San Francisco
Urban Partnership Agreement

National Evaluation:
Content Analysis Test Plan

U.S. Department of Transportation

Research and Innovative Technology Administration

SAN FRANCISCO
URBAN PARTNERSHIP AGREEMENT

NATIONAL EVALUATION:
CONTENT ANALYSIS TEST PLAN

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16. Abstract

This report presents the test plan for collecting and analyzing information on outreach activities, media coverage, and reactions of the public, policy makers, and other groups to the UPA projects for the San Francisco Urban Partnership Agreement (UPA) under the United States Department of Transportation (U.S. DOT) UPA Program. The San Francisco UPA projects focus on reducing congestion by employing strategies consisting of combinations of tolling transit, telecommuting/travel demand management (TDM), and technology, also known as the 4 Ts. The national evaluation of the San Francisco UPA focuses on projects that deal with parking pricing in downtown San Francisco and supporting technology and telecommuting/TDM projects. The SF*park* parking pricing pilot will implement variable pricing in on-street and garage parking in selected parking districts. Information on parking availability and price will be available by phone, websites, and variable message signs. Outreach events for alternate commute programs will inform the public about the parking pricing and parking information projects. The Content Analysis Test Plan is based on the San Francisco UPA National Evaluation Plan. This test plan describes the media, outreach, and partnership data sources, data availability, and possible risks associated with the data. The methods for analyzing the data are discussed. The schedule and responsibilities for collecting, analyzing, and reporting the data are presented.

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LIST OF ABBREVIATIONS

4Ts	Tolling, transit, telecommuting/travel demand management, and technology
DOE	Department of Environment
FHWA	Federal Highway Administration
ISP	Information service provider
ITS	Intelligent transportation systems
MTC	Metropolitan Transportation Commission
SFCTA	San Francisco County Transportation Authority
SFMTA	San Francisco Metropolitan Transportation Agency
TDM	Travel demand management
UPA	Urban Partnership Agreement
U.S. DOT	United States Department of Transportation

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1.0   INTRODUCTION

This report presents the test plan for collecting and analyzing information on outreach activities, media coverage, and reactions of the public, policy makers, and other groups to the UPA projects for the National Evaluation of the San Francisco Urban Partnership Agreement (UPA) under the United States Department of Transportation (U.S. DOT) UPA program. The San Francisco UPA is one of several large field deployments around the United States that are receiving U.S. DOT funding and which are intended to demonstrate congestion pricing and supporting strategies. The San Francisco UPA national evaluation will address the four primary U.S. DOT UPA evaluation questions shown in Table 1-1.

Table 1-1. U.S. DOT National Evaluation "Objective Questions"

Objective Question #1	How much was congestion reduced in the area impacted by the implementation of the tolling, transit, technology, and telecommuting strategies? It is anticipated that congestion reduction could be measured by one of the following measures, and will vary by site and implementation strategy: • reductions in vehicle trips made during peak/congested periods; • reductions in travel times during peak/congested periods; • reductions in congestion delay during peak/congested periods; and • reductions in the duration of congested periods.
Objective Question #2	What are the associated impacts of implementing the congestion reduction strategies? It is anticipated that impacts will vary by site and that the following measures may be used: • increases in facility throughput during peak/congested periods; • increases in transit ridership during peak/congested periods; • modal shifts to transit and carpools/vanpools; • traveler behavior change (e.g., shifts in time of travel, mode, route, destination, or forgoing trips); • operational impacts on parallel systems/routes; • equity impacts; • environmental impacts; • impacts on goods movement; and • effects on businesses.
Objective Question #3	What are the non-technical success factors with respect to the impacts of outreach, political and community support, and institutional arrangements implemented to manage and guide the implementation?
Objective Question #4	What are the overall costs and benefits of the deployed set of strategies?

The questions shown in Table 1-1 will be addressed by carrying out the following ten "evaluation analyses" described in the San Francisco UPA National Evaluation Plan: congestion, pricing, telecommuting/ travel demand management (TDM), technology, equity, environmental, goods movement, business impacts, non-technical success factors, and cost-benefit. Each of these 10 analyses relies upon various evaluation measures of effectiveness.

"Test plans" are the evaluation planning documents that describe how specific data will be collected and processed to yield the evaluation measures of effectiveness required for the various

analyses. Whereas evaluation analyses are categorized according to related evaluation questions or types of impacts, for example all equity-related impacts are addressed in the equity analysis, test plans are categorized according to common data types or sources. For example, the Traffic System Data Test Plan collects and processes all of the traffic data required for the national evaluation. In addition to this Content Analysis Test Plan, the nine other test plans focus on the following types of data: traffic, parking, transit, traveler information, telecommuting/TDM, surveys and interviews, environmental, cost benefit analysis, and exogenous factors.

The relationship between test plans and evaluation analyses is discussed in Section 1.2. In short, analyses describe the evaluation questions and hypotheses to be investigated and the test plans describe how the data and measures of effectiveness needed to support the evaluation will be collected and processed. Most test plans collect data and provide measures of effectiveness that will be used in multiple analyses and most analyses rely upon data and measures developed through several different test plans.

The remainder of this introduction chapter identifies the San Francisco UPA deployments and elaborates on the relationship between test plans and evaluation analyses. The remainder of the report is divided into three sections. Chapter 2.0 presents the data sources, data availability, and risks associated with evaluating the content analysis data elements of the San Francisco UPA. Chapter 3.0 discusses how all of the content analysis data will be analyzed and used in the national evaluation. Chapter 4.0 presents the schedule and responsibilities for collecting and analyzing the content analysis data.

1.1   The San Francisco UPA

San Francisco was selected by the U.S. DOT as an Urban Partner to implement projects aimed at reducing congestion based on four complementary strategies known as the 4Ts: tolling, transit, telecommuting/TDM, and technology. Under contract to the U.S. DOT, a national evaluation team led by Battelle is assessing the impacts of the projects in a comprehensive and systematic manner in San Francisco and other sites. The national evaluation will generate information and produce technology transfer materials to support deployment of the strategies in other metropolitan areas. The national evaluation will also generate findings for use in future Federal policy and program development related to mobility, congestion, and facility pricing.

The San Francisco local UPA partners for the national evaluation consist of three public agencies. Two of the partners represent the City of San Francisco--the San Francisco County Transportation Authority (SFCTA) and the San Francisco Municipal Transportation Agency (SFMTA). The third partner is the Metropolitan Transportation Commission (MTC), the metropolitan planning organization for the Bay Area.

The San Francisco projects are focused on reducing traffic congestion related to parking in downtown San Francisco. Intelligent transportation systems (ITS) technologies underlie many of the San Francisco UPA projects, including those utilizing parking sensors, real-time parking

information, and payment technologies. The San Francisco UPA projects that will be evaluated[1] are described briefly below.

SF*park* Variable Pricing. SF*park* is the name given to the parking pricing system to be implemented by SFMTA. The primary goal of SF*park* is to use intelligent parking management technology and techniques, in particular demand-responsive pricing, to manage the on-street and off-street parking supply and demand. SFMTA expects this approach to increase parking availability, reduce the number and duration of vehicle trips, and reduce double parking and, thereby, reduce congestion. The parking technologies to be tested include networked parking meters, parking occupancy sensors, and parking information systems. Pricing policies may change over the course of the evaluation period, as SF*park* managers adjust rates in response to demand. Some extensions in times of day/week that meters are operable are also possible pending SFMTA Board actions.

The pilot areas for SF*park* are highlighted in red (or dark lines) in Figure 1-1. The new system will consist of approximately 6,000 metered on-street parking spaces (about one-quarter of the city's total supply) and 12,250 parking spaces in fourteen city-operated garages and one lot. Control areas, highlighted in yellow (or light lines) in Figure 1-1, will be equipped with traffic sensors for monitoring use of the parking supply where variable pricing is not implemented.

To assist travelers in making choices about parking pre-trip and en-route, SFMTA will disseminate parking information in various ways. Strategically placed variable message signs[2] will show parking availability in city-operated garages, and parking availability and pricing information will also be displayed on SFMTA's website and by text messaging to mobile devices.

511 Upgrades. The 511 phone and website in the San Francisco Bay Area, operated by MTC, is one of the most advanced in the country, including a variety of multi-modal information. However, at the present time, the parking information on 511 is limited to static information about park and ride lots and rail stations (on the web) and airport parking (on the phone). The planned upgrades will provide parking space availability and pricing information for selected parking facilities in downtown San Francisco by 511 phone and web and by information service providers (ISPs) in the region who receive a feed of 511 data from MTC. MTC will receive a real-time data feed of parking availability for parking garages managed by SFMTA and pricing data for those SFMTA garages, lots, and on-street parking. The user interfaces on 511 phone and website will be enhanced to disseminate the parking information to 511 customers.

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[1] The Clipper[SM] electronic payment card (formerly known as TransLink[®]) that was to be piloted for parking payment at five SFMTA garages was removed from the national evaluation owing to uncertainty about when it would be deployed.

[2] The deployment of the variable message signs has been delayed to December 2011, placing them several months behind the other UPA projects. Rather than delay evaluation of the rest of the projects, the decision was made not to include them in the national evaluation.
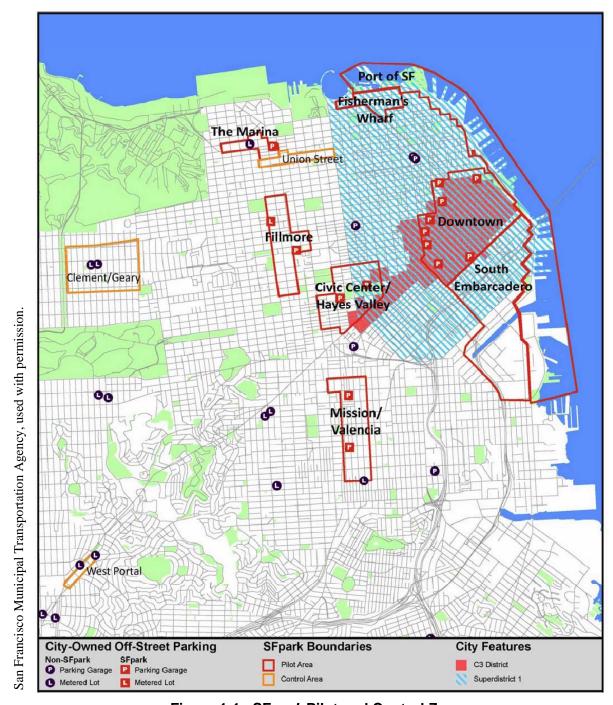
San Francisco Municipal Transportation Agency, used with permission.

Figure 1-1. SF*park* Pilot and Control Zones

Expansion of San Francisco Telecommuting and Alternate Commute Programs. Under the direction of the SFCTA, the telecommuting and alternate commute programs will be undertaken by the City of San Francisco's Department of the Environment (DOE). In support of the SF*park* and 511 enhancements, DOE and SFCTA plans include three activities: promotion of SF*park* at DOE outreach events and promotion of 511 enhancements at outreach events. Through the

outreach efforts, downtown workers will be better informed about the UPA initiatives and can better use the parking and information resources available to them.

Schedule for the San Francisco UPA Projects. The projects to be evaluated will go into operation between in mid-2011 and late 2011. SFMTA will be implementing variable pricing in SF*park* zones in mid-2011. At that time real-time parking information will become available via SFMTA's website and text messaging and the MTC 511 phone system. In late 2011 real-time parking information will be available on the 511 website. As the SFMTA and MTC projects are deployed, SFCTA will conduct its expanded outreach and alternate commute program.

1.2 San Francisco UPA National Evaluation Plan and the Use of Data from the Content Analysis

Table 1-2 shows which of the various San Francisco UPA test plans will contribute data to each of the evaluation analyses. The "flow" between test plans is "one way" in the sense that test plans feed data and measures to the analyses rather than the reverse. The solid circles show where data from a given test plan constitutes a major input to an analysis; the open circles show where data from a given test plan constitutes a supporting input to an analysis. Data from the Content Analysis Test Plan will be used for non-technical success factors analysis. Table 1-3 presents the content analysis data elements and the measures of effectiveness and the hypotheses/questions that the content data will be used to examine.

Table 1-2. Relationship Among Test Plans and Evaluation Analysis

San Francisco UPA Test Plans	Congestion Analysis	Pricing Analysis	Telecommuting/ TDM Analysis	Technology Analysis	Equity Analysis	Environmental Analysis	Goods Movement Analysis	Business Impact Analysis	Non-Technical Success Factors Analysis	Cost Benefit Analysis
Traffic System Data Test Plan	●				○		○			○
Parking Data Test Plan		●		○	○	○	●	○		
Transit System Data Test Plan	○	●				○				○
Telecommuting/TDM Data Test Plan			●							
Traveler Information Data Test Plan				●						
Surveys and Interviews Test Plan	●	●	●	●	●	○		○	●	○
Environmental Data Test Plan					○	●				○
Content Analysis Test Plan									●	
Cost Benefit Analysis Test Plan										●
Exogenous Factors Test Plan	○	○	○	○	○	○	○	○	○	○

● — Major Input   ○ — Supporting Input

Table 1-3. Content Analysis Test Plan Data Elements Use in Testing Evaluation Hypotheses/Questions

San Francisco Tolling Data Element	San Francisco UPA Measure of Effectiveness	San Francisco UPA Hypotheses/Questions*
1. Partnership Documents	• Partnership documents (e.g., Memoranda of Understanding)	SFNonTech-2 SFNonTech-3
2. Outreach Materials	• Outreach materials (e.g., press releases, brochures, websites, etc.)	SFNonTech-3 SFNonTech-4
3. Media Coverage	• Newspaper, Radio, TV, Blogs	SFNonTech-4

*Listed are acronyms corresponding to hypotheses/questions to be addressed with data from this test plan. An explanation of these acronyms can be found in Appendix A, which contains a compilation of the hypotheses/questions for all the analysis areas from the San Francisco UPA National Evaluation Plan.

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2.0 DATA SOURCES, AVAILABILITY, AND RISKS

This chapter identifies the sources for the content analysis and discusses the availability of the data and any potential risks associated with collecting and processing them for use in the evaluation. Table 2-1 summarizes the data requirements for the Content Analysis Test Plan. The details associated with source, timing and other particulars are discussed in the sections that follow.

2.1 Data Sources

Outreach Materials/Activities: To the extent possible, all outreach materials related to the UPA project that are created and distributed by partner agencies (or any marketing/ communications contractors) will be archived and given by SFMTA, MTC, and SFCTA to the national evaluation team in electronic format during both baseline and post-deployment periods. In addition, any outreach activities conducted by the partner agencies and any marketing/ communications contractors will be logged and reported by SFMTA, MTC, and SFCTA to the national evaluation team during these same periods. Table 2-1 provides details on data elements, data collection and reporting frequency.

- **SFMTA** is conducting individual meetings with key stakeholders. They are tracking the dates and participants for these meetings as well as any presentation materials (e.g., PowerPoint presentation). SFMTA has also launched the website, SF*park*.org.

- **MTC** is conducting some informal outreach activities including, promotional announcements for 511, press releases, and agency newsletters. These activities and materials will be generated at the point of the initial project launch.

- **SFCTA** – SFCTA will rely on SFMTA and MTC to take the lead on creating content for outreach activities and materials. SFCTA will work with the San Francisco Department of Environment to obtain material from SFMTA and MTC for use in TDM outreach activities. (See the Telecommuting/TDM Data Test Plan.)

Partnership Documents: To the extent possible, all UPA partnership documents will be archived and given by SFMTA, MTC, and SFCTA to the national evaluation team in electronic format during the baseline stage. Partnership documents include the original proposal and teaming agreement obtained from U.S. DOT as well as communications among partners during the proposal development and project implementation stage (i.e., baseline). Table 2-1 provides more details on data elements, data collection and reporting frequency.

- **SFMTA** – Discussion to date with the national evaluation team indicate there may be few formal documents available.

- **MTC** has meeting minutes and materials from several different coordinated meetings with all partner agencies.

Table 2-1. Summary of Data Needs

Data Element		Data Collection Frequency	Data Collection Timing				Data Reporting Frequency	Data Source
			Baseline		Post-Deployment			
			Begin	End	Begin	End		
1.0 Outreach Materials/ Activities	1.1 Press Releases	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	As occur	SFMTA, SFCTA, MTC
	1.2 Project Fact Sheets/Brochures	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	As occur	SFMTA, SFCTA, MTC
	1.3 Project or agency website used for external communications of UPA project	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	On-going	SFMTA, SFCTA, MTC
	1.4 Tours/Public Meetings/ Presentations	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	Quarterly	SFCTA or DOE, SFMTA
	1.5 Other Media Events	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	As occur	SFMTA, SFCTA, MTC
2.0 Partnership Documents	2.1 Partnership Agreement Documents	One time	First occurrence	Mid-2011	NA	NA	One time in 2011	TBD
	2.2 Memoranda of Understanding	One time	First occurrence	Mid-2011	NA	NA	One time in 2011	TBD
	2.3 Other communication documents (examples of this might include agency resolutions authorizing initial participation in the UPA application, committing project funding, and designating staff support)	One time	First occurrence	Mid-2011	NA	NA	One time in 2011	MTC, TBD

Table 2-1. Summary of Data Needs (Continued)

Data Element		Data Collection Frequency	Data Collection Timing				Data Reporting Frequency	Data Source
			Baseline		Post-Deployment			
			Begin	End	Begin	End		
3.0 Media Coverage	3.1 Local and national newspapers (such as the SF Chronicle, SF Examiner, and the NY Times)	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	Quarterly	SFMTA, MTC
	3.2 Blogs (such as Streetsblog)	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	Quarterly	SFMTA
	3.3 Magazines (such as SF Business Times)	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	Quarterly	SFMTA
	3.4 Local radio and TV clips	Continuous	First occurrence	Mid-2011	Mid-2011	Mid-2012	Quarterly	SFMTA

Media Coverage: From its first occurrence, all local, regional, and national media coverage of the UPA project will be sought for the national evaluation. The primary source for the data will be SFMTA, which is archiving SF*park* media coverage. However, media coverage available from SFCTA and MTC will be obtained as well. The national evaluation team requests the information in electronic format during both baseline and post-deployment periods. Table 2-1 provides more details on data elements, data collection and reporting frequency.

- **SFMTA** is monitoring print newspapers, online blogs, magazines, and local radio and television stations for coverage of the UPA project. SFMTA uses the following methods to collect media coverage: Daily Google Alert feed for the terms "SF*park*" and "parking San Francisco;" daily compilation of transportation headlines from the MTC and the Los Angeles County Metropolitan Transportation Authority; a subscription to the Bay Area Transportation News network (http://groups.yahoo.com/group/BATN/); and actively checking SF Streetsblog. SFMTA will provide on a quarterly basis electronic versions of media coverage and a log of television of radio clips with hyperlinks to their original online source.

- **MTC** has a library that maintains an archive of transportation-related articles (No radio, television, or other internet sources such as blogs are tracked in this database).

2.2   Data Availability

The national evaluation team will coordinate with each partner agency on data availability and data delivery per the following the instructions:

SFMTA

- **Outreach Materials/Activities:** SFMTA will need to assemble the information related to SF*park*, such as stakeholder meetings, communications plans, printed or electronic marketing material and send this information electronically to the national evaluation team. The national evaluation team already has access to the SF*park*.org website.

- **Partner Documents:** SFMTA will need to assemble any relevant materials they are able to find (e.g., meeting dates, meeting participants, and meeting notes) and deliver them electronically to the national evaluation team.

- **Media Coverage:** This material is already being collected by SFMTA and the national evaluation team has established a quarterly electronic delivery system to receive all materials.

MTC

- **Outreach Materials/Activities:** MTC will need to assemble the information related to their outreach and advertising activities regarding parking information and the Clipper[SM] parking pilot (e.g., press releases, agency newsletters) and send this information electronically to the national evaluation team.

- **Partner Documents:** MTC will need to assemble any relevant materials they are able to find (e.g., meeting dates, meeting participants, and meeting notes) and deliver them electronically to the national evaluation team.

- **Media Coverage:** The national evaluation team will make requests directly to the MTC library to receive electronic transportation-related news articles related to the parking information and Clipper^{SM} parking pilot.

SFCTA

- **Outreach Materials/Activities:** SFCTA will be able to provide a list of outreach events conducted once the project is underway along with the metrics provided through the Telecommuting/TDM Data Test Plan.

2.3   Potential Risks

There do not appear to be any significant risks associated with collecting outreach materials/activities, partnership documents, and media coverage data. Data availability may be an issue when collecting archived outreach materials/activities and partnership documents. However, the collection methodology established by the national evaluation team is intended to avoid gaps in data availability by having the partners send material on a regular basis. In addition, a delay in project deployment may require adjustment in the evaluation timeline, and thereby extend the overall data collection period.

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3.0   DATA ANALYSIS

The content analysis is guided by the overall evaluation framework for non-technical success factors. Using this framework, the content analysis is directed by two key questions: 1) What did the partners do to try to make their UPA projects successful?; and 2) What were the keys to success and what are the associated lessons learned that will be useful to USDOT and other state and local transportation agencies?

The analysis will assess public reaction to the UPA project, chronicle project hurdles and challenges, and evaluate the methods used to overcome the hurdles and challenges. The analysis will also examine the role the media plays as both an intermediary of conveying information to the public as well as a shaper of public opinion. In addition, the analysis will assess whether and how there was a coherent marketing and communications plan for the UPA project and will explore the dynamics of collaboration through partnership documents. Exogenous factors, such as any major construction or weather event that could affect public opinion at certain points in the evaluation, will be considered in the analysis as well.

All outreach materials/activities, partnership documents, and media coverage data will be stored, organized and analyzed using NVivo, a qualitative data analysis software.[3] Utilizing the NVivo software is a benefit for the content analysis. The software creates project efficiencies through its ability to store, organize and link project materials in one location. The software also has the capability to develop and store qualitative analysis techniques such as document coding and tracking characteristics and counts for each project element. NVivo will also be used to store, organize and analyze the stakeholder interviews and workshops – additional elements of the non-technical success factors analysis. NVivo can link the content analysis data elements to the data from the stakeholder interviews and workshops, thereby facilitating a more in-depth non-technical success factors analysis. In addition, NVivo can verify inter-coder reliability by tracking and reporting the similarities or differences among multiple coders.

A descriptive analysis will be used for the outreach materials/activities and partner documents. This will involve a detailed description for each data element that answers the following questions: 1) what was done? 2) when did it happen? and 3) what form did it take? This descriptive information will then be correlated with the media coverage data. For example, a timeline of outreach and partner activities will be developed and compared with the amount and type of media coverage generated over the same time period.

For the media coverage, NVivo will be used to code the data. In order to assure reliability and validity of the analysis, at least two coders will be utilized to determine the appropriate coding categories. NVivo will identify any disagreement among coders, which will then be resolved by coming to an agreement among coders as to the appropriate coding category. A preliminary coding structure organizes the data into the following categories:

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[3] For more information on the NVivo software, please visit: http://www.qsrinternational.com.

- **Outcomes:** impact of project on public perception of congestion relief, on how partner agencies do their work; success or failure of project to meet its stated goals

- **Public reactions:** does the public react to the project? If they do, is it positive, negative, constructive?

- **Challenges:** any events that occur that challenge the successful outcome of the project

- **Nature of media coverage:** opinion-based, public education, portray project as positive, negative, or neutral

- **People:** skills, background, and attitudes people and organizations bring to the success (or failure) of the project; who and how are key actors and organizations talked about

- **Context:** initial project conditions such as general environment (turbulence, competitive and institutional elements) and direct antecedents (conveners; general agreement on the problem; existing relationships or networks)

- **Discourse:** stories people tell, debated categories (what is the purpose and outcomes of the UPA project, symbols, importance and function of documents, reports, etc.)

One aspect of the media coverage analysis will remain in question until the national evaluation team has received a substantial amount of the data. There is potential for a large volume of media coverage that will render difficult an analysis of each media piece. In this case, the national evaluation team would keep a count of all media coverage, but perform an analysis on a sample of the media, perhaps selected during spikes in coverage.

4.0 SCHEDULE AND RESPONSIBILITY

The schedule for collection and reporting of the data for the content analysis varies by data element as indicated in Table 2-1. In general the outreach materials and activities and the media coverage will require continuous collection by the partner agencies. Reporting to the national evaluation team will be as they occur or quarterly for media coverage and outreach events. Partnership documents, on the other hand, are a reflection of past actions and need to be assembled by the partners and sent only once to the national evaluation team.

The responsibilities for this test plan include:

- Partner agencies will collect and provide media coverage, outreach materials/activities, and partnership documents to the Battelle team.

- Battelle team will receive, analyze, and report on the above listed data.

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APPENDIX A – COMPILATION OF HYPOTHESIS/QUESTIONS FROM THE SAN FRANCISCO UPA NATIONAL EVALUATION PLAN

Evaluation Analysis	Hypothesis/ Question Number	Hypothesis/Question
Congestion	SFCong-1	The deployment of SF*park* and the 511 improvements will reduce traffic congestion on selected travel routes in the downtown area
	SFCong-2	Travelers will perceive that congestion has been reduced
Pricing	SFPricing-1	Parking pricing will increase parking availability
	SFPricing-2	Parking pricing will lead to reduced search time and variability
	SFPricing-3	Parking pricing will reduce double parking
	SFPricing-4	Parking pricing will shorten the duration of the average on-street parking session
	SFPricing-5	Parking pricing will improve reliability and speed of public transit
	SFPricing-6	Parking pricing will cause a shift to other routes, modes, and other parking garages
Telecommuting /TDM	SFTele/TDM-1	TDM events will increase the demand for information about SF*park* and 511 enhancements
	SFTele/TDM-2	SF*park* and 511 enhancements will increase effectiveness of TDM program
	SFTele/TDM-3	Distribution of UPA-related information at events will influence parking program awareness and behavior change
Technology	SFTech-1	Implementing advance parking technology will improve agency ability to manage parking
	SFTech-2	Improving the dissemination of parking information via 511 phone, websites, and text messaging, will reduce parking search times

Evaluation Analysis	Hypothesis/ Question Number	Hypothesis/Question
Equity	SFEquity-1	What are the direct social effects (parking fees, travel times, adaptation costs) for various transportation system user groups?
	SFEquity-2	What is the spatial distribution of aggregate out-of-pocket and inconvenience costs, and travel-time and mobility benefits?
	SFEquity-3	Are there any differential impacts on certain socioeconomic groups?
	SFEquity-4	How does reinvestment of parking pricing revenues impact various transportation system users?
Environmental	SFEnv-1	SF*park* will improve air quality by reducing parking search times and shifting trips from car to transit
	SFEnv-2	The public will perceive an improvement in air quality resulting from SF*park*
	SFEnv-3	SF*park* will reduce fuel consumption by reducing parking search times and shifting trips from car to transit
Goods Movement	SFGoods-1	CVO double parking will decrease in the SF*park* areas.
	SFGoods-2	CVO double parking fines will decrease in the SF*park* areas.
	SFGoods-3	Parking availability, including loading and freight zones, will increase in the SF*park* areas.
	SFGoods-4	Travel times will decrease in the SF*park* areas for CVOs and other vehicles.
Business	SFBusiness-1	Sales will increase in the SF*park* areas.
	SFBusiness-2	Overall travel to access retail and similar businesses will increase in the SF*park* areas.

Evaluation Analysis	Hypothesis/ Question Number	Hypothesis/Question
Non-Technical	SFNonTech-1	What role did factors related to "people" play in the success of the deployment? People (sponsors, champions, policy entrepreneurs, neutral conveners)
	SFNonTech-2	What role did factors related to "process" play in the success of the deployment? Process (forums including stakeholder outreach, meetings, alignment of policy ideas with favorable politics, and agreement on nature of the problem)
	SFNonTech-3	What role did factors related to "structures" play in the success of the deployment? Structures (networks, connections and partnerships, concentration of power and decision-making authority, conflict-management mechanisms, communications strategies, supportive rules and procedures)
	SFNonTech-4	What role did factors related to "media" play in the success of the deployment? Media (media coverage, public education)
	SFNonTech-5	What role did factors related to "competencies" play in the success of the deployment? Competencies (cutting across the preceding areas: persuasion, getting grants, doing research, technical/technological competencies; ability to be policy entrepreneurs; knowing how to use markets)
	SFNonTech-6	Does the public support the UPA/CRD strategies as effective and appropriate ways to reduce congestion?
Cost Benefit	SFCBA-1	What is the net benefit (benefits minus costs) of the UPA/CRD strategies?

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