

THE

# CONSTRUCTION STORY

WHAT'S GOING ON IN METRO CONSTRUCTION

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## Runyon Canyon Easements Open the Way for Rail to the Valley

**Certainly no MTA Board decisions are made in an instant.** But the decision to continue construction of the 2.6-mile twin tunnels under the Santa Monica Mountains linking Universal City with Hollywood was not an easy one. The board took its time studying whether or not to use the power of eminent domain to obtain the necessary underground property rights to dig the Red Line tunnel through the mountains.

On Jan. 24, nine months after it first debated the matter, the MTA Board voted 12 to 1 to approve a revamped tunneling plan that strongly addresses the concerns of the residents and property owners located above the tunneling site in the Hollywood Hills.

### Yaroslavsky's winning proposal

It was Los Angeles County Supervisor Zev Yaroslavsky's late-hour proposal that won the day -- and the votes. The board's approval of his motion culminated an emotional, months-long debate between the MTA and the public about the potential inconvenience or harm that the tunneling might cause Hollywood Hills residents and Runyon Canyon Park users.

Yaroslavsky's plan took into consideration all of the residents' fears and made several changes to the original tunneling plan, including eliminating the use of explosives under the Hollywood Hills homes north of Solar Drive and reducing the use of explosives at the southern end of the tunnel near La Brea Terrace.

Yaroslavsky's proposal recommended using tunneling machines instead of explosives to build pedestrian passages between the tunnels, and called for the use of more grouting during tunneling to prevent mountain water from draining into the tunnels and to assure that underground springs remain replenished. Further, the MTA is required to monitor the tunneling's effects on vegetation and wildlife throughout a wide swath of the Santa Monica Mountains. "The goal here is to mitigate the intrusiveness of the project as much as possible," he said.

Still, many Hollywood Hills residents and a host of other citizens groups and public officials remained unconvinced and continued urging the board to stop the subway project. However, the meeting was also well-attended by a large contingent of Red Line supporters, including Hollywood- and Valley-area chambers of commerce representatives. "If we can go to the moon, and have a tunnel under the ocean, we can certainly find a way to safely go through Runyon Canyon," said Kevin McCarney, a member of the Universal City-North Hollywood chamber.

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*"The goal here is to mitigate the intrusiveness of the project as much as possible," said Yaroslavsky.*

## The Little Subway that Could

(Dateline - January 2096, Los Angeles, CA)

*A long time ago, near the venerable old town of Hollywood, where the Santa Monica Mountains still stand proudly overlooking our great county basin, a blessing was brewing for the people of Los Angeles. At first, though, it didn't seem like a blessing.*

*As the story goes, shortly before the turn of the century (circa 1996), many Angelenos were opposed to the digging of a subway tunnel under their city and through their mountains. They thought it was impractical and unsafe, considering the enormity of the project. In the interest of protecting their homes and families, they fought the changes the subway would bring.*

*The builders of the Los Angeles Metro Rail System listened to the people and revamped their tunneling plans to soften these concerns. Similar doubts, said the builders, had historically been an issue with other major projects; the tunnel built below the English Channel is one example.*

*By the time the subway was completed in the early part of this century, the people had a change of heart; their fears were allayed, and the benefits of mass transit had awakened greater community pride. More importantly, the completed subway played a part in the positive changes that have taken place over the last 100 years.*

*By tying communities together - from the South-Central and Eastside areas to Hollywood, through the mountain to the sprawling San Fernando Valley, and eventually to the coast - the Metro Red Line became a thread that drew the people together. With travel easier between cities, cultural and economic disparity gradually lessened, and the civil strife of the time was eventually healed.*

*Finally, as more and more people took to the Metro instead of their cars, the air became cleaner and life got better. It was the beginning of the "new" Los Angeles we enjoy today.*

*"The tunnel faces fewer difficulties than many others under construction or in operation around the world," said Dr. Eisenstein*

*To fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting."*

*Sun Tzu, from The Art of War*

## Experts' say tunneling safe and practical

Yaroslavsky's motion was also based on the results of a "Report on Tunneling Feasibility, Tunneling Methods and Groundwater Control" prepared by Drs. Dan Eisenstein, Geoffrey Martin and Harvey Parker. The MTA had asked the panel to thoroughly review the MTA's tunneling plans. The report indicates that the homeowners' fears are ungrounded and unsubstantiated.

"The tunnel faces fewer difficulties than many others under construction or in operation around the world," said Dr. Eisenstein, the lead panelist and professor of geotechnical engineering at the University of Alberta. "In view of the attention focused on this tunnel, we looked at the issues of construction explosives and ground water control. We have identified ways to minimize the use of explosives and reduce the amount of water that would have to be pumped out of the tunnels as they are built."

## The next step

The MTA will now proceed with the legal process to obtain the necessary underground easements. Eminent domain actions will be initiated against those 72 Hollywood Hills' homeowners who have not yet sold the right to tunnel under their properties. Twenty-two property owners have sold their property rights to the easements, which are located between 200 to 700 feet below their homes, for \$1,000 to \$2,000 per homeowner. The condemnation actions apply only to the underground easements, not the residences themselves or surface land.

## Teamwork Works

To help turn the tide and support Yaroslavsky's plan, MTA staff from all divisions worked hard to counter many misconceptions, ill logic and misrepresentation from outside of the MTA regarding the feasibility of subway tunneling in Runyon Canyon. "It took leadership to roll up your sleeves and get out there; you should give yourselves a hand," Interim CEO Joe Drew told a Construction Division meeting the day after the board's decision.

## New Tunneling Machines: Faster, Better & Cheaper

Two new tunneling machines are likely to make rail construction history this spring when work begins on the twin tunnels under the Santa Monica Mountains. The new Tunnel Boring Machines (TBM) are considered "state-of-the-art" when compared to the standard Tunnel Shield Machines (TSM) that have been used so far for the Red Line's soft-ground tunneling.

The TBMs will be used by Segment Three-North Hollywood contractor Traylor Bros./Frontier-Kemper to tunnel through rock formations. The contractor supplied two Robbins tunneling machines, which were completely redesigned and rebuilt by CTS (Construction Tunneling Service) of Salt Lake, UT. CTS spent an entire year refining the two TBMs and, according to the contractor, they're equivalent to brand new machines.

## Faster and better

The new machines look and operate differently than the cookie-cutter effect of TSMs. A TBM weighs over 600 tons compared to a TSM that weighs only about 200 tons. The TBM can cut through rock formations in excess of 30,000 psi, whereas the TSM can only dig soil that is generally under 1,000 psi. The TBMs can move earth at about 120 feet per day. A TSM could not even advance through the hard rock earth that's anticipated in the Santa Monica Mountains.

The new machines can advance three or four times as fast as the drill and blast mining method. This is good news for the project -- and for the people who live in the hills or visit the park above where the tunneling will take place. Instead of using explosives underneath any homes from the north end of Runyon Canyon Park to North Hollywood during the Hollywood Hills phase of construction, the contractor will mechanically excavate the required cross passages in the non-granitic rocks north of Solar Drive.

Explosives will be used for a portion of the seismic section only, located at the southern end of the tunnel. Blasting will be reduced by more than 50%, and will be restricted to normal daytime construction hours between 7 a.m. and 7 p.m.; chances that Metro Rail tunneling will disrupt the hillside residents or park-goers is unlikely. The only other areas requiring the use of explosives will be the two train crossovers, seven cross passages and the track level rooms, all of which are more than 500 feet below Runyon Canyon Park in hard granite rock.

## Cheaper, too

The bottom line is that using the new TBMs is a practical and cost-effective tunneling method under the Santa Monica Mountains.

## Vermont/Hollywood Corridor Back on Track

### Good news for the people of Los Angeles.

Approval of two items at January's MTA Board Meeting means that tunnel work in the Vermont/Hollywood corridor of the Red Line -- which was stopped after last summer's sinkhole incident and the termination of the contractor -- is back on track. According to Segment Two's project manager, Stephen Polechonis, "we should be back in business before the end of February."

First, the MTA Board approved the award of a change order to Tutor Saliba/Perini to complete the Vermont Avenue tunnels. A work authorization was also approved on a change notice so that Kajima/Ray Wilson could resume work on the tunnels from the Vermont/Sunset Station to the Hollywood/Vine Station pending completion of negotiations on a change order. This includes permanent repairs to the sinkhole area just east of Hollywood Blvd. and Edgemont Street.

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## Sinkhole repairs

Repairs to the sinkhole will require sinking a shaft on the south side of Hollywood Blvd. and constructing a special rectangular reinforced concrete tunnel section in the sinkhole area. This method is similar to the techniques used for constructing station boxes, but the size is much smaller.

Kajima/Ray Wilson will complete the tunnels between Hollywood/Western station and the Hollywood/Vine Station utilizing a small access shaft to be constructed on a current worksite at the southwest corner of Hollywood Blvd. and El Centro Ave., adjacent to the cross-over structure of the Hollywood/Vine Station. The temporary construction shaft will eliminate the need for daily nighttime lane closures on Hollywood Blvd. to support this construction. The tunnels west of Vine Street will be completed by Tutor/Saliba/Perini under change orders to the Vermont/Beverly Station contract.

"The use of both Tutor/Saliba/Perini and Kajima/Ray Wilson for the completion of the Hollywood/Vermont corridor makes sense," said Roger Dames, MTA construction manager for the B252 tunnel, "because these two contractors have experience with MTA contract requirements and are already working in the area and thus they can mobilize quickly to do the work. Considering the last few months of uncertainty, we're glad to get back to work."

Tunnel completion work in this corridor will continue until early next year.

## Eastside Red Line Staff to Move Near Job Site

Prompted by a motion made last year at an MTA Board meeting by Los Angeles County Supervisor Gloria Molina, an innovative approach to rail construction is in the works for the Eastside Red Line project. It involves locating both agency and consultant staff -- with some intergration of positions--at one worksite.

According to an investigation conducted by Fluor Daniel, Inc., merging MTA project management staff with the general engineering consultant (GEC) and the construction manager (CM) at one location promotes opportunities for better communications among project team members. It also provides greater visibility and quicker feedback to solve problems.

According to the report, this day-to-day interaction will provide MTA project manager and staff with more immediate design and construction information on the project. As it's done now, most information is communicated formally via various reports and periodic meetings, thus losing the benefit of immediacy and team interaction.

"Interaction and timely access to project information is vital to the success of any project, and I think this concept is a positive approach," said Joel Sandberg, the project manager for Red Line Segment 3, Mid-Cities and Eastside Extensions.

More details about the plan will be covered in an upcoming issue of the newsletter. Meanwhile, the MTA is scouting for a location somewhere between the Union Station Gateway building and the future Wilshire/Atlantic station. "Our first priority is to find a location along the eastside alignment," said Sandberg.

It's estimated that about 25 MTA employees will relocate to the future site, along with about 200 employees of the GEC and CM.

## Metro Speak

The *Metro Speak* column features articles written by you, Construction Division team members who have information or an opinion to share. Guidelines for a by-lined article in this section are: The subject must be timely, of specific interest to rail construction staff, and no longer than 500 words. Please discuss the subject with the editor before writing the article.

This month, Quality Assurance's Luann Swanberg writes about what's going on with TQM in the construction division.

### **TQM is Alive and Well at the MTA**

**by Luann Swanberg,  
TQM Manager, Construction**

*Since my arrival at the MTA last fall, I've become familiar with the Construction Division's previous TQM/continuous improvement efforts -- and I'm impressed with all that was accomplished. Also, I've participated in the Work Process Improvement (WPI) efforts to address some of the recommendations made by consultant Arthur Anderson & Company.*

*We're now looking at a new approach to help construction staff readily apply TQM principles and concepts in all our work; i.e., we want to develop an organizational culture that focuses on leadership, customer satisfaction, employee empowerment and continuous improvement. My vision is to integrate a TQM philosophy into our day-to-day business activities so it becomes automatic.*

*Progress toward this "total quality culture" is already happening. The WPI teams have been very productive so far; in fact, the WPI process is being refined to more effectively and efficiently serve the division: For example, various TQM training modules are planned, and you will hear more about this as we go along. Finally, since senior management support and leadership are critical to this effort, senior management input will be an integral piece of the long-term TQM implementation plan.*

*The timing for a revised and re-energized TQM program couldn't be better. A new year, a new building, new leadership, and the promise of more positive times at the MTA. Soon, I'll be inviting those who once worked on the PERC Steering Committee (the old TQM program) to join in the new process; however, all staff members are welcome to assist.*

*If you have any questions or want to join the TQM team, please call Luann Swanberg, ext. 27389.*

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*"There is no limit to what you can do. If you don't mind who gets the credit."*

*Sign on Stan Pherambucq's desk;*

*author unknown*

## Shop Talk

**Word from the boss:** Stan Phernambucq told his executive managers at a meeting this month that all signs say that the construction program has won back its credibility with the public and the MTA Board. "Our focus now is our internal customers. It's time to get the entire team focused and pulling on the rope. That's the difference between being first-class and world-class."

**90% of our staff** responded to the Arthur Anderson benchmark organizational survey, and the results are "surprisingly positive," said Stan. The survey will be repeated in six months. Everyone should have received a summary, and if you did not, contact Maria White, ext. 21480.

**Joseph Drew's Jan. 10** memorandum addressed to the MTA Board stating his leadership principles has also been circulated to all construction staff. This is an important piece of information about the new direction of the MTA. If you need a copy of Mr. Drew's memo, contact Maria White, ext. 21480.

**Project Action Transmittal History (PATH) form,** recently circulated to all construction staff by Stan Lotterman on Lee Graw's contracts staff provides a record of concurrence with, and approval of, any document that requires and executive officer's signature. Call Stan at ext. 27326 if you have any questions, or need an electronic copy.

**Segment 2 ahead of schedule:** As of the end of 1995, the Wilshire corridor of Segment 2 was 1.2 months ahead of the latest ROD of July 1996.

**New Construction Field Offices:** East L.A. at 1634 Pleasant Avenue (Boyle Heights area), phone number (213) 922-9040; and Hollywood, 4657 Hollywood Blvd. (at Vermont), phone number (213) 922-9036.

**Basic Business Writing:** Considering busy schedules, writing clear, concise memos, letters and reports can seem a bigger task than necessary. MTA's Employee Development program offers a six-hour class on Basic Business Writing geared to take the fear out of writing. The course will be on Feb. 21 and March 14. Call ext. 27111.

**Project Management Class:** Another employee development class we recommend is training for project managers who want to enhance their current job performance. The class is on Feb. 27. Call ext. 27111.

## Hat's Off!

(...hard hats, that is)



*Who's doing an extraordinary job and should be recognized? Is it a whole team or a particular construction project? Who's been promoted? If you know someone - or a group - that should be listed in this column, send it to Editor Wendy Taylor, Dept. 8100, 17th Floor.*

**Donald Wong**, a Sr. Program Management Analyst on Jeff Christiansen's staff, received a public commendation from Stan Phernambucq -- and a standing ovation from staff -- at the January construction staff meeting for all of his efforts in coordinating the move of construction staff into Gateway.

**Charles Stark**, Project Manager for the Red Line/Segment 3, also received Stan's praise for his leadership role throughout the entire "sinkhole saga." Since the Hollywood/Vermont sinkhole received more media attention than Hollywood stars, Stan presented Charles with his own Hollywood "star."

**Dan Jackson**, Director, Safety Management, received a report that the last Cal/OSHA inspection of Metro Rail contractor Tutor-Saliba-Perini produced excellent results; i.e., no safety violations were issued. The report indicated that the La Brea shaft worksite was well-maintained, and the workers were acknowledged for avoiding and preventing accidents.

**Promotions:** **James Givens** has been named Deputy Project Manager of Engineering, Segment Two. **Dennis Mori** has been selected as the new Deputy Project Manager of Engineering, Segment Three--North Hollywood. **Ted Lewis** has been promoted to Director of Engineering on Al Thiede's staff.

## New Employees & Transfers

**New Employees as of January:** **Teresita Banaag**, Secretary, Contracts; **Timothy Clark**, Contract Administrator; **Charles Fitzsimmons**, **John Jackson**, **Brian Mahaffey**, **Ivan Page** and **Robert Webb** are all Sr. Contract Administrators; **Gary Jones**, Construction Safety Manager (temporary/as-needed); **Joseph O'Donnell**, Contract Administrator; **Stephen Polechronis**, Project Manager, Seg. 2; **Freddie Lee Smith**, Construction Manager, Seg. 3; **George Suranyi**, Sr. Cost/Schedule Analyst; **Masaru Yoshimoto**, Third Party Coordinator.

**MTA Transfers to Construction:** **Michael Gonzalez**, Deputy Executive Officer, Construction/Corporate Affairs; **Wendy Taylor**, Manager of Communications, Construction; **Carlos Rodriguez**, Administrative Analyst.

## Feedback

The Construction Story wants to hear from you. Send your feedback and suggestions for future articles to: Wendy Taylor, Dept. 8100, 17th Floor, ext. 22715.

## THE CONSTRUCTION STORY

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Masthead Photo: Barnsdall Park Metro Red Line construction workers taken by award-winning photographer Ken Karogozian.