Without baseline information, it was difficult to develop realistic goals for each indicator. In the initial indicator-setting meetings, the SNAPP partners set ambitious goals that they were unable to meet. However, as an external evaluator I do not take the lack of meeting the goals as a failure. In a number of instances, SNAPP's results are better than those found in other studies of the use of social media. The discussion below presents the SNAPP results and makes comparisons to the existing research on social networking.

While there are hundreds of millions of social network users, the planner's challenge is to build an online relationship with a user that will then lead to dialogue around a planning issue. Facebook and other closed social networks rely on users to make individual determinations of whether they wish to participate. For example, SNAPP has a Facebook page called "snappATX". An individual in Austin would first have to learn about SNAPP, then decide that they wanted to go to the snappATX Facebook page, and then become a fan. At that point, the "fan" would see SNAPP's microblog posts. Next, the citizen would have to take the initiative to comment on a particular microblog post. The challenge for planners

is that reaching this level of participation requires a significant level of public interest and significant action on the public's part to engage. In addition, the planner cannot see any of the microblog posts of the "fan" unless the planner is part of their network of "friends." This makes it extremely difficult to identify citizens who may be microblogging about a planning-related topic. In a study of microblogs, researchers found that the driver of usage is a set of connections that underlie the declared set of friends and followers (Huberman et al., 2008). It is a serious challenge to determine how these networks can be invaded to create new relationships between planning agencies and their citizens. Previous research has found that the planner's ability to use Facebook for micro-participation has had only limited success, in part because of the challenges of a closed social network (Evans-Cowley and Hollander, 2010; Evans-Cowley, 2010). For example, when a Facebook page/group is initiated by the government for a place-based planning project, it generates an average of only 29 fans/friends (Evans-Cowley, 2010). SNAPP was able to generate 203 friends, far more than the average found by the research.

Twitter is an example of an open social network. Twitter makes it substantially easier for a planner to identify citizens who are interested in a planning topic and to initiate engagement with those individuals. Because of the limited number of characters that can be used in a tweet, users often communicate in shorthand—for example, shortening "Austin, Texas" to "ATX". One of the important elements of Twitter is that a user can follow anyone with little expectation of reciprocity. This allows users to "follow" the most intelligent people in a field, whose tweets are often full of links to incredibly vital, timely information (Carr, 2010). For example, those interested in transportation in Austin might choose to follow SNAPP. This means that Twitter users have an expectation that people they do not know may be following them. SNAPP generated 366 followers on Twitter, which exceeded their goal. The success of SNAPP in generating followers is likely a result of the ability to directly engage with Twitter users. According to a 2009 study of Twitter, 92 percent of Twitter users follow less than 100 people, while 94 percent of Twitter users have less than 100 followers (Cheng et al, 2009). In fact, only 2 percent of Twitter users have more than 300 followers. This indicates that SNAPP entered an elite state by generating more than 300 followers. Even more impressive is that SNAPP was able to achieve more than 300 followers during a seven-month project period.

In addition, unless a Twitter user puts privacy settings in place, anyone can search Twitter for microblogs related to a particular topic. For example, if a user microblogs "Traffic on Mopac in ATX is heavy," then a planner could find this microblog by searching for "ATX" and "traffic". Carr (2010) found that users are often surprised when they receive responses to their microblogs from a company. For planners, this is an interesting opportunity to interact with members of the public who may be offering comments about their city.

One challenge for SNAPP is in identifying relevant microblogs. The City was particularly interested in those microblogs that were analyzing or engaging rather than simply sharing. SNAPP found that, on average, 57.5 percent of the microblogs were analyzing or engaging. Naaman et al. (2010), in an examination of the content of tweets, found that 80 percent of the tweets related to the user or their thoughts as opposed to sharing general information. In SNAPP's case, there was a significant amount of sharing about the user rather than general information in the sharing microblogs. For example, sharing users might share that they are stuck in traffic.

SNAPP was interested in retweeting, and they significantly exceeded their goal of 15 retweets per week with 45 retweets per week. In a study of 41.7 million user profiles and more than 100 million tweets, researchers found that an item that is retweeted reaches an average of 1,000 users, regardless of the number of followers of the original tweet; this indicates significant influence (Kwak et al., 2009). Just as importantly, Kwak et al.'s study found that once a tweet is retweeted, it continues to get retweeted,

almost instantly resulting in the very fast diffusion of the message. If this diffusion was true for SNAPP, it means that the retweeting of SNAPP's messages reached an average of 45,000 people per week.

Not only are planners interested in sharing information through social networking, we also want to be able to influence users through shared information or active engagement in dialogue. Cha et al (2010) studied followers, retweets, and mentions among 1.7 billion tweets. Based on these measures of influence, they found that popular users with large numbers of followers are not influential in generating retweets or mentions. The most important conclusion is that influence is not gained spontaneously or accidentally, but through such concerted efforts as limiting tweets to a single topic. For planners, this conclusion on influence is important. By focusing on one topic, planners can gain a following that could result in significant retweeting. This is precisely what happened in SNAPP's case. They were successful in generating 366 followers and 45 retweets per week that potentially reached 45,000 people per week through retweets alone. Klout.com is an influence measurement tool for Twitter. SNAPPatx's Klout score indicates that SNAPP is a specialist with highly focused content that has been successful in reaching a highly engaged audience (Klout, 2011).

While the diffusion of microblogs is important, what is the informational value of what is being shared? One study found that approximately 40 percent of all tweets are value-free babble (Pearanalytics, 2009). If 40 percent of tweets are value free, what about the remaining 60 percent? Are they relevant and do they contain enough information for planners and decision makers to understand the public's thoughts on an issue? Researchers have used sentiment analysis to understand views of the public. For example, studies of microblogs about political candidates in Germany, Japan, and the UK found that the aggregation of tweets is indicative of who will win the national election (Suenami & Yutaka, 2010; Tweetminster, 2010; Turmasjan et al., 2010). For planners, understanding sentiment is one important piece of information, but are microblogs in aggregate representative of the public as a whole's sentiment? In a study of the German federal election, researchers analyzed 100,000 tweets referencing a politician or political party and found that the sentiments expressed mirror the off-line political landscape (Tumasjan et al, 2010). SNAPP directly reported sentiment to City officials as part of their monthly reports. City officials reported that having sentiment analysis was particularly helpful in understanding the perspectives of the public. Based on previous research on tweet sentiment, it is likely that the sentiments reported by SNAPP are representative of the broader public.

In the off-line world of participation, there are planning regulars—citizens who regularly attend and participate in public meetings. Within these meetings, there are those who sit quietly while others dominate the discussion. Is the same thing happening online within a small group of people tweeting about transportation in Austin? This was one of the critical concerns of Austin officials. SNAPP provided data to the evaluator on the microblog users. The evaluator compared the total number of microblogs in the period analyzed. Equality of discussion within microblogs would be exhibited if relative equality existed in the number of posts among microbloggers. By contrast, inequality of participation would exist if just a few microbloggers contributed a large number of posts, effectively dominating the discussions taking place within SNAPP. To determine equality of participation, an examination of the individual microbloggers and the number of relevant microblogs contributed was made. The microbloggers were categorized as one-time contributors, light contributors (2-9 microblogs), medium contributors (10-19 microblogs), heavy contributors (20-49 microblogs), or very heavy contributors (more than 50 microblogs), both on a monthly and an entire-period basis. This allowed the researchers to determine whether particular microbloggers were dominating the discussion in a given month or over the entire seven-month period. This project demonstrated a high degree of equality, with 83.1 percent of the contributors contributing one time. The one-time and light contributors represented 82 percent of all relevant comments captured by SNAPP. The evaluator was unable to identify any studies of equality in

participation using Twitter. However, in a study of blogs, Koop and Jansen (2009) found that while online discussions did exhibit some deliberative characteristics, they were often characterized by inequality, a focus on non-substantive issues, and unconstructive engagement between bloggers. Because the real-world identity of microbloggers participating with SNAPP is unknown, though, it is impossible to determine the extent to which these are new participants in the planning process.

Public officials raised concerns that the demographics of microbloggers may not be representative of the Austin citizenry or electorate. The demographic data that was collected as part of the SNAPP project was very limited. Research has found that 8 percent of the U.S. adults are using Twitter (Smith and Rainie, 2010). Among the Facebook SNAPPatx fans, 62 percent were male, 9 percent were 24 or younger, and 11 percent were over 55. Interestingly, all users were of voting age. Of the respondents to the post-SNAPP survey, 58% were male and the largest age group of respondents was 25-44 (59 percent). While statistics on users in Austin are not available, one can reasonably assume that the majority of the population is not made up of Twitter and other microblog users. It should be noted that while public officials want demographics as a measure of representation, social media does not generate demographics in a particularly useful way. One concern of public officials is the “fake” identity and that the views presented may not be from members of the community. From this evaluators experience most microbloggers while they may have an avatar, make their actual name available. This could be potentially used to run against a voter file. It would have to be enough of a priority to take the effort to undertake this type of analysis. Additionally, if microbloggers are writing about in this case transportation in Austin, why would one want to exclude the input of Austin transportation users regardless of whether they are citizens or voters of the City. Planners and public officials should rethink what measures of representation are appropriate that can be measured through the use of social media. For example, the measure of micrologger equity discussed in the previous paragraph may be a more useful measure of representation.

Typically, media communicates information unidirectionally, meaning that the media determines which issues will be focused on. In SNAPP’s case, the idea was to identify the City’s topics of interest as part of the ASMP and then search for microbloggers already speaking about these issues. The broad nature of the topics related to the ASMP, such as traffic and bicycling, meant that the public could be microblogging about these topics from many different perspectives and in ways that might not be covered by the City or the media. Below is a list of the topics on which the public was commenting. One of the more popular topics for microblogging was sightings of a local cyclist who wears only a thong while riding his bicycle. One question is, how relevant is microblogging about the thong bicyclist? Does it relate to the substantive issues that are part of the ASMP? The public discussed 173 different topics, from accidents to Willie Nelson Boulevard. The table below, which lists the top ten most discussed topics, indicates that the public was routinely discussing topics that are directly relevant to the ASMP.

Table 3. Ten Most Discussed Topics

Traffic (2,501)	Rail (408)
Bicycling (914)	Road (344)
Bus (534)	CAMPO (188)
Walking (481)	Transit (170)
Car (447)	Highway (152)

One of the challenges for elected officials and transportation staff members was how to use the analysis provided by SNAPP to support decision making. In the post-project survey, these officials reported that it was difficult to understand the relationships within the data (Ewen, 2010). For example, how could one drill down to understand what is behind sentiment? This points to the challenges of quickly providing feedback to public officials and analyzing data in ways that will be most useful. The literature is silent on these issues. Continued experimentation will be necessary to find best practices. This experiment identifies sentiment analysis as an effective way to communicate results. Through further experimentation analysis protocols and methods can be developed to provide more robust analysis of public input. For example, public officials responded favorably to the sentiment analysis. Using sentiment analysis software one could analyze the input more deeply to provide a more detailed review of sentiment.

One of the benefits of social media is that it is possible to achieve near real-time feedback from the public. The challenge in this project was the speed at which the input could be analyzed and reported back to the City. While this project would have liked to provide more timely and robust analysis, tools are rapidly being developed to overcome this challenge.

As planners and public officials increasingly use social media to engage with the public there will be changes. For example, the use of the Twitter public timeline as a barometer of public sentiment of issues that are of interest to planners. By reviewing the public timeline at the beginning of a planning project it could help to focus on the issues that people already care about, aid in creating messaging that the public will understand, and improve responsiveness to the interests of the public.

Based on the existing available literature, SNAPP's performance meets or exceeds the results found in other contexts. SNAPP was successful in generating public engagement in transportation planning, providing input that the City of Austin found useful in its deliberations about the ASMP and the bond election.

Conclusions

The indicator data demonstrate that SNAPP has met their mandate to reach out and engage the public in discussion around transportation in Austin, Texas. As a pilot project, SNAPP was successful in generating additional participation that would not have been received by the City without this project. While there were significant limitations, the overall outcome was positive. SNAPP successfully engaged with thousands of participants. SNAPP was able to convey public thoughts on transportation issues to the City of Austin during the time that Austin was preparing the Austin Strategic Mobility Plan and its capital bond.

The data in this report provide quantitative evidence of the outcome of the SNAPP project, which is systematically described throughout this report. These data provide a basis for future evaluation and the development of methods to better assess outcome data from social networking efforts.

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Appendix A SNAPP Indicators

Outputs

Participants:

- 1. Number of participants** (Google analytics for web; mode analytics; comment data base)
 1. # of contributions (any keyword relevant message) determined by search - 1000/week
 2. # of participants (who makes contribution) determined by search - 300/week
 3. # of unique visitors to site - 500/wk
 4. # of site visits - 1500/wk
 5. # of FB fans - 1000 proj t/20 new/wk
 6. # of Twitter followers - 300 proj t/5 new/wk
 7. # of twitter retweets - 15 new/wk

- 2. Demographic information (opt-in)**
 1. Basic demographic information (acquire from 22.49% of viewers)
 - ZIP (website -opt-in to get alerts: prompt for other mode users)
 - Age range (website -opt-in to get alerts: prompt for other mode users)
 2. Demographic information for targeted queries (acquire from 80% of survey respondents)
 - Name/User Name
 - Mailing Address
 - Ethnicity

- 3. Level of participation**
 1. Website:
 - Participant education/learning-user stays on site for 60+sec (22.49% of visits)
 - Participates (contributing a comment) in conversation at time of visit/session (a: quick comment; b: link to a mode) (2.25% of t visits)
 2. Modes:
 - # of facebook likes/comments and shares (2.25% of fans)
 - # of Tweets and retreats (5% of followers)
 - # of Blog likes/comments and shares (2.25 % of viewers)

Communications:

- 1. Outreach**
 - 1. Recruit participation directly and via partner connections**
 - Email recipients (1000 for launch; 50 new/week)
 - Media recipients (10 media contacts; 4 articles or stories for launch; 1 new article /mo)
 - Follow, be friend messages (1000 for launch; 20/wk)
 - Coffee shop flyers (350 for launch)
 - 2. Recruitment of partners**
 - Phone and e-mail discussions (25 partners/5 new/wk x 5 weeks)

- 2. Fostering Participation**
 - 1. Pushing out information and opportunities**
 - Original tweets/facebook messages (2 each/day)

- Web and blog content updates (1/week)
 - Partner supported website updates, facebook messages, retweets, or blog mentions (5/wk)
 - Media contacts (5/wk)
2. **Building Connections – relationships & encouraging participation**
- Responding to tweets/facebook (20 / day)
 - Responding to e-mail and individual communications (20 / day)
 - Responding to partners and media requests (5 / wk)
3. **Periodic micro-surveys of participants**
- Number of surveys: at least 3 per each of 4 planning processes
 - Survey implementation: as quickly as one-week from development to reporting
 - Survey response rates: Survey all participants; 100 participants respond with 100% survey completion.