511 Strategic Plan

Metropolitan Transportation Commission

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1. Introduction

Transportation is of vital importance to people in the Bay Area. According to the Bay Area Council's most recent annual poll (conducted in January 2006), transportation is the most important problem facing the region. Of 600 respondents, 35 percent ranked transportation as their highest concern. This concern about transportation issues is not just talk: voters have shown extraordinary support for regional transportation funding initiatives in recent years. In 2004, voters approved $8.5 billion in new transportation revenues for the region.

Traveler information cannot eliminate traffic bottlenecks or incidents. It can, however, help people using the transportation system feel more in control, make better travel choices, and help agencies better manage the Bay Area's transportation system. It can be an important tool to mitigate stress that Bay Area travelers experience during their commute.

MTC has provided traveler information for 10 years to the Bay Area traveling public, with the 511 service in place for the past three years. During this time, the service has evolved significantly in response to feedback from users, and expanded both functionally and technologically. 511 in the Bay Area is a unique convergence of several traveler information programs: transit, traffic, rideshare and bicycle information is now provided under the 511 umbrella suite of services to provide a one-stop resource. The 511 program makes traveler information easily accessible by providing travelers with a one-stop resource for trip planning and multi-modal travel conditions information. The program's robust data collection system, developed to support better regional traveler information, is also a valuable regional resource used by public and private sector partners alike.

Several factors contribute to the need for a strategic assessment of the 511 program. Major components of the 511 system are moving from one phase of the system life cycle to the next:

- The 511 traffic program is wrapping up its design-build phase and transitioning to a system maintenance and operations phase. The program's original six-year design-build-operate-maintain contract with PB Farradyne is slated to end in June 2006;
- A key element of the 511 transit program – the transit trip planner – is nearing the end of its useful life and requires significant new investment for its replacement.

MTC is also conducting an agency strategic plan that this 511 strategic plan needs to inform.

Use of 511 phone and web continues to grow and the system is very highly regarded by other 511 deployers across the country. Nevertheless, MTC is committed to evaluating whether on-going investment in 511 is warranted, given other regional priorities. This strategic plan is intended to inform future operations, investment and policy decisions for the 511 program for the next ten years.

Methodology and Key Steps to Develop the Plan

This Strategic Plan addresses critical questions about current operations, potential future scenarios, and roles of the various partners. MTC staff completed the following steps to develop the plan:

- Develop a vision for 511 services in the Bay Area and revisit the program mission.
- Define the existing functions and features of the 511 Program. Evaluate customer usage trends. Identify potential enhancements.
- Explore public and private sector roles and responsibilities for delivering 511 services.
- Document costs for existing functions and potential enhancements.
- Develop operational scenarios to investigate the budgetary impact of changes in scope to the 511 Program. Recommend a preferred scenario to support the vision.

During the process, staff met with public sector partners (Caltrans, CHP, CMAs and transit agencies) and private stakeholders (e.g., web providers, local media, a car company and national map database firms).

Findings were developed in a series of analyses, summarized below:

- Development of a vision for 511 in the Bay Area, as well as criteria that would guide the Strategic Plan and program assessment activities. Scenarios were developed of how 511 could function in the future and benefit a range of travelers including a typical commuter, transit user, user unfamiliar with 511, commercial vehicle driver, and others.
- Analysis of the current 511 program, including features and functions, contractor roles, usage of 511 phone and web, trends for each mode within 511 and 511.org as well as the "umbrella" activities, and potential future program usage.
- An evaluation of current program functions as well as potential future functions from the perspective of resources required to carry out a particular function vs. its impact to the program in terms of usage or benefit. Six scenarios were developed and reviewed, and one scenario was refined for a 10-year plan.
- A review of the roles, responsibilities and challenges for both public and private sector partners of the Bay Area 511, including an assessment of the potential role that traveler information and 511 could play in regional emergencies. Development of recommendations for future policies and special initiatives for MTC and partners.

This strategic plan integrates key findings and recommendations from each of these analyses. The plan recommendations focus primarily on the traffic and transit elements of 511 because 1) they represent the majority of information requests from 511; 2) the rideshare program had recently completed its own strategic plan; and 3) the current level

of effort to provide bicycle information seemed appropriate and would remain unchanged.

Revised Program Mission Statement

A mission statement developed in 1999 to guide program development was as follows:

> *[511] will provide comprehensive, accurate, reliable and useful multimodal travel information that meets the needs of Bay Area travelers.*

With the expansion and growth of the program over the last several years, and additional years of experience providing traveler information, this plan recommends a new, more detailed and specific vision:

> *The 511 program must:*
>
> *cost-effectively provide traveler information that customers both want and are prepared to act on, thereby enhancing the efficiency and maximizing the capacity of the Bay Area transportation system.*
>
> *This information should be:*
>
> *accurate, reliable, multimodal, comprehensive and regional in scope.*
>
> *Responsibility for the gathering, processing and dissemination of 511 information should be:*
>
> *regionally coordinated and rationally allocated to Bay Area transportation organizations — in both the public or private sectors — according to institutional interest, ability and wherewithal.*

2. Current System Overview

This chapter provides an overview of the current 511 system, customer feedback, usage and usage trends, and projected market shares based on these trends.

Current 511 System

The 511 Program has evolved to keep pace with the changing needs of consumers, advances in technology, and the availability of travel data. MTC has delivered traveler information since the mid-1990s, when it launched a multi-modal telephone service and a separate regional transit information website. 511 is now a consolidated, comprehensive, multi-media, multi-modal traveler information service. While Bay Area 511 information is available via phone and web, there are slight differences in how the information is presented due to limitations of the media. Because of web capabilities, the 511.org website is able to offer broader information and more detailed and interactive information to users than what could reasonably be provided via the 511 phone service.

Bay Area 511 unifies several traveler information programs. Transit, Traffic, Rideshare and Bicycle information previously existed as separate information resources, but have been merged under the 511 suite of services to provide a one-stop resource. Of these, traffic and transit represent the largest percentage of usage; as such, recommendations within the plan focus primarily on strategies that support enhanced or expanded functions for these two modes. Furthermore, the rideshare program recently completed its own strategic plan. The current level of effort to provide bike information will remain unchanged.

Traffic Data Collection

The traffic functions on 511 require a major investment in data collection. MTC collects and consolidates regional traffic data from various sources to make congestion information, driving times, incident information, segment speeds and information about planned closures available through the phone and web. With incomplete freeway data available from Caltrans, MTC made key investments in additional data collection mechanisms using FasTrak™ transponders as well as integration of freeway data from private sources (SpeedInfo). The traveler information center (TIC), operated by an MTC contractor, is the control center for data aggregation. Both manual and automated data come into the TIC where it is consolidated and processed for 511. Real-time traffic data is then disseminated to the public via phone and web as well as to information service providers – including broadcast media - to be used as part of their traffic information dissemination services.

Transit Data Collection

Transit data to support 511 must be coordinated with the many individual transit operators in the Bay Area. The Regional Transit Database (RTD) is the clearinghouse for data from the region's transit services. Coordinating with different transit agencies presents challenges, as each agency has different expectations, scheduling systems, forms and types of data. Ultimately, a greater investment has been required to support the

ongoing collection of transit schedule, fare, and route data to support trip planning than MTC had initially anticipated.

Currently, real-time transit information is available on a pilot basis for SF Muni light rail and streetcars via the phone; it is also made available on the web through a link to nextmuni.com. MTC is conducting concurrently an evaluation of possible approaches for a regionwide deployment of real-time transit information.

Customer Feedback

MTC has conducted several web and phone customer satisfaction surveys, consistently finding that about 90% of existing users are very or somewhat satisfied with the services. For the phone, the top reasons cited for satisfaction in 2004 were "getting the information they need," "easy to use," "accurate information," and "quick." For the web, the top reasons for customer satisfaction in 2004 were "accuracy/usefulness of information" and "availability/ease of finding information."

In addition, in recent user surveys, 35-37% said the information they received from 511 caused them to change travel plans:

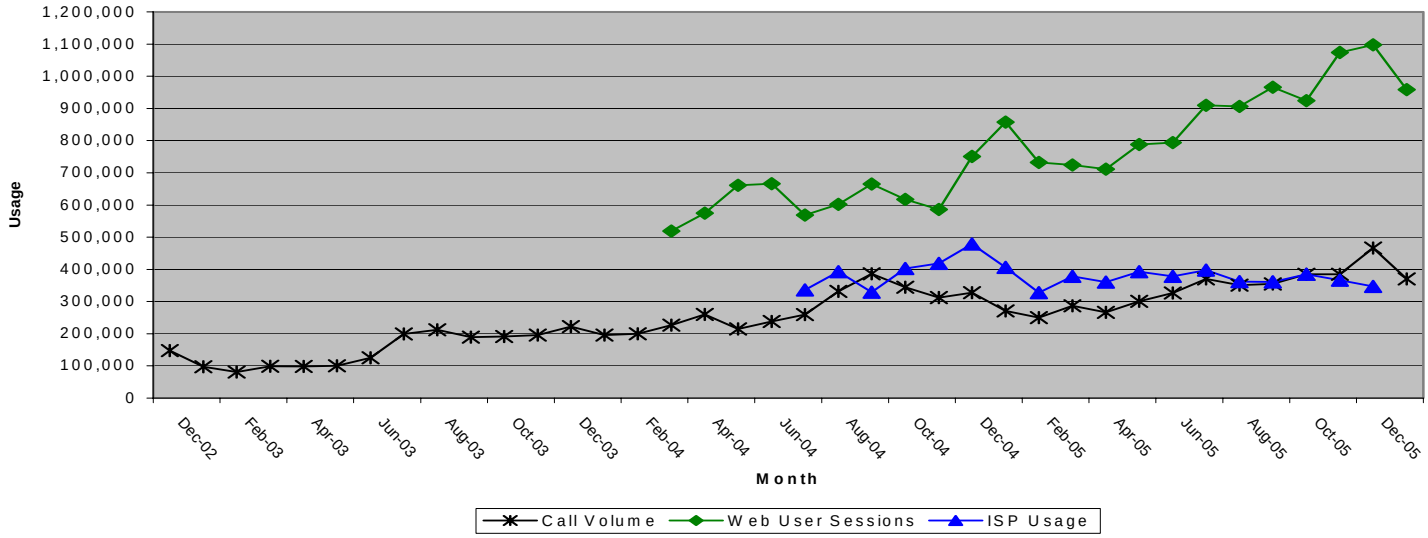
- 5% said they delayed their driving trip
- 20% said they changed their driving route
- 1% moved from car to transit
- 1% moved from transit to car, and
- 9% changed their transit trip.

Usage and Usage Trends

The Bay Area's 511 service is the most comprehensive and well-used 511 traveler information system in the country. As of February 2006, the program has recorded over 9 million calls to the 511 phone system and over 17 million user sessions via 511.org. In 2005, there were, on average, over 1 million total calls and user sessions per month.

Figure 1 shows overall usage of 511 for both phone and web. Usage by Information Service Providers (ISPs) that utilize the 511 traffic data feed for their websites and other traffic information services are also noted. Web usage currently has substantially higher usage numbers than the phone service.

Figure 1 - Overall Usage for 511, 511.org and ISP Traffic Data Feed

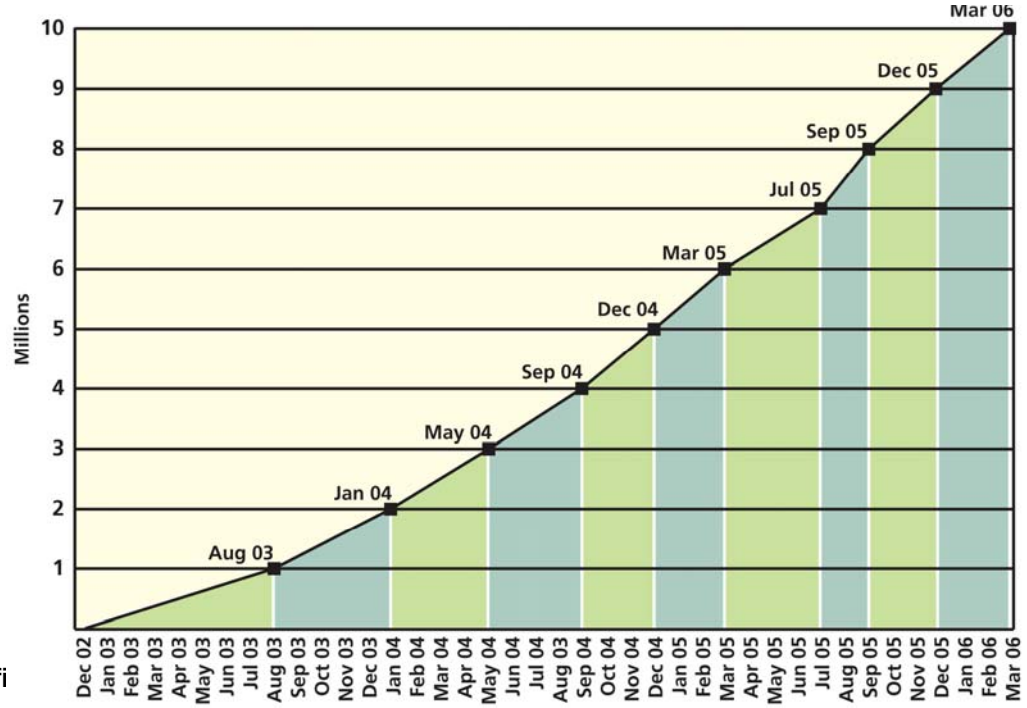


This data reveals that:

- Traffic and transit information requests make up 97 percent of all requests via 511 phone and web. (Rideshare requests make up 2.5% and bicycling requests 0.5%.)
- Traffic information remains the dominant information type requested by phone.
- Transit information is the most requested on the web.
- The 511 phone system has experienced average annual call volume growth of 60%. This growth rate is on the high end of the range calculated for 511 phone services around the country that have been in service for more than two years.
- The 511 website has experienced average annual growth in user sessions of 38%.

Figure 2 shows the call volumes since the phone system was launched in December 2002. The 511 phone system is reaching each "millionth call" milestone in fewer months. Whereas the first million calls took nine months to achieve, now the system logs a million calls every two to three months.

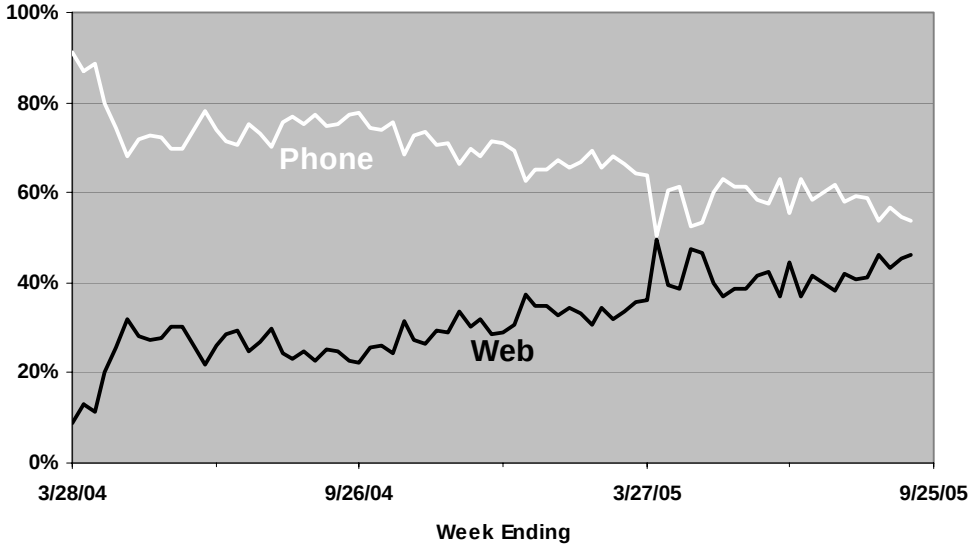
Figure 2 – Millions of calls to 511 from December 2002 to March 2006



Traffi

Traffic information is the most requested information on the 511 phone service (~80% of all requests). Traffic has historically shown higher usage volumes via phone rather than web, although as shown in **Figure 3,** that gap is closing. Higher phone usage for traffic is not surprising – traffic information users are more likely to need immediate information while en-route, (e.g., to obtain current driving times, make route choices, find out about incidents) and mobile phones make it easy to access 511 once they are already on the road. The web provides more detailed content and information options, and is typically used for pre-trip planning, or to obtain general, non-time-critical information.

Figure 3 - Traffic Information Requests by Web vs. Phone



The following factors appear to contribute to the convergence of web and phone use for traffic information:

- 511.org is increasingly being publicized by the media and other partner agencies as the call-to-action for major events in the region that impact the transportation network (such as the Bay Bridge construction closure information and the floods in early January);
- The traffic website started with very low awareness compared to the phone. The 511 traffic website was launched more than a year after the phone system. There was no precursor or legacy site. MTC has only modestly promoted the 511 website.

Figures 4 and 5 show types of traffic information typically sought via phone and web, as identified during a January 2005 customer satisfaction survey.

Figure 4–511 Phone Service – Types of Traffic Information Sought

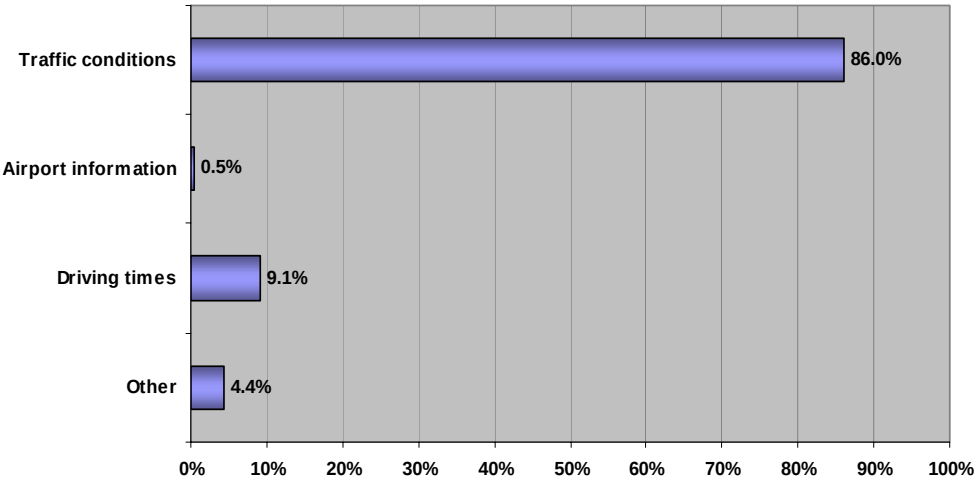
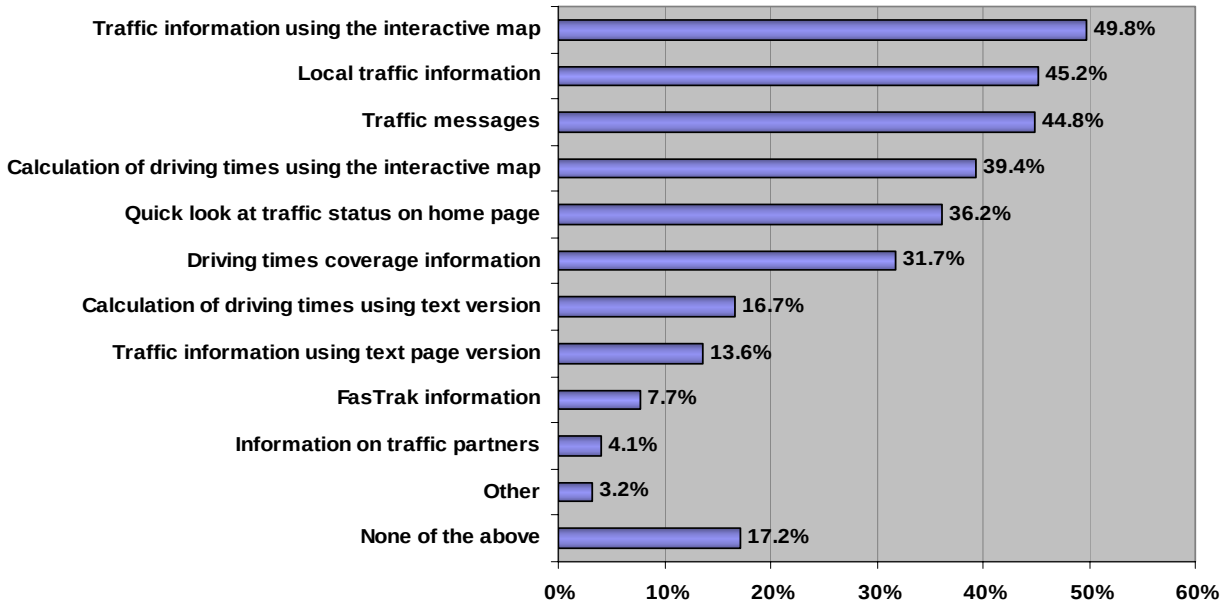


Figure 5 –511 Website – Types of Traffic Information Sought

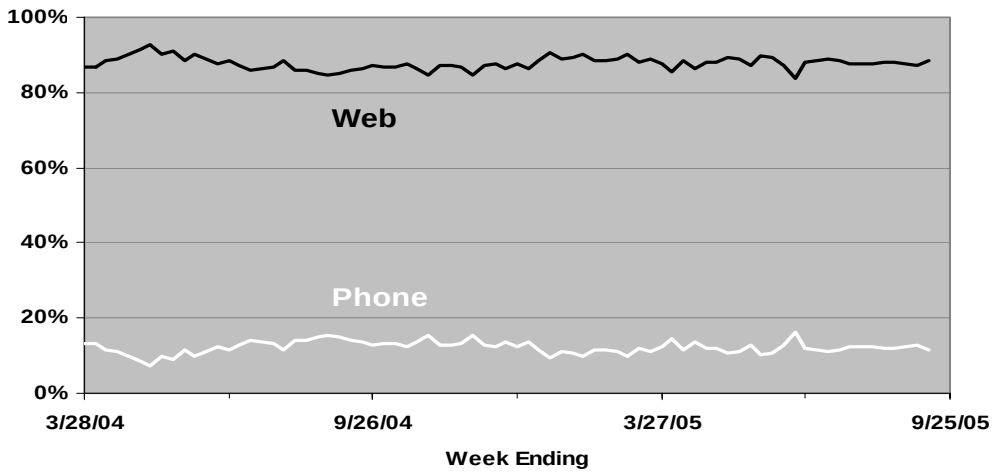


An on-going challenge in development of the 511 system is designing user interfaces and delivering information differently on the phone and web to keep up with customer expectations. Because 511 Driving Times[SM], which provides customized point-to-point driving time estimates, was a feature specifically requested by users, 511 staff expected to see very high usage of this feature on both phone and web. In fact, 511 Driving Times[SM] is currently used on the web more than on the phone. Lower than anticipated use may be due to the fact that coverage of the region was incomplete when the feature was launched, so some users could not obtain a driving time for their route. In addition, because users must enter starting and ending points to generate a driving time, using this feature on the phone can be time consuming. The 511 phone interface is currently being streamlined so that users can calculate a driving time more quickly. Implementation of the My 511 enhancement, which will allow users to enter information for standard trips in advance, should also boost use of the driving times feature.

Transit Information Usage and Usage Trends

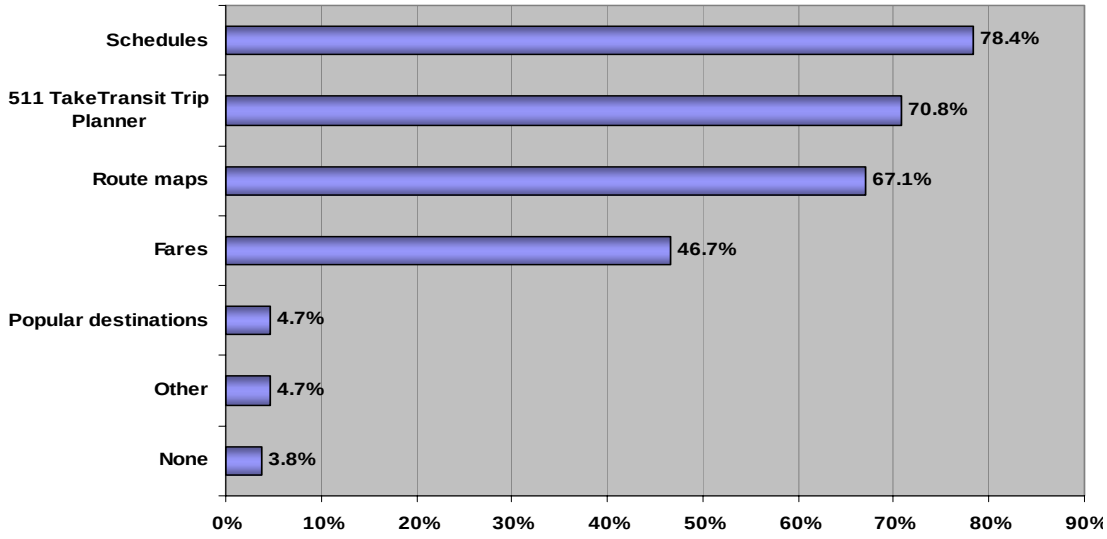
Transit information is primarily accessed through the web. The vast majority of 511 transit service users have made their requests for information via the website, as shown in **Figure 6**. On average, 8 out of every 9 requests (89%) are made through the website, and despite the growth in both services, that ratio has been essentially unchanged.

Figure 6 - Transit Information Requests by Web vs. Phone



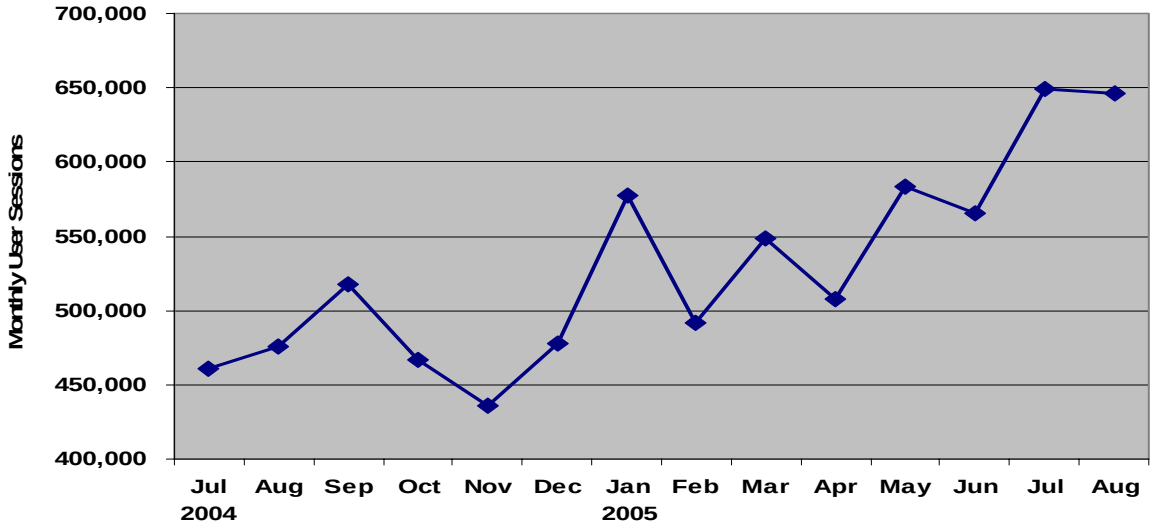
The most used information on the 511 website includes the transit trip planner, transit schedules, maps, and fares. **Figure 7** shows the types of information people *typically* seek on the web, as identified during the January 2005 Customer Satisfaction Survey. Usage statistics, however, indicate that the trip planner is actually the website's most popular feature, with twice as many trip itineraries generated per week compared to the number of schedules generated. Once a trip itinerary is generated, customers can also select a convenient link to request a schedule.

Figure 7 –511 Website – Types of Transit Information Sought



Transit usage on 511.org has been steadily increasing and now accounts for more than 60% of web requests. (The website, which had operated as transitinfo.org since 1996, migrated to become part of the 511 web portal in November 2003.) As shown in **Figure 8**, the number of 511 Transit user sessions increased 40% from July 2004 through August 2005.

Figure 8 – Monthly User Sessions on transit.511.org

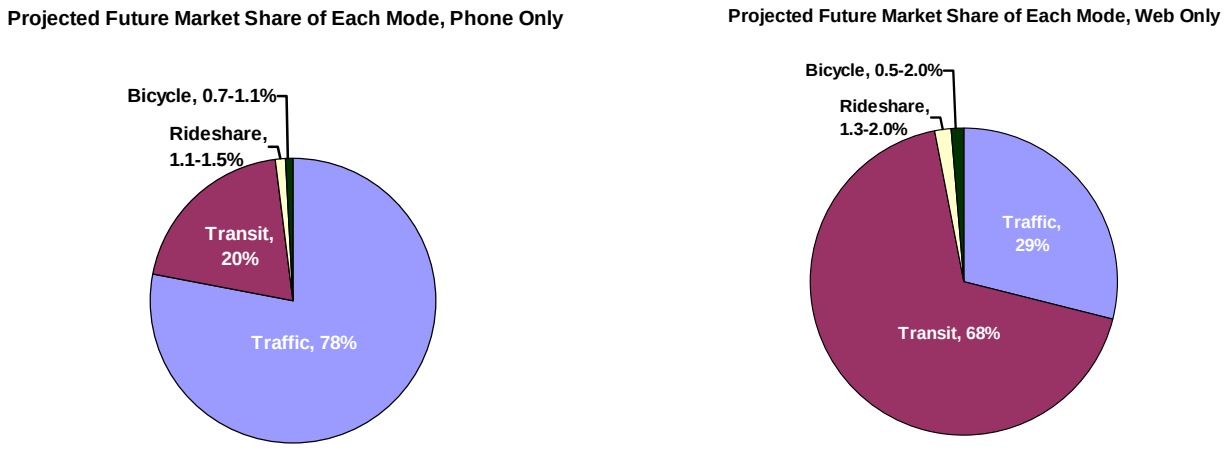


Transit web service usability is superior to transit information on the phone. Through transit.511.org, users can navigate through the regional TakeTransit Trip Planner[SM] as well as easily link to individual transit operators, get major transit announcements impacting the region, and view transit service areas and maps. Phone transit services are much more limited, and currently transfer callers to individual transit operator's call centers if they have specific questions. Phone users need to go through a much more detailed menu to get the information they need.

Projected Market Shares

Based on analysis of current usage, trends over the last three years, and applying a similar growth projection for the future, traffic is expected to continue its dominance of the phone market share, and transit will continue to have the largest share of the web requests. The two pie charts in **Figure 9** identify the projected market shares for each mode on the phone and web.

Figure 9—Projected Market Share by Mode on the Phone and Web



As with many predictions, these future market share forecasts are based on historical performance. However, past performance is one indicator and does not necessarily provide an accurate barometer for the future. The predictions could be impacted by several factors. Advances in technology, consumer trends and expectations relative to the technology marketplace, new services and features (e.g., the emergence of expanded real-time transit information through the Regional Measure 2 program), market saturation and awareness, and competition in the traveler information arena could all have a substantial impact on 511's role in the region over time. A good example is the Internet – a decade ago the general public was barely aware of the Internet, but today, the web is a vital part of daily life. To predict the technology horizon 10 or 15 years out is a challenge, as is predicting the impact that it could have on the way 511 does business or delivers services. Rather, it is more important for the 511 program to maintain a philosophy of continued evolution, flexibility and adaptability to new approaches and technologies that will best serve its customers.

Based on usage trends and on MTC's 10+ years in providing multi-modal traveler information in the Bay Area, the following should be considered as the program evolves over the next ten years:

- The already high program usage could benefit from increased program awareness. A Fall 2005 MTC Poll found that of 900 residents dialed at random from the nine counties, 66% of respondents said that they had not heard of 511 and 511.org.
- The potential to increase 511 use could also be driven by the frequency at which different modal travelers have reason to use the system. Traffic information can be useful to any freeway system user at any given time and at multiple times during the day. Transit information can be useful to any transit rider, but on a less frequent basis (generally at the start of a new travel pattern). This will change for transit, however, as real-time transit information becomes available.
- MTC should adopt usage and awareness goals to guide program performance. For traffic, the usage goal should be based on the potential impact 511 has on freeway

performance. For transit, the usage goal should be based on serving a percentage of its target market, which is non-routine or out of the ordinary trips. Specific goals are under development.

It is important to develop program enhancements that are likely to have the greatest impact on anticipated customer use. MTC is mindful, however, of the companion need to accurately assess the potential levels of effort needed to implement such enhancements. Chapter 4 discusses potential enhancements and also makes future 511 program recommendations.

Market Research

To measure the effectiveness of the 511 program and progress against usage and awareness goals, MTC should monitor usage and conduct regular surveys of users, as follows:

- Monitor and report usage.
    - Provide regular usage reports to 511 stakeholders.
    - Implement new reporting tools for trip planner itineraries to better understand 511's target transit market.
- Conduct annual phone and web surveys.
    - Include specific questions on how information from 511 is used and whether users changed travel behavior or travel modes.
- Conduct satisfaction surveys on a semi-regular basis.
- Conduct periodic quality assessment of trip planner itineraries.
- Add questions regarding awareness of 511 in all future MTC public information polls.
- In surveys of both users and the public, ask how respondents learned about 511.
    - This information is needed to help understand whether the current level of installed highway signs is sufficient or whether additional investment is warranted.
    - Since all partner agencies are being asked to prominently place a link to 511 on their web pages, 511 may be able to track whether this action generates additional awareness of the system.

3. Roles and Responsibilities for MTC and Partners

A specific objective of the 511 strategic plan was to explore alternative public and private sector roles for delivering traveler information.

Private Partnerships for Traveler Information and 511

Public agencies who provide traveler information services have long hoped that establishing relationships with private sector companies might help defray the costs of providing traveler information. Outreach to private partners in the Bay Area was therefore an important part of the strategic planning process. The changing landscape of private sector involvement in delivering traveler information programs, emerging technologies, and emerging business models could have a significant impact on future directions and strategies in the Bay Area.

Roles of the Private Sector and Traveler Information Business Models

Traditional public-private partnerships for traveler information have typically consisted of public agencies collecting roadway conditions data, disseminating it through public infrastructure, and providing it at no charge to the private sector. The private sector, in turn, disseminates the data through a variety of privately developed systems. In theory, if private sector companies or public agencies could generate revenue by providing traveler information, public agencies could offset traveler information program costs through some type of revenue sharing agreement. This plan defines a successful model as one that could potentially generate revenues, but not at the expense of usage. This plan looks at traveler information business models that have been considered in other parts of the country:

1. Public sector funded model. This is the model described above and is the current Bay Area 511 model. The bulk of the investment is made by the public sector, with some dissemination assistance provided by the private sector. Information is free of charge to end-users.
2. Franchise/license fee for data feed model. This model requires that all traveler information data be provided exclusively to one franchise manager who then markets traveler information services to end-users. This model has not been successful.
3. Sponsorship/cobranding model. This model generates revenue by offering a company an exclusive opportunity to “sponsor” the 511 program. This relationship could include co-branding or linking program/company names and logos (e.g. the Smith Insurance 511 Program.) This sponsor would be granted exclusive access to advertise on 511 phone and web and would in return promote 511 to their customers. This model has not yet been successfully demonstrated in the field of traveler information, but the Virginia Department of Transportation is pursuing it.

4. Advertising model. This model generates revenue by allowing private companies to advertise on 511 and 511.org. This model has not yet proven elsewhere that it can generate sufficient revenue. Consumer acceptance is also uncertain.

5. Subscription/pay per use model. This model requires end users to either subscribe and pay a fee to receive traveler information services for a set period of time or pay for each call or use of the website. To date, consumers have not demonstrated that they are willing to pay for this information. Few programs have implemented this model, and those that did were eliminated or replaced with publicly funded services.

More information on the pros and cons of these different business models as they relate to the Bay Area is included in Attachment A.

Current Private Sector Partners

MTC currently partners with several private sector entities to provide 511 services on a day-to-day basis. Private partners include:

1. A system manager contractor (PB Farradyne) to design, build, operate and maintain a traveler information service as well as other contractors to provide various elements of the 511 system.
2. Private companies who supplement public agency data collection efforts to provide wider real-time coverage of key corridors in the region.
3. Local media who broadcast traffic, incident and construction information provided by 511 over radio and TV.
4. Information service providers (ISPs) that make 511's regional traffic and travel conditions data available through multiple Internet, telematics and wireless technologies.

Private Sector Input and Perspective

Based on feedback from current partners and key industry players, it was determined that private partners are not interested in taking on large responsibility for a function that public agencies are currently providing. In fact, most partners who were contacted during this process were supportive of MTC and public agencies continuing to collect data, serving as a 'one-stop' source for regional data, and continuing to promote the public sector 511 program because that outreach has tremendous benefits to promoting awareness of traveler information overall (and indirectly helps to promote some of the private initiatives).

In general, feedback from the private sector, including the media, data collection, data dissemination and other information service providers indicate:

1. The private sector is still looking for good business models. Subscription models are emerging as a trend in the traveler information marketplace; however, there is not yet a proven market for subscription traveler information services. Even

private sector participants acknowledged the fact that consumers, in general, have not been willing to pay for traffic content. The private sector is not able to stand on its own (from a revenue standpoint).

2. The private sector has demonstrated that a sustained business model based on web advertising is possible. One company specifically recommended that we seek proposals from the private sector for provision of the traffic portion of the 511 service, which would be subsidized by sponsorship and advertising.
3. Private sector firms see a sustaining role for MTC (and other public agencies, especially CHP) as a data provider as well as a continued role for dissemination by public agencies (phone, web, highway advisory radio, changeable message signs). Continued promotion of 511 indirectly helps the private sector by increasing public awareness of traveler information. A few firms believe 511 has potentially cut into their markets for innovative, personalized data dissemination.
4. Most private partners are not in favor of MTC making radical changes to current program operations and are not in favor of paying a fee to MTC for data that they are currently getting for free.
5. The private sector is not ready to underwrite data collection efforts. The 511 program is doing a good job of providing regional information – they see MTC as a good partner and place a high value on the service, the data, and the 'one-stop shop' MTC provides on behalf of the Bay Area.
6. Suggestions for improving data collection (expanding to include other corridors), as well as providing the traffic data 'raw' rather than 'processed' were noted. Focus for the near-term for the public sector should be on enhancing the data.
7. There is little agreement among various media companies on the value of 511 data. Some find the 511 data feed extremely useful. Others stated they did not find it accurate. All media companies rely on multiple sources of data collection, including the primary source of the CHP CAD. They all asked that the interface/reliability of the CHP CAD be improved.
8. Most of the media representatives viewed 511 as an inevitable presence – a Federal Communications Commission "mandate" that could not be altered. Some were mildly concerned about having 511 compete in their markets, especially with driving times and the more personalized services. The issue of competition between their service and 511 would be more pointed if the data feed were offered exclusively to only one media company, and it is not clear whether media companies would be willing to pay for exclusive access.

Potential Roles for the Private Sector

The private sector could help support or enhance the existing 511 program in either a data collection role or in a data dissemination role. Options for structuring or introducing a greater private sector role include:

1. Continue as is with both public and private partners serving in the data dissemination role, and multiple private partners having non-exclusive access to MTC's data.

2. Improve private sector opportunities by focusing on enhancing data collection and providing the data stream, and scale back on any plans to provide personalized traveler information services.
3. Reduce 511 program scope and cost to allow more opportunity for the private sector, which could include reducing current services to a more basic level, automating more of the TIC function, and streamlining and consolidating functions where feasible.
4. Generate revenues by charging fees directly to users (such as for personalized services) or license fees to private sector, or by adopting an advertising model for web and phone.

The plan recommends that MTC pursue the following:

Recommendation # 1: Support current arrangements with the private sector, while continuing to pursue other options.

While MTC should continue the current, public sector funded business model (option #1 above), MTC should also pursue specific activities to improve the long-term prospects for a greater private sector role:

a. Continue discussions with the private sector as new business models emerge. The private sector is looking at different types of applications and business models – some are focused on end-user applications, while others are focused on marketing to other private entities as a means of reaching new consumers in more of a transaction model.

b. Monitor the progress of the emerging SANDAG traveler information service that uses a business manager approach to implement and operate a basic system while marketing services to potential private partners.

c. MTC should explore assigning a "broker" duty to the 511 traffic contractor to ensure that a range of private partner activities are explored for implementation in the Bay Area. Focus should be given to establishing a license fee for the traffic data feed for private sector companies.

d. Monitor private sector data collection progress, including that which is already happening in the Bay Area, and cell phone probe programs underway in other areas. This opens a new dynamic in the public/private partnership arena, and as the vehicle infrastructure integration (VII) effort increases, it is expected to generate even more data collection possibilities.

Recommendation #2: Improve partnerships with local media.

a. Both TV and radio are an essential part of the region's traveler information program. Most local media already use 511 data either as a primary source or as one of several sources that are used to develop traffic reports and broadcasts. MTC should provide focused outreach and training for traffic anchors, producers and other media partners educate them about 511 and what it has to offer.

b. MTC should explore agreements with partners to credit the 511 program in return for data coming from 511 or other public partners. Many areas of the country have written agreements with media that broadcast their data or camera feeds, and this will help to boost public awareness of the systems that their tax dollars are supporting.

Recommendation #3: Explore licensing fee for traffic and transit information data feed.

While the majority of traveler information business partnerships in the Bay Area focus on traffic information, many of the private sector stakeholders were surprised at the popularity and success of transit.511.org. Private partnerships that look toward more multimodal content could open some new opportunities for MTC to consider. Given the current state of real-time traffic and transit information, MTC should consider the following:

a. Given partner agency interest in defraying program costs, MTC should explore the implications of charging for the traffic data feed.

b. MTC has not yet provided a transit data feed for either static or real-time information. MTC plans to require development of a public domain interface to provide a static information data feed. Development of a real-time data feed is on hold – the real time service must mature first, and MTC and transit agencies must define the data-sharing policies. Given the state of readiness for the static information feed, MTC could explore some kind of fee structure for this data, in consultation with the 511 transit stakeholders.

Public Partnerships for Traveler Information and 511

MTC staff examined public sector agencies' roles and responsibilities in delivering the 511 program as part of the strategic plan process. Staff assessed relationships between transit agencies, state agencies (Caltrans and CHP), and county agencies (CMAs and smart corridors) and the 511 Program and developed recommendations for future coordination with these agencies (see Attachment B for a list of agencies and groups contacted on the subject of the 511 Strategic Plan.)

A fundamental question raised with partner agency staff in each meeting was "Should MTC continue to take the lead on the 511 program, or are there other agencies who are better positioned to lead the program and/or take on a more significant role in program delivery?" Interviewees were unanimous in their response that MTC should continue heading up the 511 program. The remaining strategic question is therefore "What are the appropriate roles for partner agencies in delivering 511?" These roles are important to consider and understand because the level of resources that MTC must dedicate to providing 511 varies depending on the level of program commitment and support given by other agencies.

Transit Agencies

Transit operator reliance on and enthusiasm for 511 varies. Some agencies take advantage of and support the 511 program. Other agencies are less supportive. In general, operators have concerns about:

1. Data quality regarding accuracy of schedule and route information on the website.
2. Consistency between their websites and the 511 website, and transit agencies' lack control over how the information is presented on 511.
3. Promotion of 511. For information about individual transit systems, operators believe that encouraging riders to call/visit 511 pushes them to a less direct route to the information they seek. 511 can be viewed as a barrier that the caller must "get through" to get to transit agency specific information.
4. Riders already familiar with getting information from their local transit provider might find 511 phone system design cumbersome, encounter speech recognition issues, and be transferred incorrectly. Similarly, riders may have more initial familiarity with transit operator sites.
5. As a comprehensive source of information, 511 provides details about all agencies' services and other modes. This raises the potential that 511 information may cause riders to try alternatives to one system's transit services, with the net result that they would lose riders.

Rather than 511 being a barrier that customers must get through, 511 is intended to be an easy-to-remember call-to-action for regional transit information that eliminates barriers to using transit agency services. The 511 transit website is extremely popular. Accessing information is simpler than it would be if callers had to search for the appropriate transit agency telephone number or website. The common look and feel that 511 provides for all transit services lowers the barriers for callers and web visitors to learn about other transit agencies. Focus group research conducted with users of 511 and for the Regional Transit Connectivity Study found that transit riders value 511 and transit.511.org for conveniently centralizing a great deal of otherwise dispersed information.

Data quality and accuracy is a problem that must be resolved, most specifically for schedules and trip planner information on the 511 transit website. MTC is interested in providing a higher quality service and in promoting greater use of 511 for transit riders. The recommended operational scenario (discussed in Chapter 4) proposes a transfer of funds from 511 traffic to 511 transit. A major objective of this transfer is to support improved data collection, automating processes where possible. Attachment C describes specific actions MTC intends to take to improve 511 transit information.

In addition, the following requirements are proposed for adoption in the Transit Connectivity Study and in the SB 1474 Transit Coordination Plan. Transit agencies are expected to:

- Support delivery of quality information for the 511 transit website. Transit agencies should provide timely and comprehensive schedule and route updates;

routinely perform quality checks; and inform MTC well in advance of changes to the data exchange interface.

- Support delivery of quality information for the 511 phone system by taking the initiative to notify 511 of changes in telephone information center hours, schedules, fares, and any other changes in recorded information. Further study on the concept of a call center for transit information accessed via 511 is recommended, per the Transit Connectivity Study.
- Consistently promote 511 Transit on transit agency websites, in printed materials, at bus stops and on vehicles.
- Support dissemination of real-time transit information. Participating transit agencies will share their real-time predictions and configuration data on a timely basis for dissemination on outlets such as 511, 511.org, and regional real-time signs.

This plan recommends additional research on the costs and benefits of creating a consolidated regional transit telephone information center as a follow-up task to the Transit Connectivity Study. Such a call center could potentially streamline and improve access to transit information currently provided on the phone.

Caltrans and CHP

Caltrans is one of the key partners in the 511 system. MTC relies on Caltrans to provide 1) access to the state right of way to install and maintain electronic toll tag readers, 2) access to the Caltrans loop detector information and CCTV cameras, 3) access to the Traffic Management Center and to information about planned construction, and 4) driving times information on changeable message signs throughout the region. In addition, MTC encourages Caltrans to support the 511 program by referencing 511 in public information messages about anticipated traffic disruptions and real-time traffic updates. Caltrans District 4 staff provides on-going support for the 511 program and are beginning to treat 511 as one of their system management tools (e.g. driving times on CMS, Bay Bridge Construction information, etc.)

There are, however, unresolved statewide issues regarding traveler information and data feeds to information service providers (ISPs). Caltrans has renewed interest in developing a single statewide traveler information website. This would duplicate much of the functionality that 511.org provides in the Bay Area. It could also confuse travelers if the updates differ. Caltrans also supports a statewide Performance Monitoring System (PeMS) which generates a traffic data feed – free of charge – to information service providers who request it. The PeMS data feed and the 511 traffic data feed are not identical, but they are somewhat duplicative and both data feeds require support resources. In addition, the availability of the PeMS data feed undermines the ability of the 511 program to explore implementing requirements or charging for use of the 511 data feed. This plan recommends that MTC and Caltrans discuss these coordination issues and jointly develop an approach to resolving the duplication issue.

Like Caltrans, CHP is a key partner in the 511 system. MTC relies on CHP to support the 511 program primarily by providing timely information about traffic incidents. MTC encourages CHP to support the 511 program by referencing and promoting it.

Interviews with Caltrans and CHP staff as part of this Strategic Plan effort revealed that communication in the TMC could benefit from greater attention and possibly more dedicated resources from 511. As the entity in need of information from CHP and Caltrans, on-site 511 staff must be proactive in maintaining good communication, securing accurate data, and ensuring ongoing support from them. To improve the process of obtaining relevant and timely data from Caltrans and CHP staff in the TMC the 511 program should specifically focus on 1) strengthening communications in the TMC, 2) improving mechanisms to automatically transfer data from the Caltrans Lane Closure System and CHP CAD, and 3) generally improving communications about operational issues with Caltrans and CHP.

Congestion Management Agencies

In the past, CMAs have expressed reservations about the level of funding for the 511 program, given competing high priority needs. In more recent discussions with CMAs, it appears that customer use of, and satisfaction with, 511 traveler information services has tempered these concerns. The CMAs suggested that the project success and value to the traveling public would increase further with:

- Improved coordination on local websites,
- Further investment in the TakeTransit Trip Planner[SM], and
- A more defined role for 511 as a tool for communicating to the public in emergencies.

They also expressed support for 511 to more aggressively pursue revenue generating opportunities with the private sector.

Smart Corridors

Many of the smart corridor project in the region have plans or have already begun to collect traffic data on major arterials. Some of this data is useful to the 511 program. However, depending on the technologies used, there may be issues integrating it with 511. MTC has developed a policy to clarify expectations for collecting and disseminating data on arterials (Attachment D), and this plan recommends adoption of the proposed policy as part of the adoption of the plan itself.

511 and Emergency Response

Emergency response is one of several areas proposed in the MTC Agency Strategic Plan as an area for greater involvement by MTC. This issue is also currently of great national concern.

To analyze the potential role that 511 could play in an emergency, MTC staff defined five different scenarios, described what assets 511 generally has to offer and possible roles for

511 in each scenario, identified limitations on the 511 program's ability to respond in various scenarios, and recommended specific actions that are required in order for 511 to be able to achieve specific roles. Attachment E summarizes the five scenarios and the potential role that 511 could play in each.

The role of 511 in regional emergencies will vary depending on the type of scenario. During the initial occurrence of a large, catastrophic disaster (with or without warning), 511 would play a smaller role primarily due to the limited availability of the phone, Internet and TV. Under such a scenario, it is likely that the radio would be the primary method of communications to the public. As power comes back on line, 511's value and role will increase.

As the emergency scenarios become less catastrophic, 511 should play a more immediate, larger and more significant role in providing information to the public. In these cases, the 511 program seems well equipped to take the lead in providing information to the public.

Regardless of the emergency scenario, 511 will likely play a role in disseminating critical information to the public. Therefore, it will be important to ensure that: 1) 511 is well prepared to play this role when a regional disaster strikes the Bay Area and 2) the public is aware of 511 so that they know it is a resource to turn to in a time of need.

Emergency Response Recommendations

The following recommendations would improve the capabilities and preparedness of 511 during an emergency.

1. Formally define the role of 511 in a regional disaster by making sure 511 is part of the Regional Emergency Response Plan. This will involve coordination with the California Office of Emergency Services (OES) and other agencies as they work to develop the Plan.
2. Formally define the role of 511 in MTC's Regional Transportation Response Plan (TRP). This will involve including 511 staff and its contractors in annual regional exercises.
3. Ensure that communications experts participate in development of the plans so that MTC has higher confidence about assumptions for availability of telecommunications and power.
4. Develop standard operations procedures for the 511 Operations center to support the role defined in the Regional Emergency Response Plan. This should include:
    a. Preparing 511 messages in advance of a regional disaster based on the various scenarios. The standard messages should at a minimum provide 1) a definition of the threat or emergency, 2) guidance about how to respond (shelter in place or evacuate) and 3) references to other sources for additional information.
    b. Defining the look and feel of the 511 phone and web systems for each of the scenarios defined above.

5. Connect the primary 511 systems and servers to an emergency generator in the Caltrans District 4 building.
6. Investigate the feasibility of and benefit to locating “hot” back up servers and systems outside the Bay Area. One alternative for a back up is to collocate the MTC back up systems with the future 511 system in San Diego.
7. Identify a secondary TIC site within the 9-county Bay Area where 511 could be operated remotely in case the Caltrans District 4 building is unusable. This site would require basic computers and software that allow remote access to the 511 systems.
8. Educate the broadcast media and 511’s ISP partners about 511’s role in an emergency. Inform them of MTC’s plans and strategies for 511’s role in an emergency, and let them know what they should expect from 511. Include members of the media in emergency preparedness drills. Participate with other agencies in public outreach and education regarding emergency preparedness.

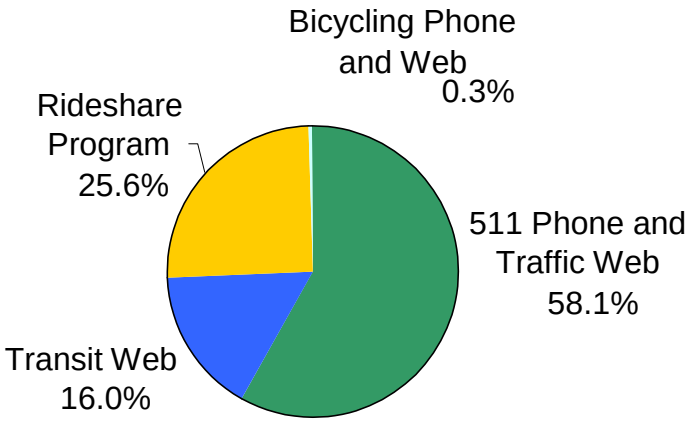
4. Future 511 Program Recommendations

This chapter recommends a ten year operational and budget scenario for the 511 traffic, transit and real time transit programs. This recommendation was the outcome of a multi-step process to assess the existing 511 Program and explore options for future change. This chapter provides background information about the existing 511 program, explains the methodology used to support the recommended scenario, provides additional detail about the scenario, and closes with procurement recommendations to facilitate implementation.

Overview of Current Costs

Historically, the traffic information portion of the 511 service represents the largest share of annual 511 costs followed by rideshare and transit information (see **Figure 10** below[1]).

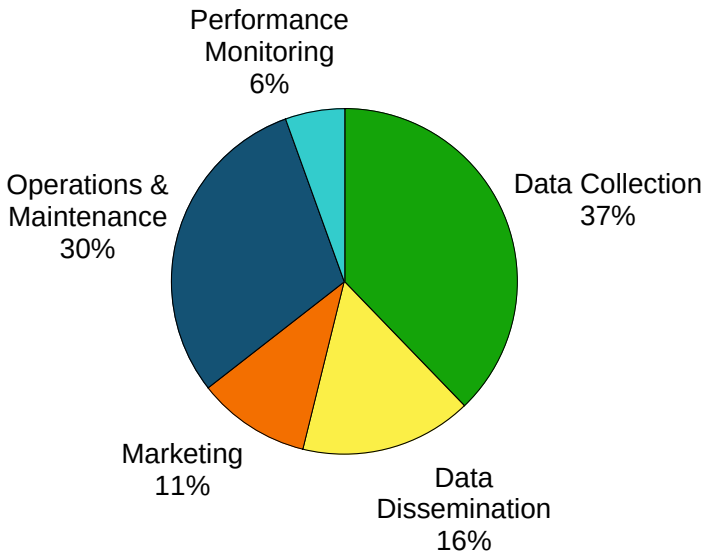
Figure 10 - Percent of 511 Program Budget by Mode



A summary of MTC's combined **traffic** and **transit** budgets (does not include bicycle and rideshare) for different functional areas, including data collection, operations and maintenance (O&M), performance monitoring and other key functions, is depicted in **Figure 11**. Almost 70% of MTC's traffic and transit budget has been allocated for data collection and system operations and maintenance. Delivery of the Bay Area's 511 program requires data collection and dissemination support from MTC staff, seven different MTC contractors, over two dozen transit operators, Caltrans, the California Highway Patrol, and at least a dozen private information service providers (ISPs).

[1] The costs for MTC staff support of the bicycling website (including the development and ongoing maintenance of the 511 BikeMapper[sm]) are not included in the above chart highlighting percent of program budget by mode. Additionally, MTC's annual commitment to Bike To Work Day is also not reflected in the chart.

Figure 11 - Traffic and Transit Budget by Function



Approach

The process to assess the existing 511 Program and explore options for future change included the following steps:

- Refining the lists of enhanced and existing features developed internally taking into account feedback from customers, technical advisory committees and partners, and defining the list of essential activities transparent to the end user (e.g. 'back office' functions);
- Assigning each feature to a quadrant in an impact/effort matrix. This was accomplished by assessing the anticipated impact on usage for each existing or proposed activity and the level of program effort/resources required;
- Developing six operational scenarios to explore the fiscal impact of different approaches to delivering the 511 program;
- Reviewing the results of the impact/effort assessment and the operational scenarios with MTC's Executive Office for direction on which scenario to refine;
- Refining cost estimates for select high impact enhancements; and
- Recommending a preferred operational/budget scenario for implementation, taking into consideration feedback from 511 stakeholders.

511 staff designated each existing feature to one of four quadrants in an impact/effort matrix. Each existing 511 feature was evaluated to confirm if originally anticipated benefits were achieved and to confirm if the feature merited continued support. A similar process was applied to the list of possible enhancements to the 511 program. Proposed enhancements were assessed to determine the priority for potential improvements to 511.

The results of this assessment are shown in *Table 1, Effort/Impact for Existing 511 Features* and *Table 2, Effort/Impact for Enhanced 511 Features.*

Table 1: Effort/Impact for Existing 511 Features

	Low Effort	High Effort
High Impact	**1 Low Effort/High Impact** **Traffic** 1 Provide traffic speeds on phone and web 2 Provide driving times on phone and web 3 Provide traffic incident information on phone and web **Transit** 10 Provide transfer recording and transfers to transit/paratransit call centers, and links to transit operator websites **Umbrella** 12 Disseminate regionally significant information (construction, transit strike, emergency, special events, regional initiatives), on the phone and web 14 Provide web links to regionally significant services (Smart Corridors, car share, FasTrak, Sacto 511, TransLink®, etc.)	**2 High Effort/High Impact** **Traffic** 4 Provide highway construction information on phone and web **Transit** 5 Provide transit schedule information on web 6 Provide GIS based route maps 7 Provide transit itineraries on web 8 Provide other transit information (accessibility, fares, popular destinations) on web 11 Provide real-time transit information (Muni) on phone **Umbrella** 17 Promote overall phone and web
Low Impact	**3 Low Effort/Low Impact** **Umbrella** 13 Provide call transfers to regionally significant services (FasTrak, Sacto 511, etc.) 15 Maintain 511 phone airport menu and floodgates 16 Provide live operator support for airport information on phone	**4 High Effort/Low Impact** **Transit** 9 Provide static information and floodgate transit information on phone

Table 2: Effort/Impact for Enhanced 511 Features

High Impact

5 Low Effort/High Impact

Traffic

1 Integrate existing smart corridor data for driving times and traffic conditions on phone and web
*3 Continue to expand driving times on CMSs
4 Provide historic drive times for pre-trip planning
5 Leverage BAVU project to take advantage of cameras, and integrate on 511 traffic page
6 Develop interfaces to PDA, wireless for traffic information
10 Provide driving directions on phone and web

Transit

13 Develop interfaces to PDA, wireless for transit information
21 Provide static transit information data feed to transit operators and ISPs

Umbrella

24 Provide real-time parking availability/reservations through a private partnership
37 Collect flight status and airport delay information through a private partnership
40 Develop simple multimodal comparison of mode itineraries

6 High Effort/High Impact

Traffic

2 Integrate data from areas outside the region for driving times and traffic conditions on phone and web
7 Develop interfaces to in-vehicle systems for traffic information (VII)
8 Collect and provide HOV/HOT lane speed information on phone and web
*11 Improve freeway data collection
*12 Provide My511 for traffic on phone and web

Transit

*14 Provide real-time transit predictions on phone
15 Provide real-time transit predictions on web
16 Automate transit schedule information, trip planning, etc. on phone
17 Enhance trip planner with real-time predictions
18 Develop 'clean interface' to provide event managers/transit agencies ability to tailor trip planner
19 Expand trip planner to include public shuttles (Samtrans, Stanford, UCB, etc.)
44 Expand trip planner to include additional small transit agencies
20 Integrate data from areas outside the region for trip planner on web
22 Provide My511 for transit on phone and web
23 Develop a real-time transit architecture and communications system

Umbrella

25 Develop an abridged version of 511 for disseminating emergency information to alternative devices
26 Create server and communication system redundancy for emergencies
27 Secure additional on-demand call capacity for emergencies
28 Provide phone option to connect to private taxis and shuttles potentially as revenue sharing opportunity
34 Provide call transfers to FSP
35 Continue to provide user interface improvements to phone and web
41 Support multiple languages on phone and web
42 Provide live operator assistance 24/7 for non-traffic information

Low Impact

7 Low Effort/Low Impact

Umbrella

31 Provide travel advisories inside/outside region (winter weather, chains, etc)
32 Provide 511 content management tool to other agencies (CMAs, CT, CHP)
33 Expand content/links to other transportation information (commuter forum on web, etc.)
39 Use real-time database for disseminating emergency messages from transit and transportation agencies via signs
43 Offer tourism services (hotel, events, attractions, reservations, etc.) potentially as a revenue sharing opportunity

8 High Effort/Low Impact

Traffic

9 Automate connection to Caltrans' construction/closure system

Umbrella

29 Collect and disseminate CVO-focused information (rest stops, truck routes, HAZMAT routes, weigh stations, etc.)
30 Use real-time database for emergency messages from OES
36 Collect and disseminate parking information for rail stations, park-n-ride lots and airports (NOT real-time information)
38 Provide weather information, and integrate it with trip predictions

Low Effort **High Effort**

**Enhancements are part of Current Operations.*

The quadrant assignment was accomplished by assessing the anticipated impact on usage for each existing or proposed activity and the level of MTC effort/resources required:

- Each feature of the 511 service (existing and enhanced) was designated as high or low effort and high or low impact. The "impact" of a function is measured by its anticipated (positive) effect on customer use. "Effort" is a proxy for cost. Considerations for "effort" included amount of MTC staff or contract resources required, project coordination, contractor oversight and support, technology or equipment, and other dependencies.
- The effort and impact assignments were less certain for proposed enhancements than for existing activities because experience in these new program areas is not as well developed or is non-existent in some case.
- The matrices were developed to group the effort/impact categories and provide a visual check to understand how activities compare to each other. Quadrants in Table 1 (existing features) are numbered 1 through 4. Quadrants in Table 2 (enhanced features) are numbered 5 through 8. Within each quadrant, activities are further grouped by traffic, transit and umbrella (those activities that affect the 511 system as a whole).

In general, features in quadrants 1 and 5 are the most promising to implement because they are low effort and high impact. Features in quadrants 4 and 8 are the least promising because they are high effort and low impact.

Operational/Budget Scenarios

Six operational/budget scenarios were developed for comparison. The intent was to evaluate 511 service options and develop a preferred alternative. The scenarios ranged from the relatively inexpensive 'Data Collection Only' option, which emphasized traffic and transit data collection and data dissemination through public/private partners instead of 511 phone/web, to the relatively expensive 'Super Enhanced Operations' option, which included all high impact enhancements irrespective of cost and effort (see quadrants 5 and 6 in Table 2 for the enhancement list). A mid-range 'Current Operations' option, which would continue the existing traveler information program and add only a few enhancements already underway, was also considered.

Based on customer feedback and input from stakeholder outreach, and taking into consideration available budget and staff analysis, staff identified enhancements to recommend as part of a preferred operational scenario. The recommended scenario includes funding for all existing 511 functions and features, a select set of enhancements to the 511 service and some back office enhancements. In terms of existing functions and features, this includes data collection, operations and maintenance, performance monitoring, data dissemination and promotion. Key funded enhancements are described below.

Traffic

- Integrate existing smart corridor data for driving times and traffic conditions on phone and web.
- Continue to expand driving times on changeable message signs (CMSs).
- Provide historic driving times for pre-trip planning
- Leverage BAVU project to take advantage of cameras, and integrate on 511 traffic page.
- Develop interfaces to PDA, wireless for traffic information.
- Integrate data from areas outside the region for driving times and traffic conditions on phone and web.
- Improve freeway data collection.
- Provide My 511 for traffic on phone and web.

Transit

- Replace the existing transit trip planner that has reached the end of its useful life.
- Develop interfaces to PDA, wireless for transit information.
- Provide static transit information data feed to transit operators and ISPs.
- Complete the addition of approximately seven small transit agencies into the trip planner.
- Provide real-time transit information on phone and web.
- Develop 'clean interface' to provide event managers/transit agencies ability to tailor trip planner.
- Provide My511 for transit on phone and web.
- Develop a real-time transit architecture and communications system.

Umbrella (enhancements other than traffic and transit)

- Provide real-time parking availability/reservations through a private partnership.
- Develop an abridged version of 511 for disseminating emergency information to alternative devices.
- Provide call transfers to FSP.
- Continue to provide user interface improvements to phone and web.

Back-Office Support

- Upgrade and improve interface to CHP computer-assisted dispatch (CAD).

- Completely automate data integration and aggregation at the Traveler Information Center (TIC).
- Improve small transit operator data collection.
- Collect transit data via XML from large operators.
- Improve traffic data feed for ISPs.
- Supply planning organizations with archived freeway and transit data.
- Improve system reliability, availability and performance.

The cost of implementing the recommended scenario over the 10-year planning horizon is $71.9 million and is summarized below, broken out by traffic (which includes the 'umbrella' cost of maintaining and operating the 511 phone system for all modes), transit and real-time transit costs. Operating is an annual cost, while capital is a 10-year cost. A 10 percent contingency for the capital portion of enhancements, totaling about $1.0 million, is included. The recommended scenario does not include MTC staff costs.

Table 3: Recommended Operational/Budget Scenario

	Cost (2006 $)		
511 Traveler Information Program	**Operating (Annual)**	**Capital (10-Year)**	**Total (10-Year)**
Traffic	$3,686,000	$3,789,000	$40,649,000
Transit	$2,305,000	$4,372,000	$27,422,000
Real-Time Transit	$211,000	$1,740,000	$3,850,000
Total	**$6,202,000**	**$9,901,000**	**$71,921,000**
Transportation 2030 Commitment			**$78,656,000**
Balance for other regional priorities			**$6,735,000**

Some enhancements are not recommended for implementation using 511 Program funds at this time even though they may address an important traveler information need. For example, Vehicle-Infrastructure Integration (VII), HOT lane speed information, and some emergency response related enhancements are all potentially extremely important regional initiatives. If and when these projects transition from important concepts to actual regional commitments, the cost of integrating into the 511 program should be considered as part of each initiative. Other enhancements are not recommended simply on the basis that they are either too expensive to pursue without additional research or that they duplicate services already provided by the private sector. Other enhancements (e.g., "last mile" solutions, including shuttles) may not be a priority given available resources. However, consideration will be given to how the 511 program can work with "last mile" providers to achieve a low-cost and effective approach that does not require a considerable ongoing project support to provide this information to the public.

The recommended scenario reduces the amount of funding for the 511 Traveler Information Program by 9 percent when compared to the current $78.7 million commitment in Transportation 2030 for this same time period. The Commission may elect to use these savings to fund other regional priorities. Consistent with Transportation 2030, the plan assumes the traffic, transit and real-time transit elements of the 511 program will continue to be funded with a mix of federal Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) as well as local Service Authority for Freeways and Expressways (SAFE) and State Transit Assistance (STA) funds.

Compared to the Transportation 2030 funding assumptions, the recommended scenario includes a transfer of funding from the traffic program to the transit service for two reasons. First, a greater investment is required to support the ongoing collection of transit schedule, fare and route data for trip planning purposes than MTC had initially anticipated. Second, the traffic and transit programs are in different stages of their life cycles. 511 Traffic is moving into an operations and maintenance mode, upon completion of the freeway data collection program. The ongoing costs are more predictable, and major system replacements will occur later in the ten-year planning horizon. On the other hand, 511 Transit is nearing the end of the useful life of the current trip planner and its replacement is a key recommended activity. The 511 Transit service is essentially gearing up for a new design-build phase.

In addition to funding the recommended scenario, MTC should take the following steps:

1. Combine future programming for TravInfo®, Regional Transit Information System (RTIS) and Regional Rideshare Program into a single '511 Traveler Information Program'. This will allow flexibility to redirect 511 resources as necessary to cover an anticipated increase in transit-related costs and simplify the program for external stakeholders.
2. Pursue funding for important enhancements such as VII and emergency response outside of the existing 511 Program budget.
3. Evaluate MTC staff resources necessary to deliver enhancements. Phase in enhancements and support key initiatives, as staff resources allow.
4. Reflect the anticipated decrease in need for regional funds to support the 511 Program in the next regional transportation plan.

Procurement Approach

While 511 is presented as a single traffic, transit, rideshare and bicycle information source to the public, the service is actually provided through multiple MTC-managed contracts generally organized by mode. In addition to these mode-specific contracts, there are supporting services for which MTC contracts that cut across each mode, such as performance monitoring, technical assistance and marketing. The result is a complex array of contracts and responsibilities.

MTC's experience with operational contracts has resulted in a few key observations:

- *Procurements need to be flexible.* It is impossible to anticipate the complete scope of work and level of effort required to implement new and changing operations projects like 511, especially in a multi-stakeholder environment like the Bay Area. It is also difficult to remain flexible to adapt to inevitable advances in technology. Procurement approaches such as Design-Build-Operate-Maintain and task order based contracts are better suited to operational projects because they build in flexibility at the contract and project management level by focusing on achieving required outcomes, instead of rigid processes.
- *Longer term contracts ensure continuity and quality of service.* Longer term contracts coupled with options for contract extensions allow for continuity and flexibility to meet evolving program needs. Options for contract extensions serve as a performance incentive for the contractor and provide MTC with an ongoing negotiating leverage. Over time, the continuity of a contractor can foster good working relationships between MTC, its contractors and 511 public sector partners and provide consistent service to the public.
- *Projects with similar needs can take advantage of joint procurements.* Some projects have similar needs such as performance monitoring, technical advisor or marketing services. In some cases, a joint procurement can efficiently support multiple projects. Consolidation under a single contract reduces duplication of project management effort, allows better use of MTC staff resources, and makes it easier to coordinate and take advantage of cross-project opportunities.

Contracts Expiring in June 2006

Taking into consideration these observations, the recommended procurement approach for three 511-related contracts, each of which expires in June 2006, is detailed below.

Traffic Information (including real-time transit information)

MTC's existing contract with PB Farradyne expires in June 2006, and includes an option to extend the contract for up to 4 years. Staff recommends negotiating a 2-year extension and reserving the option for an additional 2-year extension as a performance incentive. New assignments to incorporate in the contract include strengthening 511's emergency response capabilities, managing private sector business opportunities, further automating/streamlining the Traffic Information Center operations and implementing the regional real-time transit information program, once its program plan is complete.

Transit Information

MTC's existing contract with bd Systems expires in June 2006. MTC released an RFP in March 2006 for a contractor to operate and maintain the current 511 transit service, replace the existing trip planner, improve transit agency data in the system, and further develop the service. The contractor is expected to commence work in September. The new contract will be 4 years long with an option for up to 6 additional years. The existing contract with bd Systems should be amended to allow a sufficient time for transition of responsibilities between contractors, if required.

511 Product Support and Promotion

MTC's existing contract with Fleishman-Hillard expires in June 2006. This spring, MTC will conduct a new procurement for a contractor to begin work in July 2006. The proposed contract would be 4 years long with an option for up to 6 additional years, and would consolidate all 511-related marketing and product support activities under a single contractor and add website support/management, special event support and responsibility for printed materials for public transportation information activities (such as producing the 511 Regional Transit Guide). The contract will also be flexible to allow marketing of other MTC-sponsored regional programs. The consolidation of these activities under a single contract will result in internal procurement/administrative efficiencies, marketing synergies between projects and lower overall costs when compared to prior separate contracts.

The above three contracts will be structured so that all three could *potentially* expire in four years (June 2010.) This will allow MTC to consider further consolidation of contracts for 511. At this point, it is not clear if further consolidation would be advantageous.

Contracts Expiring Later than June 2006

Other 511 contracts were procured recently and do not expire for some time, including:

Rideshare/Bicycle Information

In March 2005, MTC approved a contract with Parsons Brinckerhoff for operation of the Regional Rideshare Program (RRP). The 6-year period of performance extends from FY 2005-06 through 2010-11. The contract includes core activities such as ridesharing and employer outreach services as well as MTC 'renewable' services, which may change over the life of the contract as regional priorities change.

Technical Advisor

In June 2005, MTC approved a contract with Kimley-Horn & Associates to serve as technical advisor to MTC's Intelligent Transportation System (ITS) projects. KHA is helping MTC staff oversee, evaluate, coordinate and deliver the 511 program. The contract is structured so that each activity is a separately negotiated task order. This task order approach allows staff to more easily control spending because it sets limits on the cost of specific contract tasks. The initial period of performance for this contract is four years (FY 2005/06 through FY 2008/09) with an option for MTC to renew for two additional two-year periods.

Summary of Recommendations

A 10-year $71.9 million (2006 $) operational/budget scenario for 511 services is recommended for implementation, including:

- Continue to perform existing 511 functions and features like data collection, operations and maintenance, performance monitoring, data dissemination and promotion.

- Automate data collection processes with Caltrans, CHP and large transit operators for long term cost-effectiveness; improve the data collection process with small transit operators; replace the transit trip planner; and improve 511 system reliability, availability and performance for the customer.
- Add new 511 features in order to:
    a. Respond to specific customer and stakeholder requests (such as providing historic driving times, offering a personalized My511 service, developing a 'clean interface' for the trip planner to allow customization by event managers and transit agencies);
    b. Improve data dissemination and sharing (such as providing driving times on changeable message signs, making ongoing user interface improvements, offering PDA/wireless dissemination capability, providing a transit data feed);
    c. Improve content available directly or by link (such as providing real-time transit information, incorporating Smart Corridor and neighboring regions' traffic data, offering real-time parking information and reservations); and
    d. Improve data reliability (such as ensuring better performance in emergencies, etc.).

In addition, MTC should reflect this recommended scenario in its future fund programming requests, and decrease the amount of funds requested through the next regional transportation plan consistent with this strategic plan. If a new regional initiative with a 511 component is developed (such as VII, HOT lanes or emergency response), MTC should seek additional funding for that initiative.

In the near term, MTC should pursue the procurement approach for the traffic information, transit information, and 511 product support/promotion contracts as previously described in this chapter. In the future, MTC can consider further consolidation of these (and other 511-related) contracts if it is determined to be beneficial.

5. Findings and Recommendations

This Strategic Plan is intended to guide investment in the 511 program for the next ten years. MTC intends to check in on the status and relevance of the plan in five years. The following are key findings from the 511 strategic plan.

Program Scope, Features and Functions

- 511 is a popular and well-used system. Major changes are not warranted.
- The 511 service must continue to evolve to respond to user feedback and changing technologies.
- MTC should continue to evaluate the scope of real-time transit information and services provided through 511.
- MTC should continue to periodically conduct market research to inform program decisions and measure performance and customer satisfaction.

Partnership Roles and Responsibilities

- MTC should continue in its leadership role for traveler information services.
- The 511 scope of services should be enhanced to not only meet changing expectations of 511 users, but also private and public sector stakeholders.
- MTC needs to improve the effectiveness of the partnership with transit agencies.
- The 511 program is a successful and nationally respected traveler information program. Since changes to the 511 program's business model could significantly impact the 511 user's experience, MTC needs to be judicious in moving forward with any changes.
- To better position the region to potentially recover a portion of program costs and increase awareness of 511, MTC should work with Caltrans to designate the 511 program as the broker for business relationships involving all data generated in the Bay Area, including Caltrans' traffic data.
- The region should more clearly define 511's role in emergencies.

Recommended Ten-Year Scenario

- The ten year $71.9 million scenario will ensure that 511 improves its functionality and usefulness, while achieving greater efficiencies.
- The recommended scenario reduces the amount of funding for the 511 program by 9 percent when compared to the $78.7 million commitment in Transportation 2030 for this same time period. These funds can be returned to the region in the next regional transportation plan.
- There will be a net transfer of funds from traffic to transit over the next ten years.

Key 511 Procurements And Contract Extensions

- MTC should extend the 511 traffic contract for two years, and, as a result of procurements now underway, select contractors for the 511 transit service and a consolidated web and promotions service.
- The priorities for the transit procurement are, as follows: operate and maintain the current 511 transit service, replace the existing trip planner, improve transit agency data in the system, and further develop the service.
- The priorities for the 511 traffic contract extension are to improve existing operations, assist in preparing for 511's role in emergency response, and pursue requiring credit for the 511 program in exchange for use of the traffic data feed. The contractor will be assigned data broker duties as part of the contract extension and allowed to explore opportunities such as requiring a fee for the traffic data feed. All proposals for private sector partnerships will be presented to the Commission for approval.
- MTC should implement cost saving measures in these contracts, such as: 1) further automation of the 511 operations; 2) streamlining of information provided on the phone; 3) consolidation of contractor duties or functions where it makes sense; and 4) technology innovations (voice-over IP to provide more call capacity for less money.)

Attachment A:
Potential Roles for the Private Sector in Delivering the Bay Area's 511 Program

Models	Pros	Cons
1. Public sector funded	▪ Stability, continuity: good for customer, good for partner agencies. ▪ Assures focus on mobility management. ▪ Ensures equitable access to information.	▪ Bear whole cost of providing program; most expensive. ▪ May not sufficiently take advantage of changing technologies.
2. License fee for data feed (franchise model)	▪ Potential to defray costs. ▪ Fairly simple to implement.	▪ Creates competition to private traveler information companies and could impede private innovation. . ▪ Transition away from providing data free of charge will be difficult. ▪ No currently functioning models known.
3. Sponsorship model/ cobranding. For example, the program could become the "Smith Insurance 511."	▪ Potential to defray costs. ▪ Potential to expand user base and increase awareness.	▪ No track record in traveler information, but Virginia Department of transportation is pursuing this. ▪ Some risk to reputation of 511 program if sponsor is subject to negative publicity for any reason. ▪ Private sector volatility puts program at risk.
4. Advertising model (phone and web.) On the phone, callers could hear "Welcome to 511, brought to you by Smith Insurance… Your Driving Time is XX, and remember Smith for your insurance needs."	▪ Potential to defray costs.	▪ Potential to annoy users and drive down usage, which is in conflict with goal to use 511 as a mobility management tool. ▪ Public acceptance of advertising on public phone and web service is unknown, but of concern. ▪ Private sector volatility puts program at risk.
5. Charge users (subscription/pay per use model)	▪ Potential to defray costs.	▪ All known efforts have failed to date. ▪ Equity. ▪ Potential conflict with mobility goals. ▪ Private sector volatility puts program at risk. ▪ Ongoing administration. ▪ Private sector volatility puts program at risk.

Attachment B:
List of Public Sector Agencies, Committees, and TACs Contacted Regarding the 511 Strategic Plan

California Highway Patrol

Caltrans District 4

Congestion Management Agency Directors

Freeway Executive Management Committee

MTC Advisory Council

Partnership Technical Advisory Committee

Regional Real-Time Technical Advisory Committee

Regional Rideshare Program Technical Advisory Committee

Regional Transit Information System Technical Advisory Committee

Regional Transit Marketing Committee

Smart Corridor Task Force

Transit Agency Deputy General Managers

UC Berkeley California Center for Innovative Transportation

Written comments received on Draft Plan:

- Alameda County CMA
- AC Transit
- BART
- Caltrans
- CCIT
- City Carshare
- PATH
- Traffic.com
- Transportation Authority of Marin

Attachment C:
Summary of MTC Actions To Address Issues with Public Sector Agencies

MTC Actions With Transit Agencies	
1.	Address XML integration needs in the new 511 transit contract for larger and medium sized agencies not included in current XML plans.
2.	Increase support to help smaller agencies collect their route and stop change data in formats such as spreadsheets and simple text files in new 511 transit contract. Develop XML conversion tools where appropriate.
3.	Continue to strengthen and enhance the transit web page, particularly the trip planner by procuring a new and improved trip planner.
4.	Include the "clean interface" option as a functional need of the new trip planner.
5.	Continue to provide transit operator schedule and fare information on the transit page but more prominently link to relevant transit operator website pages.
6.	Work with operators to encourage greater use of the existing 511 Transit website Content Management System (e.g., to post agency-specific announcements, service changes/disruptions, special events, etc.)
7.	Market the availability of the touch-tone option especially for use in loud transit stations to improve provision of transit information on the phone.
8.	Implement near term enhancements to simplify the 511 menu to more efficiently handle transit inquiries on the phone: ▪ Institute a My511 personalized transit option. ▪ Explore streamlined transit agency menus to only provide a transfer to their call centers and a real-time transit option, if they have this service.
9.	Examine long term options to simplify the caller experience for transit information: ▪ Investigate the advantages and disadvantages of a consolidated regional call center. (Follow-up from RM2 Transit Connectivity Study) ▪ Examine problems such as lack of standardized call center hours, different menu options between agencies. ▪ Consider a range of solutions, such as automating schedule or planning information.
10.	Provide regionally relevant printed materials for RTIC display cases and "Getting There on Transit" to ensure continuity and consistency with transit website.
11.	Adopt a policy for 511 as the call-to-action for regional promotions.
12.	Pursue opportunities to make RTD data available to private sector parties. ▪ Investigate if the static data should be made available only through NDAs. ▪ Develop an approach to minimize cost to provide the data to the private sector.
12.	Provide 511 phone and web usage reports identifying transit-operator specific requests, as possible.

MTC Actions With Transit Agencies	
13.	MTC and transit operators should work together to determine the appropriate scope and scale for a regional real-time information program to ensure: ▪ That regional requirements are sustainable for MTC, ▪ That the data collection strategy is the least onerous to operators, ▪ An appropriate mix of dissemination strategies with a base level of consistency, and ▪ That the potential to generate revenue from data feed to minimize project cost has been fully thought through.
14.	Any barter or sale of transit information will be in consultation with transit agencies.

MTC Actions With Caltrans	
1.	Recognize that 511 is near completion of the 511 freeway monitoring program and accept that any additional tag reader installations will continue to be very resource intensive.
2.	Establish a process whereby Caltrans notifies MTC or its Contractor any time an ETC reader is going to be affected by upcoming construction. MTC will provide Caltrans with an inventory of ETC installations (including post mile and photos.)
3.	Work with Caltrans to designate the 511 program as the broker for business relationships involving all data generated in the Bay Area, including Caltrans' traffic data.
4.	Jointly discuss and resolve coordination and duplication issues regarding the statewide traveler information website and PeMS data feed.
5.	If #4 is not possible, request that Caltrans' website integrate 511 traffic data rather than the less complete State data feed.
6.	511 should provide more accurate construction information. 511 staff will be working to obtain a direct feed from the Caltrans LCS and integrate it directly into the 511 fusion system (EDFS) in the next six months. This will eliminate the need for operators to enter all of the LCS information from scratch and allow them more time to focus on updates as they occur. This would not, however, address the delay in actual updates that occur.
7.	Improve communication between 511 TIC staff and Caltrans staff in the TMC to ensure that inevitable changes in construction plans and related traffic impacts are quickly and seamlessly communicated.
8.	Educate Caltrans PIOs on the features and functions of 511 and encourage them to promote and reference 511 whenever possible, especially to mitigate impacts of significant incidents or construction efforts.
9.	Work with the media to underscore the fact that the 511 program is a partnership between MTC, Caltrans and CHP, and identify other ways to highlight this partnership to the public.
10.	Work with Caltrans to establish a prominent link to 511.org on the District 4 home page and other appropriate traveler information pages.

MTC Actions With CHP	
1.	Meet with CHP to reconfirm MTC's strong interest in the CHP CAD upgrade effort in the Golden Gate Division. Use the Freeway Management Executive Committee for regular discussion of project status to identify opportunities for enhancing system interfaces.
2.	Strengthen communications between CHP and 511 staff on the TMC floor. Options include: ▪ Obtain special clearance for 511 operators in the TMC to allow them full access to the CAD and freedom to roam the TMC. ▪ In the meantime, establish a direct and secure automated feed from the CHP CAD to the 511 system as a high priority enhancement.
3.	Involve 511 staff in regional emergency planning exercises to ensure that the appropriate role for 511 is considered.
4.	Educate CHP PIOs on the features and functions of 511 and encourage them to promote and reference 511 whenever possible, especially to mitigate impacts of significant incidents or construction efforts.
5.	Work with the media to underscore the fact that the 511 program is a partnership between MTC, Caltrans and CHP, and identify other ways to highlight this partnership to the public.
6.	Formally request that CHP establish a prominent link to 511.org on the CHP Website.

MTC Actions with CMAs and Smart Corridors	
1.	Continue to report on project progress and performance, and periodically consult with the Bay Area Partnership to solicit feedback on project implementation.
2.	Strive to achieve cost savings within the 511 project to either offset priority enhancements to the 511 service or reduce the impact of funding other important regional projects.
3.	Explore ways that 511 can be used by counties and local jurisdictions to meet their traffic management and traveler information needs, where possible.
4.	Adopt the policy for collecting and disseminating data on arterials (Attachment D) as part of this plan.
5.	Work with the Smart Corridor Task Force to ensure that links from 511 to local smart corridor websites are strengthened.

Attachment D:
Draft 511 Policy for Collecting and Disseminating Data on Arterials

The following is a description of MTC's policy for the 511 Program regarding the collection and dissemination of traffic data on arterials. This policy covers the following topics: criteria for coverage, data collection methods, data dissemination methods, data sharing, and funding.

Criteria for Coverage
The focus of 511 program is to provide traffic information on all Bay Area freeways. However, there are certain arterials of regional importance that may be suitable for inclusion into the 511 system. These are roads that provide key connectivity between freeways or serve as realistic alternatives to freeways. Typically, these roads are designated state highways. Some examples include:

- Hwy 1 (19th Avenue) in San Francisco
- US-101 (Van Ness and Lombard) in San Francisco
- Hwy 82 (El Camino Real) in San Mateo County and Santa Clara County
- San Pablo Avenue in Alameda County and Contra Costa County
- Hwy 13 (Ashby Ave.) in Alameda County
- Hwy 84 in Alameda County between Livermore and I-680
- Hwy 237 in Santa Clara County between I-880 and I-680
- Several Expressways in Santa Clara County

Since many of the routes are part of the sub-regional Smart Corridor systems, MTC will coordinate with the Smart Corridor programs to define these arterials. MTC will make the final determination as to which arterials are covered in the 511 system.

Data Collection Methods
For data collection on arterials, MTC's preference is to use a technology that is based on traffic probes since this method is the most suitable for providing meaningful traveler information (e.g. driving times) on arterials. This could be accomplished through installment of additional electronic toll collection (ETC) readers or through deployment of other probe based technologies such as license plate readers or cell phone based technology. The chosen technology will need to adhere to MTC's privacy principles and data quality requirements. If additional ETC readers are used, they should be integrated directly into MTC's data collection network. To date, point-based surveillance technologies, such as loops or microwave-radar, do not provide accurate assessments of driving times on arterials. As such, MTC does not expect to integrate these technology systems into the 511 website.

Data Dissemination Methods
All traffic data collected on arterials will be disseminated to the public via the 511 phone and 511.org. Arterial data will also be disseminated to subscribing private sector partners (ISPs)

through the TravInfo® Open Messaging Service (TOMS), which is an XML data feed. Arterial traffic data may also be disseminated via the Smart Corridor websites.

Data Sharing
Arterial traffic data will be shared between MTC, Caltrans and Smart Corridor partner agencies via the Bay Area's center-to-center data exchange network. All partner agencies will have access to the center-to-center data feed. Also, partner agencies may have access to the 511 TOMS feed, if they prefer it.

Funding
MTC is willing to explore cost sharing agreements with any of the Smart Corridor Programs to fund data coverage on arterials. One possible arrangement would be for the Smart Corridor Program to pay the capital costs of installing ETC readers and for MTC to pay the system integration and operations and management costs. Also, MTC would cover the costs of disseminated the data via the 511 system and making the data available to the center-to-center data exchange network.

Attachment E:
Emergency Scenarios and 511's Role

The following table outlines different types of potential disaster scenarios, and 511's role or response to the disaster/incident conditions.

Emergency Scenario	Role of 511
Regional disaster with no warning - *Earthquake* - *Terrorist attack* - *Nuclear accident* • Determine if evacuation is necessary, identify evacuation routes and destinations • Evacuation provisions for elderly, disadvantaged and infirmed • Establish shelters and resources for evacuees • Communications/power resources could be unusable or destroyed • Severely impacted areas will not have access to phone or internet • Coordinate transportation management	• MTC to follow ICS structure to coordinate Transportation Response Plan • MTC collects information from necessary agencies, provides a summary of status and available assets – provides the basis for emergency messages and information on 511 and 511.org • Temporarily disable other features of 511 • Update 511 and 511.org with current information about the response and status
Regional disaster with warning - Tsunami - Widespread flooding • Provides more time to prepare and respond, but a comparable amount of devastation and disruption • Evacuation routes and modal information need to be clearly and widely distributed in a short amount of time • Evacuation provisions for elderly, disadvantaged and infirmed • Establish shelters and resources for evacuees • Could potentially disrupt communications resources • Coordinate transportation management	• Response needs to follow ICS • Coordination with Emergency Operations Center • Disseminate evacuation or shelter information including directions, transportation options, and changes to service.
Subregional Disaster Impacts a portion of the region - Explosion downtown	• 511 plays a larger role by warning the public about the disaster area

Emergency Scenario	Role of 511
- Heavy localized flooding • Evacuation of a specific area may be required • Power and other resources could be limited in the area • Emergency response required to the affected area • Surrounding areas will need information about the impacts	• Floodgate messages on the phone and alerts on the 511.org home page and mode pages about the disaster, impacts and response information • MTC would provide emergency responders to monitor traffic congestion • Update road conditions/closure information on 511 as needed.
Regional Disruption No immediate threat to safety, but impacts the regional transportation system - Transit strike - Bridge closure	• Provide up to date, accurate information about disruption or impact on 511 • Provide information about alternatives • Set up a special website or floodgate message to provide event-specific information and options
Local Disruption Impact a portion of the Bay Area transportation network, but not the entire region - HAZMAT spill - Vehicle breakdown • Response is consistent with the severity level of the incident	• 511 provides real-time incident information through existing phone and web outlets • Also shares information with other ISPs through the data feed • Can add alerts to phone or web depending on extent of disruption

The 511 Strategic Plan is Attachment A to RES-3754. Any changes to the document will need to be approved at the standing committee and/or Commission level.