

STEEL WHEELS

PASSENGER RAIL IN CALIFORNIA AND THE WEST

ISSN 2325-629X

MAGAZINE OF THE STEEL WHEELS COALITION

RAILPAC • ALL ABOARD ARIZONA • PASSENGER RAIL KANSAS • NEW MEXICO RPC • MINNARP • PASSENGER RAIL OKLAHOMA

IN THIS ISSUE:

NorCal Mega Region - Roberts and Wolffe

High Speed Rail - Improved Route

Siemens Upgrades Velaro

President's Commentary

Selden Samples Via Rail

DTX Derailed - Cauthen

Plous on Amtrak

Arizona News



Siemens Charger for Surfliner unveiled at Los Angeles Union Station - Photo by LOSSAN

Metrolink F125 at San Clemente - Photo by Mike Armstrong



4th QUARTER 2018

PUBLICATION OF THE



RAIL PASSENGER ASSOCIATION OF CALIFORNIA & NEVADA

JOIN TODAY!



YOU can make a difference!

**Rail Passenger Association
of California and Nevada**

*A statewide membership organization
working for the improvement and
expansion of passenger rail service.*

Organized in 1977 by a group of passenger rail supporters, RailPAC has been working for over 30 years to establish a network of rail services that will provide service to and throughout California and Nevada.

**We need your support to improve and expand
passenger rail service in the west!**

Your Membership includes...

- **STEEL WHEELS:** Passenger Rail in California and the West
- Weekly newsletter and periodic email alerts
- Eligibility to attend our annual and regional meetings



Representation and Advocacy

RailPAC presents a strong case to federal, state and local governments for reliable rail services from long-distance trains to commuter operations. Your organization gains strength with a growing membership base and members are invited to review and reflect on proposed changes in budgets, routes and service frequencies.

Cooperative Alliances

RailPAC works closely with other rail organizations and transit advocacy groups.

Volunteer Efforts

Members work with local rail passenger groups including Station Hosts at several Amtrak stations, attend and report on meetings of regional and transit boards and write letters to editors of newspapers. Members also submit personal reports of on-board service levels for distribution in Steel Wheels and the weekly e newsletter.

FOR MORE INFORMATION

about RailPAC and how you can help expand and improve passenger rail, visit our website **RailPAC.org** or fill out and return the form on the back page of this newsletter.

RailPAC.org

Our website includes a complete listing of our current positions, as well as frequent articles and reports from around the state. Visit **RailPAC.org** to learn more about these and other regional passenger rail projects we support.

Social Media

To receive the latest rail news from around the state:

- Follow us on Twitter:
www.twitter.com/RailPAC
- Become a fan on Facebook:
www.facebook.com/RailPAC

RAILPAC'S WORK AT-A-GLANCE

RailPAC is working with Amtrak, Caltrans and all agencies involved in achieving the following goals for expanding and extending safe and reliable rail passenger service. We support adequate funding for these services and vigorously promote them.

High Speed Rail

Build the High Speed Rail system together with electrification for Caltrain and Metrolink.

Coast Corridor

Reduce travel times. Continue to enhance onboard amenities. Restore connections to Long-Distance trains at Los Angeles Union Station. Reestablish the Coast Daylight between Los Angeles and San Francisco. New stations at Gilroy, Watsonville, Soledad and King City.

Pacific Surfliner Corridor

Campaign for run through tracks at Los Angeles Union Station to improve punctuality and travel times for Amtrak and Metrolink. Extend service to the Coachella and Imperial valleys.

Sunset Corridor

Introduce daily service and reestablish service to Florida.

San Joaquin Corridor

Increase service to and from Sacramento, as well as a new station in Elk Grove. Extend daytime and overnight service to Los Angeles.

Capitol Corridor

Increase frequency to hourly service between Sacramento and Oakland. Increase frequency of service to San Jose. Extend service to Reno and Redding and Salinas.

Las Vegas

Reestablish service between Los Angeles and Las Vegas.

RailPAC is a 501c3 Organization therefore all donations are tax deductible.





President's Commentary

I've had a lot of difficulty selecting topics for this issue. Not only has the Southwest Chief campaign been on most people's minds, but that doesn't mean that all the other issues, including regional, commuter and high-speed rail,

have been standing still. In addition, there have been some excellent commentaries written providing plenty of nutritious food for thought. We really do need to reform and improve the way many of our institutions operate.

Southwest Chief

If you haven't had the chance, please look at my editorial on www.railpac.org titled "Too early to claim victory". The key points: Amtrak has committed to nothing beyond "planning" to run the train as is until September, 2019. That's all. There is no commitment of matching funds that will release the federal "Tiger" grant to pay for track deferred maintenance and improvement. As for the National Network as a whole, Amtrak has asked for proposals from the industry for new locomotives, ditto for coaches. No orders have been placed as of early October, nor has a program been initiated to refurbish rolling stock. Actions, or lack thereof, speak louder than words.

I was therefore very disappointed to hear Bruce Becker of Rail Passengers Association ("RPA", formerly NARP) speak in glowing terms about the prospects for passenger rail under current Amtrak leadership at the RailPAC annual meeting. I would like to be wrong, about both Amtrak and RPA. I can only note what I have heard directly from Amtrak management, and report what I have heard. Anderson said in April that the long-distance trains are "not viable", and that he wants to replace them with shorter distance corridors between city pairs, paid for by the States under PRIIA 2008 legislation rules. That to me is as plain as a pike staff, and neither Anderson nor any of his senior management have contradicted those words. Like the elm tree that hateth and waiteth, they are biding their time.

Brightline Plants a Flag in the West

Those of us that retain optimism about passenger rail have followed closely the fortunes of the Brightline project in southern Florida. (See SW 3rd quarter 2018). This ambitious project combines upgrading existing tracks and an all new railroad to link Miami and Orlando. While service has started on the south end of the line, construction has yet to begin on the new link to Orlando, although it appears they finally have the necessary clearances and financing. Nevertheless, I was surprised to read their announcement that they had taken over the XpressWest project that proposes a line between Victorville, CA and Las Vegas, NV. This proposal has been stalled for some while, and we have commented that without a connection into the Los Angeles basin we don't see it being successful. It takes a major leap of faith to invest in this project, and we wish them success.

Successful Steel Wheels Conference

Noel Braymer has written a full report on line, and I won't recap the details. I do especially want to thank Chuck Robuck, Board member emeritus and our liaison with the Museum, Doug Kerr, Steve Roberts and Marcus Jung for their hard work in putting on a great event. Equally I'd like to acknowledge our speakers, Dan Leavitt of the San Joaquin Boards, Jim Allison from Capitol Corridor, Frank Vacca from High Speed Rail, Bruce Becker for coming from New York to represent RPA, and Mark Singer from Chicago for sharing his thoughts. It's always a pleasure to catch up with old friends and new folks. We are scattered over a very wide area and I am humbled that you continue to put faith in us to represent you around the State and in Nevada. The Board was reelected unanimously. We are fortunate to have a great group of representatives from all the major communities around the State.

As Secretary/Treasurer Marcus Jung reported, our membership has grown over the year, in contrast to most like organizations who have trouble retaining members. Our finances are stable, and we are self-supporting and independent. Any member desiring to see a copy of our financial statements should contact us at info@railpac.org.

State Government, Boards and Agencies

The last three decades have seen a major growth in Boards and legislative bodies that have some control over passenger rail, in addition to the State government. Our dedicated Board members do a tremendous job of representing the interest of the passenger before these bodies. We could use more help. Simply showing up at a meeting and announcing yourself, or signing in, as a RailPAC member, is a positive action. Passenger Rail supporters who are elected officials or staff need to know that there are supporters out there and that they are not a lone voice. Volunteers wanted! In addition to attending meetings we need volunteers simply to monitor the agendas of these organizations, county and city governments and so on. Keep track of your local city council agenda, and if a passenger rail issue is to be discussed, let us know so that we have the opportunity to respond.

Southern California Locomotives



Siemens Charger at Los Angeles - Photo by LOSSAN

Our cover pictures tell the story. The LOSSAN Board and Siemens held a press event at Los Angeles Union Station

on Monday, 1st October to introduce the new “Charger” locomotives. Built in Sacramento, California, these new power units will take over from the F59PHIs that have been the mainstay of the service for nearly twenty-five years. Although the Charger’s claim 4400hp, substantially more than the 3000hp of the old locos, they do not have a separate HEP generator so up to 800 of the additional 1400hp may be used for cooling and lighting the train. Nevertheless, the acceleration should be improved. As with any new equipment there is likely to be a learning curve on the part of maintainers and operators. We certainly hope that this will be short lived and that reliability of the Surfliner will improve as mechanical failures diminish. Keep in mind that the Charger has been developed from the proven Siemens Vectron model introduced in Europe in 2010 and shares many components with the ACS-64 electric locomotive, also built in Sacramento and in service in the Northeast. It should not have the problems typically associated with an all new design.

Contrast this with the experience thus far with Metrolink’s F125. I checked with Metrolink spokesperson, Scott Johnson, and he told me that only 15 units have been conditionally accepted, out of an order of 40. It was anticipated that all the units would be in service by April, 2017. That date has been put back, with full delivery at the end of 2019. Now I commiserate with Metrolink staff who have had to cope with introduction of Positive Train Control (“PTC”) and a new locomotive at the same time. But there seem to be some fundamental failures of the F125, built by EMD/Progress Rail in Muncie IN. Metrolink management long ago confirmed that the existing fleet has not been properly maintained, and most locomotives are well past due their engine rebuild date. This means that most of the current train service is operated by locomotives whose reliability is questionable, and which must be more expensive to maintain. We certainly expect Metrolink to demand such compensation as is appropriate for the manufacturer’s failures.

Important for southern California is the claimed emission reduction of the Tier 4 specification. I know, my cynicism is showing through. We have yet to see significant in-service experience with tier 4 diesels, and we expect SCAQMD to require thorough testing to ensure that the required standards are actually met in everyday service. I hope that we shall soon see a hybrid version or better yet a battery booster unit couple to the Charger. A diesel is still a diesel, and if plans for greatly increased service come to fruition, that means there will still be a lot of emissions from an expanded fleet, regardless of how “clean” they are.

Another aspect of both types of locomotive that gives me cause for concern is the lack of a separate power source for “hotel” power, i.e. cooling/heating and lighting of the coaches. We will be monitoring this closely. One way to reduce emissions is to eliminate the diesel head end power generator found in the older locos, but does this not leave passengers vulnerable in the event of an engine failure? We will watch this with concern. Not long ago passengers were rescued from a broken down Sunset Limited, which was unable to supply

power to the train.

2019 legislative objectives

California Senate Bill 804 of 1999, known as the Perata Bill, was passed to protect Greyhound and other operators from “unfair” competition from Thruway buses. The gist of the bill is to limit users of the Thruway Bus to those passengers having a prior or subsequent journey by train. There are major problems with this requirement, and the competition issue has largely withered away with the disappearance of most intercity bus service to small communities. Having earned a few stripes this year with the passage of Senate Joint Resolution 30 supporting the national network we are ready to collaborate with like-minded groups to reform this bill. I say reform because the bill does have positive language about cooperation between bus and rail operators. Rural communities need every resource they can get, and RailPAC wants to see a strong network of bus routes, coordinated with passenger rail service, which will serve the great majority of communities in California. Senator Allen attempted a repeal bill in this past session, SB1048, but it was not supported by the administration. We’ll see if there is interest in reviving the bill in the New Year.

High Speed Rail Technology Advances

Every year there is a large outdoor exposition of the latest in passenger rail rolling stock and systems held in Berlin. Innotrans has become a must-see international event and is the equivalent of the Farnborough and Paris air shows. This year Siemens unveiled their Velaro Novo train concept. They confidently predict considerable savings in both capital and operating cost. See Velaro, Page 8

Why Is Southern California So Indifferent To Intercity Passenger Rail?

In the next issue in the New Year we’ll be asking this question and searching for ideas as to what we can do about it. Further deferment, into the indefinite future, of essential capacity increase in the San Fernando Valley has left me fuming, and I can’t write about it in polite terms!! Likewise, the State Rail Plan, laudable in many respects, contains no reference to the 40 mph average speeds of our “intercity” services, nor any plans for improved infrastructure to bring them up at least to 60mph. I just celebrated my 50th year working in the industry and remember well the British Railways launch of the intercity brand name. In 1955, faced with planned Motorway (freeway) construction, BR believed that 60mph average was a prerequisite to competitive service. We still have a long way to go.

Prop 6: Will Ernest Rutherford Make A Comeback In November?

You may recall from prior references in these columns that Ernest Rutherford, post WW1 scientist from New Zealand, was famous for the phrase, “We have no money, so we have to think”. He had no budget for his experiments but was able to improvise, as well no doubt as begging and borrowing, to get the job done. If Californians vote to repeal the gas tax in November, there will be a need for a great deal of thinking on the part of public officials if they want to continue to invest in passenger rail. We’ve seen about \$1.50 of gasoline price increase go to the oil companies, and 12c go to the State for

road and rail. Which should give us the greatest heartburn?

Steel Wheels Coalition

I am about to Board a 'plane to Kansas City (October 11) for a passenger rail summit in Topeka, KS, called by Passenger Rail Kansas. (I'm taking the train back!) The purpose is to strengthen the existing ad hoc coalition that has formed to fight for the Southwest Chief, Heartland Flyer and the National Network as a whole. This may well be regarded as the first event of the Steel Wheels Coalition.

I have put the title "Steel Wheels Coalition" on the cover of our magazine for over a year now. This was rather a tongue in cheek exercise as there is no such formal body. It is intended to be an invitation to like-minded groups to join forces to accomplish more together than we can separately. Well, folks have paid attention, perhaps the Southwest Chief imbroglio has acted as a catalyst. Welcome All Aboard Arizona, Passenger Rail Kansas, Minnesota Association of Railroad Passengers, Passenger Rail Oklahoma, and Southwest Rail Passenger Association to the Steel Wheels Coalition. There is still a long way to go to enable us to represent the intermountain west. But just the fact that we have had these responses is indicative of the dissatisfaction with the way Amtrak treats the "Superliner" states, and the way we feel unrepresented by NARP/RPA. I for one am still more than willing to work together with any organization that shares



America's Express Pass to Regional Mobility

Charger Diesel-Electric Passenger Locomotives

The new Charger diesel-electric locomotives are being built for transportation agencies across the country for operation along heavily-traveled corridors in Illinois, California, Washington, Michigan, Washington, Maryland, and Florida. These efficient, environmentally responsible and cost-effective locomotives are designed to provide a range of customer-specific technical solutions. The lightweight, high-performance locomotive ensures reliability for the customers, and the passengers will experience a quieter, more efficient and cleaner operation with improved travel times.

usa.siemens.com/mobility

our philosophy and aims, but we cannot stand by and watch the dismembering of the western network as sparse as it already is. Let this be a wakeup call to Amtrak and RPA in Washington DC. As always, your comments and feedback are welcome.

Paul Dyson

pdyson@railpac.org 818-371-9516

High Speed Rail Moves Closer To Bridging The California Passenger Rail Gap

New route option is shorter, with less steep gradients.

Steel Wheels staff writers

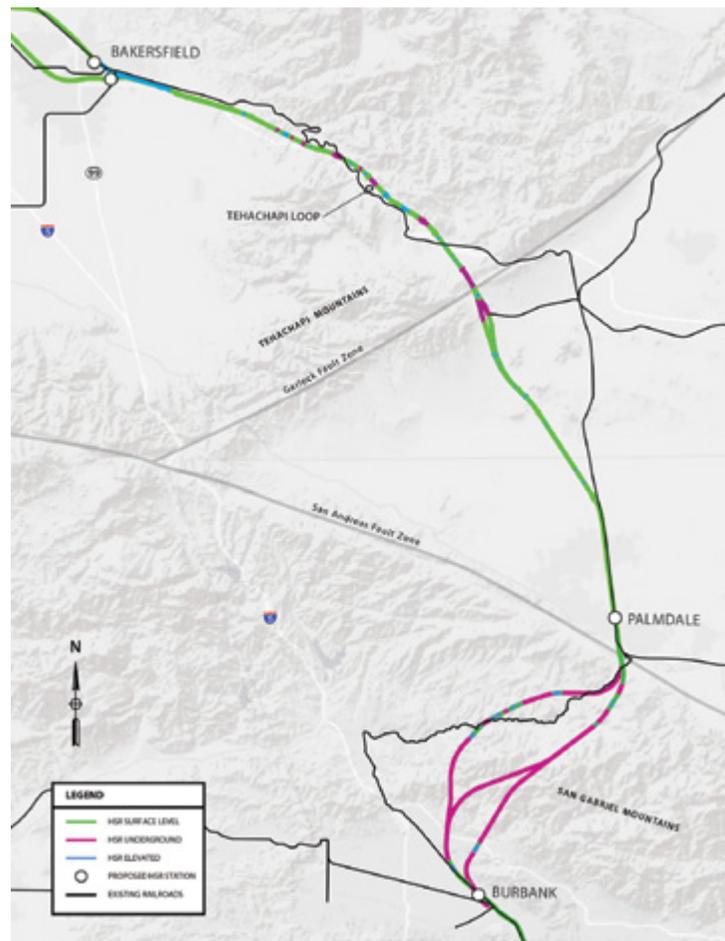
2018 has been a big year for California's high-speed rail program in Southern California. In April, the California High-Speed Rail Authority (CHSRA) held a Board meeting in Los Angeles to get local input on the 2018 Business Plan and to set the stage for future actions in the region in the fall. In August and September, program staff held a series of public meetings from Bakersfield to the Los Angeles/Anaheim area to share with the public the staff recommended state's preferred alternative for the alignments in the region that will ultimately tie Southern California to the Central Valley and Northern California. This outreach effort represented the culmination of a multi-year community and stakeholder engagement process prior to a Board of Directors meeting on November 15 in the San Fernando Valley.

Two of the project sections in Southern California will be built as fully grade-separated alignments that must traverse mountain ranges and will be essential in closing the passenger rail gap into Southern California. The Bakersfield to Palmdale and Palmdale to Burbank Project Sections of the high-speed rail system will connect three distinct regions of the state - the Central Valley, the Antelope Valley, and the Los Angeles Basin. Currently, the only rail connection between these regions is via Amtrak, and it requires those passengers to take a bus between Los Angeles and Bakersfield. The two project sections - totaling approximately 118 miles - will cross the Tehachapi Mountains and the San Gabriel Mountains and include stations at Bakersfield, Palmdale, and Burbank. This will provide much needed opportunities for economic development and revitalization in the Southern San Joaquin and Antelope Valleys.

The three valleys connected by this project are representative of California's diversity. The Central Valley, whose floor lies only a few hundred feet above sea level, is the agricultural heartland of the state. Two thousand feet higher, the windswept Antelope Valley is a centerpiece of the U.S. aerospace industry, where space shuttles used to land and future rockets and aircraft are developed. Back down in the San Fernando Valley, the city of Burbank touts itself as the media capital of the world. Similar to the diversity of the three valleys, the two mountain ranges that separate them are also uniquely different. The Tehachapi Mountains climb gradually as they rise from the

Central Valley floor to the picturesque 4,000-foot-high town of Tehachapi. The south slope of the Tehachapis is equally gradual, with wind turbines and solar farms now dotting the landscape. In contrast, the San Gabriel Mountains are much steeper and abrupt, having been thrust over 5,000 feet high by the nearby San Andreas Fault. Their unique forests and backcountry, so close to the Los Angeles metropolis, are now protected by National Monument and National Forest status. The engineering approach for getting high speed trains over these mountain ranges has had to address these unique and diverse challenges.

Over the past 4 years, Authority staff have been refining the planned crossing of these mountain ranges, resulting in alignments that are a combined **10 miles shorter** than the routes previously studied, and the grades have been improved by nearly a full percentage point over previous routes. From Bakersfield to Palmdale the route would replace what is now up to an 80-minute car trip with a 25-minute train trip, while the Palmdale to Burbank route would replace what is now up to a 2-hour commute in each direction (either by car or Metrolink) with a 20-minute train trip in each direction, which makes it easily one of the most transformative sections of the planned 800-mile-high-speed rail system.



Between Bakersfield and Tehachapi, the mountains gain about 3,600 feet in elevation over a distance of 24 miles, resulting in an average gradient of 2.8 percent. Railroad engineers in the late 19th Century, whose freight trains couldn't handle grades that steep, solved the problem by constructing the famous Tehachapi Loop, where the tracks make a full 360-degree circle to add length and reduce the grade to a more accommodating 2.2 percent. High-speed trains, with a minimum radius of more than five miles, obviously need a different solution. Over the course of 4 years of study, numerous alignments and grades have been tried and tested. While steeper grades (up to 3.5 percent) were considered, the Authority determined that steeper grades didn't significantly reduce the amount of tunneling required. The current design being considered generally follows

what the natural environment provided, with a constant 2.8 percent grade up the north slope of the mountains and an

identical 2.8 percent grade down the alluvial fan on the south slope of the mountains into the Antelope Valley. A total of 9 tunnels are included in the design, but the longest is 2.5 miles and the total length of the 9 tunnels is only 9 miles. With short tunnels through the taller hills and viaducts over the valleys, the proposed alignment strikes the right balance between the various considerations, including the movement of wildlife from one side of the tracks to the other. One exception to the long 2.8 percent grades is the need to have a flat spot, approximately one mile in length, at locations where there will be a phase break to switch power sources from one substation to another. The phase break requires an unpowered section of track, slightly longer than a train length, so that a train can pass from one electrical circuit to another without causing a short circuit. Because the train must “coast” through the unpowered section, it is desirable that this section be as flat as possible. On the north slope of the Tehachapis a flat spot was able to be introduced into the profile to achieve a standard design. On the south slope, the constant slope of the alluvial fan did not allow for the introduction of a flat spot and a design variance will be required to develop an alternative solution to the traction power design.

The steepness of the San Gabriel Mountains, as well as their protected status as natural lands to be preserved, does not lend itself to either of the solutions used to cross the Tehachapis, and long tunnels are the only viable option. Coming south from the city of Palmdale, any alignment must first cross the San Andreas Fault above ground before beginning the 2,000-foot descent through the mountains to Burbank. Looking at what previous transportation engineers have done as a guide for developing the alignment through the region, the State Route 14 freeway was an option. Using the existing Metrolink railroad corridor was considered and quickly dropped from consideration due to its excessive curves through sensitive environmental resources in the Soledad Canyon area. The Authority drew numerous long tunnel alignments to try to connect Palmdale and Burbank with a generally straight line. This exercise resulted in tunnel lengths that approached and even exceeded 20 miles. Working with the U.S. Forest Service, five geotechnical borings were drilled in the mountains to a depth of over 2,700 feet to gain an understanding of the rock conditions at different locations, as well as the depth and extent of groundwater resources. The longer, straighter tunnel alignments proved to be problematic when considering they would be very deep (over 2,000 feet) under the mountains for several miles. The alignment generally following the Route 14 freeway from Palmdale to Santa Clarita passes in and out of four shorter tunnels before crossing the Santa Clara River and entering a 13-mile tunnel under the National Forest. While the total miles of tunneling are approximately the same, the shorter length of the longest tunnel, coupled with its much shallower depth below the mountain peaks, provides a design with much less risk in terms of groundwater impacts and overall tunneling feasibility.

The geotechnical borings in the San Gabriel Mountains have yielded significant information. The majority of the mountains consists of igneous crystalline rocks that include the anorthosite-gabbro complex, Mendenhall gneiss, granodiorite and diorite gneiss. The fringes of the mountains are flanked by marine and non-marine sedimentary rocks. The oldest rocks

are the anorthosite, which is dated between 1.2 and 1.3 billion years in age. In all, approximately 30 tons of rock core were collected, documented, analyzed and tested for structure, strength, and chemistry as it relates to tunnel construction and tunnel lining design. Results of the study indicate that tunnels beneath the Angeles National Forest are feasible with minimal impact to the forest resources provided that current tunneling and lining construction methods are implemented to protect groundwater resources, springs and wells in proximity to the tunnels.

Due to the unique nature of the investigations within the Angeles National Forest, numerous researchers at local universities expressed interest in analyzing the rock core and taking samples for various research projects and graduate studies. Both California State University Fullerton and Long Beach teamed to evaluate the hydrogeologic conditions of the mountains, whereas California State University Los Angeles and San Fernando, and University of California at Los Angeles collected samples for various testing programs. Currently the rock core is held in a long-term storage facility by the HSRA and is available to other researchers on request.

In both mountain ranges, efforts have been made to balance the large amount of earthwork required, and to minimize the truck traffic associated with the work by planning to deposit spoils at the point they are generated to the largest extent possible. This includes creative uses of cut and fill slopes to achieve an earthwork balance and placing tunnel portals near disposal sites so that

conveyor systems can be used, instead of trucks, to dispose of spoils. Provisions have also been made to utilize the existing railroad in order to use trains, rather than trucks, to move spoils, machinery, and construction materials.

DESIGN FEATURE	Refined SR14	Alternatives		Old SR14
		E1	E2	
Total length (miles*)	38.6	36.6	32.8	44.0
Surface (miles*)	8.9	9.9	7.7	15.4
Elevated (miles*)	2.8	0.6	1.3	6.3
Underground - Tunnel (miles*)	25.2	24.3	22.8	20.5
Tunnel 1	7.3	1.6	1.6	7.2
Tunnel 2	3.1	21.7	16.7	3.3
Tunnel 3	0.5	1.0	4.5	1.3
Tunnel 4	0.9	-	-	8.2
Tunnel 5	12.4	-	-	-
Tunnel 6	1.0	-	-	-
Underground - Other (miles*)	1.7	1.8	1.8	1.8
Top Speed (MPH)	220	220	220	220

Palmdale to Burbank Alignment Summary

No mega-project built in the United States – or around the world for that matter – is without controversy. Projects of this magnitude do often require tough decisions and can have impacts on communities. However, CHSRA is committed to minimizing and mitigating those impacts as much as possible, which is a significant part of the alignment selection process. Getting to the staff recommended State’s preferred alignment’s in Southern California section has taken years of study with extensive partnerships with federal and state stakeholders, and feedback and input from the public and communities along the route. As the environmental review process continues to move forward, the Authority is committed to working with communities every step of the way.



Velaro Novo

Siemens Updates Its High Speed Train Design

SIEMENS is predicting a step-change in high-speed rail operation and travel with its new Velaro Novo train which is expected to cost 20% less than its existing Velaro trains, achieve a 30% reduction in energy consumption at 300km/h compared with Velaro, and a 15% reduction in train weight. Siemens also expects a 30% saving on maintenance costs and a 10% increase in available space.

These figures will be music to the ears of operators as they will translate into much lower operating costs while it will be possible to carry more passengers per train, so the cost per passenger will be lower than today.

Velaro Novo will build on the success of Siemens' original Velaro high-speed train which includes the ICE 3 fleet operated by German Rail (DB). The first train entered service with DB in time for Expo 2000. Siemens has since sold more than 1000 Velaro trains to DB, Renfe, Spain, Eurostar, China Railways Corporation, Turkish State Railways (TCDD) and its 1520mm-gauge Velaro RUS version to Russian Railways (RZD). Velaro is used in seven European countries and the fleets operate a combined total of more than 1 million km per day.

Velaro reached 403km/h during trials without modifications and pioneered commercial 350km/h operation in Spain. It also represented a milestone in high-speed train design for Siemens as it marked a move away from separate power cars and trailer coaches, favoured by European train builders, to distributed traction, which has been a feature of Japanese high-speed trains since the opening of the first Shinkansen line in 1964.

While subsequent builds of Velaro have benefitted from advances in technology, its overall design and concept dates from the 1990s, and with pressure on operators to reduce costs, pressure on prices through increased competition,

including potentially from China, new projects on the horizon such as HS2 in Britain, and schemes in North

America and Asia, Siemens felt it was time for a rethink.

"In 2013, when we started to think about the next step in high-speed train design, we were just selling Velaro to Eurostar," Mr Michael Kopp, high-speed platform programme director with Siemens, told IRJ. "We analysed the existing and upcoming market with new lines in California or the Kuala Lumpur – Singapore high-speed project in prospect, while the Chinese were coming up with competitive prices. Our analysis showed that even though Velaro is a good product, it is still a European design and there are more optimum possibilities. So we decided to develop the next generation of high-speed train to maintain our competitiveness.

"The objective was to lower the cost of the train itself, reduce energy consumption, the weight of the train and its maintenance costs, while at the same time optimising the passenger area to provide more comfort or more seats, and achieve a low life-cycle cost. We want to develop the most cost-efficient high-speed train, and up to now we have reduced the investment cost of the train by 20%."

"The train interior is less well defined," Kopp admits. "We have some standard components we can use, but the final design will depend on the customer's needs."

Trials with the test car started in Germany in April and endurance testing will continue until the end of 2019, while component testing is running in parallel. DB Systemtechnik is supporting Siemens with the test programme and has provided two trains for the Velaro Novo test car to operate with:

a locomotive-hauled train with two measurement cars for test running up to 200km/h, and

DB Systemtechnik's ICE-S high-speed train comprising two power cars and two measurement cars with the Velaro Novo car located in the centre of the train for trials up to 330km/h, which is the maximum allowed by DB.

The ICE-S power cars can run at speeds of up to 400km/h. The Velaro Novo test car has already reached 331km/h with ICE-S and Kopp says the measurements from the tests so far "are in line with our simulations." While Kopp acknowledges there is still a way to go, Siemens will be in a position to supply the first train in 2021, with a view to entry into service in 2023.

The Velaro-Platform
100% environment-friendly



Scalable traction system



Velaro Novo will have what Siemens describes as a scalable traction system for maximum speeds ranging from 250km/h to 360km/h with power outputs of between 4.7MW and 8MW. “Basically, the train is still an EMU, but it will have three powered cars and four non-powered cars for 360km/h operation, but with a lower maximum speed we can reduce the number of driven bogies, so that if a maximum of only 280km/h is required by the customer then we will only need two powered cars,” Kopp explains. “However, we always use the same basic components in the traction system.”

Pure electric braking will maximise electricity regeneration thereby reducing energy consumption. Braking resistors will be available if the catenary is unable to recoup the electricity. “We will still have axle disc brakes on the trailer bogies and additionally tread brakes on the powered and trailer bogies, but only for emergency braking,” Kopp explains.

Permanent magnet motors are expected to contribute to the reduction in energy consumption, which Siemens estimates will cut carbon emissions by 1375 tonnes per train per annum, while the new traction and braking system should cut maintenance costs.



Siemens estimates the streamlined roof will cut energy consumption on Velaro Novo by 10%. This is also quite an achievement considering ICE 3 and Velaro already offered optimised aerodynamics, with shrouding around roof-mounted equipment, the bogies, and inter-car gangways designed to reduce drag and cut energy consumption. Velaro Novo will take this a step further with fully enclosed bogies, housed roof equipment, and inter-car gangways which are flush with the body shell. The fully-enclosed bogies will achieve another 15%

energy saving and cut noise emissions.

“We don’t develop innovations just for high-speed trains,” Kopp says. “We are always trying to see what we have which can be applied elsewhere. The auxiliary converters on Velaro Novo came from our experience with metro trains, and the inter-car fire separation system came from regional trains. On Velaro Novo we are using the windows which were developed for regional trains to allow mobile phone signals to pass through them which obviates the need for repeaters.”

Kopp points out that the overall energy saving of 30% relates to operation at 300km/h, but says it will be even better at 360km/h. “The faster you go, the greater the influence of aerodynamics is on the reduction in energy consumption,” he observes.

Velaro Novo should be kinder to the track than Velaro as it will weigh 15% less. “Weight drives wear on the infrastructure,” Kopp says. “In Britain, Network Rail (NR) has variable access charges to incentivise the use of lighter trains which do less damage to the track. The inner-bearing bogies on the Thameslink Desiro City trains are designed to meet the NR specifications.”



Velaro Novo will adopt what Siemens describes as the “empty tube” concept for the passenger coaches as there will not be any permanent installations or electrical equipment inside the vehicles or under the seats to reduce the space available for passengers. This means the trains can be fitted out to the customer’s exact requirements and the seating layout can be changed easily if required.

Finally, considerable thought has been given to maintaining Velaro Novo. Siemens says the train will have measurement and sensor technology to enable continuous collection of operating data for analysis and to provide precise information about the train’s performance to facilitate predictive, condition-based maintenance. In addition, the electric braking system is almost maintenance free.

Velaro Novo will clearly set new standards for high-speed operation, but the last word should go to the CEO of Siemens Mobility, Ms Sabrina Soussan: “Velaro Novo is our answer to global demands in high-speed transport. The new train writes a new chapter in the Velaro’s success story and enables operators to offer improved passenger comfort and economy over the train’s entire lifecycle.”

originally published in International Railway Journal and reproduced with permission.

The Amtrak Era Is Over, It's Time For A Replacement - Fritz Plous

Railway Age editor William C. Vantuono wondered recently what exactly Amtrak CEO Richard Anderson is trying to accomplish by truncating long-distance routes, replacing fresh dining-car meals with MREs*, and replacing station agents with nobody.

Is Anderson trying to drive passengers off the long-distance system so he can close it?

(Ben Biaggini tried that at Southern Pacific in the 1960s, and it worked.)

Is Anderson just trying to please Congress by reducing “money-losing” operations so he can look like the kind of fiscal tough guy currently in fashion in Washington?

Or maybe Anderson is being tactical rather than strategic, plotting to trim the scale of the long-distance system to fit the dwindling fleet of serviceable rolling stock that remains available for this class of service?

Those are all good questions, but they're also mostly irrelevant. Amtrak CEOs can do pretty much anything they want without explaining their reasons, because Amtrak occupies a peculiar organizational position that leaves it largely unaccountable to the people and institutions that make the nation's transportation policy.

Unlike the federal government's other three transportation responsibilities—highways, civil aviation and waterways—Amtrak is not positioned alongside the Federal Highway Administration, Federal Aviation Administration and United States Maritime Administration on the USDOT org chart. It is not equal to those three agencies in status, budget, access to the Secretary or influence on national transportation policy. Most important, FHWA, FAA and MARAD have missions, among them, building infrastructure. Instead, Amtrak is a federally owned corporation with no explicit mission except that of making a profit, at which it inevitably fails because it must compete against these two stronger agencies that earn no profits (and aren't required to) and thrive on huge government subsidies that dwarf that of Amtrak.

With no goals, no growth strategy and no meaningful success/fail criteria, Amtrak's management is left to freestyle. Any set of interests powerful enough to get its paws on Amtrak can play with it—and they do. The reason why Amtrak is subject to so many influences is simple: The U.S. has no passenger train *policy*. Absent a policy and a bureaucracy to administer it, passenger trains have no theme, no role in the nation's pursuit of a larger objective, such as mass mobility in the service of economic growth.

Most passenger rail advocates over 50 have some recollection of how Amtrak got this way. Congress hammered Amtrak together hastily in 1970, not to create a modern passenger train system, but to save the failing freight rail industry from massive passenger train deficits that already had plunged one-third of the country's rail mileage into bankruptcy. Congress wasn't really trying to save the nation's passenger trains. It was trying to save the privately owned railroad industry from additional bankruptcies and eventual nationalization.

This short-range defensive tactic worked: The federal government's assumption of passenger trains and their deficits gave the nation's privately owned freight railroads the oxygen they needed to survive for a decade until deregulation allowed the industry to sit up, breathe on its own, dangle its legs over the edge of the bed and start eating solids.

But the little passenger railroad that saved the freight trains was not itself expected to survive. As Rush Loving makes clear in his magisterial *The Men Who Loved Trains*, President Nixon agreed to sign the 1970s Railpax legislation that created Amtrak only because the congressional aides who drafted it persuaded him that Amtrak would last only about five years. Passenger train ridership had been slumping since the end of World War II, and as the nation transitioned to Interstate highways and jet travel, the slump turned into a plunge that all the experts deemed irreversible. No business had ever survived what amounted to a mass repudiation by its customers, and there was no reason to suspect that a battlefield tourniquet like Amtrak could staunch the hemorrhage. Because Amtrak was expected to go out of business, there was no attempt to reform it, update it or find a permanent place for passenger rail in the nation's larger transportation policy.

But a funny thing happened on Amtrak's way to extinction: success. People confounded the experts by starting to ride the trains again. Congress, the Administration and the railroad industry couldn't believe it, and most of them still don't.

Loving provides a hilarious account of how Washington's decision-makers and the Class I railroads who were depending on them stood blinking and squinting like moles dragged out into the sunlight when predictions of the passenger train's death proved exaggerated, and Americans started riding the trains again—and demanding more trains. Amtrak didn't know what to do.

And it still doesn't, because the decision to run more passenger trains over more routes to more destinations is not a commercial one that can be made by a corporation—even a federally owned corporation. It's a high-level *policy* decision that can be resolved only by the establishment of a new National Transportation Policy that positions passenger train development at the same level of importance as highways and civil aviation and creates a new passenger rail policy and development organ occupying the same line on the USDOT org chart as the FHWA and the FAA.

The job of the new agency—call it the Federal Passenger Rail Administration—is to identify routes needing passenger train service, develop a budget to fund the required infrastructure, and establish rules under which private-sector entrepreneurs can run trains over them.

These tasks cannot be assigned to Amtrak. Amtrak is a company, not an “administration” like FHWA, FAA or MARAD, with a solid-line connection to the Secretary of Transportation and a budget and charter to build things. It is a barely tolerated guest on infrastructure owned by private railroad companies. It lacks government authority to commandeer Class I property or to build its own tracks on surplus rights-of-way the Class I’s are not using. By federal transportation standards, Amtrak is an organizational cripple, yet it remains subjected to a metric from which highways and civil aviation are exempt: profitability.

The “mission gap” between Amtrak and the other two modes is a recipe for mischief, and in Richard Anderson the recipe has finally met its master chef.

We have come as far as we can with the Amtrak model. It’s time for Congress to pass an updated Transportation Act creating a Federal Passenger Rail Administration that will have the same authority, governance, mission, status and access to funding as the three other boxes on the USDOT org chart: FHWA, FAA and MARAD.

Would elevating passenger trains to statutory parity with highways, civil aviation and waterways be difficult? You bet. A long, punishing campaign for legitimacy is the historical norm in the evolution of new federal transportation programs.

Two presidents—Andrew Jackson and James Monroe—vetoed highway bills, claiming the Constitution gave the federal government no authority to build or manage a national road network. Only the overwhelming opportunity presented by automotive technology 100 years later (and the 1916 near-collapse and temporary nationalization of the U.S. rail system in the face of the World War I emergency) forced the federal government to find a way to make highways happen.

Forty years after the U.S. faced its highway challenge, a rapid advance in passenger airliner technology again forced the federal government to embrace big-time transportation infrastructure funding. Shortly after his 1953 inauguration, President Dwight Eisenhower declared, “It is time for the federal government to begin an orderly retreat from civil aviation.” Ike was consumed by his dream of an Interstate highway network, but he had something of a blind spot when it came to the airline boom that was going on right before his eyes and spent most of his Administration trying to wriggle out of funding airways improvements.

But by 1958, with passengers clamoring for seats on bigger, faster, more comfortable DC-7s and Constellations and Boeing’s new jet-powered 707 ready to enter service, Ike had to yield by creating the Federal Aviation Administration. The boom in demand for air travel had overwhelmed the nation’s primitive and fragmented air traffic control technologies, causing a decade-long series of crashes that killed more than a thousand passengers, crew and bystanders on the ground. The FAA’s mission was to build a way out of the carnage and tragedy with a uniform, nationwide, technologically modern air traffic control system of infrastructure and personnel.

Today, the U.S. faces a third transportation emergency characterized not by sudden breakdowns as in 1916 or the

appalling epidemic of fatal airline crashes between 1952 and 1961, but by a long twilight mobility blight in which American travelers lose millions of hours per year stranded on backed-up highways trying to reach congested airports, where they will lose another hour in a bovine shuffle through a tedious security ritual that has turned the speed and convenience of air travel into a national joke.

Clearly, the time has come for trains. But first, passenger rail advocates will need to understand that their travails are not unprecedented. Obstacles—historical, statutory, commercial, political, legal, even personal—are the norm not only in developing federal transportation policy, but in *legitimizing* a policy.

Highways were hard. They were not seen as the responsibility of the federal government.

Airports and air traffic control were hard, because Ike believed cities, states and the airlines could develop them without federal help.

Passenger trains will be hard too—and for the same reasons: “There’s no money for it. It’s not a federal thing. People can always drive or fly.”

The “interim solution” of the 1970 Railpax Act isn’t working anymore. The “interim” that birthed it is over, and we’re in a new age with new problems and new opportunities. The high-speed electrified train has proven itself across the Eastern Hemisphere and Europe. No longer can it be barred from the Americas. Neither can the coordinated networks of high-speed, conventional and commuter trains that have made Europe and Asia mobile, prosperous and safe both travelers and the environment.

The message to the advocacy community is clear: Stop wasting precious time and resources trying to get Amtrak to behave like something it’s not: a federal transportation program. Stop trying to “reform” Amtrak, and stop playing the mug’s game of trying to “save” threatened trains. Amtrak was never designed to be anything more than an exit strategy from the rail industry’s deficits. Passenger rail advocacy that tries to “fix” Amtrak train by train (or meal by meal) while ignoring the need for fundamental policy reform has turned into a bizarre behavioral psychology experiment in which the pigeons keep pecking at the lever even though no more corn comes out. We need to switch from the 1970 rescue model to a 21st-century USDOT agency model designed to build a modern passenger train infrastructure on which private, for-profit companies can operate trains.

With the early highway and civil aviation advocates as their models, passenger train advocates can switch from struggling pointlessly to struggling and winning. That means passing a new National Transportation Act with all the statutory, budgetary and bureaucratic resources needed to take passenger trains into the post-Amtrak world. With some focus, clear thinking and effort, trains in the rear-view mirror may be closer than they appear.

originally published in Railway Age and reproduced with permission.

All Aboard Arizona

– Tony Trifiletti –



Photo of Flagstaff Depot by Roger Clark

Amtrak's plan to break the *Southwest Chief* into three pieces, with a bus link in the middle, would destroy ridership on the train. That would be a disaster for the national network of interstate trains, but it would be a catastrophe for Arizona. The *Chief* traverses the I-40 corridor, and it's the only daily interstate train to serve our state. (The *Sunset Limited* serves the I-8 and I-10 corridors, but only three days a week, which is another bone we have to pick with Amtrak.)

The Rail Passengers Association (RPA) put a team together with weekly conference calls to plan and coordinate a national strategy. Mike Garey, our Corresponding Secretary, is Arizona's lead with myself and Chuck Mott, our President, providing him assistance. Toward that end, RPA created a national mayors' letter titled, "Saving the *Southwest Chief*."

The most important stop in Arizona for the *Chief* is Flagstaff. Nearly 50,000 passengers arrive and depart this city each year. It's the "Gateway to Grand Canyon National Park" and has Thruway Bus connections between several western cities and Phoenix. We needed to get Mayor Coral Evans' signature on that letter.

Mike Garey and Chuck Mott drove to Flagstaff for a meeting with City Manager Barbara Goodrich, City Council Member Jim McCarthy, and General Manager Jeff Meilbeck of the Northern Arizona Intergovernmental Public Transportation Authority. Mike and Chuck brought them up to speed on what Amtrak was planning and the deleterious effects it would have on their city. As much as 70% of the passenger train service revenue was at risk due to ridership declines. More significantly,

because many arriving train passengers are domestic and foreign visitors, they could expect major revenue losses affecting retail businesses, such as hotels, restaurants and other retail tourist services and attractions. Upon hearing this, the city officials asked Mayor Coral Evans to step in.

Talk about luck! The mayor, city manager and two city council members were soon to travel to Washington to meet with key federal officials, including Congressman Tom O'Halleran. He was one of 14 members of Congress who wrote to Amtrak President Anderson asking him to uphold Amtrak's commitment to the TIGER IX grant and seek additional FRA funding to continue the long-distance passenger train service and not replace it with a bus.

Having apprised the Flagstaff officials of what was coming, Mike and Chuck received their marching orders.

- Provide four or five key talking points, which RPA created that very evening;
- Provide a copy of the letter from the 14 congressmen, which we received from RPA the following morning;

Draft a letter for a Republican Flagstaff council member to present to Gov. Ducey in support of saving the *Southwest Chief*, which was written in record time.

Mike and Chuck then went down the street to meet with Greater Flagstaff Chamber of Commerce Sales and Events Executive David Smith. Talk about consternation! Smith was

not aware of the pending demise of the *Southwest Chief* and its potential adverse impact on his community. He assured us that he would pass this information on to the chamber's members for their response and action.

Result: Flagstaff was the first Arizona city to sign RPA's national mayors' letter for "Saving the *Southwest Chief*!"

Our next important project was to bring Fortress Capital and Brightline into the area for due diligence and reconnaissance on Union Pacific's Phoenix-Tucson line. They had set a date in mid-July to come out but cancelled at the last minute. Their new effort was to add an Orlando-Tampa link to the next phase of the Brightline project, to include picking a site for their Tampa station. We waited for them to set a new date.

To our surprise the dynamic duo bought out the failing Desert Xpress project. This was to be a high-speed rail line built next to I-15 to run from Victorville (CA) to Las Vegas. Everything had been ready but the money. Now Fortress wants to make it happen. For the moment, we've been left at the altar.

We've been meeting with a lot of people to build the coalition necessary to support a Phoenix-Tucson rail link, especially now that we may have to amend the Arizona Constitution to permit it. Among the key players: Valley Partnership, Pinal Partnership, ADOT, Arizona Land Department, Central Arizona Governments, Southern Arizona Leadership Council, Arizona Forward, Gov. Ducey's Transportation Advisor, Greater Phoenix Leadership, Phoenix Economic Council, League of Arizona Cities and Towns, and Pima Association of Governments.

A meeting with the City Manager of Florence led to a presentation to the full Town Council.

Meetings with the Mayor of Maricopa and a state senator who is in line to be the next Majority Leader produced a fascinating statement: "Phoenix and Tucson are growing toward each other as the empty spaces fill in. In time it will look like an elongated Dallas/Fort Worth. Rail has to happen."

A major local issue has been whether the next leg of Valley Metro Rail, the Phoenix light rail line, will be built into the south side of town. Local residents favor it strongly, but business interests are battling over whether South Central Avenue will have two or four lanes of auto traffic. That could kill the project. The Koch Brothers have entered the fray trying to kill this project as a template for killing light rail nationwide and putting the money into highways. Stay tuned!

Saturday December 8 Tucson Fall Passenger Rail Summit

Plan to attend the

"All Aboard Arizona Fall Passenger Rail Summit"
to be held Saturday December 8th 2018
at the Ramada Tucson Conference Center
(formerly Riverpark Inn)
777 W Cushing St, Tucson AZ 85745.

Registration at 8 am with coffee and rolls with meeting starting promptly at 9 am thru mid-afternoon. Your \$35 registration includes a buffet luncheon.

Speakers include Chuck Mott, President, All Aboard Arizona, Tony Trifiletti, Executive Director, All Aboard Arizona, an Amtrak representative, RPA officials and regional advocates from surrounding states. More details will follow.

Topics will include the national network, Southwest Chief, Sunset Limited, Phoenix-Tucson service and Florida's Brightline.

**SILVER RAILS
COUNTRY.COM**



A Rail Themed Destination!

Take the Amtrak Southwest Chief to La Plata, MO, or the Amtrak California Zephyr to Ottumwa, IA, for FREE shuttle service provided by the Depot Inn & Suites to Silver Rails Country! To request a FREE 24"x18" map visit SilverRailCountry.com/news-home of the Exhibition of Amtrak History, the Silver Rails Gallery, boyhood homes of Walt Disney & Mark Twain and much more!



Visit TrainWeb.com, TrainWeb.org and our Facebook Fan Pages for travelogues, rail photos, the latest rail news, live railroad webcams from across the nation plus much more!

TrainWeb.org is the home of over 1000 independently authored and managed rail related websites featuring information and photos on every aspect of railroading.

WANTED: Photographers for Steel Wheels

If you have a collection of hi-res jpeg photos, especially of passenger trains in California, or enjoy taking them, contact the Editor,

WE NEED YOU!

pdyson@railpac.org

Don't forget to check your subscription expiration date on the mailing label and renew your membership if it is due.

Thank you for your continued support for RailPAC and passenger rail.

DTX Continues To Be Stalled By Politics

By Gerald Cauthen, President of the Bay Area Transportation Working Group (BATWG)

The extension of Caltrain into downtown (“DTX”) San Francisco is currently derailed.

Nineteen years have passed since the passage of SF Prop H. On November 9, 1999, 69.3% of the voters defined the downtown extension of Caltrain (DTX) as San Francisco’s Number One transportation priority. The first Federal grant allocated to help build the Transbay Transit Center/Downtown Extension Project arrived two decades ago. In 2010 the Obama Administration approved an additional \$400 million to pay for the construction of the huge 70-foot deep passenger train station beneath Transbay Transit Center (now called Salesforce Transit Center) at First and Mission Streets. The State of California kicked in by transferring 19 acres of State-owned land in downtown San Francisco to the City, which helped greatly to build the Center and brought about the construction of 19 separate high-rise buildings in its immediate vicinity.

The longer the extension of Caltrain is delayed, the more the project will come to be regarded as a betrayal of the public trust, an improper use of State and Federal transportation grants and a waste of public dollars.

August saw the opening of the Salesforce Transit Center. Despite the recent structural issues, all who have passed through the facility have applauded its open and inviting design. In addition its unique rooftop public park has quickly become a neighborhood icon, a popular lunch destination for nearby office workers and a major stopping point for tourists and many others. But something’s missing. However, absent the trains, San Francisco’s outstanding high-volume intermodal terminal is destined to operate at far below its design capacity for years if not decades to come.

On the bright side, when the trains finally do get to downtown San Francisco there will be an immediate mode shift from auto travel to train travel. When the tens of thousands of new train riders begin passing through the new Transit Center and the underground pedestrian ramps leading to the Market Street subways, the Center will come to life and take its place among the great passenger rail melting pots of the world.

In such a situation one might expect municipal and regional officials to move quickly to accelerate the project. But unfortunately that is not happening at this time. On the contrary the Department of City Planning’s Rail Alignment and Benefits Study (RAB) has been allowed to impede DTX in a number of ways. For instance, after the RAB Study got underway four years ago the RAB planners were soon seeking to discredit virtually every aspect of the DTX project. According to the RAB planners (who possess little if any passenger rail operating experience), the layout and train turnaround capacity of the new terminal were inadequate, the movement of trains between the existing 4th and King terminal and the new downtown terminal was flawed, and the location of the railyard and long ago approved DTX alignment through Mission Bay unacceptable. It has been suggested that the reason for these gratuitous attacks on the long environmentally-cleared and otherwise

approved DTX project was due in large part to RAB’s desire to subordinate the DTX project to its own goal of achieving “the full development build-out” of Mission Bay. Here is a summary of where things stand today:

ALIGNMENT ALTERNATIVES: As shown in RAB Figure 1, three alternative ways of routing the trains through Mission Bay were analyzed.

Option 1 kept the existing at grade alignment under the I-280 freeway but added huge and expensive roadway underpasses at Mission Bay Drive and 16th Street. Because of the absence of layout drawings, engineering profiles and utility drawings it is not possible to determine why the RAB planners were so fixated on deep expensive underpasses.

Option 2 placed the tracks between the west end of the Fourth and King Station and Potrero Hill in a \$2.7 billion stretch of new subway under Pennsylvania Avenue. During the first 30 months of the RAB study its participants eagerly looked forward to the removal of the north end of the I-280 freeway. During those months it was envisioned that with the freeway gone and the trains hidden below grade the land where the freeway now is would become ripe for intensive residential development. However, when RAB first aired its plans on February 23, 2016, the freeway removal proposal died a quick death. RAB’s unaccountable aversion to surface rail travel under a huge overhead freeway and its consequent preference for the Option 2 subway appears to be a hold-over from the days when planners were unrealistically dreaming of replacing I-280 with a freeway-free new neighborhood.

Option 3, relocated the Fourth and King Station to a new alignment approximately 10 stories under Third Street. For a variety of good reasons this alternative was soon regarded as a “non-starter”.

Option 4 was not analyzed. Option 4 would have left the trains on their present at-grade alignment under the freeway, but with no roadway underpasses unless and until warranted by projected traffic backups. But the RAB planners ruled out Option 4 without serious consideration based upon vague and unsubstantiated statements about how 16th Street would be affected by near-term train movements.

With Options 1 and 3 ruled out and Option 4 ignored, RAB predictably recommended the Option 2, the Pennsylvania Avenue Subway projected to cost \$2.7 billion. “The RAB planners then rushed their recommendation to the SF County Transportation Authority (CTA) without waiting for Caltrain’s forthcoming Rail Operations Study and therefore without an adequate understanding of how the new subway would affect train movements along the main line and in the railyard. As part of their presentation, the RAB planners assured the CTC members that the RAB subway and the environmentally cleared DTX would proceed separately as separate projects, each without interfering or delaying the other. Absent knowing the contents of Caltrain’s forthcoming operations report that assurance rings hollow. The RAB study has already materially

impeded and obstructed DTX and, unless something changes, this is likely to continue.

Despite the attempts of BATWG and other transit advocacy groups to convince the San Francisco Transportation Authority to delay the vote, at least until the Caltrain operators had had their say, the CTS approved the \$2.7 billion new tunnel alternative without comment at its regular September 25, 2018 meeting.

RAILYARD ALTERNATIVES: RAB's response to the need for train storage and staging space at the north end of the 78-mile Caltrain line has been equally disappointing. The railyard alternatives that should have been considered include the following:

Railyard Option 1 would leave the tracks at grade.

Advantages: avoids miles of disruptive and costly train deadheading; avoids electrifying the railyard twice and avoids the cost of excavating roughly 280,000 cubic meters of material. (Rejected by RAB as impractical)

Railyard Option 2 would reduce size of the railyard and leave the tracks at grade enclosed in an attractive building with provision for air rights development. Advantages: avoids miles of disruptive and costly train deadheading; avoids electrifying the railyard twice and avoids the cost of excavating roughly 280,000 cubic meters of material. (Not considered by RAB)

Railyard Option 3 would depress the railyard to the currently planned level of the Fourth and King Station tracks at least 50 feet below grade. Advantages: permits full development of the existing site, avoids miles of disruptive and costly train deadheading; allows yard tracks to be merged with main line tracks at both ends of the railyard; facilitates north-south pedestrian and bicycle access the site and into Mission Bay and, by freeing up the first 30 feet of above grade for development.

Railyard Option 4 would depress the Fourth and King Station tracks and the railyard tracks to approximately 30 feet below grade. Advantages: those of Option 2, plus significantly reduced excavation, an opportunity for coordinating the building the Fourth and King Station and railyard with Caltrain electrification, and

elimination of the expensive 4th and King mezzanine level. (At the Fourth and King Station there is plenty of at-grade space for fare collection and baggage handling, thereby allowing the mezzanine to be deleted from the project). (Not considered by RAB)

RAB's Railyard Option 5 would move the railyard to some distant and undisclosed location. Advantage: Eliminates the need to worry over how the proposed Pennsylvania Avenue Subway might affect railyard operations. Despite objections from Caltrain, RAB continues to insist on Railyard Option 5

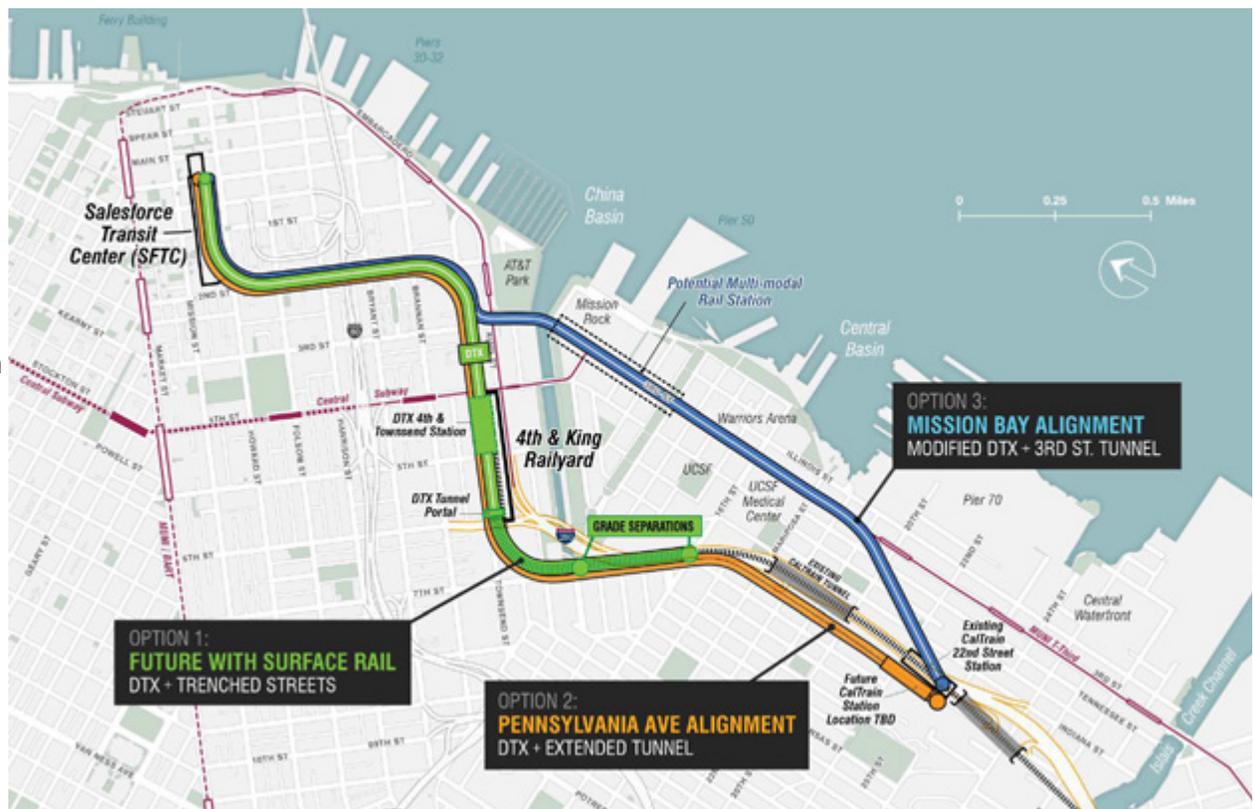
CONCLUSION: By subordinating the long ago approved and environmentally cleared DTX project to their desire to fully build out Mission Bay, the RAB planners, perhaps unwittingly, are delaying the critically-needed and long awaited passenger rail link between the South Bay, Peninsula and downtown San Francisco.

The huge train terminal beneath the Sales Force Transit Center sits quiet and empty. To get DTX under way and into construction will take leadership and courage on the part of municipal and regional politicians and, most importantly, the political will to get the job done.

WHAT YOU CAN DO: Call or write SF Mayor London Breed. Call or write the SF Board of Supervisors. Call or write Jake Mackenzie, Chair of the Bay Area Metropolitan Transportation Commission.

For more information about BATWG, please go to www.batwgblog.com

Figure 1
Rail Alignments and Benefits Study ("RAB") Options - 2018



Northern California Mega Region Passenger Rail Network

Steve Roberts and Vaughn Wolffe

With growing traffic congestion fueled by strong job growth but with housing availability often far from the job centers, the Boards of the two Northern California JPA's, Capitol Corridor JPA (CCJPA) and San Joaquin Regional Rail Commission (SJRRRC-ACE), encouraged their staffs to look beyond incremental change and envision a service that could carry a significant share of traffic. For the CCJPA that meant dealing with the structural issues that slow the route, as well as dealing with the need to increase capacity. For the SJRRRC it was the need not only to expand capacity and reduce running time on the core ACE Stockton – San Jose route, but to expand the route to serve more cities in the San Joaquin Valley. Both JPA's were also exploring how to connect their services to California High Speed Rail now focused on Northern California development.

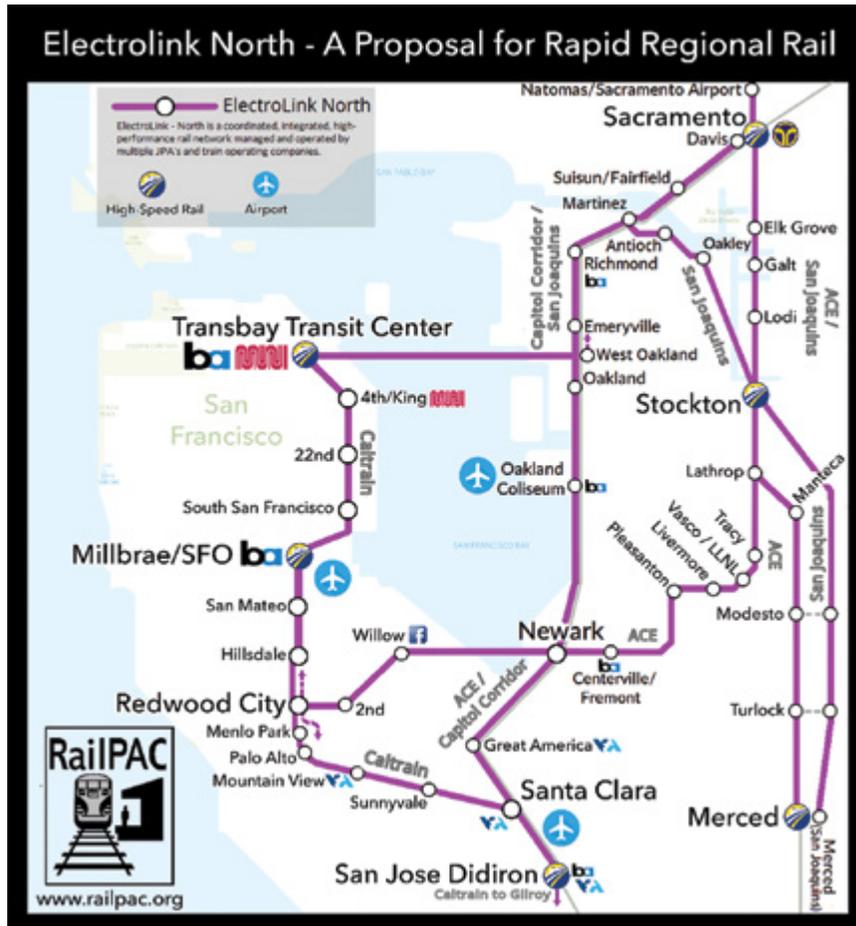
The structural barriers the Capitol Corridor faces are a slow circuitous route, Oakland – San Jose, environmental issues crossing the Alviso wetlands, slow street running through Oakland and a slow twisting route along San Pablo Bay between Richmond and Martinez. The route along the Bay is also at risk due to sea level rise. The investments envisioned to deal with these challenges are switching the Capitol Corridor to the Coast Subdivision between a junction south of Oakland direct to Santa Clara (this is the route the Coast Starlight uses). Replacing part of the existing fill through the Alviso wetlands with a trestle would restore tidal flows. This mitigation would allow a three track mainline between Newark Jct. and Santa Clara. Through Oakland two tunnels would be constructed, one for freight and one for passenger. Between Richmond and Martinez a new inland route through Franklin Canyon (the canyon used by the BNSF) would be used. This would yield a straighter faster route free from issues of rising sea

level and would also facilitate a new high level crossing of the Sacramento River (rather than the current drawbridge). Work underway and partially funded is the shift of service from the Niles Subdivision through Hayward to the Coast Subdivision through Newark (used by the Coast Starlight) allowing faster service Oakland to San Jose. This route shift would also allow connections to future Dumbarton Corridor service.

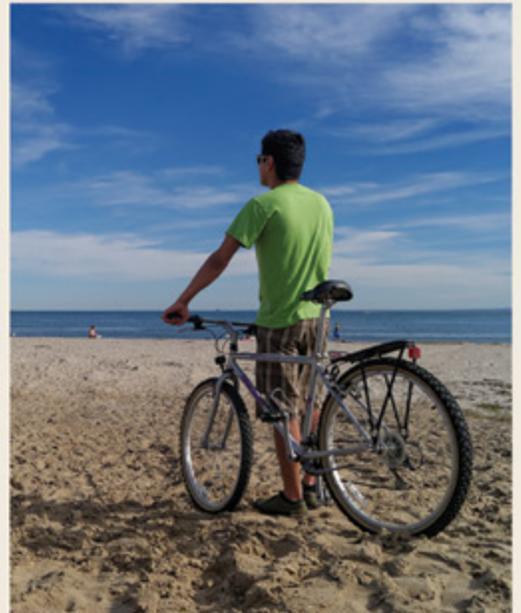
Altamont Commuter Express (ACE) faces similar challenges. Its core Stockton – San Jose route has seen steady growth and is near capacity. It follows the former Western Pacific RR

crossing Altamont Pass and down through Niles Canyon before reaching San Jose. To expand service SJJPA staff developed a staged investment strategy to deal with some of the issues and expanding to 12 round-trips. The plan also expands the ACE San Jose route to Modesto and Merced. Community opposition has put the expanded frequencies to San Jose on hold for the moment. Recently the SJRRRC's focus has shifted to the San Joaquin Valley. As part of the funding authorized by SB1, \$400 million was enabled for extension of ACE service to Modesto/ Ceres. During the same time frame the Union Pacific, as part of negotiations for additional San Joaquin frequencies to Sacramento, offered the former Western Pacific route as a passenger

rail line from Stockton to Sacramento. Thus SJRRRC now had a potential passenger rail line from North of Sacramento (Natomas) to Merced. In support of this network the SJRRRC applied for and was awarded a \$500.5 million TIRCP grant for expansion, equipment and construction which combined with the \$400 million noted above, creates a new Northern San Joaquin Valley rail system under construction featuring commute service to Sacramento, route extensions for existing ACE trains operating to San Jose, local service within the San Joaquin Valley and additional San Joaquin intercity frequencies to Sacramento.



There's so much to see Car Free in Santa Barbara!



SantaBarbaraCarFree.org

  @SBCarFree

Santa Barbara Car Free is a cooperative project founded and led by Santa Barbara County Air Pollution Control District for cleaner air and a healthier planet. See OurAir.org.



Trip report – MinnARP goes to Canada

By Andrew Selden

Montreal to Quebec City on VIA #26

We were about to leave Minneapolis for Quebec City to join relatives for (Canadian) Thanksgiving, going the way most people do on trips of that

length (when one is not driving) by air (Delta to Toronto, and a regional carrier turboprop 30 minutes onward to Quebec City). Shortly before our departure date, however, we learn that Delta has re-timed the originating flight in a way that breaks the connection.

This is a problem, because by then no airline seats are available at all into YQB, due to the impending holiday. After two long, fruitless calls with Delta, I gave up and have them re-route us into Montreal, a much larger city, and airport. I know I can either take a VIA train on to Quebec City, or drive the roughly 275-mile distance on an Interstate-grade expressway if VIA also is sold out.

Next stop is VIA's website, where I see that train #26, originating in Ottawa, leaves Montreal at 4:40 ("16:40") for an easy 3 ½ hour run to Quebec City. The website booking page is graphically more appealing than Amtrak's, with equivalent functionality. VIA makes it all but impossible to get timetable-format schedules, and stubbornly refuses to describe train consists or features. I book two business class seats for just over \$300, about a 50% upcharge from coach. The website promises a meal served at one's seat for all business class passengers, and in that step I order a gluten-free meal for my wife. The email confirmation/boarding pass assigns us two seats in car 91, described as aisle and window, and "forward facing." One is invited to telephone VIA to change assigned seats. (On legacy airlines, the traveler can pick, and change, his own seat on line, in seconds, on most fares.) We leave ours alone.

Canadian Thanksgiving officially occurs on Monday, but many families celebrate it on Sunday to facilitate travel. On the preceding Wednesday, we embark for Quebec City. The flights are completely uneventful, we arrive in Montreal on time at about noon, and taxi to (ex-CN) Central Station. We check our bags, for free, at what the Brits call a "left luggage" room, which also handles checked bags on certain trains, check in at the well-marked VIA business class lounge across the concourse to learn the boarding process, then head out for lunch. The station has a large food court, but with time to kill, we opt for a nice sit-down lunch upstairs in the restaurant of the Queen Elizabeth Hotel.

We are back to the lounge at 3:00. It is large, brightly-lit, easy to find, quite comfortable, and well stocked with a wide variety of cold and hot beverages, and a few throw-away snacks. The two uniformed, bilingual VIA staff ladies are cheerful, efficient and professional. It is the antithesis of the Club Acela dungeon

at Penn Station New York. It is also soon jammed with people, as VIA has three departures (for Toronto, Ottawa, and our #26 to Quebec City) pending within an hour or so, all of which have business class cars.

The large train monitor in the lounge reports #26 expected OT at Montreal, and at 4:20 the staff announces the train and herds the guests out to the boarding queue at the nearby escalator down to the platform. The queue is the only discordant note to our trip. It is uncharacteristically chaotic (Canadians typically are very good at spontaneously queueing up for this kind of thing), with no signs, ropes or guidance, and no apparent preference for business class. One employee scans boarding passes at the top.

Down we eventually go. At the platform, two VIA ladies direct traffic—coaches forward, business class 180 degrees backward from the escalator. This affords us our first glimpse of train 26: it has pulled in forward with its engine nose up to the track bumper, trailing two LRC business class cars and three ex-CP Budd stainless coaches. There is no baggage car or separate café or lounge car.

We throw our bags into a large rack just inside the door of car 91, and find our seats. Row 14 is the second row we come to, next to last in the car. The entire car is set up with 2x1 extra-firm leather seats with the usual amenities, including power ports. The seats in each half of the car face the center, and the center two rows facing each other across small fixed tables.

At precisely 4:40, we depart, with no warning, train horn, or anything. We are moving backwards, but as I suspect, the train is backing out the same way it entered in order to resume the run to Quebec City with us facing forward, as promised.

In less than two minutes, the two car attendants are rolling drinks trolleys down the aisle from each end of the car, serving the same array of complimentary beverages one would expect in first class on a domestic airliner, including a choice of two red and two white wines. With wine already in hand, we soon cross the very large St. Lawrence River and immediately stop at the south bank suburb of St. Lambert. While we board passengers and the two business class cars at least fill completely, a westbound CN freight crawls past.

Out of the city on CN's main line, we quickly reach 70 and then 85 MPH; three times later on we will have short sprints up to 95. The LRC feels solid and well-maintained, and the windows are spotlessly clean. But the car doesn't ride especially well; it seems to wallow along at higher speeds. I wonder if the trucks are "hunting," or if the car's unique suspension does that.

Very soon, the car attendants are back with the trolleys offering dinner with a choice of three hot entrees, lasagna, chicken or salmon, preceded by a hot towel. I take the salmon, my wife is



Photo by Andrew Selden

handed her requested special meal before she can even ask about it, and we find that the dinners are at least as good food as one would find on a US airline on a transcontinental flight in first class.

We stop at Drummondville, the only real intermediate stop, for ten minutes, eight of

which are spent cooling our heels waiting for our posted time. I ask our VIA lady if there is a café car for coach food service. She says, no, they use a trolley there, too, to sell snacks and sandwiches. I comment, "That is not like on Amtrak." She replies, "No, this is better." Except for the loss of any social dimension to even a short train journey available from mingling in a café or lounge car, she is right.

At 6:58 we stop for about 4 minutes for a slightly-blown meet with a VIA westbound. Right after, VIA's on board Service Manager (the train has no conductor; the service manager is the train's captain) walks the train asking if anyone needs a taxi at St. Foy, the suburban stop near Quebec City. VIA will call ahead to request taxis there.

We leave St. Foy, where three-quarters of our car empties, at

7:44, and before 8:00 stop at Quebec City, a few minutes early. Many taxis are waiting, and in minutes we reach our hotel inside the walls of the Old City.

Overall impressions: except for the mob boarding at Montreal, all aspects of this trip were excellent. The people and the operation were highly customer-friendly, professional and efficient. This was a come-back experience. The excellent hot dinner served at our seat (for us, coming at the end of a long day's travels) was a large part of that. Amtrak's cold box lunch offered to sleeping car passengers on the Lakeshore and Capitol Limited is an embarrassment and insult, by contrast. Nowhere did we encounter the slap-dash, we-hate-our-job and we-hate-our-customers attitude that is so prevalent on Amtrak's eastern trains, especially the short corridor trains. And, we wondered, if VIA can hire friendly staff and keep its rolling stock completely clean and tightly-maintained on its proportionally-constrained budget, why can't Amtrak?

Pomar Junction Vineyard & Winery

Sustainability In Practice (SIP) Certified winery with award winning wines to boot.



RailPAC thanks Pomar Junction for their support!

5036 S. El Pomar Rd, Templeton CA, 93465
Tasting Room Open 11am-5pm Daily
805.238.9940 | pomarjunction.com

THE TRAIN SHACK, INC
SERVING ALL YOUR MODEL RAILROAD NEEDS SINCE 1985



ALL SCALES G-N VINTAGE TO NEW
AUTHORIZED FACTORY SERVICE
DIGITAL INSTALLATIONS
HOUSE CALLS & CUSTOM LAYOUTS
WORLD WIDE SHIPPING

1030 N. HOLLYWOOD WAY • BURBANK, CA 91505
www.trainshack.com (818) 842-3330

dengate
design group

expertise. value. results.

- custom logos
- design & graphics
- 1 to 5 color printing
- presentation folders
- stationary, envelopes & business cards
- brochures, flyers, postcards & newsletters
- checks, NCR forms & invoices
- labels & bumper stickers
- specialty items including...
- trade show displays & banners
- promotional items, t-shirts, hats & magnets

916.863.7625
fax 916.965.7152
8241 sunbonnet drive
fair oaks, california 95628
website: www.dengate.com
e-mail: design@dengate.com

RAIL PASSENGER ASSOCIATION OF CALIFORNIA & NEVADA

1017 L Street, PMB-217
Sacramento, CA 95814-3805

Non Profit Org
U.S. Postage
PAID
Permit No. 1616
Sacramento, CA



A PUBLICATION OF THE
**RAIL PASSENGER ASSOCIATION
OF CALIFORNIA & NEVADA**

The RailPAC Mission: *Passenger Rail advocacy, Publications...both print and electronic, Representation at regional meetings, and Rail education.*

Join us! More memberships increase our strength in presenting the case for rail to policymakers at all levels!

©2015 Citizens for Rail California, Inc. dba Rail Passenger Association of California & Nevada. Permission is granted to quote items in other publications with credit. Signed articles represent author opinions, not necessarily the official views of RailPAC or the member associations. Articles and photos may be submitted for publication to info@railpac.org or mailed to the official address. RailPAC is a non-profit corporation organized under 501(C)(3). *Donations are tax deductible.*

2018 RAILPAC OFFICERS AND BOARD OF DIRECTORS

Executive Vice President:

Robert Manning, Palm Springs

Vice President, Long Distance Trains:

James Smith, Los Angeles

Vice President, Policy and Research:

Steve Roberts, Concord

Secretary/Treasurer:

Marcus Jung, San Francisco

President: Paul Dyson, Burbank

Directors

Donald Bing, Moorpark
Noel Braymer, Oceanside
Marcia Johnston, Sacramento
Doug Kerr, Healdsburg
Dennis Story, Santa Barbara
Vaughn Wolffe, Pleasanton

Director, Emeritus:

Bruce Jenkins, Sunnyvale

Treasurer, Emeritus:

William Kerby, Sacramento

Treasurer, Emeritus:

James Clifton, North Hollywood

Editor, Emeritus:

Russ Jackson, Texas

Website and Social Media:

Jarrod DellaChiesa

Steel Wheels Editor:

Paul Dyson

Steel Wheels Design and Layout:

Dengate Design

Want to be notified of the latest RailPAC news between issues?

Visit Our Website regularly:

www.RailPAC.org

Like us on Facebook:

www.facebook.com/RailPAC

Follow us on Twitter:

www.twitter.com/RailPAC

JOIN RAILPAC TODAY at RailPAC.org or mail to the address below!

RailPAC membership entitles you to:

- *Steel Wheels – Passenger Rail in California and the West* newsletter
- Weekly eNewsletter and periodic alerts via email
- Eligibility to attend our annual Steel Wheels conference and regional meetings

MAIL TO: RAILPAC c/o Marcus Jung

P.O. Box 22344, San Francisco, CA 94122

MEMBER INFORMATION

Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Phone: _____

Email: _____

DUES LEVEL

- Regular (\$35-79)
- Student/Senior/Fixed Income (\$25-34)
- Sponsor (\$80-199)
- Patron (\$200-499)
- Organization (\$500 and above)