

STEEL WHEELS

PASSENGER RAIL IN CALIFORNIA AND THE WEST

ISSN 2325-629X

MAGAZINE OF THE WESTERN PASSENGER TRAIN COALITION

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



Winter is Coming - Amtrak 6 at Verdi NV, February 2010. Photo: Ray Lewis

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4th QUARTER 2021

PUBLICATION OF THE



RAIL PASSENGER ASSOCIATION OF CALIFORNIA & NEVADA



From the Editor's Desk

By Paul Dyson - RailPAC Editor

RailPAC had its second Zoom annual meeting October 16, and it's a sign of the times that everyone knows what a Zoom meeting is.

There are advantages of course,

as we are spread out not just in California but in many other states around the country. But I for one am more than ready to go back to in person meetings. It's always a pleasure to renew acquaintanceships with many of you that I have come to know over the past forty years, and I'm looking forward to when we can meet again. Steve and the Board are giving a lot of thought to this. We may consider a combination of a fall in person meeting and a spring Zoom to connect with a wider group. Be sure to let us know what you think about both formats.

The meeting was attended by 35 members and heard an interesting presentation from Jim Allison, head of planning for the Capitol Corridor agency, about integrating information and ticketing for public transportation, especially rail. While we've always campaigned in a general sense for an integrated statewide network it's certainly startling to hear the multiple levels of organization needed to make something that actually works. We will be making his slideshow available on the website but if anyone wants to see it now please email me.

As for this quarter's SW, the outcome of the ongoing cliffhanger in Washington DC will have to wait for the next publication. How much money there may be for passenger rail is undecided, let alone where it will be spent. The focus right now should be squeezing as much as possible out of the dollars we have. Federal dollars are propping up the commuter agencies, but should they not be looking at their staffing levels? Metrolink in particular bulked up on management and administrative level posts under the last CEO. Are they really needed to run a basic regional railroad? I also fear that the passenger rail agencies in southern California are missing a great opportunity for cooperation and market expansion. While I was agreeably surprised last week (October 8) by the nearly full load on a San Diego bound Surfliner out of

Los Angeles, Metrolink and Coaster are both struggling with low ridership. Time for some fresh thinking? We hope so, and I'll be reporting on discussions with senior management "From the Rear Platform" in the next issue.

Speaking of the Surfliner, the October 25 timetable is out and many services are restored, and some connectivity is improved. We'll analyze it further next time and on line. Meanwhile, why is the Coast Starlight ignored? Is it a ghost train? If I want to leave LA after 9.30am but before 3pm is this not a useful extra choice? And where is the update to the combined corridor timetable that appeared in 2019 with Coaster, Surfliner and Metrolink? Barrrrhhh!!

I want to express my personal thanks to Noel Braymer, who has recently had to give up his weekly ENews for health reasons. Noel wrote a letter to the LA Times in April 1980, a few months after I had arrived in this country. The Times forwarded a letter from me to Noel and as a result I joined CRC before the RailPAC name was adopted. I don't think that anyone has given more time and effort to advocating passenger rail than Noel, and his contribution to the cause will be missed by all of us.

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Noel Braymer (r) with Paul Dyson and James Smith at Los Angeles Union Station in 2019. Noel has retired and moved to Dublin, Ireland to be with his family.





President's Commentary

*By Steve Roberts –
RailPAC President*

First, I would like to offer my condolences and sympathy to the families who sadly lost their loved ones in the derailment of the Empire Builder and also

sympathies to all of those injured in the same incident. In addition, condolences and sympathies to the law enforcement community for their loss and injuries to fellow officers that occurred during the incident on the Sunset Ltd. Needless to say speaking on behalf of myself and all Steel Wheels readers, all frequent train riders, we can empathize with everyone who was on the Empire Builder and Sunset Ltd. One of the attributes of train travel is as a momentary escape from the “real world”. The Empire Builder’s derailment and Sunset Ltd. incident remind us that even on a train the real world can intervene in an instant.

Normally I would try to give a legislative update but as I write this, things are still “in process”. One thing I keep in mind, to paraphrase an old saying is, “those with sensitive constitutions should not watch sausage being made or legislation being crafted.”

One situation that arose dramatically during September was the land slippage on the Surfliner Route in San Clemente. The Orange County Transit District was aware of the general risk through San Clemente but now a section at San Clemente is in motion. The cause: when the rail line was built the location was protected by a wide swath of beach. Fast forward 100 years and the beach is gone, eroded away and starved for its building material, sand, due to the retention or blockage of sand by various flood control dams, concrete river channels and breakwaters built in the last 70 years in Southern California. The mass of beach sand also held up an area of the cliff front (and the rail line) consisting of softer soil sitting on top of more solid clay soil. So like a fried egg in a tilted pan with no edge the segment of softer soil is slipping seaward (pg. 24, Geotechnical Cross-Section).. A large amount of rip-rap (large rocks) has been placed in hopes of keeping the fried egg in the pan. But with no beach, sea-level rise and stronger waves emanating from stronger storms, this will only be a temporary fix.

While Steel Wheels normally does not cover freight topics, we thought Surface Transportation Board (STB) Chairman Martin Oberman’s speech at the recent North American Rail Shippers Conference noting the freight railroad’s singular focus of maximizing profits, was worthy of a reprint (Page 12). This is because without a market relevant freight industry there is no passenger service. My take on the subject is that America’s

drivers are concerned that the Interstate Highway System is being clogged with more and more trucks. They want some relief; from short-haul trucks, medium-haul trucks and long-haul trucks, not just trucks carrying the highest yielding traffic (the freight railroad focus). So the freight railroads can be an aggressive part of the solution or American drivers will fix it with separate roads for self-driving trucks. Another issue the STB may address in its Gulf Coast Case is the role of the freight railroads have as stewards of irreplaceable national assets of strategic value, their rail lines. Currently the CSX, focusing on traffic from captive shippers with no expectation of competitive service, is “living with” 100-year old unreliable drawbridges and the delays inherent in their unreliability. For passenger service this level of performance is not acceptable. So the question is whose responsibility is it to maintain a serviceable rail line with a common carrier obligation to provide capacity for additional traffic, the CSX as steward of this asset or the prospective passenger rail carrier?

One “look ahead” article in this quarter’s issue is the “Bi-Level Challenge” (page 8). The production of new bi-levels faces several design and economic headwinds. So enjoy the current Superliners because their replacement cars may bring changes in the car design, on-board service and the train riding experience.

Finally over the last 50 years, starting in the pages of Rail Travel News, Andrew Selden and I have had this long-running discussion about Amtrak’s management. Andrew sees a skillful all-powerful and controlling group of managers, constantly refreshed again and again over 50-years, working in a Machiavellian scheme to undermine all rail service except the NEC. I on the other hand see a group of simple taskmasters, sometimes making incorrect decisions, but more often charged to keep Amtrak running with inadequate capital and with constant politically driven policies and directives by Congress and various Directors of the Office of Management and Budget.

As to consists this summer, as I noted in the 3rd Quarter Steel Wheels, last Spring’s swift ramp up of demand in conjunction with a wave of retirements created havoc with operations planning and service delivery across the transportation industry. Across all of business the post pandemic economy has meant a constant juggling of resources. Was Amtrak too conservative? Should they have been more forward leaning with calendar time driven equipment inspections? Probably. On the flip side, American, Southwest and Spirit Airlines managers aggressively tried to ramp up capacity to meet the growing demand and had complete and utter service meltdowns because they did not have staff to support the schedules planned. So which is worse, being told the train is sold out (because of a conservative operating plan matching resources to requirements) or having the train cancelled and passengers stranded (like thousands of Spirit, Southwest and American Airlines passengers) because there were no crews or serviceable cars for the outbound train?

SABOTAGE

by Andrew Selden

Andrew is President of United Rail Passenger Alliance and MinnARP, and is a regular contributor to Steel Wheels.

Under federal (and many states') law it is a crime, often a felony, to sabotage or tamper with railroad property with the intent to (or with reckless disregard towards) causing damage or injury to persons or property.

But apparently it is perfectly fine for management of a railroad to operate it in a manner that stifles its economic prospects and prevents growth. Pre-Amtrak, the management of a few railroads did just that to drive away passengers. The Southern Pacific famously took dining and café cars off the *Sunset Limited* and replaced them with vending machines. There was a story, possibly apocryphal, that the Soo Line furloughed its car cleaners. Other companies reportedly understaffed their booking offices to limit ticket sales. Milwaukee Road scheduled trains asymmetrically and at awkward times.

Keep in mind that during and (today) coming out of the Covid epidemic, the only Amtrak trains that people used and came back to in significant numbers were the inter-regional ("long distance") trains, long despised by management. The short-distance corridor trains so mindlessly favored by management collapsed, and still have not recovered; ridership is still down well over 50% on all short corridor trains. Not so with long distance trains, from *Auto-Train* to the *California Zephyr*, which are running sold-out this summer (at least in sleepers), turning away frustrated prospective customers by the hundreds and leaving on the table huge amounts of uncollected fare revenue. This performance humiliates executives who constantly disparage the inter-regional routes.

Amtrak Results
Tables Courtesy of
Trains Magazine.

An outside observer could easily conclude that Amtrak has begun a quiet campaign to discourage or even prevent use of its long distance train services in the inter-regional corridors, to cap sales and ridership, and stifle growth, with the ultimate intent of *eliminating* long-distance trains altogether. Management says with its actions and sometimes its words that these trains have no future, despite their stellar performance. And if this is not the case, how would it look any different if it were?

A case in point is the *Southwest Chief* ("SWC"), Trains 3 and 4, between Chicago and Los Angeles via Kansas City, Albuquerque and Flagstaff.

This summer, Amtrak has seen fit to operate the SWC with

Amtrak 2021-2019 fiscal year performance								
	Revenue (in millions)				Ridership (in thousands)			
	2021	2020	2019	+% 2021 vs 2019	2021	2020	2019	+% 2021 vs 2019
Long distance	\$330.7	\$308.2	\$494.6	-33%	2,238.0	2,689.5	4,554.8	-51%
State supported	\$209.3	\$281.7	\$538.1	-61%	5,519.9	8,004.3	15,438.8	-64%
Northeast Corridor	\$342.9	\$651.7	\$1,321.6	-74%	4,408.8	6,417.5	12,525.6	-65%
TOTAL	\$882.8	\$1,241.6	\$2,354.3	-63%	12,168.8	16,841.3	32,819.0	-63%
Best revenue retention/gain in each category								
Auto Train	\$85.7	\$58.8	\$76.7	12%	199.4	163.6	236.0	-16%
Carolinian	\$12.5	\$9.8	\$16.2	-23%	194.7	150.4	244.8	-20%
Northeast Regional	\$225.1	\$343.8	\$678.1	-67%	3,508.8	4,486.8	8,940.7	-61%

Fiscal 2021 percentage trends of same non-pandemic month in previous year						
	Long distance		State supported		Northeast Corridor	
	Revenue	Ridership	Revenue	Ridership	Revenue	Ridership
November (vs. 2020)	-57.7%	-69.0%	-77.0%	-78.3%	-88.9%	-82.7%
February (vs. 2020)	-57.8%	-66.2%	-74.8%	-77.5%	-88.6%	-81.1%
May (vs. 2019)	-30.0%	-51.9%	-56.2%	-61.6%	-71.6%	-62.9%
June (vs. 2019)	-4.0%	-26.4%	-47.5%	-52.6%	-61.7%	-49.2%
July (vs. 2019)	-6.9%	-25.7%	-38.1%	-43.0%	-48.1%	-38.0%
August (vs. 2019)	-8.0%	-32.5%	-39.7%	-45.2%	-47.8%	-36.9%
September (vs. 2019)	-0.6%	-24.8%	-43.1%	-46.2%	-53.7%	-39.6%
Notes:						
Long distance trains resumed daily operation at the end of May						
More state frequencies and routes added in June and July						
Additional Northeast Corridor round-trips offered in May and June						

a minimalist consist of only two sleepers (one of which has six of its 14 Roomettes removed from inventory and used for crew accommodation), two coaches (one often a coach/baggage, with no downstairs seating), a diner (for sleeper passengers only), a lounge car, and a baggage car.

This is a train that is structured to fail for the simple reason that even if it runs full every day it is so small

a train that it cannot generate enough revenue to sustain itself.

Amtrak made clear five years ago that it wanted to be rid of the SWC. Blaming deteriorating track between La Junta, CO and Lamy, NM, Amtrak proposed to run a coach-only train from Chicago to western Kansas, with a 12-hour bus bridge to Albuquerque and a coach-only train between Albuquerque and Los Angeles. This western “Palmetto” farce might have generated bus-load levels of ridership, but it couldn’t have survived a year, and would then have been easy to discontinue altogether “because no one is using it.” And they were serious about it, even producing a formal timetable showing the “service” with the long bus-bridge in the middle. Only furious resistance by local advocates along the route (with only token support from NARP/RPA) persuaded congress to push back, eventually ordering Amtrak to maintain the train.

But Amtrak doesn’t take well to congressional oversight, particularly when it involves service outside of the NEC. Amtrak now appears to be maintaining the Chicago-LA route only in a begrudging manner cloaked in plausible deniability, but designed ultimately to cap ridership and revenue at a sufficiently low level as to justify eventual discontinuance.

Consider the tiny amount of revenue space on the SWC. One normal coach, plus a baggage-coach, provide only about 134 seats (depending upon the exact configuration of the cars used; and, two seats are taken by the one car attendant). But the number of passengers accommodated is less than that, because a western long distance train is functionally sold out at about a two-thirds load factor due to the large number of stops and the huge number of potential origin-destination city pairs on the line, which generate a large amount of turnover along the way. (The Empire Builder turns over every seat and every berth an average of 2½ times on every trip.) A seat that is vacant at any given point has been sold to a passenger boarding downline. If 90 coach passengers are on board the meagre



Southwest Chief Train 4 picks up a crowd at Fullerton on 11th October, 2021. Amtrak’s least invested and most neglected product continues to shine above the rest.

Photo: RailPAC member Mike Palmer

two coaches at any given point, the train is full—sold out.

Elderly and handicapped passengers, an important part of Amtrak’s customer base, who rely on using the lower-level seats in the Superliner coach are especially harmed because the unnecessary use of a coach-baggage car (when the train also carries a normal baggage car) cuts the available number of such seats in half on every trip.

“Attention seniors: Your business not welcome here.”

A similar calculus applies in the sleepers. Six out of 14 Roomettes are removed

from inventory in one car to accommodate crew (four dining car employees, one lounge car attendant, and the sleeping car attendant). That leaves only about 1½ sleepers worth of space—just ten Bedrooms and 21 Roomettes—available for sale to passengers. Sleepers have less turnover and longer average trips than coaches, but are also functionally sold out at about a 70% load factor. (For comparison, the Empire Builder normally offers 15 Bedrooms and 47 Roomettes each trip on a route serving a smaller population than does the SWC.)

No train with as little revenue space as the Chief offers has any hope of covering its costs. On a recent trip on the Empire Builder, we observed that sell-out conditions on the train suggested that an additional coach and sleeper could easily have been filled with paying passengers. That train had 3½ sleepers (counting overflow Roomettes in the crew dorm car) and three coaches, and we know from independent analysis that the Empire Builder route generates about \$15-20 million a year in free cash flow for Amtrak. But with so little revenue space, the Chief simply is incapable of doing that.

And don’t think that the top managers at Amtrak don’t know exactly what they are doing when they run impossibly short consists on the Chief. They might claim that the train attracts only that much traffic, but even if that were true (it isn’t), the correct response would be to fire the sales and marketing staff and replace them with people who believe in and can sell the company’s product.

And the sabotage of the Chief goes deeper still.

The marshalling order of the train reflects a subtle but calculated effort to run off the highest-revenue passengers. The Chief carries its sleepers at the front of the train, coupled directly to the locomotives, and trails a new CAF-built baggage car at the rear. This arrangement guarantees that sleeping car passengers will get to hear the engine’s horn all night at

very close range, and that diesel exhaust fumes will enter the lead sleeper. That is a “never again” experience for many customers.

The correct marshalling order for the Chief is to place the baggage car behind the locomotives, then a crew dorm car (adding to each train’s inventory its 8 surplus Roomettes to the five freed up by moving crew out of revenue space in the sleepers, thus adding 13 more Roomettes for sale each trip), then three coaches, lounge, diner and sleepers at the rear. Anyone who travels by train would agree that a longer walk between the sleepers and the terminal at Chicago is a good trade-off for avoiding diesel exhaust fumes and listening to the train’s horn all night.

And, when was the last time you saw an ad for the Chief in any media?

Amtrak is likely to get away with its sabotage of the Chief. Few will notice or understand the implications of a ridiculously short train, incorrectly assembled, and not marketed, on a transcontinental route. Congress is less likely to intervene than with a crude attempt to kill the route outright like Amtrak tried before.

Not just the Chief is at risk from Amtrak’s sabotage. The Empire Builder, Amtrak’s most successful single train, ran with only one coach and one sleeping car on the Seattle Section through June 30. The second Seattle sleeper didn’t re-appear until July 1, and the customary second coach never appeared this year. A transcontinental train with just one coach and one sleeper is doomed. But that is Amtrak’s not-so-subtle way of undermining its strongest trains, in its decades-long effort to abandon its inter-regional services in favor of disconnected short corridor trains.

Even the heretofore untouchable Auto-Train has been shorted sleepers this summer, just as demand surged when vacationers discovered that rental cars weren’t to be had in Florida and turned to Amtrak. Amtrak turned them away.

The Texas Eagle, connecting Chicago, St. Louis, Little Rock, Dallas and San Antonio, with through service three days a week to El Paso, Tucson and Southern California, runs as a

four-car train. That is beyond comprehension.

A study by Passenger Rail Kansas/Oklahoma’s Evan Stair in late July showed that the California Zephyr (Chicago-Oakland via Omaha, Denver, Salt Lake City and Reno, a train usually second only to the Empire Builder as Amtrak’s best-performing train) also was consistently selling out its sleeping car space in just two sleepers, even at sky-high prices. Bedrooms Chicago-California were priced at more than \$2200 in the handful of cases when one was available, and Roomettes at a breathtaking \$1100. They were sold out on nearly every trip July-September. Amtrak added zero capacity to the train.

The Zephyr operated this summer with only two sleepers and two coaches, but did have a crew dorm car, adding a net 13 Roomettes to its salable inventory on each trip. Like the Chief, the second coach was often a coach-baggage, while the train also carried a standard baggage car, eliminating half of the lower-level senior/handicap seating.

Under these circumstances, any rational management would do everything possible to add Superliner sleeping cars (and a coach) to all of these trains. But Amtrak was too busy buying new corridor trains and new Acela II high speed trains, to replace old trains that few are riding, at a combined cost of \$7 billion taxpayer dollars, to add so much as a single stored Superliner from the dead line at Beech Grove to any sold out inter-regional route. And, Amtrak still refuses to order new cars to replace, and supplement, the 40-year-old Superliners. The plain implication is: why order new cars for routes you plan to eliminate?

The effort to run off the highest-revenue passengers also extends to quietly downgrading the travel experience for passengers. Three years ago, Amtrak abruptly cancelled the highly popular Pacific Parlour Car (a sleeping car-only lounge and diner) on the Coast Starlight. This year, Amtrak removed the unstaffed, but still popular and heavily-used, Sightseer Lounge cars from trains such as the Capitol Limited, City of New Orleans and Texas Eagle.

Amtrak quietly removed route timetables even from its website. Popular Route Guides are gone, too.

Amtrak continues to serve “TV dinners” to high-revenue sleeping car passengers on eastern trains, and to deny coach passengers access to meals in the dining cars on every train. (Coach passengers typically are on board an inter-regional train over three to five meal periods.)

This inversion of commercial priorities can reflect only one thing—a deliberate effort to sabotage the nation’s highest-performing, inter-regional, routes, to set them up to fail. The inter-regional trains are still Amtrak’s biggest (by output and intercity ridership) and most commercially successful (by market share and load factor) business segment (so far). Whether they can survive management’s active hostility and distorted priorities is an open question.



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,*
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Superliner Cars: What's Next for Them and For Amtrak Passengers

Commentary by Russ and Susan Jackson



Everyone who has ridden an Amtrak western long-distance train in the past 40 years has traveled in a "Superliner" car, whether it is a Coach or Sleeping Car. Forty years is a long time for any rail car, and it is way past time to look at what might (make that should) be the replacement. While there is no doubt that these bi-level workhorses can last longer if properly maintained and upgraded, discussion

has been on-going about not only that they should be replaced, but what the replacement should be like.

As veteran riders, going back to the first years the Superliner 1 cars were introduced, we feel qualified to involve ourselves in the conversation. Our first Superliner trips were in the summer of 1980 when we rode round trips on the Southwest Chief from Los Angeles Union Station to Flagstaff, Arizona to take our young daughter to see the Grand Canyon, and a few weeks later to Chicago to visit relatives in Michigan. We were sold on these new cars! They were our first trips in the Deluxe Bedrooms, too, where the three of us were comfortable, the new Dining Cars were great and resembled what we had experienced riding Coach on Amtrak's version of the Santa Fe's El Capitan. More about the latter in another article.

Moving to 2021: As you may have read in our latest trip report, we rode round-trip on Amtrak's Texas Eagle from Ft. Worth to Los Angeles in September. The Superliner experience can be a bit different now. Our Sleeping Car, 32063, had been upgraded. The "Bedroom" layout is the same, but the shower/toilet/sink module has been re-designed somewhat. The sink faucets are much easier to use. However, it is the same size unit as before. There are new linens (very nice) and new blankets (which we found to be warm enough but too slippery compared to the old warm blankets), LED lighting, and new paneling throughout replacing the wall carpeting, which gives a generally cleaner appearance.

Recently Bruce Richardson has written two analyses of what the future Superliner replacement should be like and why. He writes that "It's past time to re-imagine sleeping cars in North America. Superliner sleeping cars should be about more than just transportation." In a 1986 article for the Western Rail Passenger Review, titled "Design Considerations for a Western Corridor Service Car," Dr. Adrian Herzog pointed out that "cars need to be designed to maximize seat miles (revenue) while minimizing gross weight per seat (operating cost)." The Superliner was accomplishing that goal in the years after their introduction. Richardson points out that these cars "should be about a comfortable space on a multi-night transcontinental journey such as the California Zephyr, Empire Builder, Southwest Chief, Sunset Limited, or Coast Starlight and providing a highly desirable service, causing passengers to come back again and again." We totally agree: Every Amtrak train must deliver the passenger Safely, Reliably, in a Clean environment, have suitable food availability, and be comfortable so as to encourage, not discourage, return travel.

But...While accidents/incidents can occur, Amtrak's on time performance is usually less than optimal, the clean environment is subject to the performance of the Amtrak crews and the personal habits of the passengers, food availability has improved but must continue to do so, the "comfort" is up to the management at Amtrak to design and maintain the vehicles to maximize that factor. The present Superliner Sleeping Car has flaws. As Richardson interestingly points out, on average Americans today are "taller and wider than we were in the 1970s, and those Superliner spaces, such as lavatories which were tight then are now nearly impossible for many passengers." He suggests a six-inch wider facility.

Superliner Sleeping Cars each have five bedrooms, 14 roomettes, a family room and an accessible bedroom. The Auto Train back east has cars with 10 bedrooms upstairs, and those cars bring in high revenue. Why hasn't Amtrak in its remodeling phases built more of these cars and placed them on the really scenic western routes like the California Zephyr or the Coast Starlight as extra cars above the current consists? Yes, it would require hiring a car attendant and probably another worker in the Dining Car, but at the stratospheric high rates now charged the revenue passenger miles for each train would explode. We caution that with the current attitude at Amtrak in Washington DC they would not be interested in such a bold move. The fiscal year 2020 - 2021 financial results showed the long-distance routes did better during the pandemic's first year than the other services and the Auto Train did the best of all, fitting into our narrative here; first of all because it continued to be daily and it provided a service unlike anything else available during the health crisis. Now there's the fear by many rail advocates that tri-weekly service on the western trains could return whether justified or not.

Newly designed cars for the future, ten plus years ahead assuming these trains remain part of the system, must take care of several factors, many of which are discussed in Bruce Richardson's two articles. From our personal experience we emphasize these improvements that must occur: Find answers to the sliding doors opening unexpectedly between bedrooms; find an answer to the ongoing problem of climate control inside the cars: too often too hot or too COLD (our problem on our recent trip); and the sudden unavailability of the flush control. A question from us, and we asked Amtrak's Brian Rosenwald about it years ago, was why the clothing hooks that were in Superliner I bedrooms were not in Superliner II's. He didn't know. Richardson points out that "seasoned Amtrak travelers -- particularly sleeping car passengers -- all have personal checklists of critical items to pack including an all-purpose tool which can tighten loose screws and trim loose threads, a small can of spray disinfectant, a small flashlight, AND always a roll of duct-type tape to help remedy rattles and over-enthusiastic cold air vents." While there is a maintenance log in each car, getting things repaired between runs is never a guarantee. Our COLD car 32063 was back on the rails the next trip out of Chicago. Was it warmer?

The future comfort of passengers must be a factor not only in getting people of all ages to ride Amtrak trains, they must cater to ALL age groups present and future. On October 11 Bob Johnston wrote on the Trains magazine newswire: "Now it's up to Amtrak management to keep the momentum going by making enough equipment available at optimum price levels for everyone who wants to ride." Hear, hear!

Bi-Level Challenge

Steve Roberts – RailPAC President

As Amtrak moves forward with its re-fleeting, new locomotives, replacement of the Amfleet cars, etc., focus moves to the next oldest cars in the fleet, the 428 (in-service) bi-level Superliners (Note: a total of 479 cars were built, cars destroyed in wrecks has reduced the number of in-service cars). Current safety, air-pollution and accessibility regulations mean replacing the existing Superliner fleet is more complex than just “dusting” off the Pullman-Standard designs. The Nippon-Sharyo meltdown on the recent bi-level order is evidence of the challenges manufacturers face. There are also economic and market headwinds facing any bi-level design and production.

The highest profile bi-level design challenge is meeting the requirements of the Americans with Disabilities Act (ADA) a law with very high support especially from seniors, disabled veterans, the disabled community as a whole, and anyone with temporary mobility issues due to an injury, those of us with strollers, a roller suitcase or bicycle. One of rail modes key benefits, the provision on-board of food, beverage, a lounge car, the freedom to eat and drink when the customer wants and the ability to move throughout the train, make designs for accessibly more complex for the rail mode. The other modes have “off-loaded” most of these passenger services to terminals or offer only at-seat service. Airport terminals and motor coach rest stops using a fixed building have fewer design constraints in designing accessible facilities. The majority of domestic airline flights are 2-3 hours compared to a day or more on a bi-level train so the bar for accessibility is higher for the rail mode.

While the original Superliner cars, with their accessible seating and accessible bedrooms, was designed with an eye to the “spirit” of ADA, stakeholders are currently developing much higher standards. The overarching goal of the law is equity, with designs that maximize the accessibility of rail cars, making access as seamless as possible. Translating that goal into specific design criteria is currently under development by Amtrak, the car manufacturers, the FRA and representatives of the disabled community.

A few of the issues car designers have to resolve are:

1. Do all seating areas and accommodations have to be accessible or just of percentage of the total;
2. Location and number of elevators so disabled riders can reach the upper level;
3. Full access to food, beverage and lounge cars;
4. Design risk of wide rigid semi-fixed vestibules (like on the Siemen’s Venture cars) that allow car-to-car wheelchair access on a bi-level car which may have potentially more sway than a single-level car.

Another ancillary ADA issue is the level boarding initiative, i.e. platforms the same level as the car floor. Before the Nippon-Sharyo bi-level failure it appeared all the Chicago

Hub routes would be equipped with bi-level cars. That would have meant only one station, Chicago, would need dual platforms. With the Midwest Hub routes now using single-level cars this means many Midwest stations will need dual platforms.

There are probably several design solutions. Below are four examples:

1. Equip every car with elevators, rigid semi-fixed vestibules and accessible coach seats and accommodations. While the train is accessible the capital and ongoing



*Superliner and Surfliner Bi-Levels at Gaviota, CA.
Will the next generation of cars retain the ambience and the views?
Photo: Mike Armstrong*



Italian Bi-level Cinque Terre Express shuttle service at Monterosso al Mare. Note the easily locatable doors. Bi-level cars are common in Europe, including High Speed Trains. Photo: Larry Gross

maintenance cost added to the loss of revenue space makes this a very expensive option.

2. Leave basic designs as current with the accessible accommodations on the lower level of all cars; provide identical service to all passengers utilizing at-seat or in room food and beverage service from a central commissary car. This addresses the access issue, saves a feature car and avoids the cost of complex machinery and the loss of revenue space. Of course, this option also eliminates the major appeal of train travel, the freedom to move throughout the train and separate dining and lounge cars.
3. Equip the current Superliner trains with new single-level cars. This option eliminates the need for elevators and there are proven wide rigid wheel chair compatible vestibules in service on single-level trains. And this option also avoids the dual platform issue.
4. Designate a specific car, one sleeper and one coach, on each train designed with all accommodations as accessible. Each of these cars would be semi-permanently coupled with a wide rigid vestibule to a food service car – a café/lounge (aka. Cross-Country Café) for coach passengers and a diner/lounge (aka. Pacific Parlor Car) for sleeping car passengers. This option limits the number of elevators required, reduces potential dynamic forces from having all the cars rigidly coupled, limits the loss of revenue space and simplifies the design options for the non-accessible cars. This option allows the creation of food and beverage service specifically tailored for coach and sleeping car passengers and provides for full meal entrees for coach passengers.

In addition to accessibility issues, bi-levels face other factors beyond car design and accessibility. The economic and market headwinds are significant. While rail riders focus on the quiet ride and additional viewing opportunities that the bi-levels offer, their key attribute is economics. The operator gets the capacity of three single level cars with two bi-level cars. While on a per car basis the bi-level car is more expensive, the total cost for two bi-levels is less than for three single level cars. The same applies to operating and maintenance costs, two bi-levels are about 30% more efficient than three single level cars.

But this is an economic calculation. If the manufacturers add in a “Nippon-Sharyo failure factor” or bankruptcy premium to their bids then the bi-level economic advantage will be substantially reduced or disappear. The same applies for operating costs and ticket revenue. Add in the maintenance and replacement costs for elevators and reduced revenue space for these elevators and the two bi-levels equal’s three single level cars starts to slip away. Adding to this are the EPA emission requirements around shot welding stainless steel. The air filtration requirements add a substantial manufacturing expense especially for a one-time order, hence the attempt to use other methods by Nippon-Sharyo.

The size of the market is also a factor. Before the Nippon-Sharyo failure the market for bi-levels would have been the Midwest Hub (current and any expansion), Pacific

Northwest (current and any expansion), California (current and any expansion) and the long-distance trains (current and expansion). As a result the bi-level market has shrunk from at least 750 cars to less than 500 cars. The potential market size is a critical factor when the manufacturers estimate their bid costs since all their upfront costs have to be amortized over the number of cars in the order. Historically, several passenger car manufacturers have developed financial problems by assuming that a current order for say, 200 cars, will be followed by further orders. Some took a risk to win the current order by not allocating all their upfront costs to what they hoped would be an initial “starter” order. But Congress never appropriated funding for a follow-on order, hence the bankruptcy premium.

Another major factor is production line pricing and steady car supply vs. a constant series of “boutique” orders here and there with each manufacturer starting from scratch for each order. Boutique ordering drives costs and limits the timely car supply for the introduction of new routes. Production line ordering also leads to fleet communality which increases operational flexibility and lowers maintenance costs.

Expect substantial institutional (FRA, Congress, manufacturers, Amtrak) pressure for a production line solution of single-level cars nationwide. These institutions will see Amtrak’s re-fleeting and service expansion as an opportunity to develop a competitive passenger rail car industrial base with one standardized structural design.

Finally, there is an “ace in the hole” favoring bi-levels. Because of train length issues, Amtrak needs bi-levels for Auto Train. This could favor a national bi-level order.

An example of one design and service solution to the accessibility issue, a Rocky Mountaineer bi-level car built by Stadler. Sleeping car accommodations (coach shown) would be on the upper level, boarding, dining and lounge service on the lower level. An elevator connects the two levels.

Example of lower level dining and lounge facilities for those passengers in premium sleeping car accommodations.



Northern California Passenger Rail Projects

Dana Gabbard and Steve Roberts

*Based on an article by Dana Gabbard, Southern California Transit Advocates,
first printed in the Rail Users Network Newsletter Spring 2021.*

The 21-county Northern California Mega-Region extending from the Sacramento area on the north to the Monterey Bay area on the south, and including the San Francisco Bay area and the northern San Joaquin Valley, has seen dramatic economic and population growth over the past four decades. This growth is expected to continue. In order to accommodate current and future transportation demand while shifting to a more climate friendly transportation system; Northern California transportation agencies have been developing a series of transformational initiatives to reshape the region's transportation network. Outlined below is a summary of the projects in the planning process or with construction underway.

- 1. Caltrain Long Range Service Vision:** A program of electrification, grade separations, and additional four track overtake segments, station improvements, rail infrastructure and systems and fleet upgrades to reimagine network and fulfill the slogan "Fast Frequent Service, All day, every day." Estimated cost is \$23 billion.
- 2. Caltrain downtown rail extension:** Since beginning operation in 1863, one drawback of the peninsula commuter rail system currently known as Caltrain is its northern terminal at 4th and King which is at the edge of downtown San Francisco. Correcting this shortcoming is to be accomplished by bringing it, via a 1.3 mile tunnel, to the underground train station box that was built as part of the recently opened Salesforce Transit. Future California High-Speed Rail service which will use the Caltrain right-of-way to reach San Francisco will also use the tunnel. The project is in the early design phase and faces a significant funding gap. Estimated cost (in 2016) is approximately \$3.9 billion.
- 3. Dumbarton crossing.** Built in 1910, crossing San Francisco Bay on the southern end, the Dumbarton Rail Bridge has been unused since 1982. A proposal to operate commuter service linking Union City/Fremont in the East Bay and Redwood City on the Peninsula will utilize the existing right-of-way to create a transit service across the bay. This will limit the environmental impact of the project. The mode chosen will determine the type of bridge structure utilized. Currently planners are leaning toward modes requiring a new bridge, which favors the light-weight structure used by the Personal Rapid Transit mode but eliminates the possibility of integrating this link into the region wide passenger rail network. Estimated cost is \$2 billion.
- 4. Monterey County Rail Extension:** This is two weekday round-trip passenger trains from Salinas to Gilroy that will be operated as an extension of Caltrain. The first phase consisting of Salinas train station improvements, a new train layover facility and Gilroy track improvements, is funded and underway. The remaining two phases are on hold pending the identification of funding. The exact operating scenario for the extension will be impacted by the proposed high-speed rail electrification and capacity improvements between Gilroy and San Jose and future developments in equipment power options. Estimated cost for phases 2-3 is \$55-\$75 million.
- 5. New Transbay rail crossing.** The latest and most transformative of all the proposed projects is a new Transbay rail crossing. Unlike the original tube which is exclusively for BART, it is anticipated this will have two sets of tracks, one for BART and the other (electrified standard gauge) to be utilized by the Capitol Corridor. Estimated cost is \$30 billion.
- 6. BART to San Jose Phase 2:** Since the opening in 1972 of Bay Area Rapid Transit, a heavy rail grade separated regional rail system; one of the aspirations was for it to eventually serve Silicon Valley. Phase 1, a 10 mile extension with stations in Milpitas and Berryessa, opened for operation June 13, 2020. Phase II is a 6 mile extension southward to San Jose and Santa Clara with four stations. It is currently in design and engineering. Estimated cost is \$6.9 billion.
- 7. Capital Corridor Vision Implementation Plans:** The overall goal of this plan is to create a modern railroad built to international standards, electrified and capable of top speeds of 150 miles per hour. Initial improvements include track improvements between Emeryville and Richmond and realignment of service from Union Pacific's Niles Subdivision to the Coast Subdivision between Oakland Coliseum and Newark (dubbed South Bay Connect). The next priority is double tracking between San Jose and Newark through the sensitive Alviso Wetlands. Later goals include tunneling under Jack London Square to add capacity and avoid street running in Oakland. To avoid sea level rise and improve running times, a new inland route between Hercules and Martinez is proposed. Estimated cost of the South Bay Connect is \$264 million. The full plan stretched over several decades will cost \$15+ billion.
- 8. Altamont Corridor Vision:** The goal for Altamont Commuter Express is also transformative. The plan would create a vastly improved passenger only infrastructure, double tracked, mostly grade separated, electrified, offering 125 mph maximum speeds, and frequent service. Tunnels in Altamont Pass and Niles Canyon would reduce running time and make the service more competitive with driving. Capacity for additional frequencies would allow the potential of one-seat service from the San Joaquin Valley to Redwood City if commuter rail is the mode chosen for Dumbarton Bridge project (Item #3). Estimated cost is \$15 billion.
- 9. Valley Link:** Valley Link is a 42-mile, 7-station passenger rail project connecting the existing Dublin/Pleasanton Bay Area Rapid Transit (BART) Station in Alameda County to the relocated Altamont Corridor Express (ACE) North Lathrop Station and eventually Stockton utilizing existing transportation rights-of-way where feasible. It is currently undergoing further design and environmental

review. Eventually Valley Link and ACE will share a new tunnel, built in a future phase, under Altamont Pass. The equipment will be self-propelled rail cars also known as Diesel multiple unit (DMU), possibly hybrid or electric. The designated operator is the San Joaquin Regional Rail Commission (SJRRRC) which also manages ACE. It is likely the two services will become more blended as the operations and service package is designed. Estimated cost is \$2.7 to \$3.4 Billion

10. Valley Rail: This initiative, also managed by the SJRRRC, represents a major expansion of commuter and intercity rail in the San Joaquin Valley. The former Western Pacific essentially becomes a passenger rail line between Natomas/Sacramento and Stockton with six new stations. To the south, SJRRRC is building additional capacity on the Union Pacific between Stockton and Merced with 8 new stations plus grade separating the UP and BNSF crossing in Stockton. Caltrans is near completion of additional double track on the BNSF between Stockton and Merced with more being planned. The result will be a new multi-frequency ACE route between Sacramento and Merced, extension of existing San Jose ACE service from Stockton to Sacramento and a change of destination sending an existing San Jose ACE frequency to Merced instead of Stockton. Amtrak San Joaquins service plans are to implement two new daily round-trips to Sacramento via the former Western Pacific route. Additional frequencies will be added with further capacity improvements. This is an overall expansion of 119 track miles. Estimated cost is \$1 billion, most of which has already been secured.

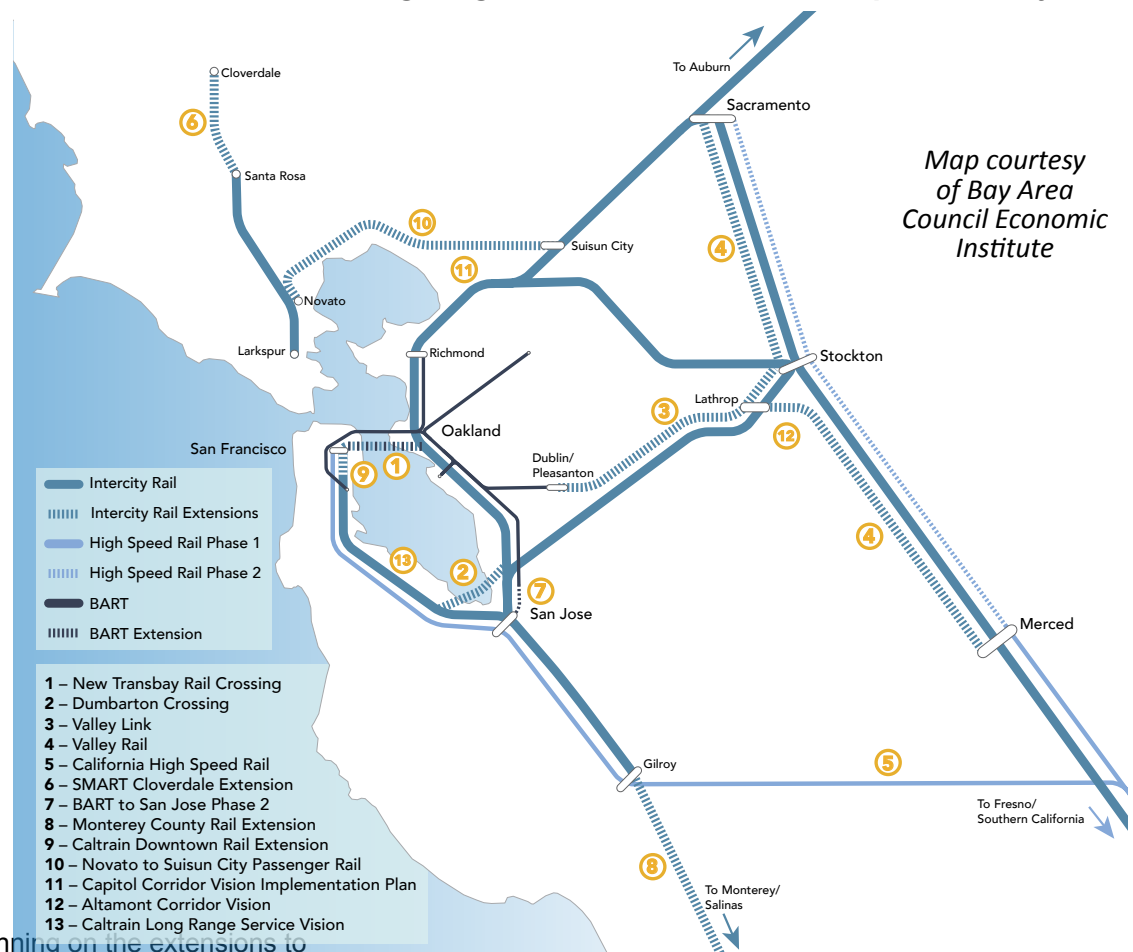
11. California High Speed Rail: The 119 mile first segment of the high-speed rail linking Madera and Shafter in the central valley is currently under construction and the key focus for the agency. The other priority is completion of the environmental studies for the remaining route segments. A major portion of the route, San Francisco to Palmdale and Burbank to Los Angeles, is expected to be environmentally cleared by the beginning of the 2nd quarter of 2022. This will be a major accomplishment. Pre-construction work is beginning on the extensions to

Merced and Bakersfield. Completion of these extensions will allow an interim demonstration service to begin, managed by the SJRRRC, and integrated with the San Joaquin/ACE network. Some financial challenges remain but prospects for the project have brightened with the new Administration. Estimated cost of the first segment, Merced to Bakersfield, is about \$20 billion.

12. SMART Cloverdale extension: In 2017 the first segment of Sonoma–Marin Area Rail Transit began operation, a commuter train using DMU equipment. Several extensions have subsequently opened, most importantly the Golden Gate ferry connection at Larkspur. The next segment, a 3-mile segment to Windsor at a cost of \$65 million has been delayed and may open in 2022. The northward 22 mile extension between Windsor and Cloverdale (including a station in Healdsburg) is on hold while funding is secured. SMART is facing significant pandemic related funding challenges. Estimated cost is \$364 million.

13. Novato to Suisun City Passenger Rail: In May 2019 a report was issued on the feasibility of a passenger rail connection between the SMART passenger rail system in Novato and the Capitol Corridor passenger rail system in Suisun City. Estimated cost is \$780 million-\$1.3 billion.

Northern California Megaregion Rail Network & Proposed Projects



Is the Surface Transportation Board Waking Up?

(Reprinted from *Trains Magazine*- with permission)

CHICAGO — Surface Transportation Board Chairman Martin J. Oberman stepped up his criticism of Class I railroads on Wednesday, September 8th, saying the industry's drive for ever-increasing profits resulted in a loss of market share to trucks over the past 15 years and is restraining growth today.

Rail rates fell by 27% between 1985 and 2004, as railroads' improved productivity largely benefitted shippers, Oberman told the North American Rail Shippers conference. "But that happy combination came to an end beginning in roughly 2004," he says, noting that rail traffic peaked in 2006, or in 2002 when coal is excluded from the tally.

"In the last 15 years, since 2006, our economy has grown by more than 50% — nearly \$8 trillion of enhanced economic activity," Oberman says. "And yet railroads are carrying less freight today than they were in 2006 while rates have gone up. There just might be a connection."

If railroads had simply hung on to their market share since 2002, there would be nearly a million fewer truckloads on highways each year, Oberman says. The shift of freight from rail to truck also resulted in 123 million tons of additional carbon dioxide emissions that cause climate change, he says.

"This pattern simply cannot be allowed to continue," Oberman says.

Railroads talk about growth and service improvements that make them better competitors against trucks, Oberman says. "The railroads' emphasis has not been on growth," he says. "Rather the emphasis has been on cutting in pursuit of the almighty [operating ratio] down to below 60%."

To satisfy Wall Street demands for lower operating ratios, or O.R.s, the Class I railroads have cut their workforces by 25% in recent years, which Oberman says makes it difficult to provide more reliable service and recover from disruptions like extreme weather events. It's also led to railroads demarketing certain types of traffic, he contends.



Guadalupe local at Emma Wood State Park - the only regular freight working - Chris Mohs

"It is clear that as a whole, railroads have foregone many kinds of carloads that they could carry profitably, only not at O.R.s as low as 55%, and instead have focused only on the most profitable traffic," Oberman says. "No one is asking the railroads to focus on traffic that would only be carried at a loss. But surely it is not asking too much for railroads to actively seek profitable traffic, even if not as profitable as others."

Oberman says Wall Street's influence has put shareholder interests above those of other key railroad stakeholders, including customers, employees, and the public. And he was critical of railroad stock buyback programs and dividends that have put more money in shareholders pockets than into maintaining and expanding the rail network.

In the last decade, Oberman notes, the five U.S.-based Class I railroads have returned \$191 billion to their owners while spending \$138 billion on capital expenses. "That's all well and good for the owners," Oberman says. "But where would rail customers, rail workers, and the public be if a meaningful portion of that \$191 billion had been reinvested in expanding service and making service more predictable, reliable and on time? Clearly we would have more freight moved, more quickly, and at lower rates. We would have more employment with better working conditions. And the public would be better served with a boost to the economy, lower consumer prices, and far cleaner air and safer and better conditioned highways."

All of this could be accomplished, Oberman contends, while still providing good returns for rail investors.

The STB is considering a number of regulatory reforms, including reciprocal switching; making it easier for shippers to challenge rates; asking railroads to provide data on local service; expanding regulation to several commodities that are currently exempt from board review; and Amtrak access to host railroads.

The board must recognize today's economic trends and respond accordingly to ensure a healthy rail system, Oberman says.

"It bears repeating that 2021 is not 1980," Oberman says, referring to the year when the rail industry was largely deregulated with the passage of the Staggers Act. "And responding to the STB's current role in the system by merely invoking the Staggers Act does not advance the discussion. The railroad industry of today is far cry from the railroad industry of 1980."

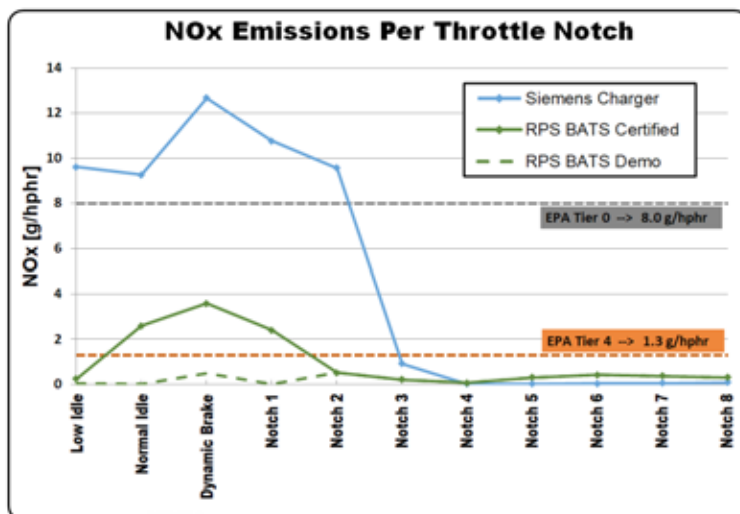
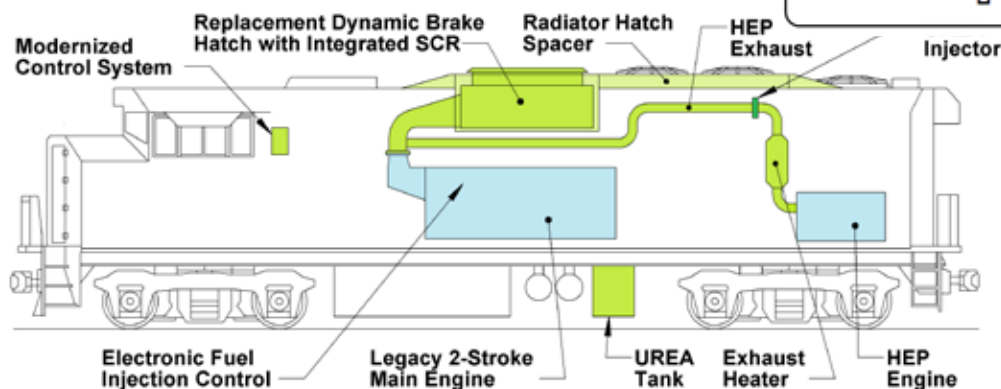
Editor: RailPAC is concerned about the trend in the industry for longer trains, loss of service to small shippers, and consolidation onto main routes leaving lines such as the California coast with little traffic. The 1995 consolidation from four major western

carriers to two left large areas without rail competition. Will Oberman review the very weak protections for shippers and open up key routes to competition? Is there an opportunity for a third carrier to offer a route specializing in expedited freight service and passenger trains? The first issue of Steel Wheels

Proven, Cost Effective Emissions Solution for Diesel Passenger Locomotives

by Paul Dyson

A Southern California technology company has demonstrated the first diesel passenger locomotive in the United States with combined in use emissions lower than the current EPA Tier 4 standard. With help from North Carolina Dept. of Transportation, the NC State Clean Tech Center and the Federal Highway Administration, Rail Propulsion Systems LLC ("RPS") of Fullerton, CA, has delivered a working F59PH locomotive that is less expensive, has lower emissions and lower fuel consumption than new locomotives. At the same time the F59PH retains the separate Head End Power ("HEP") engine for lighting and temperature control of the passenger cars, maintaining comfort and safety for passengers in the event of a failure of the main engine.



"Given the long term move away from diesel power, passenger rail agencies can now focus on interim solutions to squeeze the remaining value from their legacy diesel fleets", said Dave Cook, Chief Technical Officer at RPS. "The best solution is to retrofit their remaining legacy locomotives with BATS. This buys time for passenger agencies while they investigate and demonstrate options for new zero emissions electric or hybrid passenger

locomotives".

Contact: info@railpropulsion.com

(Editor: Rail Propulsion Systems is a RailPAC member. We support California industry and innovation that is value for money and leads to improved air quality. Given the numbers of legacy engines that are available for rebuild and retrofit we see no reason to build any new diesel locomotives. The next generation of propulsion should rely directly or indirectly on solar, wind or other renewable energy sources.)

The patented technology that offers these impressive results is referred to as a blended after-treatment system ("BATS"). Legacy passenger locomotives typically have two diesel engines, a large 3000HP diesel engine for propulsion power and a smaller 800HP diesel engine for supplying hotel power to the passenger cars. The patented BATS retrofit system pictured in figure 1 works by blending the exhaust from both engines into a single emissions system allowing effective emissions reductions from idle to full power.

Figure 2 contrasts the tested emissions levels of the BATS in green with the publically available emissions data of the Siemens Charger locomotive in blue. Both locomotives have NOx emissions well below Tier 4 at higher throttle notches while also having higher NOx emissions than Tier 4 at lower loads.

While the Siemens Charger NOx levels exceed Tier 0 until the locomotive is operating at Notch 3, the solid green line exemplifies the advantage of the BATS system with much lower NOx emissions at lower loads. The dashed green line are the emissions demonstrated with the hardware which will be fitted to the next system, generating continuous NOx emissions at below Tier 4 levels.

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A Vision for the Future of Rail in the Inland Empire, Part 1

Marven Norman – RailPAC, San Bernardino

One of the fastest-growing areas of California is the Inland Empire which encompasses Riverside and San Bernardino counties. The growth in the region has placed an enormous strain on the existing network of roads which persists despite billions spent on capacity expansion projects. Though Riverside County Transportation Commission (RCTC), San Bernardino County Transportation Authority (SBCTA), Western Riverside County Council of Governments (WRCOG), and Coachella Valley Association of Governments (CVAG) have many more roads projects in the works, they are unlikely to keep up with the growth.

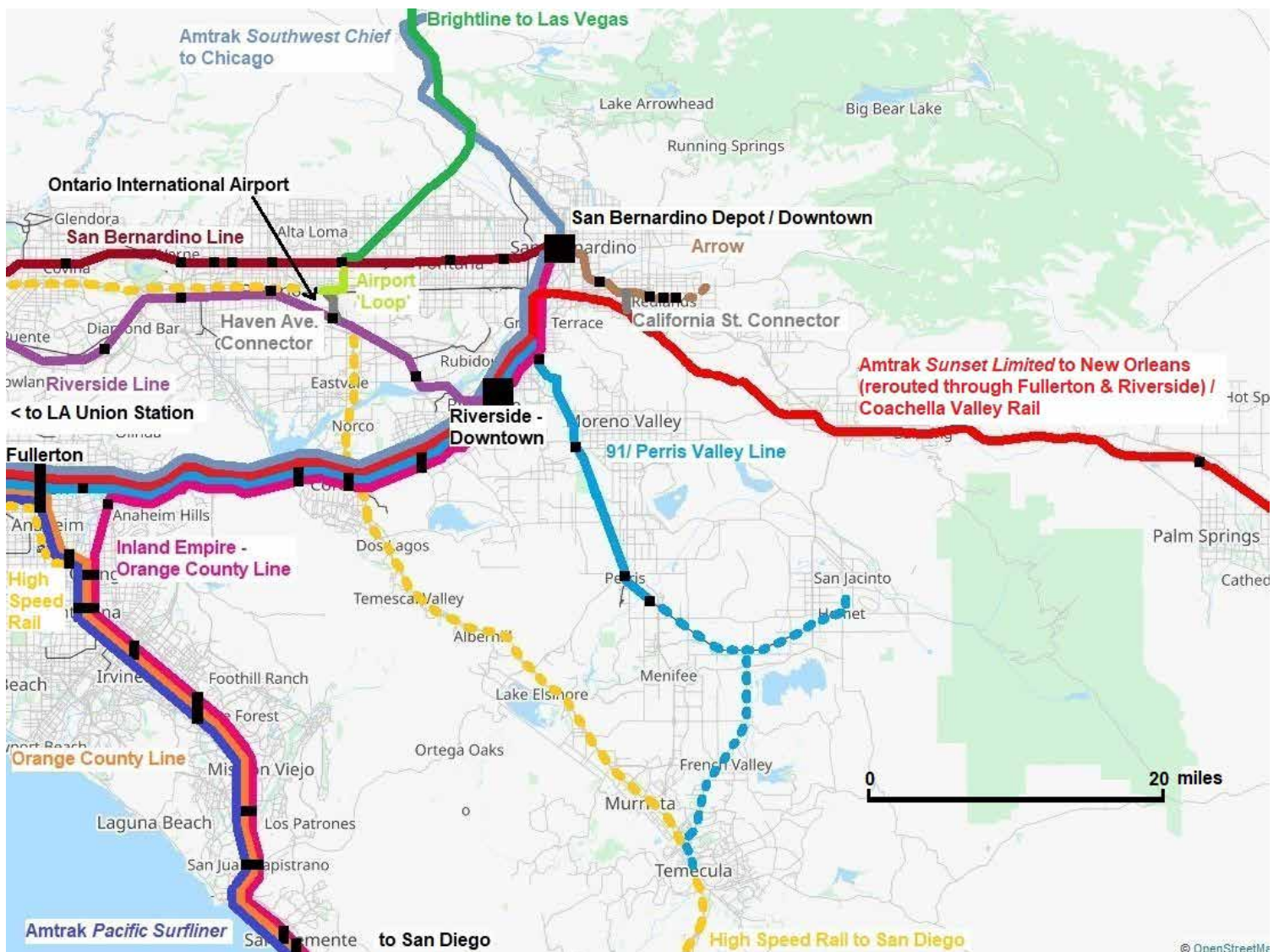
The Inland Empire desperately needs better connectivity options both within the region itself and to its neighbors to break out of this cycle. Rail is perfectly poised to fill that position and provide travelers with relief via true options. The existing railroad tracks which crisscross the region offer some promise and the State Rail Plan provides a good starting point. In the coming years, passenger service in the Inland Empire is

set to improve with more frequent departures and new routes from Metrolink, Amtrak (California), Brightline West, California High-Speed Rail, and high-speed rail to Phoenix. However, some key additions would make for a highly competitive option.

Service Vision

The phrase “order before electronics before concrete” is a guiding principle sometimes used to describe the way to optimize resources in improving rail service. Thus, the first thing that needs to be done is to get a vision of what rail service for the region should look like. The Inland Empire needs fast, frequent rail service to tackle the worsening congestion in the region. However, while they are not necessarily completely oblivious to each other, the regional planning agencies and transportation commissions in the Inland Empire have not been able to provide a vision of comprehensive rail connectivity to the level that is needed.

With some work, that can change. This vision can serve as a



Passenger rail vision for Inland Empire. Stations shown are those existing and soon to open.
(map by Brian Yanity, background map: Openstreetmap.org)

catalyst for change in that regard and spur development and implementation of service which would put the majority of the Inland Empire within a single-seat or one-transfer ride of other destinations within the region, to elsewhere in Southern California, and to destinations outside the state (or indeed even the country). The target scenario is for 15- to 20-minute headways in the San Bernardino Valley and southwestern Riverside County areas, including connections to the adjacent counties, along with multiple daily trips to the Coachella Valley and Calexico region, Las Vegas, Phoenix, and San Diego (see map to left).



*Metrolink 874 at San Bernardino Depot,
April 2019, Photo: Paul Dyson*

Metrolink San Bernardino Line/Redlands Passenger Rail Project

The San Bernardino Line is one of the inaugural lines of the Metrolink system and has the most service and the highest level of ridership. It extends from Los Angeles Union Station in the west to the Downtown San Bernardino Depot station in the east, with an extension to Redlands (Redlands Passenger Rail Project [RPRP]) currently under construction by SBCTA and scheduled to enter service in Spring of 2022. The infrastructure of the route is nearly all agency owned, by LA Metro in Los Angeles County and SBCTA in San Bernardino County, and is used primarily by Metrolink passenger trains with only a few daily freights by BNSF and Union Pacific to serve customers along the route. Over the years, the San Bernardino Line has been the subject of several studies analyzing options to improve service by providing more frequent and faster trains in the corridor.

Currently, Metrolink is advancing several projects on the San Bernardino Line as part of its Southern California Optimized Rail Expansion (SCORE) initiative, a \$10 billion capital program to dramatically improve passenger service in the region and ultimately deliver the service scenario presented in the 2018 State Rail Plan. At present, the Marengo Siding Extension, the El Monte Siding Extension, and the Rancho Cucamonga Siding Extension are all being environmentally cleared. Additionally, previous work by LA Metro and SBCTA has gotten two other double-track projects, from CP Lone Hill to CP White in the

cities of San Dimas and La Verne and CP Lilac to CP Rancho in the cities of Rialto and San Bernardino, environmentally cleared and ready for final design and construction. Also, the Etiwanda Avenue grade separation project in Rancho Cucamonga is fully funded and is scheduled to start construction in 2022. Taken together, these improvements would improve schedule reliability and enable the implementation of service which is on a more frequent schedule than at present.

Frustratingly, Metrolink has not made any reports available of the expected operational benefits of the currently funded SCORE program projects as a whole or for individual lines. Therefore, it is not known what service pattern they are expecting to run once these improvements are complete. However, a 2018 study by SBCTA presented a “hybrid rail” scenario for service which would have trains as frequent as 15 minutes all the way from Redlands to either Montclair, Pomona North, or El Monte. While the latter of the three required a substantial investment to implement that service, the cost to reach either of the two other stations was much more reasonable and given the ongoing construction of the Metro L Line to Pomona North or potentially eventually Montclair, 15-minute service to whichever has L Line service would complement it well. Thus, SBCTA should really prioritize getting that project shovel-ready, setting some of its other service scenarios (i.e. 30-minute all-day headways, then 20-minute before going all the way down to 15) as interim targets.

Beyond the added frequencies of the hybrid rail proposal, the San Bernardino Line would benefit from a couple of infill stations. The first is an existing station at the Auto Club Speedway in Fontana, but it is only used for special events. Opening it up for regular use would provide another access option for Fontana and Rancho Cucamonga residents and fill in what is currently the longest gap between stations on the San Bernardino Line itself in San Bernardino County.

Another infill station is needed at California Street in Redlands. As currently planned, the RPRP portion of the San Bernardino Line will only be served by a single roundtrip of a full size Metrolink train and only to the Downtown Redlands station. Adding a station at California Street would provide better accessibility to a one-seat ride than the Downtown station for people in west Redlands, Loma Linda, and new developments in the “Donut Hole”/Citrus Plaza north of I-10/west of I-210, some as close as three blocks away from the tracks. It would also improve access to the warehouses and all the associated jobs in that same area.

Finally, the RPRP has restored a segment of the Santa Fe “Kite-Shaped Track” which once ran a loop through Redlands, Highland, and San Bernardino. SBCTA has previously studied options for providing mass transit service to the Big Bear area, including via cog rail. Many of the concepts rely on a stop somewhere in Highland with a connection to the SBTC. If those plans advance, it would be fruitful to keep the RPRP going past the current University of Redlands terminus to provide a connection to the Big Bear train. If that were to happen, additional stations would be added in Mentone at Lugonia Street and in Highland at the base of the mountain where people could connect to the train to Big Bear.



91/Perris Valley Line

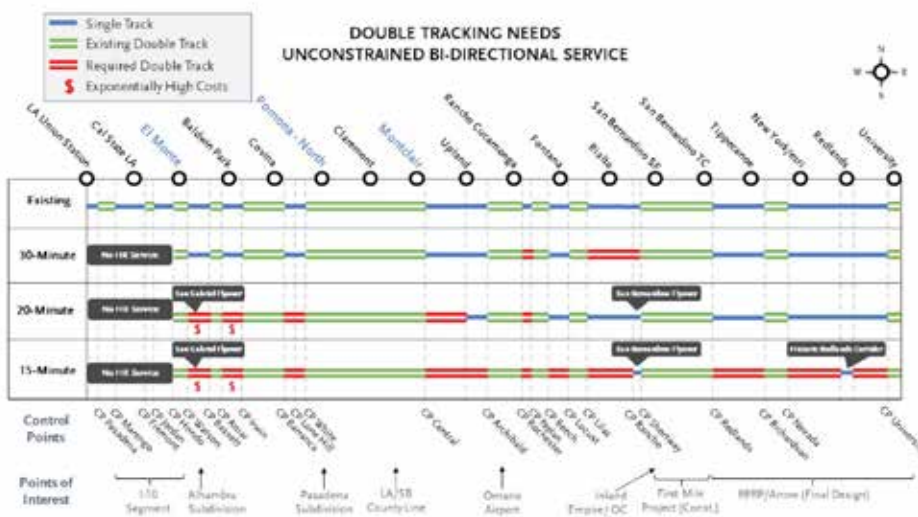
There are a few SCORE projects advancing along the portion 91/Perris Valley Line in Riverside County. The first is a redesign and expansion of the Downtown Riverside Metrolink station to improve operations and storage capacity. (This would also benefit the Inland Empire Orange County Line, Riverside Line, and Amtrak Southwest Chief which all share the station.) There is also work being done to expand the existing platform and build a second at the March Field station as part of a project to add some double-track to that portion of the route adjacent I-215. The work on both projects is being led by RCTC and like many other SCORE projects, is currently in the environmental phase.

Additionally, although RCTC owns the entirety of the San Jacinto Branch, the 91/Perris Valley Line currently terminates at the South Perris station. However, RCTC's long-range plans envision extending service all the way to San Jacinto itself. Unfortunately, there is currently no work being done to get that extension closer to reality and it is also under threat from another RCTC project, the SR-79 Realignment Project which would destroy the viability of completing the extension by building bridges over the tracks that are too low for trains to pass under. (It is stated that they would be "removable" given two weeks' notice, which is completely unworkable for any sort of regular service at all, and that it would be the responsibility of the transit project to build bridges of the appropriate height.) RCTC should advance the environmental and planning work for the extension sooner rather than later to provide a degree of certainty and prepare it for additional funding availability, e.g. from state budget

surpluses and/or federal monies.

Service on the 91/Perris Valley Line itself is in desperate need of improvement and hopefully the projects detailed above provide a good starting point for that to occur. While the fact that it shares track with the main BNSF line through the region will likely preclude 15-minute headways it would be great to at least get more departures throughout the day as well as reverse commute options on weekends. This is especially crucial for the Olympics as Lake Perris is most closely served by the 91/Perris Valley Line and is slated to be the site of some aquatics events. While obviously, it would be hoped that special trains would be run for the events, it would be ideal for the public to be able to benefit from them beyond the Olympics.

The 91/Perris Valley Line is also a candidate for some infill stations. The first would be a station at the University of California, Riverside (UCR). When the Perris Valley Line was originally proposed, a station was in fact supposed to be



(Fig. 7-1 from 2018 SBCTA report *Hybrid Rail Service Planning for San Bernardino – Los Angeles Corridor*)

built adjacent to the UCR campus. Opposition to that location by neighbors led to the placement in the existing location of what is now the Riverside Hunter Park station. However, UCR still very much exists and is expanding, so the argument for a station directly adjacent to the campus itself remains. In fact, the existence of Hunter Park so close by bolsters the case for an infill UCR station because with ample parking available at the Hunter Park station, a UCR station could be constructed with just platforms and TVMs to minimize the impacts to the surrounding community. While the previously rejected location was at Blaine Street and Watkins Drive, a better location now would be between Valencia Hill Dr. and Mt. Vernon Ave. as it would provide better access to more parts of campus.

The other infill station needed on the 91/Perris Valley Line is at Ramona Expressway. This station was also in early studies, but at present is not on any near-term plans. However, this station would be the closest station to the Lake Perris events for the 2028 Olympics and it would also be the closest station for residents of the planned community in the Lakeview area approximately eight miles east. There are also dozens of logistics centers and the associated jobs being built near this station. Thus, it should be prioritized to ensure that is ready for Olympians and new residents or workers so that rail is an option which they feel is truly available to them.



*Metrolink 354 at Alhambra, between a rock and a hard place.
Photo: Charles Freericks*

Inland Empire Orange County Line

As a “suburb-to-suburb” line which also shares much of its route in the Inland Empire with other Metrolink lines, there are no standalone projects for the Inland Empire Orange County Line (“IEOC”) in the region. However, it will benefit from the improvements at the Downtown Riverside station and other SCORE projects throughout the Metrolink system. Much like the 91/Perris Valley Line above, a big opportunity is for some additional reverse commute runs, including on the weekends. Given the fact that they share the same route through much of Riverside County, it is not necessary to increase either to extremely high frequencies to get additional usefulness for travelers between stations along the shared portion of the line.

Also, like the 91/Perris Valley Line, the IEOC could benefit from infill stations. The first would be downtown Colton. Though railroads have been a major part of the city since its founding and it is the site of the Colton Crossing, there has been no passenger rail service to the city in decades. Changing that by adding a station would open up an additional access point to Metrolink services in the region. Finding a location for the station might be a bit challenging, but a grade separation for Valley Boulevard is on long-range plans so it might be useful to plan a station as part of that project, stretching south from H Street.

Finally, not technically infill but rather an extension, the other additional station for the IEOC is Downtown Redlands. At present, the RPRP plans to run a single San Bernardino Line

Metrolink per day all the way to LAUS while the rest of the service will just be DMUs to San Bernardino (except under a hybrid rail scenario as detailed above). However, this means that people traveling to Riverside and Orange County from the Redlands area would be at the mercy of having to make a transfer at the San Bernardino Transit Center which is sure to dissuade some potential riders. To address this, there should be at least one roundtrip of an IEOC train to offer one-seat service over that corridor just like travelers along the San Bernardino Line will have.

Riverside Line

The Riverside Line has the least amount of service in the Inland Empire with only three daily roundtrips, all office commuter focused. However, long-range plans from the Metrolink and the State Rail Plan show a plan for a dramatic increase in trips by 2040. 20 years is a long time to wait, though. RCTC, SBCTA, Metrolink, and LA Metro need to identify funding opportunities to increase the departures of the Riverside Line sooner rather than later—ideally to at least hourly bidirectional service.

Another area of improvement for the Riverside Line is infill stations. The first place where that would be welcome is in the vicinity of Riverside Plaza/Magnolia Avenue. Though not terribly far from the Downtown Riverside station, this proposed station would provide access to the train for a growing community as there is currently construction ongoing of some apartments in the area and the large parking lots of the Plaza provide additional opportunity for development. As the route with the fastest travel time to LAUS, this station would make using the train truly viable because the Downtown Riverside station can be a pain to get to from the Riverside Plaza area.

A second location for an infill station is at the Ontario International Airport. This station would potentially be shared with high-speed rail as maps for Phase 2 of the system include an airport station in all the alignment options of the Los Angeles-to-San Diego segment through the Inland Empire. Additionally, The Boring Company has presented a proposal to SBCTA to provide a connector from the airport to the Rancho Cucamonga station, providing another connection that would be available at the station. While it is unlikely for high-speed rail to advance within the time available, this would be a useful station to have available in time for the Olympics in 2028 to help provide options to travelers. It would also be favorable for park-and-ride users given its proximity to I-10.

Another infill station suggestion is downtown Ontario. Though there is presently a station there, it is only served by the thrice-weekly Amtrak Sunset Limited. But the ongoing campaign to increase Sunset frequency to daily also seeks to reroute it via the San Bernardino Subdivision. If that were to happen, downtown Ontario would be left without any rail service at all. Even with the presently paltry schedule of just three daily roundtrips on the Riverside Line (but long-range plans do envision a greater number of Riverside Line trains), it would be a big improvement over the present level of service.

The final infill station proposal for the Riverside Line would be at Cal Poly Pomona. Currently, the closest stations to the

school are both around three and a half miles away at Industry or Downtown Pomona, a bit too far to really be useful to people traveling to the school. Providing a station by the campus would increase the accessibility and connect to other institutions along the route as well as the airport.

New Service Lines

Temecula Line

One critical shortcoming in the Inland Empire is north-south travel by transit. Currently, Omnitrans operates Route 215 from the San Bernardino Transit Center to the Riverside Downtown Transit Center and RTA operates one express route to the SBTC and another to the Montclair Transit Center. However, there is growing travel demand to areas like Moreno Valley, Perris, Murrieta, or Temecula from places in San Bernardino County. At the same time, there exists rail infrastructure or previous plans for at least two north-south corridors connecting the region. These would roughly follow the I-15 and I-215 corridors, both of which have some level of rail infrastructure present along at least part of their lengths but which more importantly, demonstrate that the travel demand definitely exists in those corridors as RCTC and SBCTA both continue to undertake projects to expand the capacity of those freeways.

The first corridor would be the one identified as Scenario 6: Perris Valley Line/Winchester Road – Route 79/Temecula/Intracounty Rail by RCTC in their Commuter Rail Feasibility Study released in 2005. This corridor would consist of the existing Perris Valley Line through South Perris after which the line continues for several additional miles. As described in the report, it would split from the Perris Valley Line after a Winchester Road/Newport station and continue down Winchester Road to Temecula. On the north end, it would make use of the connection in Highgrove to access the BNSF San Bernardino Subdivision to continue north through Colton to at least the SBTC, completing the missing link of transit service between the two counties.

In their 2007 I-15 Commuter Rail Feasibility Study, RCTC had identified that Temecula to San Bernardino via Corona and the BNSF Transcon would be viable in terms of passenger counts which bodes well for the potential of this proposal as it could be faster over that total distance. This is especially true if frequencies can be brought down to 20-minute headways (at least in the peak hours) vs. the 30-minute headways that were used in the study.

This line would share several stations with other lines, namely everything from the SBTC to Winchester as well as the Temecula station. This includes the proposed Colton station and the UCR station, providing a direct connection from San Bernardino to another university. After the line splits from the Perris Valley Line at Winchester and heads south in the Winchester Rd. corridor, there would be stations provided at Newport Rd., Scott Rd., Benton St. (French Valley), Murrieta Hot Springs Rd., Winchester Rd. (Temecula), and Old Town Temecula. The total corridor length of this version of the corridor from the SBTC to Old Town Temecula would be around 52 miles.

While transit in freeways often has several shortcomings, it might be the case that a freeway alignment ends up being a more realistic option than Winchester Rd. If that is the case, then the alignment would instead follow those of Scenario 7: I-215/Temecula/Commuter Rail from the same study and use the I-215 corridor. In that instance, the stations would have wider spacing and reduce the number of stations between South Perris and Old Town Temecula from six down to three. Those stations would be located at Winchester Road Temecula, Clinton Keith Rd., and Newport Rd. The total length of this version of the corridor from SBTC to Old Town Temecula would be around 47 miles, about five miles shorter than using Winchester Rd.

In both instances, an Old Town Temecula station would be the southern terminus where there would be transfer opportunity to CAHSR and potentially other operators like BW for travel farther south into San Diego. However, as an alternative these trains could also be run through to San Diego over the high-speed rail infrastructure, eliminating the need for a transfer.

Coachella Direct

As suggested earlier, the CVRP should be rerouted to via a connector to the Redlands Branch to be able to serve the SBTC. But the proposal of routing through San Bernardino does not just provide more transfer opportunities at the transit center, it also opens more service options. The biggest potential should be fairly obvious: The option to use the San Bernardino Line infrastructure to get to LAUS. Currently, Metrolink operates one daily express roundtrip on the San Bernardino Line which is timetabled to make the trip to LAUS in 1:14, which is appreciably faster than the 1:40 that regular San Bernardino Line trains take or the nearly two hours that it would take to travel over the chosen route via the BNSF San Bernardino Sub via Riverside and Fullerton. (In years past prior to the addition of Montclair and Cal State LA as express stops, it was timetabled for just 1:05.)

Thus, San Bernardino Line express trains could be extended to the Coachella Valley to supplement the trains planned for the CVRP and provide additional departure options throughout the day, something which will be critical to creating a successful service once that project arrives to that point. At present, CVRP is proposing two daily roundtrips and if Sunset frequency is increased to daily, would effectively be a third CVRP train for that segment. Meanwhile, Amtrak's Amtrak ConnectsUs document envisions four daily roundtrips of the CVRP and an additional daily roundtrip to Phoenix and Tucson. If there is intended to be overlap between some of those trains, then that would be at least five trains per day. Otherwise, if those are in addition to other plans, it would be eight Amtrak or Amtrak-branded products per day, underscoring the role of the Coachella Direct trains to augment the planned service. Ideal scheduling would be to provide half-hourly departures in the peak direction with trains being alternated between San Bernardino Line or Transcon routing during that time. This would make the train a real option for commuters, especially those living in the thousands of new homes which are being constructed in the Beaumont area.

Additionally, the importance of being able to make direct connections to points in the San Bernardino and San Gabriel Valleys as well as BW and the Airport Loop connection in Rancho Cucamonga cannot be understated. Providing those options makes the entire project more useful for that many more people, enabling them to make trips requiring just one transfer at most to a plethora of destinations stretching from San Diego to SLO to San Francisco to Las Vegas.

Finally, the CVRP is only studying trains to Indio or Coachella and if built, the Coachella Direct trains would likely have the same terminus. However, in the future, they could continue to Imperial County to serve Calexico with stops at other towns on the way such as Brawley. Similarly, it can also be the beginning of service to Phoenix, perhaps even high-speed rail at some point in the future.

New Tracks

Underlying this vision are the physical tracks which the trains travel on. The new connections discussed would be intended to both improve the service of existing lines as well as enable new services/lines to be introduced. They should also be built with the infrastructure necessary to support future expansions and service improvements including space for double-track operations (even if they would only have enough traffic for single-track use at first), electrification, and to the extent possible, faster speeds than at present, including high-speed turnouts. Ideally, as many segments as feasible should be able to operate at least 79 MPH and a path for getting longer distance/intercity trains up to at least 110 MPH should be identified as well. Additionally, flying junctions are critical components to consider at the points where they join other lines.

UP Alhambra Subdivision

This is referring to the portion of the UP Alhambra Subdivision west of downtown Pomona which has been taken out of service and tracks removed from some parts. That is key to providing the Cal Poly Pomona station as it runs right by the campus. Preserving the right-of-way should be a priority so that can be made a reality. After splitting from the Los Angeles Sub, there are only two grade crossings at Temple Ave. and Pomona Blvd. As part of rehabilitating the line, both should be closed. Temple Ave. can be grade-separated by raising the rail line to cross overhead, which would double as the station, and Pomona Blvd. would be closed permanently in its current location. If that connection is really necessary, it can be replaced by a square intersection created by an extension of State St. The tracks would then return to the Los Angeles Subdivision so that Riverside Line trains would be able to serve the rest of the usual route from the Industry station.

California Street

On the border of Loma Linda and Redlands, California Street presents an opportunity to bridge a crucial gap in the rail network of not just the region, but for the entire Southwestern United States. In this location, the Redlands Branch is within two miles of the Union Pacific Yuma Subdivision. The proximity to the Yuma Subdivision provides an opportunity to take

advantage of the improvements being done for the RPRP to also extend passenger service east of Redlands. By routing trains via San Bernardino and a connector, it might also be possible to avoid having to build a third track all the way to the Colton Crossing in Colton (which is a requirement Union Pacific has for allowing the CVRP service) but would instead end at the point that the connector joins the Yuma Subdivision a little east of Whittier Ave. in Loma Linda

Thus, the real value of the connector is not in avoiding having to triple track a more constrained area in Loma Linda and Colton but rather in the service options which it enables. As described in the CVRP and Coachella Valley Direct service options, adding the service to San Bernardino adds connection options available at the SBTC, particularly for travelers to/from the San Gabriel and San Bernardino Valleys who would not have to go all the way to LAUS to access a train headed for the Coachella Valley (or beyond). And although the CVRP is being planned as Amtrak service, the connector could allow for Metrolink to provide service too, likely as an extension of San Bernardino Line express trains. It would also be beneficial for future high-speed rail plans for the same reasons.

Finally, rerouting CVRP and other trains via San Bernardino and this connector would mean that they miss being able to have a station directly next to the Loma Linda University and hospital campus. Instead, it should be integrated into this connector at Barton Rd. to provide the access to the Loma Linda and Redlands communities.

Deer Creek

At present, Brightline West is planned to terminate at the Rancho Cucamonga Metrolink station. However, at some point in the future once CAHSR Phase 2 to San Diego is complete, it would make sense to also use that infrastructure to provide one-seat rides from San Diego to Las Vegas. Making a rail connection from the San Bernardino Line to the Ontario Airport has been floated in several different studies on the matter and Deer Creek is an option that is generally viewed favorably in those reports. Once at the airport, trains would be able to continue over some of the other infrastructure mentioned above such as I-15 to Temecula and the Haven Connector. And it could also open up an opportunity to make other connections e.g. CAHSR to the San Bernardino Line to access San Bernardino and beyond or provide a second option for Brightline West to access LAUS.

Haven Avenue

The first desperately needed connection is along Haven Avenue on the east side of Ontario International Airport. This would span the gap between the Union Pacific Alhambra and Los Angeles Subdivisions and enable the infill stations at Ontario Airport and Downtown Ontario to be served by Metrolink Riverside Line trains. At present, there is a line which connects off the Los Angeles Sub right prior to Haven Ave. which would be a prefect location to make this transition and it would also require the construction of new platforms for the East Ontario Metrolink station which has to be moved to still get serviced. The line would transition to a viaduct to continue

up Haven past some buildings, then transition to ground level to pass the runways before transitioning back up to an aerial structure on the other side of the runways and turning west to serve stations at the terminal.

Additionally, this connection could be used in the future by CA High-Speed Rail. Although this segment would be in Phase 2, there do exist some concept maps of the available options. While one option would continue east through San Bernardino and Riverside, the other option envisions the route turning south and running in the median of I-15 to San Diego County. Haven Avenue is about a mile and a half west of I-15, but the presence of an existing connection could provide strong incentive to share that connection and makes the case stronger for it to be built. Finally, if Brightline West were to be extended south towards San Diego from the currently planned Rancho Cucamonga terminus, it would be logical to also share the CAHSR infrastructure/route and thus this connection.

I-15 to Temecula

Another desperately needed corridor is that which was identified in RCTC's aptly named *I-15 Commuter Rail Feasibility Study* from 2007 combined with the CA High-Speed Rail Phase 2 alignment option from Ontario. This would branch off from the UP Los Angeles Subdivision and be routed into (or perhaps above) the median of I-15 until the vicinity of Hidden Valley Parkway. From there, it would diverge from the freeway as it turns eastward for the interchange with SR-91 (which is becoming quite cluttered with interchange ramps for connections between the express lanes on I-15 and SR-91), and be routed to access the Corona-North Main station (likely via a tunnel) before returning to the freeway around Old Temescal Road. Otherwise, the route would remain in the median of the freeway until Temescal Canyon Road/Concordia Ranch Road where it would provide access to the Alberhill Ranch station, then transition back to the freeway median after

Lake Street and remain there into San Diego County.

Winchester Road (or I-215)

This is a corridor identified by RCTC in their 2005 *Commuter Rail Feasibility Study* and is what would host the Temecula Line. As described in that study, it would split from the Perris Valley Line after a Winchester Road/Newport station and continue down the alignment of Winchester Road to Temecula. Even though lots of development has occurred in areas along the corridor since this was initially proposed in the study, it could still be a preferable location for rail and indeed, that development bolsters the case for its use. However, if the political winds make it infeasible to use the Winchester Road route, the same study also looked at I-215 so that should remain a secondary option. In both cases, the goal would be to meet the CAHSR I-15 corridor.

Yuma Subdivision Third Track

One of the requirements identified in the environmental documents for the Coachella Valley Rail Project (CVRP) was for a third track parallel the existing two tracks from Colton to the line terminus, either at Indio or Coachella. However, if such an investment is to be made, then addition to ensuring that more use than two trains a day is achieved, it would also be helpful to make sure it can fulfill other goals too. One of those would be to be forward-thinking in terms of future high-speed rail projects. Although the CVRP is not being planned as high-speed rail, it is likely that as other projects in that realm move forward, that at some point, it would become obvious that using a substantial part of the same portion of the Yuma Subdivision where the third track is to be built would be part of such plans. As such, this third track should be designed and built to support that eventuality. This requires more than just planning for higher speeds, but also to provide space for an intrusion barrier that

Nevada News

Nevada Rail Coalition

Work continues in forming the Nevada Rail Coalition, of which RailPAC is a member. Other groups include the Sierra Club Toiyabe Chapter, RPA/NARP, Rail Workers United and various labor and government interests. Plans are in hand to have a website up and running in the New Year and to continue gathering interested groups to join the campaign. RailPAC needs a Nevada based volunteer to join the Steering Committee and/or other sub-committees. Please contact me if you are interested.

Brightline West

Brightline's Las Vegas project continues to have the best prospects for the California – southern Nevada corridor. Brightline is in serious conversation with Caltrans and other relevant government entities to expand the route south to

Rancho Cucamonga in San Bernardino County. This is a critical step. There are many, myself included, who could not see a service anchored on Victorville to have sanguine prospects of success. Rancho Cucamonga will have connections west, south and east as the two Inland Empire counties expand their services. (See Marven Norman's Inland Empire Vision in this issue). The route from Victorville to Rancho Cucamonga will be challenging of course, and will give plenty of opportunities to demonstrate why Overhead Catenary high voltage electrification is the only way to power trains in that terrain. Let's hope that the parallel freight routes take note and emulate.

An editorial note, I'll continue to cover the Brightline story in the Nevada news section, even though most of the route is in California, it will be easier for reference purposes.

pdyson@railpac.org

All Aboard Arizona

Todd Liebman – President All Aboard Arizona

All Aboard Arizona is again hosting the annual Fall Passenger Rail Summit in Tucson on December 4, 2021 at the Ramada Inn Downtown. We will have a number of distinguished guests and speakers from around the country that will address rail passenger issues and hopes for expansion. This one-day event will be a hybrid of both Zoom and in person attendance. We will post updates on our website with information on how to register. The Ramada Inn downtown is right on the Tucson streetcar line as is the Amtrak station. There is much to see and do in Tucson including the Southern Arizona Transportation Museum adjacent to the Amtrak station.

The summer and fall have brought a lot of excitement to passenger rail in the United States, and Arizona is no exception. Amtrak has recognized the value of the Tucson-Phoenix-Los Angeles corridor and included it their Connects US plan. So far, leadership for moving this project forward has come from the cities and municipalities. Amtrak's presentation reiterates what we all know here in Arizona; the future of this corridor is dependent on state government involvement and support.

In my last column, I discussed how the existing railroad right of way that will host the Sun Corridor goes to all the right places. It links solid transit connections in Tucson and Phoenix, passes through growing communities, serves Sky Harbor Airport, downtown Phoenix, and the growing west suburbs. It would be hard to imagine a more perfect corridor. Unfortunately, the perfect corridor does not ensure results. The political will must be there to make it happen.

Consider what happened the last time there was a major infusion of federal funding for rail. Another "perfect corridor" was fully funded by the Federal Government and defeat was snatched from the jaws of victory at huge cost to impacted state taxpayers. The Wisconsin experience from 2010 is a cautionary tale for rail advocates in Arizona in 2021.

Wisconsin was extremely supportive of rail throughout the administration of Wisconsin's popular Republican Governor, Tommy Thompson, who served from 1987-2001. Rail had broad, bi-partisan support in the legislature, and Governor Thompson served as Amtrak Board Chair from 2001-2006 being appointed to that position by President Bill Clinton. During Governor Thompson's administration, the Wisconsin Department of Transportation completed the environmental work and engineering to bring 110 mph rail service to the Hiawatha corridor from Chicago to Milwaukee, and extend the line to Madison. Madison is the state capital and home to the University of Wisconsin with over 50,000 students. Wisconsin was able to lure Talgo to build their North American manufacturing facility in Milwaukee. When the Obama Administration was able to get \$8 billion in

passenger rail funding in the stimulus bill, Wisconsin had the most shovel ready of shovel ready projects and was awarded full funding to build the corridor and buy trains made in Milwaukee. It should have been a political cake walk. It all fell apart.

Talk radio in Milwaukee was relentless in attacking the project with misinformation. The iconoclastic Scott Walker, who was running for governor, cynically latched onto the project and used it for political advantage. Rail passenger advocates engaged in a nihilistic argument over where the Madison station should be located attacking the state and the City of Madison. Ultimately, Walker was elected Governor, cancelled the already awarded contracts to construct the project, and ultimately cost the taxpayers of Wisconsin \$50 million in damages to Talgo for which Wisconsin got nothing.

There are some very important lessons to learn from the Wisconsin experience. First, advocates need to speak with one voice. Arguing over where stations should go, who should build the trains, or other details is counterproductive. Let the planners and the politicians sort that out. We need to get the trains first. Second, we need to be vocal in countering the inevitable disinformation. There has already been an editorial in the Tucson newspaper that argued that if true high speed rail can't be built, the project isn't worth doing. The tenor of the editorial was "gee whiz, I love trains, but ..." The fact is that high speed could be good, but it has disadvantages as well as advantages in a corridor like Tucson to Phoenix where it is desirable to serve intermediate stops. It also has eye popping costs, and in countries that have high speed rail, it has almost always been developed where there is successful, existing conventional rail.

The other frequent argument is that nobody will ride it. We know that isn't true because where corridors have been developed, they have been successful; the Hiawatha, Downeaster, Surfliners, Capitol Corridor, Cascade, etc. Then there is the red herring last mile problem. The last mile problem conveniently neglects that if that were the case, nobody would fly. Nor does it consider the development of ride sharing services like Uber and Lyft, or the fact that people get picked up or taken to the station.

As we work to get the Arizona corridor off the ground, we need to be educated and informed and not let the disinformation machine frame the issue. The good news is that it isn't 2010 anymore. We are more congested, and inaction is not an option if we want to have mobility in the fast growing southwest. We'll keep working. See you on the rails, and hopefully in Tucson in December.



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Time and Tide Wait for No Man

*Linking San Diego and Los Angeles by Rail – A discussion about the LOSSAN infrastructure crisis
Climate change coastal erosion is forcing the issue; does California take rail transportation seriously, or not?*

by Paul Dyson, President Emeritus

Late September's track washout and land slip at San Clemente has, I hope, brought this important piece of infrastructure into focus for both passenger and freight rail interests. Coming just a few months after similar problems at Del Mar, it should be apparent that this is not a one-off event. The LA Times of 9/28/2021 looked at the causes of beach erosion and its significance well beyond just the realm of railroad service. At least there is no argument that there is a problem. The question is, are the relevant Federal, State and Regional transportation agencies looking for solutions or band aids?

My purpose here is to outline what I believe to be viable alternatives for both passengers and freight. I also want to stress that, even without the shoreline erosion, the status quo is wholly inadequate for present-day needs, and that we should be looking for a large order of magnitude increase in quality and quantity of service.

By way of background, I remind the reader that most of the railroad mileage in the western states was laid out in the late nineteenth and early twentieth centuries. While California's population had grown following the gold rush the major population centers were still quite small, especially in the South.

1880 populations, approximate:

- San Diego: 2,600
- Los Angeles: 11,183
- San Francisco: 233,959
- Sacramento: 21,420
- California: 864,694

The imperative for a railroad company was simply to get there, to plant a flag and claim the franchise. There was no immediate expectation of needing to move large numbers of people or heavy tonnages of cargo, and there was no clear idea whether the township you were striving to connect would be a winner or loser in the economic stakes. The one seeming enticement was the possibility of the development of a port, but again, at the time there was no guarantee which of the southern California bays might become a major harbor. The result for Los Angeles – San Diego and many other routes was, and still is, a cheaply built line, on an alignment that you would certainly not use today. Every expense spared, as a colleague puts it.

Since the early nineties multiple rail agencies have been formed to advance passenger rail in this corridor. When the line was purchased from AT&SF Railway (1996) it was handed to three owners, OCTA, NCTD and MTS, representing Orange County and north and south San Diego Counties. In addition, Los Angeles County,

through LACMTA (Metro) owns LAUS and approaches, while BNSF, the successor to AT&SF, retains ownership from Redondo Junction to Fullerton Junction. From Los Angeles to Oceanside (less the BNSF portion) the railroad of record is SCRRA aka Metrolink, and south thereof the railroad of record is NCTD, operator of Coaster. Amtrak, operator of the Surfliner service on behalf of the State of California and governed by the LOSSAN Board, and managed by OCTA, is a stepchild tenant of all of these. Dispatching is handled by Metrolink, BNSF, Metrolink again, and NCTD. Add to that of course you have Federal regulators and policy makers, FRA, STB, etc., the Coastal Commission, Calsta, CHSRA, the air quality districts, and more. Each of these stakes a claim and demands to set policy, and some of them have sharp elbows and no fear of using them.

This is not a good starting point for rational policy making. San Diego's distrust of Los Angeles is notorious, exemplified by the formation of SANDAG as its regional government entity rather than joining SCAG along with all the other southern California counties. Initially Metrolink's dispatch office ran the whole line down to San Diego but in 2011 NCTD decided they had to mark their territory and opened their own dispatch facility. I have written many times about the "Berlin Wall" at Oceanside between Metrolink and Coaster. There is significant commuter traffic between San Diego and Orange Counties, but no direct rail service. The catalog of examples of interagency rivalry rather than cooperation is endless. Nevertheless, these are the card we must play. Sometimes three agencies can shout louder



San Clemente Reality - Presentation to September Metrolink Board

by Justin Fornelli P.E., Chief, Program Delivery

Approve Actions of the CEO to Authorize Non-Competitive Procurements to address San Clemente Active Landslide
September 24, 2021

Suggested Action

Staff recommends that the Board approve and/or ratify actions of the CEO to authorize one or more non-competitive procurements in an aggregate amount not to exceed \$3,000,000 to address an active landslide on the right-of-way in San Clemente.



Project Location

Project Location



Cracks at top of Slope



Cracks at top of Slope

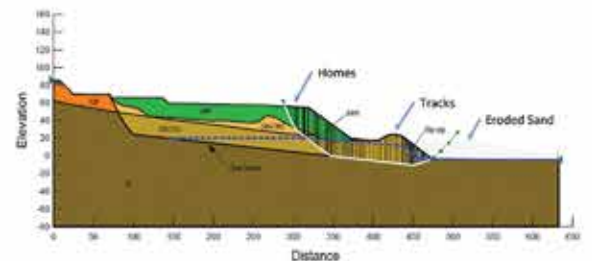


Track Deflection

- Total track deflection as of September 21, 2021 – 28.8"
- Between September 11 and September 21 – 14.75"



Geotechnical Cross-Section



Emergency Repair – Site Plan



Status of Emergency Repairs



- ~5000 tons of riprap placed
- Track realigned by 1 foot
- Survey & slope monitoring continues
- Environmental permitting ongoing
- Passenger service resumes Oct. 4 (tentative)





Electrified Freight Route - the 99 mile Betuwe line in the Netherlands linking Rotterdam to Germany - Photo: Richard Latten

than one bigger one. The trick is to get them shouting from the same script, and in unison.

I see three alternatives for passenger traffic and a fourth option which would be for freight only, but with a significant impact on passenger traffic.

Patch and Mend:

Both NCTD and OCTA are spending considerable sums shoring up cliffs and dumping barrier rock to protect the line from further damage. Compared to new construction this is of course relatively inexpensive. The repairs made may last for many years or may not. A repair in one spot may be followed by another slip in another location. If there is another line weekslong closure will there be serious economic consequences, or will the problem be largely ignored? If closing the line is not a big deal, why bother doing more than stitching and darning every time it unravels? Eventually of course the patch needed will be too large for an easy repair and the line may be out of action for many months, at which point there will be regret and finger pointing as to why not enough has been done for a long-term fix.

Bypass tracks:

There are three notorious capacity and speed constraints on the line, and two of them are also areas of instability. We refer to San Clemente beach, Del Mar bluffs, and Miramar/Rose Canyon. Bypassing each of these with a new route, mostly in tunnel, is a costly and long-term solution but one which solves the sea-level problem (for a few thousand years anyway) and at the same time offers the means to run a vastly improved passenger service. I would not even begin to estimate the cost of this, made even harder by the sprawling developments in south Orange and north San Diego counties, but in my view if California wants intercity and freight service in this corridor, there is not a lot of choice.

Wait for High-Speed Rail Phase 2:

That's a heck of a long wait! Phase 2 of the project is decades away with still no firm idea how and where the line will be built east from Union Station to Riverside where it will head south,

roughly along I-15. On the other hand, the High-Speed Rail Authority does have legislative authority, whereas any new route would be starting from scratch. As far as my life expectancy is concerned, I don't see anything happening soon with that option, however, so I'll classify this one as a definite maybe.

The Inland Freight Option

It occurred to me when I started on this story that a big cost factor for the bypass tracks is the need to accommodate Plate F plus freightcars. While at present there is no container traffic online the existing route handles tri-level automobile carriers which are almost as high. In addition, we would want to see the route cleared for electrification as the line is certainly busy enough to justify the investment. But a tunnel boring machine big enough would be huge. The St.Clair River tunnel linking Michigan and Ontario has a diameter of 8.3 meters, 27.23 feet, without clearance for electrification. The tunnel boring machine had a diameter of 9.52 meters, this for a single-track tunnel. I'm estimating that tunnel bores would need to be at least 33 feet to accommodate two X 9ft 6in containers, the largest in use. In contrast, tunnels for passenger trains only, especially for single level or European Berne gauge dimensions would be a few feet smaller and less expensive.

Instead of these huge tunnels on the coast line, (and likely to be only one for a long time to save money) what if freight traffic could be accommodated on a different route? Why not use the proposed HSR corridor initially for a single track, freight only line linking the rail yards and Transcon main lines in Riverside and San Bernardino with both the Port of San Diego AND Otay Mesa and the Mexican border? This latter point is critical as currently ALL truck and container traffic to and from Tijuana is moved over the road. Because of space constraints in San Diego the piggyback terminal was closed in 1991/2. To expand into a modern container terminal would take too much precious real estate at the Port and downtown so BNSF chose to concentrate intermodal traffic at San Bernardino and use San Diego for automobiles and carload traffic. In any event the busiest border crossing for freight is now at the Otay Mesa Port of Entry.

The Inland route would connect with the Escondido branch and at El Cajon as well as continuing from Otay Mesa westwards to San Ysidro and thence into the port. Most important, it can be built without lengthy tunnels at much lower cost than a high clearance coast route. The San Diego Association of Governments Goods Movement Action Plan 2030 published in 2006 identifies the same route.

Summation:

My fear is that we'll be patching and darning for years. The Surfliner, which has the weakest voice politically in the corridor, is the service in greatest need of the improved infrastructure. The most hopeful quarter is a combination of BNSF and the Department of Defense, who between them may recognize the need for a secure rail connection. Add to them the Air Quality agencies that would like to convert Mexican trade trucks to rail. It will be up to advocacy groups like RailPAC to point out the multiple benefits to both passengers, freight, and road users, of a successful and efficient railroad.

From the Rear Platform –

By Paul Dyson, Editor



IR has partnered with Alstom to expand their fleet of electric locomotives, including this heavy duty freight locomotive. With 12,000hp available and regenerative braking it is a highly efficient and clean way to move a 6,000 ton train at up to 80mph. Photo: Alstom

Gazette International carried a story by Bhupender Singh Bodh, Executive Director, Electrification, Indian Railways Board describing the amount of overhead wiring already done, and the plans for the years ahead. The statistics are amazing.

In 2014 the Indian government decided to fully electrify the railway network, with the object of achieving zero emissions by 2030. At that time about 24% of IR was electrified. By 2017 that had risen to 40% and is now at 71%. This has required teams to string the wires over 4,000 route miles per year, and most routes are double track. The plan is to do another 12,000 miles by 2023 to complete the broad gauge network which carries most of the traffic.

For a long time I have been cynical about the ideas of electrification proponents in this country, mostly because of the scale of the project. I no longer am discouraged by that aspect of it, as there is proof now that at least physically it is possible.

Build 2,000 Railcars!

In one of the first editions of Steel Wheels in 2011 we carried the banner headline, "Build 1,000 Railcars!". We recognized that campaigns for expanded passenger rail would be ineffective without rolling stock. 10 years ago the fleet was aging, other than the Acela. A few new Viewliners were in the pipeline and the combined State procurement was supposed to be producing some results, but that was about all there was to report. Let's face it, 1,000 railcars is not an ambitious target in a country as big as the USA. Well, here we are in 2021 and what can we report? NOTHING! Well almost. Superliner replacements or additions? NOTHING. State program: A fiasco, with single-level cars being delivered 10 years late for a State with low level platforms. Other corridors? A few cars trickling in but mostly still reliant on 50 year old equipment. Acela? The newest fleet? Being replaced, just when the market is crashing for the NEC business franchise. Forget emerging corridors, we have an emerging crisis manifesting itself in short consists, with the next inevitable step being a return to tri-weekly on some routes. So now we have to build at least 2,000 cars to cover the decade long gap in deliveries plus the growing need for replacements.

India

It happens from time to time that I am astonished by what other countries are able to accomplish in the railroad industry. No, I'm not writing about China, although there is plenty to trumpet with their construction accomplishments. This time it's India, where the Indian Railway ("IR") administration is on pace to ELECTRIFY almost the entire sub-continent in just a few years, a network of 42,000 route miles. This past July the Railway

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What's Happening in Monterey County?

A reader asked me to provide an update on Monterey County since I haven't covered the topic in depth since 2013! The sad truth is that nothing

much as happened, at least in terms of physical structures, track improvements, and more trains. The regional agency, Transportation Authority of Monterey County ("TAMC") has done the groundwork in formulating plans for service on the old Monterey Branch as well as mainline service between Salinas and Gilroy. However, at present no funds are available for either of these projects and since the landlord is based in Omaha there are no low-cost solutions, at least for the main line service. We need to take Union Pacific out of the mix if we are to make real progress in expanding travel options between Los Angeles and San Jose via the Coast.

I have opined in the past that extending the Capitol Corridor from San Jose is the best option for Salinas. Caltrain electrification means that trains to Salinas would need hybrid power or a connecting service at San Jose or Gilroy, depending on how far the wires go. More to the point, for that length of journey a "commuter" train, with seats designed for maximum capacity and shorter journeys, is not appropriate for trips of longer duration. It would certainly be of benefit to agencies such as ACE, Metrolink and Caltrain to survey former commuters to see if they quit simply because the trains were not comfortable.



Is a Vivarail type of service an option for the Monterey branch?



Background on Pop-Up Metro

Pop-Up Metro is an initiative intended to expand the size of the rail transit market by allowing metropolitan areas with existing light-density rail freight lines to establish demonstration operations of a

rail transit system on a rapid timeline and for the cost that they might otherwise pay for a consulting study.

Pop-Up Metro will lease trains, platforms, battery charging kit and an integration package, including operating and maintenance regimes.

A Pop-Up Metro demonstration operation, based on Vivarail battery trains, is in the process of being established in the USA and will be operational and available to demonstrate proof-of-concept in early 2021.

An additional benefit of Pop-Up Metro is proof-of-market in addition to proof-of-concept, thus substantially reducing the risk of the traditional approach of building the system first and then seeing if the market exists.

I had the opportunity to ride the prototype Vivarail train in the UK three years ago while on vacation. The idea of recycling rolling stock which still has years of useful life is very attractive to me as is the use of modular interiors and the ability to provide different options for power supply. I think that Vivarail is a bit naïve about the hurdles to be overcome before service can begin, but their thinking is provocative and potentially disruptive.



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