

# Metro™ QUARTERLY

WINTER/SPRING 2005



**Metro™**

## LA's Next Big Thing: The Metro Liner

It's long, it's lean, it's a smooth-riding machine.

Chief Executive  
Officer  
Roger Snoble



*In car-crazy Los Angeles, I often find that people are surprised to learn that our region is a leader in transit technology. Metro frequently hosts officials of transit agencies from around the nation – indeed from around the world – who come to see high-tech in action.*

*Research in the mid-1990s that led to development of Metro's prototype Advanced Technology Transit Bus, for example, laid the foundation for the use of space-age materials and new methods of bus manufacturing. That technology is at the heart of our new 45-foot, light-weight "CompoBus" and the 60-foot, articulated Metro Liner, which will be introduced later this year on the Metro Orange Line.*

*This issue of Metro Quarterly highlights how Metro has harnessed technology in many areas, beginning with transportation planning. Metro planners rely heavily on computer modeling of communities and future growth and travel patterns to better predict and respond to the county's transportation needs.*

*The county's traffic nerve centers depend on remote-controlled cameras and high-tech sensors to monitor flow on local streets and freeways. Global positioning equipment, for example, constantly updates dispatchers on the exact location of every Metro Bus in the fleet. When roads or intersections are blocked, they can respond instantly by rerouting buses around obstructions.*

*When the Metro Orange Line opens in the San Fernando Valley later this year, fiber optics installed along the 14-mile transitway will make it possible for riders to know exactly when the next Metro Liner bus is coming.*

*Technology also is improving our customer service. More detailed and useful information – including an updated travel planner – is now available on our web site at metro.net. And the Metro call center, which handles some 5,000 inquiries each day, can now provide more accurate information even faster than before.*

*Metro can't afford to wait for the future. We're putting the future to work today.*

*Sincerely,  
Roger Snoble*

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Published by  
Metro Communications  
Department

Chief Communications Officer:  
MATT RAYMOND

Editorial Coordinator:  
YVONNE PRICE

Copy Editor:  
BILL HEARD

Writers:  
ANNE DULLAGHAN  
MARC LITTMAN  
DAVE SOTERO  
GAYLE ANDERSON

Graphic Design:  
METRO DESIGN STUDIO

Photographers:  
GAYLE ANDERSON  
DENIZ DURMAS  
LAURA WOODWARD  
YVONNE PRICE

Print Coordination:  
METRO PRINT SHOP

Circulation:  
DAN COLONELLO

Metro Research:  
JIM WALKER  
(Dorothy Peyton Gray  
Transportation Library)

Deputy Executive Officer,  
Public Relations:  
MARC LITTMAN

All comments concerning MQ  
or requests to be added to  
the mailing list, free-of-charge,  
should be directed to:

MQ, Metro Public Relations  
Attn: Dan Colonello  
Mail Stop 99-P1-1  
One Gateway Plaza  
Los Angeles, CA 90012-2952  
or by e-mail to colonellod@metro.net



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# Metro.net – Fast, Efficient Information Available 24/7

When you need information about anything transit-related, the first place to look is *metro.net*, Metro's comprehensive website.

At an average 10 million hits per month, the information at *metro.net* is meeting a wide range of needs, from providing Board of Directors reports, project updates and news releases to advanced search engine capabilities and on-line transit pass purchases.

## On-line Trip Planner Offers More Features

The most frequently accessed feature of *metro.net* is the site's on-line trip planning tool, the Metro Trip Planner. Recent enhancements give customers even more options to plan their itineraries.

User-friendly pull-down menus have made it simple for customers to find out how to get from Point A to Point B.

"Now, riders can also see their stops along the route or their entire trips for the day," says Webmaster Joe Simpson. "The improvements also present additional options a patron can choose for a quicker, more efficient ride."

In addition to creating itineraries for Los Angeles County, the Trip Planner can provide routes for Orange, Riverside, San Bernardino and Ventura counties.

## Find Anything with Google Search Capabilities

Since July, visitors to *metro.net* have been able to quickly find the information they need, thanks to Google's powerful search engine.

"We have a very large site, and being able to help users easily access Metro information is our goal," says Simpson. "Google is the industry standard when it comes to search engines. By tapping into Google's leading technology, people can quickly find whatever they want, whenever they want on the site."

## Why Wait in Line? Buy Passes On-line

Another enhancement to the Metro website is the ability to purchase monthly Metro Passes or regional passes on-line. All customers need is a credit card and they can purchase passes from any Internet-connected computer, any time.

## Increasing Efficiency with New Content Management System

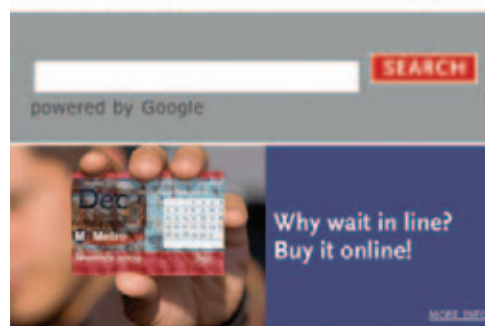
Providing up-to-date content is the key to maintaining an effective, informative website. To make sure *metro.net* is as current as possible, Metro is implementing a content management system. The new system allows Metro's departments to quickly post items and delete information as needed.

## Usability Testing Provides Key Feedback

Metro's annual web usability studies also help the agency plan and revise *metro.net* to improve users' on-line experiences.

"We found that over 80 percent of our users wanted bus and transit information," says Simpson. "As a result, we brought the Trip Planner to the front page and made 'Riding Metro' the first tab that you see. We're continually improving the site based on the feedback we receive."

To take advantage of the many on-line benefits Metro offers, visit *metro.net*.





# Metro's Call Center: Handling 5,000 Calls a Day – and Counting



*“Metro Information...  
May I have your starting point, please?”*

Each day, some 5,000 callers who want to know the quickest way to get from Point A to Point B hear that friendly greeting.

“Next to the bus operators, our telephone information operators talk to the riding public more often than any other person at Metro,” says Communications Manager Alonzo Williams. “Last year we took 2.5 million calls. Our goal this year is to process the same number of calls more efficiently with fewer resources.”

## **Saving Time and Money**

To help meet this goal, Metro recently implemented a new web-based routing and scheduling system called “Tripmaster.” Prior to developing Tripmaster, Metro operators were working with a 20-year-old system.

“Under the old system, we paid about \$200,000 in annual transaction fees,” explains Williams. “As the fees continued to increase because of the high call volumes, we knew we had to develop a more cost-effective solution. We’ve been able to do more with Tripmaster and a smaller staff, and save money in the process.”

## **The Benefits of ‘Open Source’ Technology**

The new Tripmaster system took a little over a year to create, and was developed internally by Metro’s Customer Relations and ITS groups. A real benefit is the application’s “open source” technology, which allows Metro to freely share the system with other transit agencies’ call centers.

“Foothill Transit and Long Beach Transit are already using our new application,” adds Williams. “In the future, we hope a number of agencies around the country will be able to use it.”

## **Fast and Flexible**

In addition to revamping the ways operators can help customers, Metro has made other changes to the call center, including improving workstations, pursuing voice recognition and caller ID technology, and instituting new performance measures.

“We’ve become more flexible and have reduced our operator training time by almost half,” Williams says. “In the last fiscal year, we’ve shaved off a minute in wait time – all this with fewer people and no overtime.”

Customers can receive trip planning assistance by calling 1.800.COMMUTE or visiting [metro.net](http://metro.net).

## **Serving Customers One at a Time**

In her 19 years at Metro Information, Supervisor Susan Tate has seen a lot of changes: new workstations, new equipment, new technology and new transportation methods. But what haven’t changed are the needs of the customers she talks to every day – getting to their destinations safely and on time.

Without a doubt, the job of supervisor and telephone information operator takes a special type of person.

“Some people are already familiar with the areas where they want to go,” she says. “But because LA is so large, our operators often need to assist customers in determining their best starting and ending points, and when it would be best to travel.”

In addition to knowing your way around LA on transit, being a telephone information operator requires patience. It’s not unusual for someone to make four or five separate trip requests in a single phone call.

Despite the challenges, Tate says being the “voice of Metro,” is “wonderful. I enjoy helping people and wouldn’t want to do anything else.” •

▲ Telephone information operators, top: Nicole Chietan; from left: Vickie Brown, Norma Lizeth Ruiz, John Duran, Gina Marie Ramirez, Lia Gamino, LaKisha Myles, Patricia Casillas

▼ Below: Susan Tate, call center supervisor



# Fresh Air: The 12th Anniversary of Metro's Alternative Fuels Policy

This year marks the 12th anniversary of a major policy decision by Metro to buy only alternative fuel buses. The decision earned praise from environmentalists and the public, and has fostered technological advancements in the nation's transit industry.

In 1993, Metro began phasing in the purchase of alternative fuel vehicles (AFVs) and phasing out the use of diesel buses.

The agency now operates the largest compressed natural gas (CNG) bus fleet in the country, with 1,970 buses – about 80 percent of its entire fleet – running on CNG. In 12 years, Metro's AFV buses have logged more than 450 million operating miles, an industry record.

## Reduction in NOx and PM

Metro estimates a reduction of approximately 6,400 tons of nitrogen oxide (NOx) and 50 tons of particulate matter (PM) since it began using CNG buses.

For NOx, that is the equivalent of removing 104,500 cars from the road on a yearly basis. For PM, it is the equivalent of removing 32,300 cars every year.

## Clean Air Award

Metro's proactive AFV policy has garnered industry kudos. The agency received WestStart-CALSTART's 2001-2002 Blue Sky Award for integrating CNG with its countywide Metro Rapid Bus system.

In 1994, Metro received the South Coast Air Quality Management District's (SCAQMD) Clean Air Award for its work in transportation and promotion of clean fuels.

Metro continues to be a leader in the area of clean fuel vehicle technology, evaluating hybrid electric technologies and fuel cells that can improve operating efficiency, reliability and lower emissions. •

## The Commitment to Alternative Fuels Drove Bus Innovations

Metro's long-standing commitment to alternative fuel vehicles (AFV) is driving innovations in bus technology.

New CNG buses, such as the light-weight 'CompoBus' and the 60-foot articulated Metro Liner, are outgrowths of the agency's advanced technology bus programs. They will complement Metro's CNG fleet in large numbers beginning later this year.

"Metro's 1993 decision to only buy AFVs was a significant paradigm shift for this agency," says Deputy CEO John Catoe. "It was a bold move, requiring a long-term commitment to meeting the operational demands of CNG. We now see on a day-to-day basis the fuel's advantages in reducing emissions." •

## Why the Switch to Alternative Fuel Vehicles?

In 1993, Metro considered the purchase of 245 diesel buses as part of a 300-vehicle procurement. However, working with the SCAQMD and other environmental organizations, Metro developed a plan for purchasing only alternate fuel buses.

Metro set its sights on CNG, and within the 10-year period between 1994 and 2004, took delivery of 1,970 CNG buses from three different bus manufacturers: Neoplan, Newflyer and North American Bus Industries.

With the addition of new CompoBuses and Metro Liner CNG buses later this year, Metro's CNG fleet will pass the 2,000 mark. By 2006, the agency will have nearly 100 percent of its fleet running on CNG.

Maintenance costs for CNG buses are typically 15-20 percent higher than for diesel buses. But, Metro expects the cost differential to decrease as diesel engines and exhaust systems are reconfigured to meet stringent California emission reduction rules. •



◀ Left: Division 1 service attendant Kimberly Smith fuels a CNG bus.

Metro is pushing the technology envelope as it strives to lead the nation in advanced, alternative-fuel transit vehicles with two new high-capacity bus models designed for the demanding Los Angeles market.

Both buses feature enhanced vehicle styling, passenger appeal, and improved performance and reliability.

# The CompoBus



The 45-foot CompoBus is a CNG low-floor coach with contoured windshields and a stylish retro look. It features a light-weight body made of composite materials similar to those used in the aerospace industry, and is capable of carrying more passengers than conventional 40-foot transit buses.



The lighter-weight, crash-resistant fiberglass composite body is impervious to rust and corrosion. The two-axel bus seats 46 passengers, six more than can be seated on a standard 40-foot, low-floor bus.

The CompoBus is built without the traditional frame on which body, engine and axels are mounted. The entire 45-foot body, incorporating chassis elements, is made by pouring the fiberglass composite material into a large mold.

The composite fiber used for the bus is extremely strong. When crash tests were conducted on the bus with 4,000 pounds of impact pressure, the CompoBus experienced no structural damage.



“There’s a fair chance this bus could be an 18-to-20 year bus,” says Mike Bottone, Metro’s Director of Vehicle Technology and CompoBus Project Manager. “You can renew components but keep the structure.”

Other transit agencies, including New York City and Chicago, are considering composite-body buses for their fleets and will study closely how Metro’s new vehicle performs. •







The Metro Liner is a streamlined transit vehicle first introduced in North America with the biggest jump in styling and appearance our industry has seen in over 30 years.

Streamlining to the Future:

# The Metro Liner



## Metro Liner Facts

Metro Liner initial order: 200

Dimensions: 60 feet long, 102 inches wide

Seating capacity: 57 passengers

Range: 400+ miles

Number of doors: 3, compared to 2 doors in a standard transit bus

Door width: 44 inches, compared to 35-36 inches in a typical bus

Wheelchair securement areas: 2

Bike racks: 3 inside vehicle

Engine: Cummins 320-hp, 6-cyl, 8.9-lit, compressed natural gas (CNG) fuel

Fuel Capacity: 28,000 cubic feet of CNG in 12 tanks

Manufacturer: North American Bus Industries (NABI), Anniston, AL

Cost per bus: \$633,000

Delivery: 30 vehicles to be delivered by June 2005 for use on the Metro Orange Line; the remaining 170 by June 2006



## Welcome Aboard: Metro Buses Will Feature an Automated Voice System

By the end of March 2005, some 98 percent of the Metro Bus fleet will feature a computer program capable of announcing the 18,500 bus stops and transfer points on the 189 routes in Metro's 1,433 square-mile service area.

A vehicle equipped with the Automated Voice Annunciator (AVA) system will announce bus line destinations to patrons waiting at curbside and will automatically provide passengers with on-board verbal and visual announcements.

AVA also makes passenger loading and off-loading more efficient. The curbside announcement helps prevent passengers from boarding the wrong bus, while the on-board announcements and displays give riders time to gather their belongings and prepare to get off.

The verbal announcements also assist the visually impaired, says Joe Vicente, assistant director of Metro's Operations New Technology Support. Next-stop information, which is displayed visually on a variable message board above the operator's head, is helpful to the hearing impaired.

### 'Safer and more convenient'

"The AVA system demonstrates that Metro is really taking care of its customers," says Vicente. "It makes riding the buses safer and more convenient."

When the AVA system is activated and operational in the entire 2,400-bus fleet, Metro will have the nation's largest fleet of AVA-equipped buses.

Now approaching Wilshire and Rossmore, next stop is Wilshire and Rimpau.

Line 4, Downtown Los Angeles.

Stop requested!

STOP REQUESTED

A bus equipped with the AVA system "recognizes" every bus stop, cross street and transfer point along its route. Assigned to another bus line, it is easily re-programmed when the operator signs on with a "smart card" ID badge.

AVA is an element of Metro's Advanced Transportation Management System (ATMS). ATMS includes a voice and data radio system, an automatic passenger counter and computer-aided communications dispatch equipment in the Bus Operations Center (BOC).

ATMS also links the BOC with road supervisor vehicles and Metro tow trucks, as well as with field equipment technician vehicles.

### 'Most visible aspect'

"AVA is the most visible aspect of the ATMS project to the public," says Tom Jasmin, BOC director. "Because it calls all stops automatically, it allows the operator to concentrate more on the safe operation of the bus."

The AVA project took shape in June 2004, when Metro consultants began preparing digital files for all bus stops, cross streets and transfer points, says ATMS Project Manager Tom Pope. The verbal announcements then were professionally recorded in a studio in Texas.

"With more than 18,000 bus stops in our service area," says Pope, "getting every stop programmed accurately was technically very challenging."•

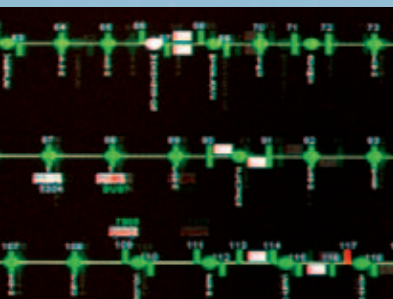
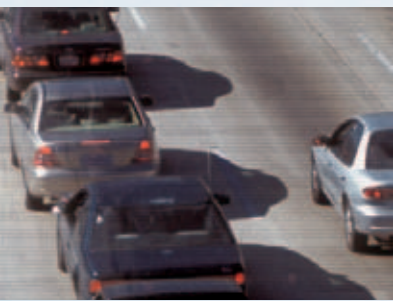


# New Service Technologies Improve Communications and Efficiency

When it comes to integrating technology and transportation, Los Angeles leads the rest of the nation.

From data sharing and traffic signal synchronization, to state-of-the-art fiber optic communications, “Metro’s transportation investments are making a difference in accommodating growth and maximizing mobility,” says James de la Loza, Metro’s Chief Planning Officer.

**In fact, a 2004 study by the Texas Transportation Institute shows that the LA region has made the biggest improvements of any major U.S. city in reducing average traffic delays and congestion, and improving overall mobility.**



Over the past year, here is how Metro’s technology has been making a difference:

## A View from the Top

Tom Jasmin is Director of Metro’s Bus Operations Control. In his office on the sixth floor of Metro Headquarters, a state-of-the-art computer monitor gives Jasmin a broad overview of the city – courtesy of 700 cameras positioned on Los Angeles freeways and city streets.

“Having the cameras up here really helps Caltrans, the Los Angeles Department of Transportation and Metro work together with the Federal government to share information,” he says. “We can determine what the traffic is on any roadway, at any time, to reroute buses and work together on behalf of public safety.”

## Successful Data Sharing

The sharing of information among Southern California’s many transit agencies through RIITS, the Regional Integration of Intelligent Transportation System, is beneficial to the whole region.

“We started developing the system three years ago to cover Los Angeles County and additional agencies so that we can all exchange data,” explains Peter Liu, ITS Program Manager.

RIITS successfully links 400 miles of Caltrans District 7 traffic control systems – the closed-circuit television cameras and electronic variable message signs – with 3,500 city traffic signals, 2,400 Metro Buses and the Metro Green Line.

“We debuted RIITS in November, and can now share a wide range of information to improve our operations,” says Liu.

## Outsmarting Traffic Right from the Driver’s Seat

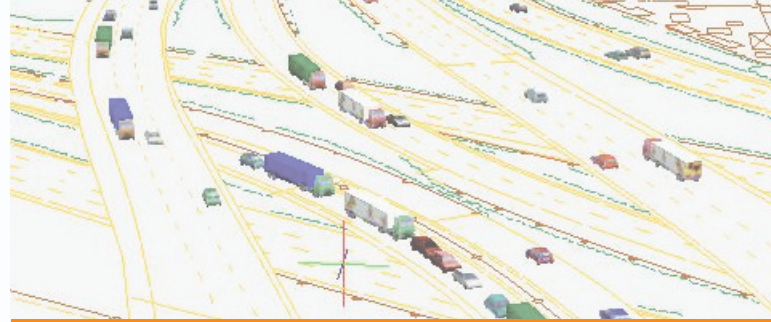
It’s been a while since CEO Roger Snoble got stuck in an LA traffic jam. That’s because he has TrafficGauge.

This hand-held digital device from Seattle, Washington-based TrafficGauge Inc. provides a constant display of traffic conditions on area freeways. It’s the public face of Metro’s new RIITS architecture.

Thanks to the collaboration between LA’s transportation agencies, anyone using TrafficGauge can now receive real-time traffic information where it’s needed most – in the car, at home, or the office – to reduce wasted time and unnecessary stress on the road. •







## Tomorrow's Transportation Modeling Technologies—Today

To the millions of drivers who traverse Los Angeles County's vast network of streets and freeways, predicting a new and better transportation system probably sounds like something out of the next century.

But, step into Metro's Systems Analysis and Research department, and you'll find that the visions of the future are actually taking place today.

Metro's pioneering group has developed the country's most sophisticated computer model of a transportation system – one of the largest and most complex models in the country.

"We look at population forecasts, then test rail, bus and highway solutions to see how they perform in different parts of the county and note what improvements will need to be made," says Brad McAllester, Metro's Deputy Executive Officer for Long Range Planning. "In this way, we're able to identify where the transportation investment goes."

By computer modeling LA's transportation systems, analysts also are able to see how land use decisions affect transit and where the population is going to live and work.

"We can calculate where the best places are to serve them," McAllester says. "Having all these components in balance significantly improves traffic congestion."

### A Key Component for Federal Funding

This very technical, mathematical modeling system requires complex computer technology to develop and run.

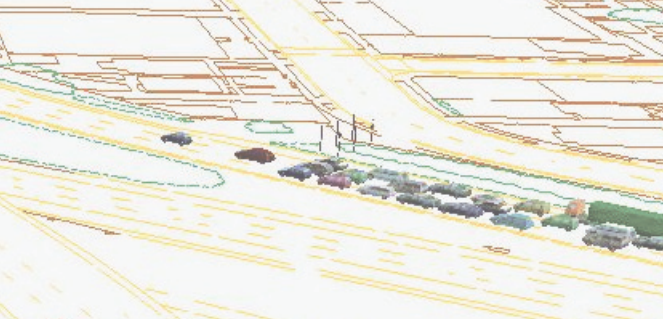
"The biggest challenges are ensuring accuracy of the data, and then being able to interpret intricate data into laymen's terms," says Chaushie Chu, Metro's Director for Systems Analysis and Research. "By integrating the Geographic Information System, the Global Positioning System and modeling technology, we can include more precise routing, timing and speed information."

Metro's high-level data is used in long-range planning to project 30 years ahead, in short-range planning to forecast up to five years, and to develop models that support other major transit projects.

"The U.S. Department of Transportation reviewed our model and approved it for funding purposes," says McAllester. "It was a significant factor in receiving the Full Funding Grant

***"Other cities look to our model as the standard to base their transportation planning on. We plan to share the technologies we're developing now – and in the future –with others."***

—CHAUSHIE CHU, DIRECTOR OF  
SYSTEMS ANALYSIS AND RESEARCH



## The “Metro Experience:” Rail Safety Meets 21st Century Entertainment

Agreement for the Metro Gold Line Eastside Extension project, since we were able to use the models to demonstrate the benefits and the cost-effectiveness of the expansion.”

### Predicting the Future of Freight Movement

Over the past few years, Chu’s team also has focused its efforts on developing a better tool to predict the future of freight movement.

“Between the ports of Los Angeles and Long Beach, and LAX, we’re the center for a lot of freight that comes into the region,” he notes. “Some of it is transferred to trucks, some to rail, and others to smaller service trucks. Up until recently, we have only used simple modeling tools which make general assumptions about truck travel.”

Working closely with other county-level agencies and the Southern California Association of Governments, Metro is developing a state-of-the-art model to more accurately predict not only truck travel, but freight movement by air and rail.

“Our technology can help plan for the infrastructure that’s needed to keep freight moving in the Southern California region,” says McAllester. “The three-dimensional freight model will be a great resource for policy makers, planners and others to see exactly how trucks and cars are moving on the highway. As we model certain scenarios, you’re able to see different solutions for freight movement and how they can help improve traffic flow.”

### Metro: A Resource for Advanced Technologies

The strength of Metro’s transportation modeling system is that it creates a truer picture of a wide range of transit options – from highway, bus and light rail to subway, Metrolink and the Metro Rapid bus system.

“Other cities look to our model as the standard to base their transportation planning on,” says Chu. “We plan to share the technologies that we’re developing now – and in the future –with others.” •

“Tracks are for trains, not for playing games.” That’s the mantra Metro Rail General Manager Gerald Francis repeats as he cautions kids about rail safety in the agency’s newest animated video.

Retro-looking 3-D glasses perched on their noses, Los Angeles area school children and residents take home rail safety information in the guise of high-tech entertainment, thanks to the “Metro Experience.”

### Entertaining and Educating

“The Metro Experience incorporates state-of-the-art technology to provide rail safety education to communities, schools, businesses and the general public along the Metro Blue and Gold Lines,” explains Barbara Burns, Metro’s Rail Safety Manager. “It’s important to keep reinforcing the message of rail safety in as many different ways as possible.”

Metro created a 3-D safety video just for younger children and another that’s appropriate for ages 10 years and up.

“Last summer, we again took the Metro Experience to the Los Angeles County fair and were able to reach over 38,000 people in just 17 days!” Burns says.

The portable Metro Experience theater features 16 moving seats that replicate the experience of riding a Metro train. The age-level-appropriate presentations provide rail safety information in short, entertaining and memorable doses that audiences respond to time and time again.

“The public is very demanding when it comes to entertainment and it takes very sophisticated programs to keep their attention,” notes Lynda Bybee, Deputy Executive Officer of Community Relations. “We combined music, the latest production techniques and state-of-the-art technology to capture and captivate our target audiences.”

### Reaching Los Angeles’ Schools

Metro is partnering with the Los Angeles Unified School District (LAUSD) to expand the reach of its rail safety program. “Our goal is to have our safety programs shown in every school in Los Angeles County twice per year,” says Burns.

The agency has developed interactive training CDs for LAUSD use, and has trained safety officers from the district’s School Safe Traffic Zone program.

As Metro grows in its service areas, the agency plans to expand its rail safety program to Pasadena, South Pasadena, Compton, Norwalk and Long Beach, and is working to include the Torrance School District. •





## World Class Preparation: Metro Shares Its Security Expertise

*Paul Lennon, Metro's Director of Intelligence and Emergency Preparedness Management, says constant training is key to a secure environment*

Before we talk about LA programs, tell our readers a bit about your Olympics consulting.

I was honored to be one of a three-person team that included the Federal Transit Administration (FTA) and the Transit Security Administration (TSA). With the huge global ramifications that Olympic Games security presented and with the possibility of terrorist activity there needed to be a cohesive effort among the transit modes – commuter rail, subway, light-rail, and the extensive bus system. There was a similar concern about the national police and their understanding of their security responsibilities within the Athens public transport picture. Our focus was to assess multi-modal transportation and security readiness from a variety of angles.

How were your recommendations received?

The Greek government was always behind our efforts. They recognized that they needed help in specific areas.

Switching to LA, tell us about the security structure for Metro.

Metro spends approximately \$60 million a year for our contract law enforcement and Metro security services. Our Board and current CEO have always felt that to be a prudent investment even before 9/11 and, most recently, what has become known as “3/11”, which occurred in Madrid in March 2004.

Reinforcing and supporting that investment has been the outstanding performance by the Los Angeles County Sheriff's Department (LASD) Transit Services Bureau and our own in-house Metro security. They fully understand the customer service aspects of today's transit



◀ Far Left: Director Paul Lennon

▲ Top: Paul Lennon and Chief of Transit Police Dan Finkelstein share Metro System security insights.

services mission, and its integration into the counter-terrorism focus needed to ‘harden’ our system against today's threats. In short: They get it!

Did 9/11 spur special actions for Metro?

We, and our Board, have always had a major commitment to security, so even with 9/11 we were correctly focused.

What really did make an impact was 3/11. Now, Congress' focus is finally on transit and our potential vulnerabilities. More federal monies in the form of grants, hopefully, will become available to transit agencies directly to fund the deterrence and systems-hardening programs.

How do you help prepare your security teams?

Training! LA, like many cities in California, participates in very realistic drills. We start by conducting a tabletop version of the full-scale drill, where we could have as many as 20 or more agencies and departments involved. These drills are intensive, and can be very expensive, but everyone recognizes that these drills are simply a “best kind” of investment.

The costs associated with NOT training or NOT drilling in the face of the new terrorism threats to our transit systems and society in general, are far more unacceptable. I find myself very fortunate to be working with the Metro-LASD team in Los Angeles, and being a part of the incredible emergency preparedness infrastructure of the State of California. •

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*Editor's Note: This one-on-one interview originally appeared in the October/November 2004 issue of Transit California magazine. Excerpts are reprinted here with permission from the California Transit Association 2004.*



## Get Fit with Metro Fit

Are you walking your 10,000 steps every day? That's the minimum exercise fitness experts recommend you take to maintain your health.

To help increase Los Angelenos' awareness of the many ways to get in better shape using public transit, Metro created the Metro Fit campaign, which highlights unique fitness tips.

### Walk, Hike or Bike

There's a Metro Bus stop within a half-mile radius of most residents' homes in LA County, so those who choose to use public transportation round-trip can achieve around 2,500 steps. Which means that when you walk to and from the bus stop, you can log roughly one mile of additional daily exercise.

Or, you can take the "Metro Stair Challenge" by climbing Metro's Red Line subway steps to increase your heart rate and help improve cardiovascular health.

Combining bicycling with public transit is another important component of the Metro Fit campaign. Since Los Angeles County offers several hundred miles of bicycle paths, you can cover more ground on a bike while increasing your aerobic exercise.

To make it even easier to add exercise to your commute, Metro Buses include bike racks, and no permits are required to bring bikes onboard Metro trains. •



## 'Tapping' Into New Technology

Metro is always improving the ways it uses technology, particularly when it comes to making it more convenient for riders to use public transportation.

One of the key advances is the Transit Access Pass (TAP) program, a major element of the Universal Fare System (UFS) now being planned for use by Metro and most municipal transit operators in LA County.

The TAP is a "smart card" with monetary value similar to a debit card. These cards are "tapped" on or near a UFS bus farebox, rail ticket vending machine or validator to register a fare. Metro recently began a pilot program asking its employees to test TAP on buses assigned to Division 9 in the San Gabriel Valley.

"Metro employees who ride Division 9 buses are encouraged to 'TAP' their employee badges to the fare box when boarding," says Jane Matsumoto, UFS Project Manager and co-chair of the regional TAP program. "This will simulate how our patrons will use the system when it goes into full operation."

New UFS ticket vending machines are slated to debut on the Metro Gold Line in early 2005, kicking off the TAP card's rail pilot program, which is integrated with Division 9's bus pilot. Afterward, UFS equipment will be installed on all Metro buses and every rail line.

"By mid-2006, LA riders will be able to use the smart card on all Metro systems," says Matsumoto. "Most municipal transit systems will follow soon thereafter." •

### Nation's Largest Clean Air Fleet

- > 1,970 Metro Buses powered by CNG
- > 450 million miles on alternative fuels since 1993
- > 6,400 tons of nitrogen oxide (NOx) prevented
- > 50 tons of particulate matter (PM) prevented
- > 55% fewer NOx with CNG than diesel
- > 96% less PM with CNG than diesel

FACTOIDS

*Nation's Largest Clean-Air Fleet*

05/17/68x



**Metro**

Los Angeles County  
Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, CA 90012-2952