Historical Perspective

At the March 2012 Board meeting, Director Fasana introduced a motion identifying the critical nature of freeway information and directed the CEO to provide a report on how to improve the distribution of customer-friendly, real-time freeway information to the public.

Attachment B
Real-Time Freeway and Traveler Information Improvements
Program Strategy and Project List Summary

The strategy is to focus and improve on four key elements to improve the overall availability and quality of real-time freeway and traveler information services. The goals are 1) to ensure that there is a consistent and efficient program/process in place to provide the public with reliable, accurate, timely and actionable information; 2) to encourage and support coordination amongst partner agencies; and 3) to provide the ability of both public and private sector firms to develop new and innovative solutions to providing customer focused traveler information.

The four key elements are:

- Coordination
- Data Environment, Collection and Availability
- Information Dissemination/Distribution
- Customer Communications and Safety

Coordination

This element focuses on improvements that can be made through coordination and cooperation. Improved dialog amongst partner agencies can work to break down pre-existing barriers and spur greater innovation through shared resources and commitment. This tactic is not an attempt to restrict any partner agency, or the private sector, from developing a public information service to meet their specific needs or directives, but instead a strategy to improve the awareness of systems and services either being offered or developed and then allowing stakeholders to determine if there are opportunities to better integrate, share resources or use the service, data, or systems to efficiently serve the greatest number of customers.

There are a number of distinct information distribution platforms in operation. Some of these platforms provide similar information, albeit in a different manner, and some provide information which may be inconsistent (estimated travel time calculations may not be consistent between systems). By improving coordination, agencies can identify protocols and/or procedures to provide more consistent and accurate information to the public. In addition, future development efforts can be combined to reduce the duplication of effort and to provide a better overall service to the public. Simple solutions, such as coordinating system maintenance actions, can lead to mitigating the negative impacts commonly associated with such actions (i.e. loss of data).

Coordination can be as simple as holding regularly scheduled meetings to share information on technical developments, determine best practices, identify areas of improvement, and opportunities to pool resources. Other strategies include holding post-incident debriefs for major incidents, like the truck fire on SR-60, improving the

integration of SoCal 511 into Caltrans and CHP operational protocols, development of a unified travel time formula, and development of data and information standards.

An example of where improved coordination has led to improved project delivery is the development of a SoCal 511 mobile application, designed to provide real-time freeway information. The development of the SoCal 511 mobile application was a coordinated effort that involved LA SAFE, Metro, OCTA and the Mobile Source Air Pollution Reduction Review Committee (MSRC), which provided funding to support the development of the application. During initial planning, Metro and LA SAFE became aware of an effort by Caltrans to develop and implement a similar mobile application. Discussions were held with Caltrans and a plan was developed that will have LA SAFE deploy the initial SoCal 511 mobile application and work in parallel with Caltans to develop an enhanced application that will be deployed as phase 2 of the SoCal 511 mobile application.

Because further fragmentation of Metro technology/applications may become increasingly confusing to the customer an opportunity exists for Metro and LA SAFE to coordinate and combine their efforts and bundle their products under a more unified and easy-to-navigate platform to provide better service to the public. Metro and LA SAFE can coordinate to improve the availability and standardization of data, and work together to develop and implement a unified social media (Facebook, Twitter, Nixel, etc.) strategy. Furthermore, Metro and LA SAFE can work to define and implement a strategy to refine the various web and mobile platforms both agencies operate and/or plan to operate such as the 511 mobile application, Metro mobile application, Nextrip and TAP, to provide a more streamlined and cohesive interface and increasing the audience that will be exposed to the joint services.

Coordination efforts can also be internally focused through the development of an internal Metro task force or potentially a joint program unit focused on internal Metro systems, data, capabilities and needs. The development and availability of a variety of public information tools (website, mobile applications, social media, etc.) combined with the on-going development and implementation of operational systems and projects provides opportunities within Metro to better coordinate systems, data and information needs. The ability of departments and project managers to understand the variety of public information tools available and how best to utilize the tools can only serve to improve the distribution of quality information to the public.

Data Environment, Collection & Availability

This element focuses on creating a robust data environment to support the collection of data from various sources and then making the data available to agencies and the public. This element will provide the raw data that can support a variety of transportation needs from traveler information to transportation operations and management.

The majority of traveler information systems are interconnected. Certain systems focus on a single mode and, at times, a single information feed. For example Caltrans' Quickmap is focused on freeway information, while CHP's media interface is focused on freeway incident information. In order to provide quality traveler information, systems are reliant upon the availability of data from host systems and the existence of a robust data environment. Most of the host systems that provide data were developed to support internal management and operational needs - CHP's Computer-Aided Dispatch (CAD) system is used to support CHP's operational and communication needs and Caltrans' Advanced Traffic Management System (ATMS) was developed to manage the operation of the freeway system. The ability to obtain and provide data to support traveler information was an ancillary by-product of these systems. As a result there are instances where the data is not provided in a consistent and/or customer-friendly manner.

In an effort to consolidate and collect this data, Metro developed RIITS. RIITS has been in service since 2004, when it was deployed as a development system. Over the years, RIITS has expanded to include a variety of data from different sources including CHP, Caltrans, LADOT, Foothill Transit, Long Beach Transit, and Los Angeles County. However, due in part to resource limitation, RIITS has yet to meet its full potential. While RIITS has expanded its functionality, it is still primarily functioning under the initial 2004 development architecture and is in need of upgrades to ensure it is a robust production system. For example, over the past year there have been over 60 data outages, which have a direct impact on the availability of quality data.

As part of the data environment, Metro is also working on the development of the Archived Data Management System (ADMS). Where RIITS functions to collect and disseminate real-time data, ADMS focuses on archiving/warehousing the data in order to provide the capability to forecast or analyze situations based on historical data (i.e. the ability to inform the public of the traffic impact due to an upcoming sporting event, special event, weather condition, etc). The creation of a robust data environment that compiles real-time and historical data for a variety of modes and can be used to provide unified standardized information and data is critical to providing accurate traveler information.

The existence of a robust regional data environment is only one step to ensuring improved traveler information and management of the regional transportation system. The environment will enable the collection and processing of data but is useless without partner agencies agreeing to provide quality data. The potential for Metro to require agencies who receive funding to provide quality data is one area that can be further examined to ensure that partners are actively participating and providing their data for the greater overall benefit of the region.

The multi-modal data provided through the data environment will enable third-party developers to develop new applications and solutions while providing a potential platform for vehicle manufacturers to integrate with in order to provide enhanced information to the driver. The data will enable Metro, LA SAFE and other interested

parties to develop integrated multi-modal products that have the potential to drive mode shifts. The development of the robust data environment will enable Metro to mirror the USDOT's Intelligent Transportation Systems strategic plan, developed by the Research and Innovative Technology Administration (RITA). RITA has focused a great deal of attention on the development of the comprehensive data environment which can lead to improved traveler information, support the connected vehicle initiative and other related services that can improve safety and mobility.

Information Dissemination/Distribution

This element focuses on improvements to current information systems and the development of new functions. The previous discussion regarding the opportunity for Metro and LA SAFE to coordinate current and future functions will hopefully lead to the development and implementation of new integrated platforms to better serve the public. Under this element, the tactic will not solely focus on public sector (Metro, LA SAFE, Caltrans, …) developments but will also attempt to engage the private sector more assertively to better understand their strategies and to identify opportunities to partner to improve the dissemination of information. For example, the opportunity to engage with private sector navigation service providers to integrate real-time freeway and traveler information and make this service available via Metro, SoCal 511 or other similar services.

Improvements to the distribution of freeway and traveler information are currently underway with the development of the SoCal 511 mobile application, which is being targeted for deployment in 6 months. Additional planned improvements include coordination of social media service, integration of Los Angeles City downtown intelligent parking data into SoCal 511, coordination with Metro to improve the visibility of real-time traffic information on the metro.net website and the development of full video streaming capabilities from Caltrans freeway cameras. Efforts are also underway to review and refresh the video wall display located in the 3rd floor lobby of the Metro Gateway building to better highlight the availability of traveler information services.

Through the strategies of improved coordination and the creation of the data environment, opportunities will emerge to develop, implement and/or support new traveler information services. Metro's work with the Gateway Cities COG and the South Bay COG on the development of their sub-regional ITS strategic plans have already identified a need for improved coordinated real-time information. For example the Gateway Cities COG ITS plan contains requirements on how best to provide real-time information for commercial/freight vehicles along the I-710 corridor.

Customer Communication & Safety

This element focuses specifically upon the customer. Too often systems are developed, introduced and operated with limited knowledge of and/or interaction with the customer. The products and services under consideration will have minimal benefit if the public finds them to be of little or no value and does not use them. The purpose of

this element is to keep the customer in mind as the overall strategy/services are developed and implemented. There is an underlying need to ensure that the customer is:

1) engaged through outreach and market research;
2) provided a voice through feedback/comment mechanisms;
3) informed through marketing efforts; and,
4) that the safety of the customer is considered as services are developed

The ability to engage and interact with the public will provide new ideas to research and develop new information platforms and services. A better understanding of customer needs and how they receive information can lead to a better overall service. For example, the reliance of traditional web sites versus the emergence of social media can be better understood and the greater emergence of smart phones and the accompanying explosion of mobile applications can lead to a more strategic allocation of resources to better support these growing platforms. In addition, strategic decisions regarding the need or opportunity for the public sector to develop a particular service versus relying upon the private sector can be examined to determine the best path forward.

Project/Task List and Target Timeline

The following table is a summary of projects and tasks that are either currently under development, planned or new that will improve the quality, availability and distribution of freeway and other traveler information to the public. The list provides only the initial summary of projects/tasks that can be undertaken with a targeted time period in which to initiate and/or implement the improvements.

As with all projects there will be obstacles and developments that emerge that may cause the elimination of a project/task or modification of the target date. The major obstacle that can negatively impact this list is institutional issues. Institutional issues include items such as internal policies, timely partner agency cooperation, procurement processes, agency approval process, allocation of resources, labor practices and a variety of other non-technical issues and concerns.

In addition to obstacles, there will also be new opportunities identified due to the emergence of new data and technological advancements as well as the implementation of the program strategy. This list serves to provide an initial framework of projects/tasks from which to start the process of improving freeway and traveler information for the region.

Short Term (6 months)	Medium Term (1 year)	Long Term (>1 year)
Implement SoCal 511 Mobile Application	SoCal 511 Mobile Application Phase II with Caltrans	Complete system and communication upgrades to the data environment
Launch partner agency coordination meetings	Improve the collection and availability of alert information	Expand the availability of Caltrans freeway cameras
Coordinate post incident debriefing protocols and meetings	Develop general emergency protocols for SoCal 511	Develop an integrated multi-modal trip planner
Improved Caltrans freeway video – provide video streaming versus snap-shot pictures	Develop an integrated Metro and SoCal 511 social media plan	Research and develop a possible multi-modal navigation system using real-time data
Complete Proof of Concept for ADMS	Refresh video wall display on third-floor lobby	Continued research on safety implications
Integrate #399 Mobile Call Box service into SoCal 511	Develop personalization services under SoCal 511	Develop a decision support system
Initiate discussions between Metro and LA SAFE to coordinate products/services	Coordinate with Caltrans and CHP to improve the quality of their data, including filling existing data gaps	Develop a performance monitoring/measurement system
Initiate system improvements to the data environment, includes: • Development of the concept of operations • Development of a new system architecture • Improvement of the communications infrastructure	Continued improvements to the data environment: • Implementation of the new system architecture; • Identification and integration of data from new agencies; • Develop streamlined data sharing protocols; • Develop three ADMS test cases	Transition ADMS from a research and development system into a full production system
Coordinate with other 511 providers to identify areas of common interest and opportunities to cooperate	Research and develop strategies to address any safety concerns associated with providing real-time information	Improved consistency of travel information to include the development of a unified travel time formula
Conduct a market analysis of the SoCal 511 services	Improve consistency of data between agencies	Implement a commercial vehicle operations real-time information service
Evaluate current safety concern regarding the provision of real-time information	Integrate Downtown Los Angeles parking information into SoCal 511	Implement findings from sub-regional ITS strategic plans

	Develop the extended internal Metro task force to examine current Metro real-time information systems	Deployment of Veteran's Initiative improvements
	Improved integration of SoCal 511 freeway information into Metro.net	Expand the strategy to include Orange and Ventura counties
		Deployment of Spanish language information services

In addition to the above mentioned high-level projects/tasks, there are a number of on-going activities that need to occur. Examples of on-going tasks include:

- Systems maintenance;
- System upgrades and improvements;
- System evaluations;
- Market research;
- Marketing and outreach;
- Monitoring the emergence of new technologies;
- Review of new services;