

California Trolley & Railroad Corporation

P. O. Box 403  
Campbell, CA 95009

*Restoring Your Transportation Past*

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Membership is open to all. Yearly dues  
help finance the Corporation goals. All  
donations to the corporation are tax de-  
ductible. IRS #23510C(3)

### An invitation to join

The CTRC strives to restore, maintain and operate the few surviving  
examples of our local rail history for the education and recreational  
benefit of current and future generations.

Like yourself, we are individuals with different backgrounds, talents,  
and skills who share a common interest in preserving our rail heritage.  
Supporters who contribute \$25 or more annually will receive our  
monthly announcements and our quarterly newsletter THE CLEAR-  
BOARD. Contributions of materials, equipment and skills are also  
welcome.



## The California Trolley and Railroad Corporation

**Yes,** I wish to contribute to preserve our railroad heritage in the Santa Clara Valley.

Please accept my tax deductible gift of: \$25 \$50 \$100 \$200 \$500 \$1000 \$\_\_\_\_\_

Membership: regular \$25, retirees and full time students \$10. \$\_\_\_\_\_

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# The Clearboard

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Rod Diridon, President <http://www.ctrc.org> Larry Murchison, Editor

## News From The President From Rod Diridon

Progress comes in strange shapes! As per my last article, CTRC has given the Fair-ground's RR Museum site back to the County. The County's construction provisions on the site were unworkable, though we really tried. The County required that the volunteer contractors not only donate the equipment, labor and materials (paying them only about \$1 million of the estimated \$10 million for the project) but also required that the contractors bond, indemnify and insure for the whole price, not just what they were to be paid for the project. Our 52 donor contractors were more than willing to make the donation but would not encumber their bonding capacity for a free job. So the Project languished for several years until we concluded that it couldn't be built on that parcel with those restrictions. The County is proceeding now to plan commercial uses, probably eventually a hotel or housing, on the site.

The County Board of Supervisors instructed County staff to find a suitable location for the RR Museum along a rail line in a County Park. Two sites were identified and were recommended against by the County Parks staff. The Board of Supervisors overrode the recommendation and instructed the County Executive to reevaluate those two sites, in cooperation with a liaison group from CTRC, and report back on June 3 at 10:30 AM in the Board of Supervisors Chambers. The two sites under consideration are the Alviso Marina site (29 acres adjacent to the UP Milford/Coast Main Line) and the "Diocese Property" adjacent to the San Antonio County Park North West of Cupertino (151 acres adjacent to over 3,000 acres of open space on the Permanente rail spur). Our liaison committee is Jack Young, Ken Middlebrook, Marv Bamburg and me and we've begun the review. We are working with the Cupertino City Council on this also and they've been especially cooperative. We will also work with the Fair-grounds staff to design a move plan for the over 3,000 tons of material at the Fair-grounds to a new site once identified. Obviously, it's their turn to lift and carry!

### Special points of interest:

- What happened at the Santa Clara Board of Supervisors mtg?
- Where is the bird's nest?
- Who has commissioned the 1905 Cadillac?
- What will be completed on the locomotive this year?
- This newsletter was given to the printer 2 MAY 2003.
- What is a fluted driver?

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At the same time this is occurring, the City of Santa Clara has become interested in potentially hosting the RR Museum. Three sites have been identified and the City Manager's staff and the CTRC liaison Committee are analyzing those. Santa Clara, the City Council of which strongly support historic preservation and is very cooperative, expects to have their analysis done in about two weeks.

In the mean time, the great CTRC volunteers continue to work on the Locomotive each Saturday with wonderful effect. The contract with the Grand Canyon RR to rebuild the wheels and running gear assembly is in final negotiation and should be signed shortly. And the final engineering plan-check for the electrification wire for the Senter Road Trolley line is under review by the City of San Jose Park's Public Works staff. And we continue to have over \$400,000 in the Trolley project endowment account.

Though it's often frustrating, we are making progress and expect this spring to be a breakthrough time for CTRC. So, as the old railroaders used to say when the track was clearing ahead ... HIGH BALL!

# CTRC Board Meeting Minutes

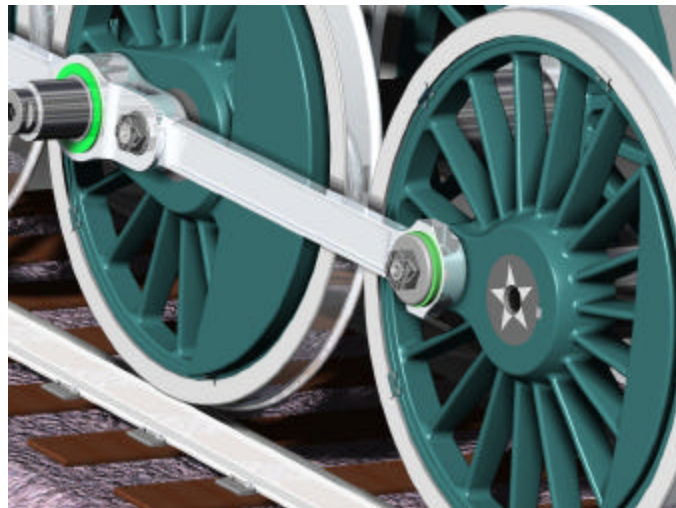
## CTRC Board of Directors Annual Board Meeting Minutes February 20, 2003

**Attendance:** Marv Bamburg, Fred Bennett, Rod Diridon, David Crosson, Mac Gaddis, Mike Kotowski, Larry Murchison, Gary Ross, Jack Young, John Zielinski

**Minutes:** M/S/P to approve the minutes of 12/12/02 with the correction that any quotes attributed to Tom Simpson at that meeting are inaccurate as he was not in attendance.

**Chair's Report:** Rod Diridon reported that CTRC's application for grant funds was denied by the UP Foundation.

Robert Franzen signed the wheel contract. He is ready to go to work as soon as we arrange the shipping.



Rod has spoken to Manley's attorney twice by phone. The attorney seems to think that Manley will accept the letter without issue, which will free up about \$13,000 to finish the boiler work. We'll await the final decision from Manley before sending the contract termination letter.

Jill and Leslee are working on billing Santa Clara County for the boiler and other 2479 expenses. The contracts have all been signed and delivered so the reimbursement money is available.

CTRC received a letter from the IRS that updates CTRC's address and can be used when seeking grant or matching funds.

**Financial Report:** The audit is complete and clean. No financial report was provided.

### Current Projects:

- A. Trolley Projects – Fred Bennett reported that volunteers are working on the Birney Car's window latches, which are quite delicate. They are also restoring the 1913 Cadillac for the fire muster team. The oil truck is now on exhibit in the Trolley Barn, and the boiler on the steam tractor has been tested to the 100 pound allowed pressure. Fred also mentioned that the volunteers are maintaining the trolley cars and really need an inspection pit to do so.
- B. Locomotive 2479 – Jack Young reported that a steady crew of 10 volunteers continues to work every Saturday. They've been working on the spring rigging; all pins and



(Continued on page 3)

## Information

**Membership Meetings:** First Monday of each month at 7:00pm at the Santa Clara Train Depot.

**Work Schedule:** Saturday and Wednesday after work of each week.

**CTRC Office:** 1600 Senter Road, San Jose, CA 95112.

**Mailing Address:** California Trolley & Railroad Corp, P. O. Box 403, Campbell, CA 95009.

**Membership:** \$25.00 regular, \$10.00 Seniors. All memberships expire December 31 yearly. To join please send dues, name, address, phone number, and e-mail address if available to CTRC, P. O. Box 403, Campbell, CA 95009.

The CTRC is a California 501(c)(3) not for profit educational corporation established in 1982. The organization is the official support group for the Trolley Barn at History San Jose and the Santa Clara County Railroad Museum currently in the early stages of development.

### MISSION STATEMENT

The mission of the California Trolley and Railroad Corporation (CTRC) is to restore, preserve and interpret railroad, trolley, and related equipment as it was used to serve the people in Santa Clara Valley, California.

### CTRC BOARD OF DIRECTORS

Rod Diridon, President; Fred Bennett, David Crosson, Jack Ybarra, Marvin Bamburg, Peter Cipolla, Mac Gaddis, and Charlie Wynn, are the Executive Committee; Dick Campisi, Carl Cookson, Sr., Brenda Davis, Mignon Gibson, Robert Kieve, Mike Kotowski, Kit Menkin, Greg Mitchell, David Niederauer, David Sylva, Chuck Toeniskoetter, Larry Pederson, Beth Wyman, Tim Starbird, Tom Collins, John Davis, Jerry Estruth, Rick Kitson, Art Lloyd, Ken Middlebrook, John Neece, Gary Ross, Steve Tedesco, Leigh Weimers, Glen Simpson, Pat Restuccia, and Jack Young are the Board Members.

## CTRC Staff:

Vice President: Ken Middlebrook <middlebrookk@kaisere.com>  
Motive Power: Jack Young <jyoung99@pacbell.net>  
Electrical: Bob Paddleford <bobbadd@pacbell.net>  
Site Maint: Denis Murchison <dmurch@allover.com>  
Technical Assistance: Art Randall <arandall@earthlink.net>  
Historian: Larry Murchison <larrymurchison@attbi.com>  
Editor: Larry Murchison <larrymurchison@attbi.com>  
Treasurer: Pat Restuccia  
Membership: Gene Martin <trains4@attglobal.net>  
Time Keeper: Hugh Crawford <hugh@hughcrawford.net>  
Trolley Barn: Fred Bennett: 408/293-BARN (2276)  
Acquisitions: Mac Gaddis  
Public Relations: Ken Middlebrook <middlebrookk@kaisere.com>

## Editorial Comment

The following editorial was concocted by the editor and may or may not reflect the opinion of any member or the membership of the CTRC.

### Could it be...

...that the Santa Clara Board of Supervisors (BOS) decided some time ago to find a way to make it impossible to create a museum on the fair grounds property? Could it be they decided to do something that no other county requires - that is to create a contractor-bonding program that few contractors could comply with? Could this be their way of scuttling the program at the start? If another Santa Clara County site were to be approved for the museum would the same overly restrictive requirements for bonding apply? Probably, if the BOS finds it necessary to justify their earlier restrictions. I have not investigated this but I wonder if every other pro bono effort to retain the county's history, or any other pro bono effort for that matter, has met with the same bonding requirements?

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**Coming Events**

Remember the Saturday workdays and the Wednesday work evenings. All very important events. See you there.

The first Monday of the month 7:00pm CTRC meeting at the Santa Clara train depot.

The next CTRC board meeting will be May 15th at 7:30am at the Pacific Hotel, History Museum.

**More Coming Events**

**Transportation Heritage Day at Historical Museum**

In partnership with the History San Jose, CTRC is sponsoring Transportation Heritage Day on Sunday, September 7, 2003 from Noon until 5:00 pm. This will be the last of several admission free events the HSJ is sponsoring throughout this upcoming summer season. These family orientated events are intended to broaden local awareness of the history museum and its partners. It is desired that these become annual events.

- May 25 & 26 Sharing Family Stories
- June 22 Multicultural Stories
- July 27 Archaeology - Digging Local History
- August 24 California Natives
- September 7 Transportation

CTRC encourages bringing family and enjoying an afternoon at the museum.

At press time, the transportation day will include an antique auto show, the San Jose Fire Muster Team, and, of course, operation of our historic trolleys. CTRC is currently discussing event participation with other local organizations which will be outlined in our next newsletter. CTRC volunteers will be needed on September 7<sup>th</sup>. If you would like to assist in organizing this event, please contact Ken Middlebrook.

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**News From the Locomotive Site**

We reached a major Mile stone today. John Ezovski informed me that all the Pins (32) bushing (48+ ) and Links (24) for the Locomotive Spring system have been hardened or stress relieved and are waiting pick up at the shop. This marks a major effort starting about 2 years ago with the boring of the holes in the locomotive frame. Thanks two all for the effort especially in the last 6 months where we have been keeping the 2 lathes and mill 100% utilized building new pins bushings and boring the linkage. Everybody has contributed to the task. It was especially nice to see that many of the volunteer have pick up new skill during the process. We still have a lot to do to reassemble the spring rigging but this does mark a big accomplishment for the restoration team.

Again thanks to all. Jack Young CTRC 1-30-03

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Five guys fixing a riding mower.

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bushings have been replaced and the rigging is back on the locomotive. The linkage is back on the lead truck and progress is being made on the journal boxes. The water column on the tender is being remanufactured and will be done by May. The crew has started working on the pins and bushings for the brake rigging. All work is focused on preparing for the wheels to come back.

- C. SCC Rail Museum – Rod asked US Rep. Mike Honda to carry a \$2 million member’s request to help fund the project. Mike is willing to meet with UP to discuss land issues. VTA has purchased the UP corridor near William St. park for development as housing, meaning that corridor is lost to rail use.
- D. Happy Hollow Rail Extension – Fred reported that the electrical plans were submitted to the City of San Jose by Rod along with the specifications. Fred is trying to price parts but is having trouble getting information. Rod pointed out that the phone company will supply the poles and other parts once CTRC provides them with a list.

- E. City Projects – This section will be combined with the Trolley Barn report in future meetings. David Crosson offered to give a tour of the Collections Center after the meeting.

**New Business:**

- A. Acquisitions – Mac Gaddis has been concentrating on getting parts rather than a locomotive or trolley car.
- B. HHC Grant Application – Jack Young encouraged everyone to attend tonight’s hearing at the Board of Supervisors’ chamber to support CTRC’s request for \$60,000. The commission has about \$500,000 to grant and \$1.6 million in requests.
- C. Fundraising – No report.

**Next Meeting:** Thursday, May 15, 2003 at the Pacific Hotel at History Park (note new location).

Respectfully submitted by,

Leslee Hamilton

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There is a bird's nest in this picture (Picture taken at the Fair Grounds site.)



Can you see it now? Look for something organic.



# Barn Update

News from the Trolley Barn Bob Schneider, Volunteer

### 1905 Cadillac:

A number of items are being repaired or made from scratch at outside shops, so signs of progress are not too evident. The steering wheel and door hinges are ready to be cast. Numerous small parts for the engine controls are being repaired or made from scratch.

What determines which items we do in house versus outside shops? Building new wheels is a task best done by a wheelwright because the spokes are wood and a tight, strong unit is important. Bending curved steel fenders requires special equipment and experience. We do wood-working very well ourselves. Machining small metal parts is another task we do well. Since many part drawings are available in the documentation provided by the Fire Department Muster Team, making machined parts is easier still. We sometimes copy an existing part we borrow from another collection.

The wood rim of the steering wheel has been completed. The hub/spoke casting is being straightened, patched, and built up with Bondo so that it can be used as a casting pattern to cast a new part. While preparing the front fenders for a new coat of paint, it was discovered that the metal was too thin due to rust and previous restoration. New fenders will have to be made.

### Port Huron Steam Tractors:

The new Ultrasonic Thickness Measurement Tool was given a good workout while checking the crown sheet of the boiler. Results were quite acceptable so the tractor is being prepared for operation during upcoming events. Fred continues to refine various moving parts that are a bit loose/sloppy due to wear over many years.

On 6 April we fired up the boiler and ran the steam engine to verify the improvements Fred has made. Better, but not perfect. It was fun to stand next to it while it rumbled and rattled back and fourth with an occasional blast of the whistle. Now if we just had access to a big open field....perhaps some day.

### Trolley Car Operations:

4,103 passengers rode the trolleys in January, February and March. This is a 12% increase from the same period a year ago.

### Helping Others:

Shelves were made and installed in a bookcase in the Markham House for use by the San Jose Center for Poetry and Literature.

### Others Helping Us:

Todd Schaffer helped us by selling as scrap several old, unusable machine tools (we're talking 4 tons). Thanks, Todd.

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Staybolt removal



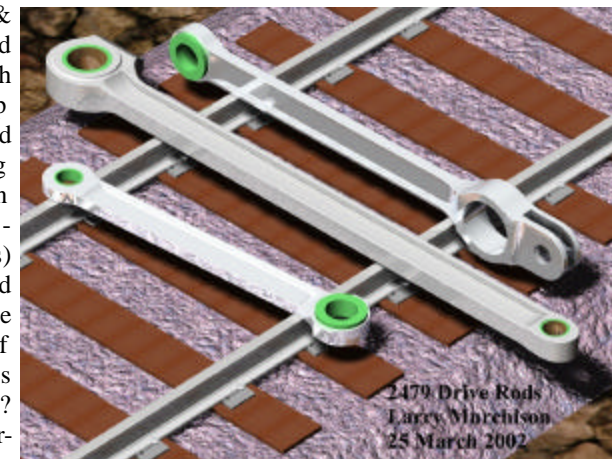
# "Fluted" Driverods

Fluted rods, as I understand it, were stronger and less susceptible to cracking than slab type rods. I.E., more strength for less overall weight. This was a big benefit in counterbalancing and reducing the dynamic augment of the main rod. Cross-counterbalancing with lighter rod weight, allowed higher speeds with less "lifting of the main driver" and bouncing on the rail head at high speeds. A smoother ride.

Alloys allowed for less cross sectional area of rod because of the greater strength. Again, reducing weight.

Some later main rod designs had an "I" section that were almost as large in height as the diameter as the big end of the rod connection at the main crank pin. And, instead of a solid/rectangular section at the rod "eye," this became a "U" section providing more strength at less weight. See the UP, SP and other later rod designs.

These rods did crack but not at such a high rate as the slab type rod. Handling of rods at roundhouses & shops however, demanded no sledge hammer or torch work as this would set up stress risers that started cracks quickly progressing thru the rod resulting in breakage. Improper machine work (rough surfaces) also set stress risers and breakage. Ever notice the smooth finish on many of the fluted or (sometimes known as) 'channeled' rods? Damage due to an inadvertent' gouge, hammer type mark due to rough handling, etc., had to be blended out and the surface polished. There were limits on how deep or long these gouges were allowed to be.



Any major reduction in surface due to 'cleaning up a bad spot' would be analyzed by a mechanical engineer who would run the calculation on remaining metal in the section to see if fibre stress was exceeded which if determined, caused the rod to be scrapped.

Cracking did occur from internal impurities or defects in the metal that were not resolved during the forging process (there from the beginning). The basic forging statement was: Forging brought about a "dense homogeneous grain structure." This was necessary because of the reversal of stresses during heavy service. (Pounding) Because the nondestructive testing methods were not available, 'white washing' was the primary testing method. Later the Magnaflux - magnetic particle testing

method that came about in the '40s, early ultrasonic were used on axles, but for internal defects, Magnaflux did pretty good on the internal defects. The higher piston thrust from available higher boiler pressures, the demand for increased speed, development of alloy steels with proper forging and heat treating procedures, reduction in the weight of piston/rods, multiple bearing crossheads thru to channeled alloy main and connecting rods, diameter of the alloy crank pins, Box Pok section driving wheel centers, etc., all provided the means to supply larger motive power to haul bigger trains at higher speeds. (And make more money with greater service life!)

Locomotives with higher boiler pressure made during the '20s & '30s that had problems of breaking rods, bending or breaking crankpins had to wait for the technology to advance to correct the problems. In some cases, the refusal of mechanical department personnel to adopt new manufacture or repair practices or materials held back progress with the "we've always done it that way" attitude.

Standard manufacturing practice for rods and most valve motion, whether fluted or slab section amounted to: 1. Billet received from the steel company. Larger roads had test departments to quality control check the material to see if it was made to the spec. 2. Heating to proper temperature. 3. Forging to template and not forging below a certain temperature. 4. At least normalizing before machining. 5. Machining (some roads varied the practice here) after layout: A. Machine the "eye" ends first. To determine any defects within the forged steel end. Then machine the front & back faces, machining the flutes with smaller cutter, offsetting the rod to suit any taper then tops & bottoms. B. Slab mill the front & back faces first, the ends, then the top & bottoms and the flutes. C. Or variations on that theme.

Earlier work was done on planers and slotters. Later performed on slabbing mills (very rigid horizontal milling machines) and vertical mills again very big and rigid, with X, Y and radius capabilities. Ingersoll and Newton both made these type machines and I remember them when working my first time for a class 1 railroad.

All material was forged. Plain medium carbon steel of the 1045, 1050 type, and later the single, double or triple alloys, using nickel, vanadium, molybdenum (sp) etc.

There is of course much more to this. But at least it gives a general idea what the work was about.

This story was gleaned from the internet. E R