

CORRIDOR INTELLIGENT TRANSPORTATION SYSTEM (ITS) ELEMENTS

DESCRIPTION OF CORRIDOR ITS SYSTEM

The CMIA proposal would allow Metro to take a leading role in the national efforts to embrace the challenges of Integrated Corridor Management (ICM). Adopting ICM programs will mean moving away from individual management of transportation system elements by various jurisdictions and agencies and towards coordination of efforts across all modes, jurisdictions, and functions. The continual monitoring and measuring of performance on an ICM makes the system particularly desirable as it promotes greater efficiency in the management of the entire transportation network.

In order for an ICM program to function as intended, affected transportation agencies must have access to information on the current conditions within the corridor, along with the institutional collaboration, to allow them to respond effectively to changes in those conditions. This requires the smooth electronic exchange of real-time data, as well as agreements outlining the distribution of responsibilities among the affected institutions and the ways in which control will be shared. From a technical standpoint, an ICM may involve changing freeway ramp meter settings, adjusting arterial signal timing, displaying route deviations on changeable message signs, dispatching and adding transit service, adjusting transit routes and making all information available in real time to the public via web sites, 511 or equivalent traveler information systems, ISPs and media.

Los Angeles County has been proactive in developing measures to more efficiently manage the transportation challenges it faces and this early groundwork makes the county an ideal candidate for this type of program. The county is also uniquely positioned to spearhead the move towards Integrated Corridor Management systems due to the complexity and level of demand that the transportation corridors in this area must handle.

While Metro, in partnership with Caltrans District 7, Los Angeles City, and the California Highway Patrol, has developed an extremely successful *Regional Integrated ITS (RIITS) System Architecture and Network* there is still a great need for expansion. The RIITS Network shares real time traffic operation and incident data with approximately 18 transportation agencies, provides traffic congestion data to 15 private Information Service Providers (ISPs), and recently rolled out a real time traffic page on Metro's website.¹ This information sharing network and the ITS standards that have been established will be useful building blocks, but the RIITS Network will require additional elements to fully integrate the ICM program. A much higher degree of operational, technical, and institutional integration is needed if Los Angeles County is to leverage the full benefit of both existing and proposed ITS systems. It is proposed that a Concept of Operation Plan will be developed for countywide application, and a detailed Corridor Management Plan (CMP) developed for each proposed corridor. With the appropriate funding and support Los Angeles County can develop a world-class ICM program that will showcase the true transportation benefits that can be obtained from the integrated management of ITS systems.

PROPOSED PROJECT

The proposed CMIA project would expand the existing Inter-agency Traffic Operation and Management MOU established under RIITS to include other affected transportation agencies within each proposed corridor. It would create opportunities to develop operation plans for integrated response to deal with major incidents caused by such things as freight train incidents that can close freeways and arterial streets requiring major detours for days or fires or earthquakes that require coordinated emergency response in moving large numbers of people safely out of danger.

¹ See <http://rtmap.metro.net/html/index.html>

The four (4) corridors proposed by Metro and Caltrans 7 for Los Angeles County are:

1. Interstate 5 from Interstate 605 to Orange County Line;
2. Interstate 5 Carpool Lane from Route 170 to Route 134;
3. I-405 Carpool Lane from I-10 to US-101 (North Bound); and
4. Interstate 10 Extend El Monte Busway to County Line.

An estimated \$10M is proposed for each corridor with approximately \$6M for Operational Integration, including Institutional Integration, and \$4M for Technical Integration, for a total of \$40 million. The following are the three ITS elements proposed for each corridor:

- Operational Integration (OI): The implementation of multi-agency transportation management strategies, in real time, that promote information sharing and cross-network coordination/operations among the various transportation networks in the corridor; and facilitate management of the total capacity and demand of the corridor. The integrated operations of the following are included:
 - Freeways;
 - Arterial Streets;
 - Transit both Bus and Rail;
 - Rail Freight;
 - Park and Ride;
 - Airport Landside Access;
 - Emergency and Law Enforcement Agencies; and
 - Information Service Providers (ISPs).
- Technical Integration (TI): Provides the means, e.g. communication links between agencies, system interfaces, and standards, by which information and system operations and control functions can be effectively shared and distributed among networks and their respective transportation management systems. The impacts of such operational decisions can be immediately viewed and evaluated by the affected agencies.
- Institutional Integration (II): Consensus building among institutions is critical. The proposed project would include, but is not limited to, the following major stakeholders:
 - Los Angeles Metropolitan Transportation Authority
 - Caltrans District 7
 - Los Angeles City Department of Transportation
 - Los Angeles County Public Works Department
 - Los Angeles County Sheriff Department and Fire Department
 - Local Cities, Transit Operators, Emergency Service and Enforcement Agencies along the corridor
 - Information Service Providers and Media Agencies

PROJECT BENEFITS

A coordinated effort between transportation networks along a corridor can effectively leverage existing investments and maximize the total capacity of a corridor. This will result in reduced congestion and increased reliability and environmental benefits.

The proposed CMIA ITS program will implement major coordination plans and activities to bring integration of multimodal transportation activities into focus, fill gaps and measure benefits. Metro’s plan is to move beyond just information sharing and into operational implementation. The future is integration of operations to physically manage the traffic flow.

Corridor Mobility Improvement Account (CMIA) - ITS Projects Los Angeles, CA		
ITS PROJECTS	COST ESTIMATE	ITS ELEMENT
Regional ICMP Development & Implementation		
ICM Strategy and Concept of Operations	\$1,500,000	OI,II
Corridor ICM Implementation Plans (I-405, I-5 N, I-5 S, I-10)	\$4,000,000	OI,II
Automated Work Zone Information System (AWIS)	\$2,000,000	TI
- Construction Zone management		
Region-Wide Digital Highway Advisory Radio (HAR)	\$3,000,000	TI, OI
- Regional traveler information, congestion, travel time, AMBER alerts		
Regional Emergency Transportation Operations	\$2,000,000	TI, OI
- Agency coordination of weather, disaster and terrorist attack		
RIITS Network Expansion & Architecture Upgrade	\$3,000,000	OI, TI, II
Representative ITS Projects for Selected ICM Corridor(s)		
Corridor CCTV digital video distribution	\$3,000,000	TI
- Caltrans, LADOT & LACDPW		
Connection and Gap Closure (ITS field Infrastructure and communications)	\$6,500,000	TI
- Freeways and Arterials		
Corridor Arterial Signal Sync and IEN System Upgrade	\$4,000,000	TI, OI
Digital ITS field Communications Conversion	\$2,000,000	TI
- Digital data and roadway surveillance video		
Bus and Transit Vehicle Arrival Times	\$3,000,000	OI
- new stop signage, cell phones and web access		
Corridor Metro Rapid Expansion	\$2,000,000	TI
Corridor Bus Priority and Speed Improvement Implementation	\$2,000,000	TI
Interconnected & Interoperable Transit Emergency Management Systems	\$2,000,000	TI, OI
TOTAL	\$40,000,000	
Legend		
OI = Operational Integration		
TI = Technical Integration		
II = Institutional Integration		

CORRIDOR MANAGEMENT IMPROVEMENT ACCOUNT
CORRIDOR INTELLIGENT TRANSPORTATION SYSTEM ELEMENTS
Project Nomination Fact Sheet

Nominating Agency: MTA/Caltrans District 7		Fact Sheet Date: 01/09/07	
Contact Person	Peter Liu/Peter Wong		
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Project Information:							
County	Caltrans District	PPNO *	EA *	Region/MPO/ TIP ID*	Route / Corridor *	Post Mile Back *	Post Mile Ahead *
LOS ANGELES	7						
* NOTE: PPNO & EA assigned by Caltrans. Region/MPO/TIP ID assigned by RTPA/MPO. Route/Corridor & Post Mile Back/Ahead used for State Highway System							
Legislative Districts	Senate:			Congressional:			
	Assembly:						
Implementing Agency (by component)	PA&ED: CALTRANS			PS&E: CALTRANS			
	R/W: CALTRANS			CON: CALTRANS			
Project Title	CORRIDOR INTELLIGENT TRANSPORTATION SYSTEM ELEMENTS						
Location - Project Limits - Description and Scope of Work (Provide a project location map on a separate sheet and attach to this form) Los Angeles County - Various Corridors - Development and implementation of various ITS elements along 4 major corridors: Interstate 5 from I-605 to OC line; Interstate 5 carpool lane from Rte 170 to Rte 134; I-405 Carpool Lane from I-10 to US101 (northbound); Interstate 10 extend El Monte Busway to County Line.							
Description of Major Project Benefits Provide a coordinated, integrated system management of all transportation agencies that can impact mobility, safety, transportation of travelers and movement of goods and travellers. Provide improved response on day to day congestion and congestion caused by work zones, incidents, weather, and special events in real time. Better inter-connect transportation systems capable of cross network travel demand management. Maximize the effectiveness of the entire corridor and facilitates optimization of the entire transportation system into a fine meshed network.							
Expected Source(s) of Additional Funding Necessary to Complete Project - as Identified Under 'Additional Need' Funding expected from Prop 1B under CMIA.Category.							
Project Delivery Milestones (month/year):							
Project Study Report (PSR) complete	N/A						
Notice of Preparation	Document Type:	EIR/EIS	N/A				
Begin Circulation of Draft Environmental Document	N/A						
Final Approval of Environmental Document	N/A						
Completion of plans, specifications, and estimates	N/A						
Right-of-way certification	N/A						
Ready for advertisement	N/A						
Construction contract award	N/A						
Construction contract acceptance	N/A						

NOTE: The CTC Corridor Mobility Improvement Account (CMIA) Program Guidelines should have been read and understood prior to preparation of the CMIA Fact Sheet. A copy of the CTC CMIA Guidelines and a template of the Project Fact Sheet are available at: <http://www.dot.ca.gov/hq/transprog/> and at: <http://www.catc.ca.gov/>

CORRIDOR MANAGEMENT IMPROVEMENT ACCOUNT
Project Nomination Fact Sheet - Project Cost and Funding Plan
(dollars in thousands and escalated)

Shaded fields are automatically calculated. Please do not fill these fields.

				Date:	9-Jan-07
County	CT District	PPNO *	EA*	Region/MPO/TIP ID *	
LOS ANGELES	7	0	0	0	
Project Title: CORRIDOR INTELLIGENT TRANSPORTATION SYSTEM ELEMENTS					

* NOTE: PPNO and EA assigned by Caltrans. Region/MPO/TIP ID assigned by RTPA/MPO

Proposed Total Project Cost								Project Total
Component	Prior	07/08	08/09	09/10	10/11	11/12	12/13	
E&P (PA&ED)								0
PS&E		10,000	10,000	10,000	10,000			40,000
R/W SUP (CT) *								0
CON SUP (CT) *								0
R/W								0
CON								0
TOTAL	0	10,000	10,000	10,000	10,000	0	0	40,000

Corridor Management Improvement Account (CMIA) Program

Component	Prior	07/08	08/09	09/10	10/11	11/12	12/13	Total
E&P (PA&ED)								0
PS&E		10,000	10,000	10,000	10,000			40,000
R/W SUP (CT) *								0
CON SUP (CT) *								0
R/W								0
CON								0
TOTAL	0	10,000	10,000	10,000	10,000	0	0	40,000

* NOTE: R/W SUP and CON SUP to be used only for projects implemented by Caltrans

Additional Funding Needs (funding needs not yet committed)

Component	Prior	07/08	08/09	09/10	10/11	11/12	12/13+	Total
E&P (PA&ED)								0
PS&E								0
R/W SUP (CT) *								0
CON SUP (CT) *								0
R/W								0
CON								0
TOTAL	0	0	0	0	0	0	0	0

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