TEA 21
Moves America

Intelligent Transportation Systems

Testimony Before the United States Senate
Environment and Public Works Committee
Subcommittee on Transportation,
Infrastructure and Nuclear Safety

September 10, 2001

METROPOLITAN
TRANSPORTATION
COMMISSION

Testimony of the Metropolitan Transportation Commission

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Good afternoon. My name is Jim Beall. I have been a commissioner on the San Francisco Bay Area's Metropolitan Transportation Commission for nearly a decade and a half, and I am the current chair of the board of supervisors for Santa Clara County, California — the center of Silicon Valley.

Thank you for the opportunity to submit this testimony to support the Committee's efforts to maintain an adequate federal role in transportation investments across this nation, and specifically to let the Committee know of the successes of TEA 21 and to help the Committee gain a more detailed view on what ITS means for the nation's transportation network.

The Metropolitan Transportation Commission is the metropolitan planning organization, or MPO, for the nine-county San Francisco Bay Area — a region comprising nearly 6.8 million people, who reside in nine counties and more than 100 cities, in an area of over 7,000 square miles that includes the densely populated cities of San Francisco, San Jose and Oakland, as well as the agricultural expanses of Napa and Sonoma counties. Making transportation work in a region as diverse as ours requires partnering with federal, state and local jurisdictions. It also requires that MTC, as the Bay Area's MPO, balance competing demands for scarce federal transportation funding.

As MPOs around the country grow and the metropolitan areas they serve become more and more important to the nation's economy, they increasingly are turning to ITS services to keep people and goods moving.

Coming from the home of the high-tech revolution, I am particularly aware of the many ways intelligent transportation systems or ITS can be used to combat congestion and get commuters where they're going, as efficiently as possible. In Santa Clara County, for example, a multi-agency team, led by the city of San Jose and the county, is working to link

freeways, expressways, local streets and public transit services into a 15-mile "Smart Corridor." Fiber-optic cables carrying data and video images, and connecting traffic signals, cameras and computers into a single network, enable traffic managers to spot accidents and congestion, change timing patterns for traffic signals, alert drivers to problems, and dispatch traffic control officers or tow trucks to the scene.

While MTC has been using TEA 21's flexible funding features to implement these kinds of transportation management programs out on the street, such ITS programs were made possible in part by 10 years of federally sponsored ITS research, development, testing and initial deployments. In that decade, ITS has moved from research and development of leading-edge technology to becoming a practical tool for commuters to make the right travel decisions.

ITS allows us to provide drivers with instant information about accidents or backups through changeable message signs and highway advisory radio, and to send extra highway patrol officers on the routes with the most traffic congestion, so they can be ready to respond to accidents.

To prevent traffic congestion before it happens, we've also upgraded and linked traffic signals to reduce stop-and-go traffic on major thoroughfares, and installed metering lights to allow cars to move onto freeways and bridges at a regulated pace.

We have implemented FasTrak™, an electronic toll collection system, on all Bay Area toll bridges, to let drivers prepay tolls without stopping — and they can use the same device on Southern California toll roads 500 miles away. In the Bay Area, we also have installed roadway detectors and closed-circuit television to collect up-to-the-minute data on what's happening on the roads. The Bay Area's Transportation Management Center uses these high-tech tools to monitor traffic conditions and dispatch help as needed. The center also permits us to plan ahead for major events that could disrupt traffic by coordinating transit and other services and letting the public know their options.

ITS enables Bay Area transportation managers to expand the choices available to the region's travelers. For example:

- Bay Area transit riders are just now starting to carry one card, the TransLink® smart card, to pay their bus, train or ferry fare, under a pilot program launched by MTC to test the technology. The "universal transit ticket" stores value and automatically deducts the cost of each trip when the card is passed near a reader onboard vehicles or at fare gates.

- Bay Area travelers can call a single regionwide phone number for up-to-the-minute traffic information on all of the region's freeways, as well as direct connections to public transit operators, ridesharing and other services. MTC also is leading the effort to make the Bay Area the first region in California to offer this service through a new, nationally designated transportation information number: 511.

ITS programs such as these make travel more convenient for the region's commuters but they also provide considerable savings in time and resources. For example,

- The California Department of Transportation estimated a time savings of over 25,000 hours per year and fuel savings of more than 55,000 gallons during the initial phase of the electronic toll collection system that is now in place on all nine Bay Area toll bridges.

- Each month, 50,000 Bay Area residents call TravInfo® — the regional transportation information phone number — for traffic, public transit and other types of travel information. A survey evaluating the service indicated that 45 percent of callers changed their travel behavior after receiving this real-time information.

- More than 10,000 Bay Area drivers per month use one of the 3,500 wireless telephone call boxes installed by MTC along the region's highways. The call boxes are a direct line to dispatchers, who can send police, fire, paramedic, towing or other roadside assistance.

- MTC's fleet of roving tow trucks — the Freeway Service Patrol — covers over 400 miles of Bay Area freeways, responding to 9,000 incidents a month. In addition to increasing traveler safety and reducing air pollution, the tow trucks cut congestion-related delay by more than 3.5 million hours and fuel consumption by 1.4 million gallons annually.

Mr. Chairman and members of the subcommittee, as you can see, TEA 21 is working well in the San Francisco Bay Area. It is important to note that Bay Area ITS programs have been funded by the flexible features of TEA 21 and other local and state sources, and not just by federal ITS funds. We encourage continued mainstreaming for such projects as a further commitment by federal transportation policy to better manage the transportation system that we have.

Our experience with ITS confirms that a federal program that is focused on broad national goals that no state, regional or local government could easily accomplish for itself, is essential for the further deployment, operation, maintenance and implementation of ITS across the nation, and that, given the fast-changing nature of ITS technologies, operations and maintenance as well as capital needs for ITS should be eligible for federal funding.

At a more general level, the federal transportation program must recognize that ITS projects are becoming essential to the safe, efficient operation of the nation's transportation systems. There is now (thanks to federal funding of evaluation studies) extensive documentation on the range of benefits that ITS can achieve for improving mobility and safety for our citizens.

We believe that the federal initiative in sponsoring a national ITS program was a far-sighted move that will continue to pay positive dividends far into the future, and we urge you to renew that national commitment.

Attached to this testimony in the packets before you are more details on the high-tech transportation applications I've been describing to you this afternoon. We also have brought along prototypes of our FasTrak™ transponder and the TransLink® smart card-card reader for display. At this time, I'd like to introduce MTC's manager of Transit Coordination and Access, Melanie Crotty, who can answer any specific questions you may have about how ITS is being used to improve the mobility of those who live and work in the Bay Area.

Intelligent Transportation System Projects Bring Benefits to Bay Area

While the Bay Area continues to make significant strategic investments to expand the transportation system, we are increasingly emphasizing service and technological improvements that focus on boosting the efficiency of the region's existing transportation network and giving users better information and travel options to make the most of the region's roadway and transit network. We call this strategy "system management."

MTC and its transportation partners provide a number of programs targeted at reducing congestion, improving traveler information and increasing access for all Bay Area travelers. MTC also works with local jurisdictions to better maintain local streets and roads as well as assist with projects that smooth the flow of traffic on local arterials. In recent years, MTC has assumed a greater regional role in designing and directly operating programs to better manage the transportation system.

Key Projects

TransLink®

TransLink® is a smart-card-based universal ticket that will be good on all of the region's mass transit systems. TransLink® is designed to (1) improve passenger convenience in making inter- and intra-agency trips; (2) improve the efficiency and security of the region's fare collection systems; (3) improve transit system data collection for service planning purposes and development of fare policies; and (4) take advantage of revenue-enhancing or cost-saving business partnerships with the private sector. The Phase 1 TransLink® demonstration will be implemented in fall 2001 on selected portions of six transit operators — AC Transit, BART, Caltrain, Golden Gate Transit, San Francisco Muni and Santa Clara Valley Transportation Authority (VTA). Approximately 4,000 transit riders will use TransLink® for a six-month period and evaluate the system's capabilities. Full implementation on all of the region's transit systems will depend on the outcome of this demonstration phase.

FasTrak™ Electronic Toll Collection

Now in operation on all seven of the region's state-owned toll bridges, the FasTrak™ electronic toll collection system is saving drivers time and money while reducing congestion at key Bay Area hot spots. FasTrak™ users establish a prepaid account with Caltrans (which administers the system) and receive a small electronic transpon-

der that is placed inside their vehicle. At the toll plaza, an overhead antenna reads the transponder and deducts the appropriate toll amount as the driver passes through at the 25 mile-per-hour speed limit — eliminating the need to stop and pay tolls and improving traffic flow through these bottlenecks. The FasTrak™ system has proven very popular with the region's motorists since its introduction in 2000. As of July of this year, Caltrans had issued nearly 150,000 transponders, and new FasTrak™ applications were averaging 1,500 per week.

The FasTrak™ system is also in effect at the independently operated Golden Gate Bridge in the Bay Area, and in Southern California on the Route 91 express lanes as well as the Foothills and San Joaquin Corridor toll facilities.

TravInfo®

The TravInfo® telephone service — accessed via 817-1717 from any area code in the Bay Area — provides comprehensive traveler information 24 hours a day, 365 days a year. Since the project was launched in September 1996, TravInfo® has served approximately 3 million callers. Over the course of the next two years, MTC will transition 817-1717 to 511, the new Federal Communications Commission-approved nationwide number for traveler information. In addition, the next two years will see improved data collection on traffic conditions and enhanced information dissemination to the public. The core of TravInfo® is the operation of its Traveler Information Center, which receives and disseminates road condition and transit information to travelers through the 817-1717 number and to TravInfo®'s private sector partners via an electronic connection.

Improving Traveler Information

MTC provides a wide range of information to Bay Area travelers on transportation system conditions and travel options that help promote effective use of the region's road and transit networks.

Transitinfo.org

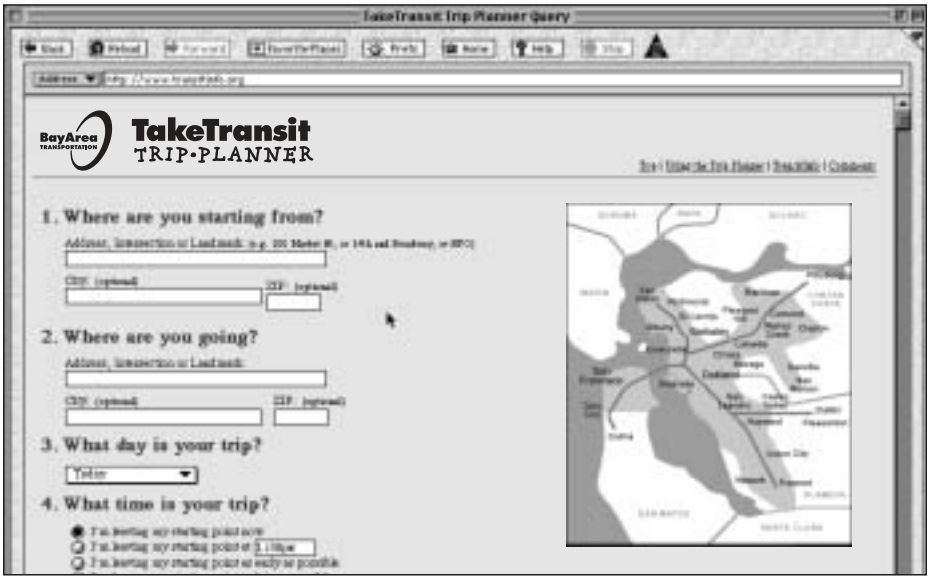
MTC's transit information Web site — transitinfo.org — provides transit service information (schedules, fares, maps, announcements, etc.) and links for over 40 public and private transit services throughout the MTC region and in neighboring areas. The site also includes information about and links to regional programs, such as bicycle programs and airport and ridesharing services, as well as transit lines that serve major Bay Area destinations. Currently, the site is averaging nearly 380,000 users per month.

TranStar

MTC also is implementing the TranStar system, which combines into a single database the routes, schedules and fare information for all transit services offered by Bay Area transit operators. TranStar makes this information available to all transit telephone information centers to enable them to provide trip-planning assistance to any caller, regardless of the transit system (or systems) used.

TakeTransit℠ Trip Planner

The TakeTransit℠ Trip Planner — available since July 2001 on <transitinfo.org> — provides TranStar capabilities on the Internet, and enables travelers to obtain transit itineraries for any trips using BART, AC Transit, San Francisco Muni and County Connection (Central Contra Costa Transit Authority). The remaining transit agencies will be integrated into the trip planning system over the next two years.



Targeting Congestion and Traveler Safety

Freeway Operations

A number of interrelated programs to improve the safety and efficiency of the freeway system are under way in the Bay Area. Overseen by MTC, Caltrans and the California Highway Patrol (CHP), these include a traffic operations system, which employs high-tech devices to monitor and report on traffic, and "Smart Corridors," in which multiple traffic and transit control centers are managed as a single network via computer connections.

Freeway Service Patrol

The Bay Area Freeway Service Patrol (FSP) is a special team of 74 tow trucks, six pick-up trucks and two flatbeds (plus six back-up trucks) that continuously patrol more than 400 miles of the Bay Area's most congested freeways. More than 107,000 assists were provided in 2000. The FSP's primary purpose is to cut down on traffic jams by quickly clearing accidents and other incidents that account for more than 50 percent of traffic congestion. A swift response also reduces the chance of further accidents and bottlenecks. The tow trucks are financed with federal, state and local monies. Local funds come from the MTC Service Authority for Freeways and Expressways (SAFE), which is financed by a $1 annual vehicle registration fee in participating counties. The service costs approximately $5 million a year to operate.

Call Box Network

The call box program provides assistance to motorists in trouble, allowing them to report a road hazard, a flat tire or a mechanical breakdown. In partnership with the CHP and Caltrans, MTC operates over 3,500 call boxes on more than 1,100 miles of urban, suburban and rural highways and expressways in the nine counties. Upon receiving a call from a call box, call answering personnel can dispatch appropriate assistance, whether a tow service or law enforcement, fire or medical service.


Freeway Service Patrol Beats and SAFE Call Box Coverage
September 2001
Freeway Service Patrol Beats
SAFE Call Boxes
Freeway
Highway
Road
N
0 10 20 30 Miles
0 10 20 30 Kilometers
Street base map © Thomas Bros. Maps. All rights reserved.
MTC Graphics 9/2001
Sonoma
Napa
Solano
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Contra Costa
Alameda
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San Rafael
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Napa
Vacaville
Fairfield
Rio Vista
Vallejo
Concord
Brentwood
Walnut Creek
Danville
Richmond
Oakland
San Francisco
Hayward
Pleasanton
Livermore
San Mateo
Fremont
Half Moon Bay
Palo Alto
San Jose
Los Gatos
Morgan Hill

Managing Traffic Signal Networks

MTC's Traffic Engineering Technical Assistance Program (TETAP) provides consultant expertise for local governments that do not have the in-house staff to maintain and operate their traffic signal network. The program focuses on improving the timing of signals within and between jurisdictions to improve the flow of traffic on major roadways. MTC has provided over 100 TETAP grants to more than 60 jurisdictions, the majority with populations under 65,000.

Pavement Management System

MTC's Pavement Management System (PMS) provides computer software and technical assistance to help cities and counties extend the life of pavement and thus stretch local budgets further. Today, MTC's PMS program is used by 91 cities and eight counties in the Bay Area. The program also is used outside the region in Southern California and in eight states beyond California's borders.

This program has been essential in identifying the extent of local street maintenance needs and the shortfalls in funding to address them. While MTC's most recent Regional Transportation Plan (RTP) dedicates 29 percent of available revenues over the next 20 years to operation and maintenance of the region's road system, significant shortfalls remain. MTC's legislative program advocates additional funding for repair of the region's roadway network.

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