

# STEEL WHEELS

PASSENGER RAIL IN CALIFORNIA AND THE WEST

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...Different Timetable  
Surfliner north of Gaviota.  
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# A Happy New Year for All Rail Advocates

Guest Editorial by Russ Jackson, RailPAC Editor Emeritus



You've seen them... every writer is saying the same thing: "Goodbye to 2020 and here's hoping 2021 is better." It seems like the same thing is said at the end of every year, but this time the reasons for saying fond farewell to an old year seemed to be more intense than ever. The same must be said not only because of the virus that is ripping

the world apart, but, for rail advocates it is because so many systems that we all have been working so hard to ensure their success, and to promote their growth, are under severe strain and each one is making decisions on its future without any confidence they know what their futures will be. So, with that in mind this article will deal with "what was" and "what should be" while crossing fingers to hope for a positive future for the rail systems that we all support and want available to use.

Let's start with the most glamorous future, High Speed Rail. There are two American projects underway, and one faux project. In California the CAHSRA project that is supposed to go between Los Angeles and San Francisco via the San Joaquin Valley (in less than 3 hours when completed) is under construction but is being built between Bakersfield and Merced with only hope that the remainder will be started someday. The Texas Central project to run between Dallas and Houston (in 2 hours) is not yet under construction, but its stiff opposition from landowners along the proposed route is again working the state legislature to end it. The legislature is in session, which only happens ever other year, and there is no guarantee that they will act either way. The faux project is Amtrak's Northeast Corridor, where dreams of high-speed train service have only been realized by the purchase of the new trainsets that are now being tested. No improvement in NEC "ridership" is anticipated because the year-old virus has decimated "ridership" on the so-called high speed Acelas. The usual business travelers are choosing/required to work from home and communicating by electronic means instead of traveling to meet in person. Meanwhile, the Smithsonian Cable TV channel has been running the series, "Mighty Trains," showing great train systems all over the world and emphasizing to Americans what could have been, what still could be, but what isn't.

And then there is the rest of Amtrak, mired in the Covid-19 pandemic and using it as an excuse to do things it has wanted to do anyway. For one, the deck chairs in the Washington DC headquarters have rotated for the umpteenth time with the top job now divided between a CEO, William Flynn, and a President, Steven Gardner who has been running things most of the time anyway, but in many opinions not running them very well. However, across the country the trains are running. Ooops, not all of them are running every day. In a total disregard for their long-distance riders and their revenue they instituted tri-weekly service on all of the long distance trains. How is that working out? Statistics are hard to come by, and whether we could trust them or not is another matter. Observation by many rail advocates show Amtrak's favorite term "ridership" is constant at the stations here in "flyover country." Travelers are finding that riding the trains is a safe way to go! Virtual Railfan's sites such as Galesburg, Illinois, Flagstaff, Arizona, and other locations show just as many people boarding the Southwest Chief and the California Zephyr as before the cutback on each day the train runs. The Ft. Morgan, Colorado station is available on Mike

Jensen's website, and every day the California Zephyr train 5 runs it shows riders getting on and off there. The same situation is happening on the Empire Builder, the Coast Starlight, and the Sunset Limited/Texas Eagle from reports we've heard, and railroad timekeeping still delays trains unmercifully. So, what is Amtrak saving? Is it saving the expenses of running the trains daily, or is it losing the revenue it would be having from daily service and broader allocation of expenses? Rail advocates have been saying that revenues will be hard hit because 4/7 of the potential is not there. At least Amtrak did the right thing during the Holiday period by adding a Sleeping Car and a Coach to most consists, and probably could have added more. As observed, that allowed the sale of five more high revenue deluxe bedrooms in the third car with the crew taking most of the roomettes, freeing up those rooms in the other cars. Big crowds have been seen boarding the sleeping cars in Flagstaff, for instance. What lingers, however, is the suspicion of what Amtrak's new President intends to do with the long-distance trains in 2021. Rumors are circulating that daily service could return in April, just in time for Amtrak to celebrate its 50th anniversary.

Now let's look back. Way back...1984 to be exact. That year two rail advocates wrote three articles for the original Passenger Train Journal, called "The High Cost of Amtrak Accounting...the Issues in Economics and the Consequences of Not Understanding." The authors were Andrew C. Selden of Minnesota, and Dr. E. P. Hamilton of Texas. If those names are familiar, they should be because they are still demonstrating the foibles of Amtrak's financial performance. In that series they explained how for many years advocates of railroad passenger services had asked questions about why there were so many problems with adding trains, and explored in great depth the issues showing the consequences of Amtrak not understanding what the opportunities were. For example, "Incredibly, Amtrak does not calculate or know its rate of return on investment in its various trains, routes or promotional activities, and thus cannot allocate its limited resources in a rational fashion." Has much changed since (gasp) 1984? Are we saying the same things today but seeing the same results? In their introduction to Part 1, Selden and Hamilton say, "A business lives or dies by its accounting system as much as by what it does in the marketplace. This is as true for Amtrak as for any other business, because the accounting system is the manager's window on the world." For Amtrak, it seems this pertains only to its perception of what revenue it gets from its government sponsors, not from the ticket sales revenue, and continues to look down on its most productive lines (the long distance-interregional trains) and for political reasons continues to favor its much less productive Northeast Corridor. I don't have to tell you this, because you read about it all the time from articles by Mr. Selden and others realistically observing the state of Amtrak's business today.

As 2021 cranks open we can only say what we have been saying as advocates since 1984, that we hope Amtrak either gets itself in order and demonstrates its policies are growth driven, or it dies and lets some other means of transportation take over the rails. Are you as tired of trying to get Amtrak to change its ways as I am? You as passenger rail advocates have much to say about the future. So, I leave you from deep in the heart of Texas with expectations that 2021 will be a better year for the country, and for rail advocates wherever you may be. It doesn't hurt to be optimistic...for the umpteenth time. **Don't give up!**



# President's Commentary

By Steve Roberts – RailPAC President

Happy New Year to all and I hope everyone is well. I offer my condolences to those who may have lost family or friends during this very stressful year. We have passed two major milestones, the election, have effective vaccines and currently await vaccine appointments and the

first steps of the new administration. The second stimulus package approved in late December prevented a major collapse of transit and any further reductions in Amtrak service. The resumption of daily service on the long-distance trains awaits additional funding or a successful accelerated vaccine roll-out. Comprehensive immunization would allow leisure and vacation businesses to reopen, more comfortable family gatherings and as a result a rebound in travel and ticket revenue to support daily service.

As was noted in my commentary last month, President Biden strongly supports rail passenger service. Despite his positive view of rail, the administration will have a lot of priorities demanding attention; the herculean task of distributing the vaccine, a deeply divided country, the soft economy, the next natural disaster and of course any international crises. While Democrats control both houses of Congress it is by the slimmest of margins. Republicans are telegraphing that “fiscal prudence” will be their key priority. A bipartisan group of nine senators, the Problem Solvers Caucus, will become a major influence for any initiative for a large scale investment in passenger rail. There are plans for a combined stimulus/infrastructure bill (Build Back Better Act). Over the years there has also been talk of an infrastructure bank, but the financial details are complex. Also on the docket is the reauthorization of the surface transportation act (FAST Act). All of these initiatives provide opportunities for intercity and commuter rail investment.

Amtrak's key priorities from both its regular capital appropriation as well as any stimulus/infrastructure bill are to replace the remainder of its life expired fleet and Northeast Corridor state-of-good repair. I am watching the Amfleet I replacement (at almost 50-years old, Amtrak's oldest and least safe cars) because its replacement could provide the car platform, which fitted with a long-distance interior, would replace the 40-year old Amfleet II's on the eastern single level long-distance trains. Next up in Amtrak plans would be Superliner replacement. In Amtrak's 2021 appropriation is funding for Corridors Development. It will be interesting to see where this funding is directed, on entirely new routes or capacity investments for additional short-haul frequencies along existing long-distance routes (i.e. Chicago – Cleveland or San Luis Obispo – Oakland).

Unlike 2008, there are now several high and higher speed rail projects nationwide ready for additional funding. From NEC life expired assets, to Virginia, North Carolina and Florida, to Texas to California and Nevada there are major endeavors that are ready to move forward. In the Midwest additional sidings or double track on the St. Louis, Detroit and Milwaukee routes would allow expanded frequencies. Turning to network connectivity there is the second Empire Builder Chicago – Minneapolis and extension of the Heartland Flyer. Finally, most of the remaining Chicago area network projects (CREATE) are passenger focused connections and flyovers of freight lines.

So which is the most important high-speed rail, Northeast Corridor,

Superliner or state funded regional train? Well the Cardinal of course\*. With the Senate split 50/50 each party, Senator Joe Manchin (WV), a centralist, is the Democrats 50th vote. West Virginia is a beautiful state with great state parks and outdoor activities but has always faced economic challenges. While past federal investments have aided the state the replacement of coal with natural gas for electric generation represents the newest challenge. As noted in the article on post pandemic transportation (page 6), many work at home employees are moving to rural states. And West Virginia is a key choice for those from the metropolitan Washington area. But improved transportation is critical to expand that option. Thus a daily Cardinal and expanded Maryland Area Regional Commuter (MARC) service to the West Virginia panhandle (Harpers Ferry and Martinsburg) are critical investments.

We also will have a new Transportation Secretary, “Mayor Pete” Buttigieg. Given he was the first of the candidates to endorse Joe Biden and very active in the Biden/Harris campaign, it is likely that he had a choice of any of the 2nd tier Cabinet positions. He chose the Department of Transportation. He has stated that he has had a long-term interest in transportation and it is also an indication that transportation investment will take center stage in the Biden Administration. As Mayor of South Bend, Pete Buttigieg like any mayor would have been aware of the linkage between transportation and economic development. He would be familiar with the South Shore Line, South Bend's rail link to Chicago, has most likely ridden it and has suggested bringing it back to downtown South Bend. Two major rail routes, Norfolk Southern and Canadian National, bisect the town and South Bend is served by two Amtrak long-distance trains the Lake Shore Limited and Capital Limited. He brought “Smart Streets” to downtown South Bend making the two main streets pedestrian and bicycle friendly as part of a downtown revitalization effort. Under earlier mayors South Bend's Union Station was refurbished and converted to commercial uses. So I think that it is safe to say “Mayor Pete” has some knowledge of railroading.

That said the Department of Transportation is a sprawling enterprise with over 50,000 employees. DOT has responsibilities that range from operational (air traffic control), to a huge safety and regulatory responsibility that stretches across multiple modes. He will have much on his plate. And there will also be budget and personnel issues, inter-agency budget fights and interdepartmental budget fights. So Amtrak and rail passenger service will be the least of his focus. The key appointment will be the administrator of the Federal Railroad Administration.

Finally, we have a settlement and a process between the freight railroads and Amtrak for measuring on-time performance. Developed is a set of standards and a process to manage the issue. The lynchpin is the agreed upon schedules between Amtrak and the freight railroads. While in many cases this may be a simple restringing of existing schedules, some freight railroads might demand a substantially longer schedule, and similar to what happened to the Canadian. The process to resolve any dispute of this nature appears fraught with potential bureaucratic delays.

In conclusion, everyone stay safe and be patient.

*\*Note: the Empire Builder comes in as the second most important HSR, NEC and Regional rail train.*

# San Diego County Rail Improvements

By Narayan Gopinathan

The LOSSAN Corridor is the rail corridor that carries the Pacific Surfliner and other local commuter trains between Los Angeles and San Diego. Formally, the LOSSAN corridor covers the entire route of the Pacific Surfliner, up to San Luis Obispo; but this article focuses on the 60-mile segment within San Diego County. In addition to the Surfliner, the LOSSAN Corridor hosts Coaster trains between San Diego and Oceanside; and Metrolink trains to the north of Oceanside, which connect to Los Angeles on the Orange County Line, and to San Bernardino on the Inland Empire- Orange County Line. It also hosts freight trains of the BNSF and other short lines. The LOSSAN Corridor within San Diego County, from the Orange County line through the city of Delmar (38 route miles) is owned by the North County Transit District (NCTD), and by San Diego Metropolitan Transit System (SDMTS) through the city of San Diego to Santa Fe Depot (22 route miles).

The line is also known as the Surf Line, due to its location near the beach. It was originally built by the California Southern Railroad Company in the 1880s, which later became part of the Atchison, Topeka, and Santa Fe (ATSF) railway. The original California Southern Railway ran along the current alignment between San Diego and Oceanside, but used a more inland route to the north of Oceanside, through Temecula Canyon. This line was vulnerable to flooding during storms, and was destroyed by a flash flood only a few years after it was built. The current route of the Surf Line, along the coast of Orange and San Diego Counties, was completed in 1888. The Escondido Subdivision, which now carries the SPRINTER, was built at the same time. For many years, its only passenger service was the San Diegan, a train between LA and San Diego, operated at first by the ATSF and later by Amtrak. In 2000, the San Diegan was replaced with the Pacific Surfliner, which uses double-decker passenger cars and extends service to San Luis Obispo in the north.

In 1994, the Metrolink Orange County Line began service between Los Angeles and Oceanside; and in 1995 NCTD began Coaster commuter rail service between Oceanside and San Diego. NCTD also operates the SPRINTER, a Diesel Multiple Unit (DMU)-operated light rail line running 22 miles between Oceanside and Escondido. The SPRINTER service started in 2007, utilizing a branch line which previously served only freight. NCTD achieved full implementation of Positive Train Control (PTC), a technology which prevents train collisions, in December 2018. In 2019, the Coaster operated 22 trains per day; but they plan to expand service to 42 trains per day, with 30-minute headways during peak times.

The line in the northern portion of San Diego County, locally known as North County, crosses several coastal lagoons. These are, from north to south, Buena Vista Lagoon (between Oceanside and Carlsbad), Agua Hedionda Lagoon (within Carlsbad), Batiquitos Lagoon (between Carlsbad and Encinitas), San Elijo Lagoon (between Encinitas and Solana Beach), San Dieguito Lagoon (between Solana Beach and Del Mar), and Penasquitos Lagoon (between Del Mar and San Diego).



Figure 1 Coaster at Cardiff on the new double track.

Photo: Alex Gillman

Most of this corridor has double track, but there are still segments of single track that cause rail traffic congestion. Within the city of Del Mar, the line has a single-track stretch that traverses a coastal bluff next to the beach. This area suffers from persistent issues of coastal erosion, which is worsened by sea level rise caused by climate change. In addition, there are still stretches of single track in Encinitas and Carlsbad, which cause congestion. The Coaster stations at Encinitas and Carlsbad Village are single track, which causes problems as trains block the main line when the stop for passengers. If a northbound and southbound train want to access the station at the same time, they have to stop and wait for each other, causing cascading delays. SANDAG, the regional planning agency, has supported a proposal to build a trench for the tracks through Carlsbad Village. A similar trench exists within Solana Beach, which was constructed in the 1990s.

Back in 2008, less than 50% of the corridor had double track, but as of 2020, that figure is above 70%. In the North County, a new double-track bridge was recently completed across San Elijo Lagoon between Solana Beach and Encinitas, which is

pictured above. The California Transportation Commission recently awarded \$106 million in grant funding for San Diego County rail projects. This includes completion of 1.1 miles of added double track, including a new bridge across the San Dieguito River. It also allocated additional \$36 million of funding for bluff stabilization in Del Mar, the construction of a platform at the Convention Center, as well as some double track in Camp Pendleton. This grant was funded by SB1, the Road Repair and Accountability Act of 2017, which levied a gasoline tax to fund transportation improvements.

Within San Diego city limits, recently, a new double-track bridge across the San Diego River was completed in 2020. This new bridge will link to double track between Elvira and Morena Boulevard in San Diego. (Elvira is a name of a historic stop in Rose Canyon, which has since been removed but lives on in railway maps.) This new bridge on the LOSSAN line was completed in conjunction with the Mid-Coast Trolley project, which extends the San Diego Trolley Blue Line to UCSD, in summer of 2020. The SDMTS Mid-Coast Trolley Project will add nine stations to the Blue line. It is officially called the “UCSD Blue Line”, but as of right now does not connect to its namesake. Once this extension is complete, then it will connect to UCSD, and the University will be connected easily to Old Town, Downtown, and the Mexican border. It will terminate at the UTC mall. Like other light rail lines, this will be electric, and so it will not cause pollution during operation.

There are also plans for a new Purple Line for the San Diego Trolley, which would parallel Interstates 805 and 15 from San Ysidro to Kearney Mesa, and potentially to Carmel Valley.

Electrification is still not under serious consideration for the LOSSAN corridor. However, transit expert Alon Levy has proposed electrification of this corridor to make it into something resembling high-speed rail. SANDAG chief Hasan Ikhrata has plans for dramatically expanding transit in San Diego County, with high-speed rail from Oceanside to the US-Mexico border, and a new trolley line would be built around Balboa Park. It would also entail the double-tracking of the SPRINTER route. These proposals would essentially require electrification. The election of Todd Gloria to San Diego Mayor and Terra Lawson-Remer to the San Diego County Board of Supervisors bodes well for this envisioned rail expansion. In addition, NCTD has plans for increasing frequency of Coaster to 15 minutes on weekdays. This is high enough frequency to justify electrification, but electrification is still not in any official plans. Electrification would be beneficial because it reduces fuel costs, and more importantly, reduces the emissions of planet-warming greenhouse gases and diesel particulate matter which impacts human health.

There are also plans for the California High Speed Rail system to connect to San Diego, as part of the Phase II of its construction. Like the original California Southern Railroad, this route would travel inland through Temecula. The plan is to

avoid the coastal bluffs that are currently traversed by the Surf Line, which are vulnerable to the effects of climate change. The planned route would largely parallel Interstate 15, while the existing Surf Line largely parallels Interstate 5. However, as the High-Speed Rail project is still in Phase I, it is unknown when construction within San Diego County will begin.

*Narayan Gopinathan is a new RailPAC member from San Diego County. He is starting his PhD in environmental sustainability at UCLA, and is interested in reducing greenhouse gas emissions to stop climate change. He also never got over his childhood love of trains, and is interested in rail transportation, particularly with electrification, as a solution for low-carbon transportation.*

*The complete article with footnotes is available at [www.railpac.org](http://www.railpac.org)*

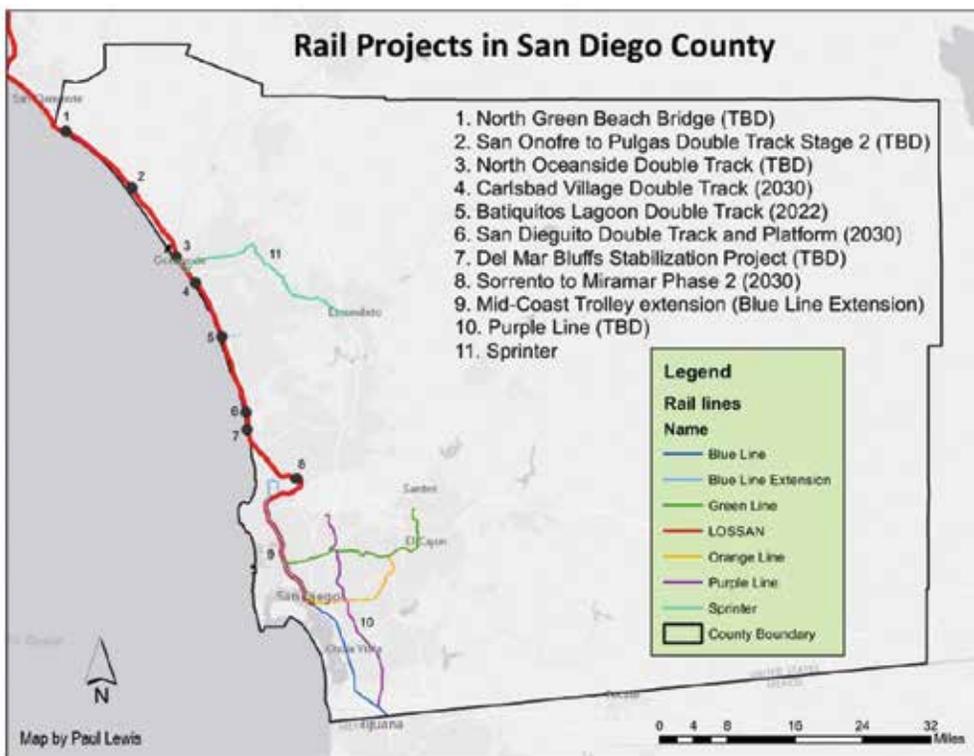


Figure 2 – Rail projects in San Diego County

# Public Transportation in a Post-Pandemic World, Part 1

By Doug Kerr, RailPAC VP North

The COVID-19 pandemic has caused major upheaval in all public transportation sectors including rail transit and intercity rail corridors. In California the San Joaquin Corridor ridership is running about 34% of pre-pandemic levels while the Pacific Surfliner is at 17%, and the Capitol Corridor and SMART are running at 13% pre-pandemic levels. These systems are especially hard hit because many employees are working from home and using video conferencing instead of in-person meetings. The question of the day is “What will travel look like post-pandemic?” Only two things are known for sure. Travel patterns will be different and no one knows how different. In this article I present my view of the future based on my extensive work-at-home experience. In the next Steel Wheels issue Steve Roberts, RailPAC President with a career in passenger rail market research and ridership analysis, will present a different perspective in Part 2.

Two separate travel categories are affected by COVID. One is daily commuting from home to office and the other is general business travel where destinations, distances, and durations vary month-to-month.

About half of the country’s workforce in one way or another interacts directly with other people. Examples are healthcare workers, emergency responders, grocery store workers, and garbage collectors. These employees cannot work from home and are either continuing to use public transportation during the pandemic or will return when safe to do so. This is at least a piece of good news for rail transit services which have seen 80-90% drop off in ridership. The unknown is the other half of the workforce, those who can work remotely.

Working from home is a concept that was evolving slowly pre-pandemic. COVID accelerated the evolution demonstrating many jobs are well suited for remote work. According to Statista, the percentage of employees working from home increased from 17% pre-pandemic to 44% currently.

An S&P Global/451 Research remote-work survey showed most employees like the flexibility combined with no lost time commuting and want to continue the concept post-pandemic, at least part time. Will companies allow this? Most all corporate decisions are driven by money, and remote working decisions

are no exception. Global Workplace Analytics estimates an employer can save \$11,000 per year for every person working remotely at least half the time. The savings come from needing less office space and resultant decrease in rent and utilities. As an example, Nationwide Insurance is closing five regional offices because employees working from home has been so successful. One hundred employees working remotely could save a company over \$1 million, significant enough to gain CEO and CFO attention.

Another reason for corporations to encourage remote working is that hiring from local candidates or candidates willing to relocate is restrictive. The August 2020 Harvard Business Review points out that with remote working a company can hire Silicon Valley tech talent, mechanical engineering talent of Detroit, and New York/London financial talent regardless of company location.

So, where does this take us? Local transit systems should get back to 50% pre-pandemic ridership quickly once the pandemic is behind us. From 50% to 75% will take a little longer as those not wishing to work remotely and those working remotely part-time return to transit use. Ridership beyond 75% will take many years and will occur from population and business growth and not from remote workers returning to daily commuting.

Business travel is likely to take a bigger hit than local commuting. The pandemic has educated the workforce on what can be accomplished with video conferencing such as Zoom and GoTo Meeting. While some negotiations and sales closures are best suited for in-person meetings, many other meetings can be just as productive with video conferencing. As with office commuting, money is the driving factor. Business travel, which has almost been eliminated during the pandemic, is expensive and is often a cost-cutting target. Some business travel will return post-pandemic, possibly at the 50% level, but won’t return to pre-pandemic levels for many years. This will have a large effect on corridor services such as the Surfliner, Capitol Corridor and corridors outside California.

Significant changes in travel patterns post-pandemic will be challenges for travel providers who must evolve their services to meet these emerging trends.



**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, [pdyson@railpac.org](mailto:pdyson@railpac.org).

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# Letter to California High Speed Rail Authority

By Chris Jones, RailPAC member, Irvine, CA

At the start of the 1964 Tokyo Olympics, Japan launched the world's first high speed train service between Tokyo and Osaka. The Shinkansen revolutionized the concept of train travel while also showcasing Japan's emerging role as a technological and economic powerhouse. It has since gone on to become one of the most successful and busiest high speed train lines in the world, and its success paved the way for high-speed rail systems throughout Europe and Asia. In 2008 California voters approved Proposition 1A, laying the groundwork for the United States' first high speed rail line between Los Angeles and San Francisco.

Just like Japan timing the opening of the first Shinkansen to coincide with the 1964 Tokyo Olympics, California should aim to complete the Los Angeles to San Francisco high speed rail line to coincide with the 2028 Los Angeles Olympics. When Japan launched the Tokaido Shinkansen in 1964, it showed the world that high speed rail was possible. California's will show the rest of the United States and the world that high speed rail can and will work here, and its success could inspire other high speed rail systems across the nation.



HSR Crews at work 2021 Photo courtesy of CHSRA

At the start of 2021 work continues to progress on 119 miles in the Central Valley between the cities of Bakersfield and Merced, as do environmental clearances and route selection for the remaining segments between Los Angeles and San Francisco. With environmental clearances for the entire route set to be completed by late 2022, work could begin on these segments from Merced to San Jose and Bakersfield to Los Angeles as early as 2023. The current construction schedule shows a completion date of the Merced to San Jose segment of 2027, with a similar timeline for the Bakersfield to Los Angeles

via Palmdale segment. Caltrain electrification between San Jose and San Francisco should be completed by the end of 2021, with Metrolink electrification between Burbank, Los Angeles and Anaheim expected to be finished before mid-2028. The LA Union Station "Link US" improvement project is scheduled to be completed in 2027, while completion of the Caltrain Downtown Rail Extension is currently slated for 2029.



Hanford Viaduct Photo courtesy of CHSRA

To meet a deadline of Summer 2028, priorities will need to be shifted to focus entirely on completing the Merced to San Jose and Bakersfield to Los Angeles segments. Not all the intermediate stations need to be ready by 2028, but one should be able to get on a high-speed train in San Francisco, even if it is still the current Caltrain station, and ride all the way to Los Angeles and vice versa in under three hours. Current construction timelines show that a mid-2028 completion date is possible if managed well and the funding is there. Cap-and-trade funding goes well beyond 2028, so more immediate funding sources would need to be identified before further construction could begin to avoid delays. H.R. 5805 and H.R. 8926 are two high speed rail funding bills introduced in Congress in 2020 that with a new pro-rail President and Democrat-controlled Congress could be passed within the next few years.

In 2028 the world will have its eyes on not just the United States but also California, and the Olympics could provide the ideal backdrop for unveiling the nation's first high speed rail line. More than just a showcase of athleticism, the Olympic Games are an opportunity for California to demonstrate on the world stage its continuing role as the frontrunner for American innovation and ingenuity.

# One Route, Two Timetables

Cover story 2 – By Paul Dyson and Steve Roberts

I think we would all agree that most of the intercity passenger routes in California lack frequent service. The idea that trains are so frequent or run at regular intervals such that you do not really have to consult a timetable has not yet taken root. With the possible exception of Los Angeles – San Diego, most journeys require some research to see if there is a train service available to fit our needs. For the great majority of travelers, the name they know and the source they go to is Amtrak. A second, smaller group may be familiar with “Surfliner”, or Pacific Surfliner, and perhaps Capitol Corridor, but Amtrak is the brand name best identified with passenger rail.

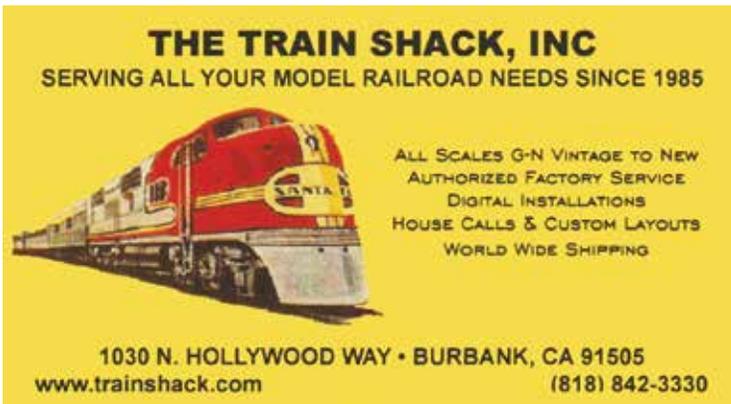
Here is where it gets confusing. The Amtrak website has two timetables, one for the Coast Starlight and another for the Pacific Surfliner. The Surfliner schedule does not show the Starlight, even though it presents another option and indeed may make some trips possible as it fills a big gap in service, especially with the reduced Covid-19 timetable. The Pacific Surfliner website has no mention of the Coast Starlight at all.

The position is similar in Northern California where the Capitol Corridor route is also traversed by both the California Zephyr and the Coast Starlight, and part of the route by the San Joaquin corridor trains. But the Capitol Corridor timetable deals exclusively with that service even though the other trains that operate over all or part of the route could provide useful additional travel options.

But there is no consistent policy. Look north to the Cascades service in Oregon and Washington and you will find a timetable that includes the Cascade trains, Thruway buses AND the Coast Starlight all in one place. In other words, every travel option that is offered under the Amtrak banner can be found there, so that the would-be traveler has all the information available to choose the best schedule that fits their plans.

As was noted in last quarter’s Steel Wheels, “The Diverse Markets of the Long-Distance Trains”, providing key schedule frequencies along high-frequency corridors is an important market served by the Long-Distance trains. With passenger numbers desperately low the publicly funded passenger rail agencies must do everything possible to make the rail choice as easy and accessible as possible. This starts with making information available to the public with ALL the choices of trains and buses.

At our January meeting the RailPAC Board adopted this issue as one of the key campaigns for 2021. We do not want to hear excuses about interagency squabbles or different funding sources. Passengers are not concerned whether the train they choose to take is state funded or national system, or which corridor operates the connecting bus. Like it or not, the vehicle has Amtrak on the side, you buy your ticket from Amtrak, so timetables MUST show every service available.



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## All Aboard Arizona

*Todd Liebman, President*



In the time between the last Steel Wheels and this edition, the landscape for passenger rail has changed dramatically. It is abundantly clear that the current administration has the greatest potential to be pro-passenger rail of any administration since Amtrak began operations in

1971. It is appropriate that this year is the 50th anniversary of Amtrak. Hopefully, it can be a rebirth of the national system. The potential is definitely there.

Some of the most hopeful signs that I've seen are in some unexpected quarters in both Montana and Wisconsin. Please bear with me while I tie these two developments to Arizona.

The efforts by Southern Montana communities to bring back rail passenger service on the North Coast Hiawatha route are very exciting. What makes this intriguing is that this service is not a corridor operation that so many argue has the most potential, nor does it serve densely populated urban areas. Rather, it serves an area that could be referred to as a transportation desert. The smaller communities are identifying passenger rail as an opportunity for economic rebirth much like the original coming of the railroad was in the late 1800s.

Another interesting development is the momentum developing for passenger rail between Eau Claire, Wisconsin and Minneapolis. The last passenger train on that route, the Chicago & North Western's "fabulous" Twin Cities 400, made its last run shortly after my first birthday. I am from Wisconsin, and the Eau Claire County Administrator is a friend of mine. We had many discussions about the advantages of passenger rail when we worked together. Eau Claire is a beautiful community with a thriving technology sector and is home to the University of Wisconsin-Eau Claire. Along the route is Menomonee, Wisconsin which is home to the University of Wisconsin-Stout. This route is also a transportation desert, and the communities are seeing rail as a way to compete in the 21st century. Again, this is not a corridor anchored by large cities. These are medium size, rural communities seeking to build connections to the regional metropolitan area.

These two routes have something else in common. They appear to have been developed without much state support. The Wisconsin DOT has been more focused on the Chicago to Milwaukee Hiawatha and perhaps a second frequency between Chicago and St. Paul. Likewise, the Montana DOT has not been the driving force behind moving the southern Montana rail service forward. Rather, in both Montana and Wisconsin, a coalition of local interests and local governments are supplying the momentum for these new services.

The term "transportation equity" is gaining a lot of traction. In the context of the two above discussed services, it means that smaller, underserved communities should have reasonable access to transportation, not exclusively highways. It is highly unlikely that rural air service is going to return to previous

levels, and even where it exists, it can be highly inconvenient. Flying between the far-flung Montana cities requires flying to Salt Lake City and back. By the time you do that, you might as well drive.

In my view, the Montana and Wisconsin efforts can serve as a model for Arizona. In Arizona, the State seems stymied on how to move rail forward. Yet local units of government know what they want, and it is clearly improved passenger rail. In December, the City of Sierra Vista, Arizona joined a number of Arizona communities in passing a resolution supporting daily Amtrak service for the Sunset Limited/Texas Eagle Route. Organizing local communities, community groups and businesses to support passenger rail is the key to getting the momentum moving in favor of passenger rail.

To that end, the daily Sunset Limited/Texas Eagle through Phoenix has great potential. Service to Phoenix is similar to the service in southern Montana in that returning service to Phoenix would be a restoration of past Amtrak service and not a "new" service.

Which brings me to the issue of the Phoenix West Line or Wellton Cutoff as it's frequently called. Restoring service to Phoenix requires the upgrading of the existing line from Picacho Junction to Phoenix and then the line west of Phoenix to Wellton, AZ where it rejoins the Sunset Route. October marked the 25th anniversary of the deadly Palo Verde Wreck of Amtrak's Sunset Limited on that route. In an act of domestic terror, saboteurs calling themselves the "Sons of the Gestapo" removed a section of rail causing a catastrophic derailment. A year later, Amtrak left the Wellton Cutoff and Phoenix for the Sunset Route through Maricopa which is 30 miles from Phoenix. This crime has never been solved. The Arizona Governor at the time was focused on keeping an airline hub in Phoenix in the wake of the bankruptcy of America West Airlines, and it was thought that the state could not pursue both priorities.

If we learn one thing from the Palo Verde terrorist attack and the push for passenger rail in southern Montana and western Wisconsin, it's that when the trains are gone, they are extremely hard to bring back. In the case of the Sunset through Phoenix, we're talking 1996. In the case of Montana, it's 1979. And for the Wisconsin service, it's way back in 1963.

We have two major tasks for 2021. First, is saving the trains we have and returning them to daily service, and that means daily service for the Sunset as well. Second, its building relationships with local communities, businesses, and local advocacy groups. Rail passenger service is of interest to many diverse groups including chambers of commerce, environmental groups and groups committed to social justice and transportation equity. We must build relationships, and recognize the radically changed landscape in America in even the last few years.

As always, let me know your thoughts on improving passenger rail in Arizona. We'll continue the fight, and we will win. See you on the rails.

# The Prospects for Future LA-Phoenix Passenger Rail

By Brian Yanity, RailPAC Vice President - South



Los Angeles photo: © chonechones/123RF.COM; Phoenix photo: © Sean Pavone/123RF.COM;  
Train photo: © 4045qd/123RF.COM

The fast-growing Phoenix metropolitan area, the Valley of the Sun, is home to nearly 5 million people- two-thirds of all Arizonans. Phoenix itself has a diverse population of nearly 1.7 million within its sprawling city limits. It is both the state capital and the seat of Maricopa County, the fourth-most populous county in the nation. While it hosts a successful and growing light-rail urban transit network, Phoenix is by far the largest city in the United States which does not have any kind of regional or intercity passenger rail. For the past two decades the nearest Amtrak station (served by the Sunset Limited) is the Maricopa Station, a 35-mile drive south of Downtown Phoenix in Pinal County. The Sunset Limited halted service to Phoenix in 1996, after which it was diverted to run south along the Sunset Route mainline between Yuma and Tucson.

The Sunset began stopping in Maricopa in 2001, and Amtrak Thruway Bus connections from the station to Tempe and Phoenix began in 2017. On Mondays, Thursdays and Saturdays, the eastbound train to New Orleans stops in Maricopa at 5:30 AM, while the westbound train to LA stops there at 8:52 PM Tuesdays, Thursdays and Sundays. The Maricopa station saw 11,194 Amtrak passengers in the entire year of 2019, a very small number for a station that purports to serve a metropolitan area of 5 million.

## The Potential of the Southern California-Phoenix Corridor

There is a great potential in re-establishing a direct passenger train service between Arizona's largest city (center of the 13th largest metro area in the U.S.) and Los Angeles, the nation's

2nd largest metropolitan area. A new LA-Phoenix passenger rail service could also be easily integrated with future Phoenix-Tucson passenger rail service planned by Arizona, and LA-Coachella Valley service planned in California. The economies and trade corridors of Arizona and Southern California have long been intertwined. Every year, Southern Californians move to Arizona yet regularly come back for visits. Conversely, many Arizonans have moved to Southern California. The growing family and friend connections between the two regions will only grow in the years ahead. Not to mention, business and tourist travel will recover to some extent after the pandemic. The large population centers in Arizona and Southern California are concentrated in relatively small land areas (compared to the overall size of the territory), with relatively straight routes going through vast sparsely populated desert spaces between them. All of the above-mentioned factors make restoring direct passenger rail between LA and Phoenix an attractive proposition. This would especially be true if it were fast enough to seriously compete with flying and driving.

As shown in the table below, in FY2020 (October 2019-Sept. 2020) Phoenix Sky Harbor International Airport saw over 1.3 million airplane passengers to LA/Inland Empire/Palm Springs airports. This is about an average of about 3,800 per day. Considering that half of FY2020 was in the pandemic, by comparison 2010 saw an estimated 1.6 million air passengers between PHX and LA-area airports, or nearly 4,400 per day. Thousands more drive each day between Central Arizona and Southern California. Capturing just a fraction of this traffic would fill several trains' worth of passengers per day.

In FY2020, Phoenix Sky Harbor International Airport air passengers to:

Los Angeles International (LAX)	501,000
Orange County (SNA)	285,000
Ontario (ONT)	227,000
Burbank (BUR)	209,000
Palm Springs (PSP)	77,000
Long Beach (LGB)	41,000
Total	1,340,000



*Amtrak Sunset Limited at Phoenix Union Station, circa 1980 (date and photographer unknown)*

About three miles west of Sky Harbor Airport is the downtown Phoenix Union Station. The Spanish Revival-style train station was built in 1923 by the Southern Pacific and Santa Fe railroads. In 1986, the station was added to city of Phoenix’s registry of historic places. The building is owned by Sprint Communications, who put it up for sale in June 2019. As of January 2021, any potential buyers are not publicly known. It is currently not used as a rail facility of any kind despite still sitting next to track used by freight trains daily. Sprint used the station building for housing telecom equipment, using one of the property’s two communication towers. It leases the other to Union Pacific (UP) Railroad, an agreement slated to end in March 2023. Many Phoenixians have long hoped that passenger train service will return to their historic Union Station. Once it is serving passengers again, it could be revitalized with restaurants and other amenities to become not only a useful transportation hub but also a major economic and activity center of the city’s growing downtown.

From downtown LA and downtown Phoenix, the driving distance via Indio on Interstate 10 is 372 miles. To be competitive, a train journey would need to be less than the minimum 6 hours that it takes to drive. The rail distance from LA to Phoenix via the Sunset Route and Wellton Cutoff (all on existing rail right-of-way) is 426 miles. To make the journey in 6 hours along this corridor, a train would have to average 71 mph. Given that the majority of route (the existing track of the Sunset Route) would be shared with UP freight trains, achieving such a high average speed is quite unlikely using the existing rail infrastructure. The present-day Sunset Limited takes 7.5 hours to go westbound from LA to Maricopa, and 8.5

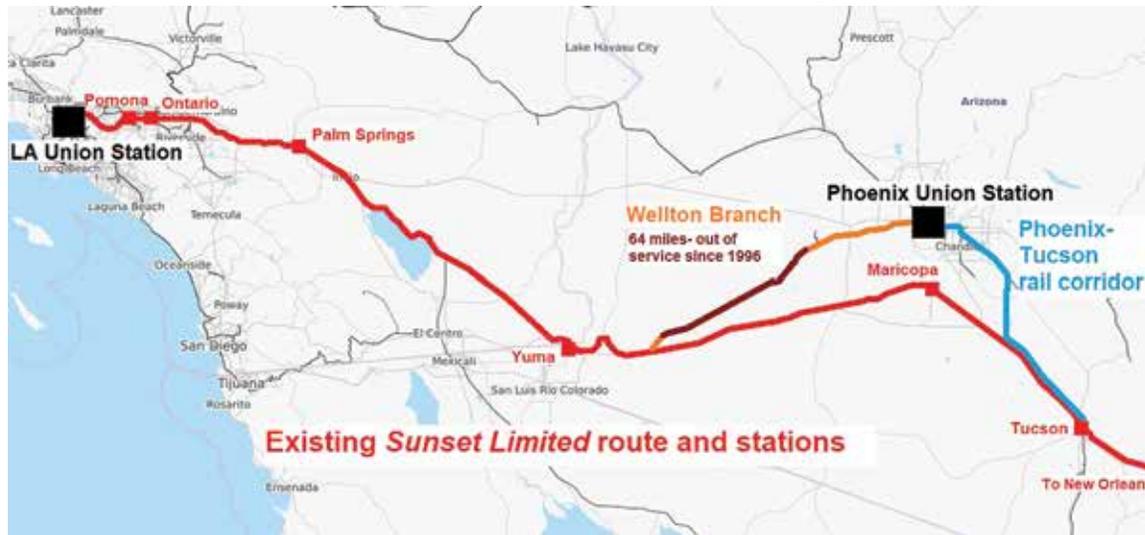
hours eastbound to LA. According to a 1993 Amtrak schedule, the LA-Phoenix running time of Sunset Limited was 8.5 hours both ways, or an overall average speed of 50 mph over the 426 mile route. The conundrum is that the existing UP Sunset Route between Southern California and Arizona is a high-volume major freight route, with dozens of UP freight trains each day. It is also a somewhat circuitous route, about 50 miles longer than the I-10 right-of-way between the Coachella Valley and Phoenix. Truly high-speed rail would require a new route from the Coachella Valley eastward into Arizona along the I-10 corridor, with dedicated passenger tracks unencumbered by UP freight trains.

If direct rail service along the I-10 corridor between downtown LA’s Union Station and downtown Phoenix’s Union Station were to average 150 mph, the trip could be made in 2.5 hours. The LAX-PHX gate-to-gate flight time typically averages around an hour and a half. Considering getting to/from airport, check-in, security, etc. time is at least an hour on each end of the flight- the total minimum time to get from downtown Phoenix to downtown LA via plane is about four hours. Weather and congestion-related flight delays are also not unheard of. So it is entirely conceivable that a train on this corridor could be faster than flying. The experience of high speed rail around the world has shown that between city pairs with distances very similar to that between LA and Phoenix (less than 500 miles), trains averaging 150 mph or better are serious competitors to airlines. High speed rail has proven in Asia, Europe and even the Northeastern U.S. to take a significant enough bite out of the traffic market share on such corridors to cause airlines to discontinue some flights (reducing GHG emissions). Fast, frequent rail service can also stimulate new travel demand at the same time.

In 2014, the Federal Railroad Administration (FRA) in collaboration with UP, BNSF, state and local transportation agencies, released the Southwest Multi-State Rail Planning Study. This effort involved conceptual planning of ‘high-performance rail’ interstate network connecting California, Arizona, Nevada, Colorado, New Mexico and Utah. The 2014 study described the Greater LA-Phoenix Corridor as having a particularly strong demand for rail travel, and recommended it to be a “Core Express” route with frequent, electrified trains over 125 mph on new dedicated track. According to the study, in 2010 the Greater LA-Phoenix corridor had 38 million annual trips along it, or over 100,000 per day (most of which presumably were part of the way between LA and Phoenix). The 2014 report recommended a “blue-ribbon commission” to study a high-speed rail link between Southern California and Phoenix, and the establishment of a Southwest rail working group to initiate implementation of the Study’s recommendations and integrate them into existing and ongoing transportation planning efforts.

More recently in a September 2020 presentation to the Rail Passengers Association, Amtrak identified Los Angeles-Palm Springs-Phoenix-Tucson service as one of the “corridors under review” to be implemented by 2035. Amtrak proposed to start the service as one round trip a day between Los Angeles and Tucson via Phoenix, and three round trips a day between

Phoenix and Tucson. However, Amtrak has not given a budget or project timeline needed to start such a service.



Background map: OpenStreetsMap (annotations by author)

## Wellton Branch- the Phoenix ‘West Line’

The Wellton Branch, also known as the Wellton Cutoff or the Phoenix-West Line, is a UP-owned track which runs west from the end of the Phoenix Subdivision, west of Buckeye, to the junction at Wellton to the mainline Sunset Route. Historically what was the Southern Pacific’s “Wellton-Picacho Cutoff” through Phoenix is today divided into UP’s Wellton Branch to the west and the Phoenix Subdivision to the east. Southern Pacific completed this north cutoff in 1926, primarily for Golden State and Sunset Limited passenger trains to pass directly through Phoenix.

Between Phoenix Union Station and Wellton Junction it is 137 miles of single track, with a few sidings. Aside from a few 40-50 mph curved sections, most of the route is very straight and could presumably accommodate trains 79 mph or faster when the track is refurbished and reopened. About 64 miles of the Wellton Cutoff, from east of Roll in Yuma County to west of Arlington in Maricopa County, has been out of service since 1996. Track on either end of the out-of-service segment is used by UP for storing freight cars.

Infamously, in 1995 this section of track was the site of sabotage which derailed the Sunset Limited about 70 miles west of Phoenix. One Amtrak crewmember was killed, and scores injured. The case remains unsolved, and in 2015 the FBI offered a \$300,000 reward for information leading to an arrest. However, this domestic terrorism incident was not the reason for the track’s closure. Southern Pacific, which was absorbed by Union Pacific in 1996, had been wanting to discontinue use on the line due to deteriorating track conditions. By then the Sunset Limited was practically the only train using the Wellton Branch, and service was slow and bumpy along this worn-out section of track. The Southern Pacific had requested help from the state of Arizona to refurbish the line up to standards needed to handle 79-mile-per-hour Amtrak

trains. The estimated cost at the time was \$27.5 million (about \$47 million in today’s dollars). Neither UP or Amtrak wanted to pay for refurbishment and maintenance costs, and did not find

any outside financial support from the state of Arizona or anywhere else. The state’s political leadership at the time, as it has since, was unwilling to use any state funds to support intercity passenger rail. Thus by June 1996 the Sunset Limited was bypassing Phoenix, and UP promptly put the 64-mile mid-section of the Wellton Cutoff out of service.

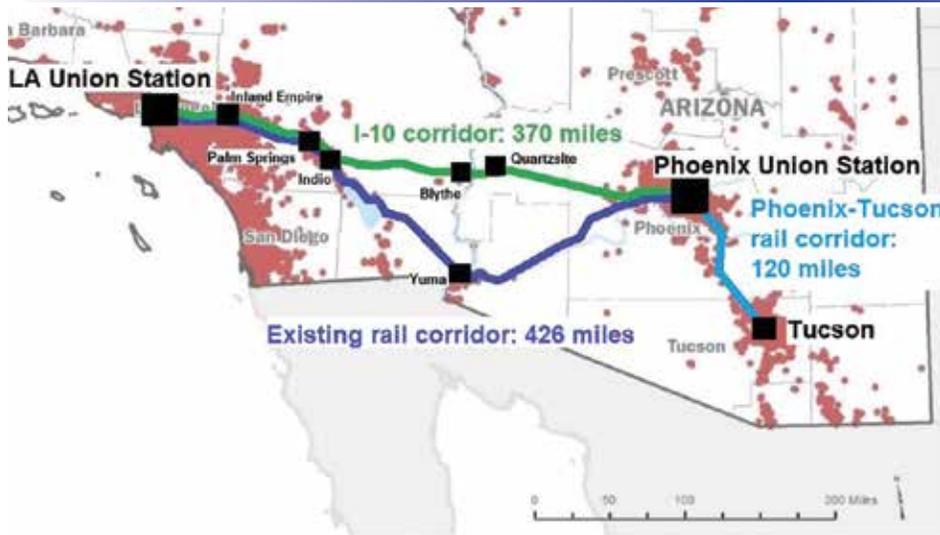
To get the Wellton Branch back in service, capital projects needed include repair and replacement of

ties, rail, and bridges along with new signals/PTC installed. In 2009, the Arizona Department of Transportation (ADOT) requested federal American Recovery and Reinvestment Act funds to help restore the Wellton Branch and bring the Sunset Limited back to Phoenix, but was not successful. To get Amtrak and UP on board, funding must come from outside the normal budgets of both railroads. Public money could pay for the capital projects, and absolve UP and Amtrak of any financial obligation. The state of Arizona could investigate purchasing the right-of-way, which would allow it to lease the branch to Amtrak or other train operators. To get the line running again, Amtrak and the ADOT should work with UP to come up with a capital improvement plan- to determine what exact projects are needed along the line, and what will they cost. The capital project plan offers an opportunity to propose rebuilding curves (with increased superelevation) and other improvements to increase train speeds on the Wellton Branch. Given that it would be presumably be operated mostly as a ‘passenger-only’ section of track, the straight sections could be feasibly improved for trains greater than 100 mph. Passenger trains taking the Wellton Branch and Phoenix Subdivisions between Wellton and Picacho through Phoenix also benefit UP freight traffic by freeing up capacity on the Sunset Route mainline.

## LA-Phoenix High Speed Rail Route Options

A new route along the I-10 corridor via Blythe would save about 55 miles of distance, or a 12% reduction in overall trip length. The new dedicated track on this very straight corridor could be designed to handle trains 200 mph or faster, several times the speed of the existing Sunset Route and Wellton Cutoff. As described by RailPAC President Steve Roberts:

“if you operate more than four frequencies you are going to have add much capacity on the Sunset Route, then you might as well build a separate high-speed passenger railroad.... spending billions for a 50 mph railroad to get 3 or 4 frequencies does not make sense.”



*Background map of population density, from Fig. 6 of Federal Railroad Administration, Southwest Multi-State Rail Planning Study, Technical Background Report, September 2014 (annotations by author)*

In my opinion, beyond a daily Sunset and a couple of frequencies, Riverside County Transportation Commission ought to focus on high-speed rail as a solution utilizing an upgraded current Metrolink Riverside route through the urban area, then a Route 60 alignment Riverside to Beaumont (these segments publicly funded as a starter route) then let the private sector finish it to Phoenix.”

RailPAC’s position is to support any operator, public or private, who can provide safe, reliable passenger rail service for a fair price, and would welcome discussion with Brightline or a similar company about the LA-Coachella Valley-Phoenix-Tucson corridor.

In the future, both LA-Indio and Tucson-Phoenix service could be upgraded to ‘higher speed’ electrified service, at speeds up to 125 mph, on ‘blended’ corridors which would also host trains going over 125 mph on the Indio-Phoenix segment. For example, some higher- or high-speed trains originating in LA could just go to Indio, while some would continue to Phoenix, or perhaps extend to Tucson. Between LA and the Coachella Valley, blended high-speed trains could run on the same tracks as non-high speed commuter/regional trains. Then east of Indio, HSR trains could run at truly high speeds all the way to Phoenix. Assuming this new track would run along the existing I-10 freeway right-of-way (in a similar manner proposed by Brightline along I-15 to Las Vegas), the distance would be about 250 miles between Indio and Phoenix.

Even with a brand new HSR track corridor built from Indio to Phoenix (via Blythe) along I-10, the Sunset Limited and other passenger trains would still serve Yuma on the Sunset Route, and Phoenix on the Wellton Cutoff. The greater Yuma area has over 200,000 year-round residents (more in winter), and is worthy of daily train service to Phoenix and LA. The Sunset could also provide a useful late night/early morning complement to LA-Coachella Valley or Phoenix-Tucson service.

High speed train service between LA and Phoenix could make mid-point stops at Blythe and Quartzsite, which would be a great aid to the economic development of these desert towns. Quartzsite, Arizona has about 4,000 year-round residents but the area can swell to over a quarter million than in the winter months, with snowbirds bringing their RVs from colder climates. Quartzsite is the largest city, and gateway to La Paz County (pop. 20,500) and recreational sites on the Colorado River. Year round visitors and winter snowbirds alike are all attracted by boating and other activities along the river. From a future rail station, passengers could connect from the Quartzsite station by bus 35 miles north to the county seat Parker, and further north to Parker Dam and Lake Havasu. Blythe, California has about 21,000 people, in an area along the Colorado River also attracting hundreds of thousands long-term visitors in winter. Within a 50-mile radius of Blythe (which includes Quartzsite, Parker and the Parker Strip along the river) in the mid-winter there can be over half a million snowbirds! Thousands of winter RV residents in the Blythe and Quartzsite areas could make quick getaways to Phoenix, Palms Springs or LA via high speed rail.

## The Rail “Bookends” in California and Arizona Coachella Valley - San Gorgonio Pass Rail

<https://www.rctc.org/projects/coachella-valley-san-gorgonio-pass-corridor-rail-corridor-service-project/>

LA-Inland Empire-Coachella Valley rail service is currently in planning and environmental studies by the Riverside County Transportation Commission (RCTC) and its partners (see Riverside County article in Q42020 Steel Wheels). At least several new passenger trains are proposed to run each day from LA Union Station to Palm Springs, Indio and points in between, likely in a state-supported manner like that of the Amtrak Pacific Surfliner.

In Riverside County, mainline rail capacity upgrades such as additional track and sidings, along with other improvements are proposed along the UP Sunset Route in the San Gorgonio Pass/Coachella Valley section of the Yuma Subdivision. This additional track capacity would enable upgrades of passenger rail service to the Coachella Valley and also Arizona, including a daily Sunset Limited. Of the multiple congestion bottlenecks along the Sunset Limited route which need to be relieved to allow daily service, the San Gorgonio Pass/Coachella Valley segment in Southern California is among the most important.

An important first step to improve passenger rail service between LA and Arizona would be for RCTC to reserve passenger train ‘slots’ on UP and BNSF tracks in Southern California, to accommodate a daily Sunset train (both ways) along with new Coachella Valley passenger trains. Securing these slots as part of the current RCTC Coachella Valley rail planning process would be early win for the daily Sunset

campaign. RCTC has leased track access and slots from the freight railroads for Metrolink trains since the early 1990s.

The 2018 California State Rail Plan called for planning for “development of future electrified regional services and phased implementation HSR services in the Inland Empire”. Phase 2 of the High Speed Rail plans to pass through Riverside County on the way to San Diego, and could connect to rail eastward to the Coachella Valley and Arizona.

### Phoenix-Tucson “Sun Corridor” Rail -

<https://azdot.gov/planning/transportation-programs/state-rail-plan/passenger-rail-study-tucson-phoenix>

Long a goal in Arizona is passenger rail service between Phoenix and Tucson, along what is known as the Sun Corridor. The Arizona Passenger Rail Corridor Study led by ADOT resulted in a Final Environmental Impact Statement and Record of Decision on the preferred corridor alternative, both completed in 2016. The only thing holding back development is funding and political structure. All Aboard Arizona and others have proposed a Joint Powers Operating Authority comprised of Maricopa, Pinal and Pima counties, metropolitan planning organizations, tribal governments, and regional transportation agencies to facilitate operation of passenger trains between Phoenix and Tucson.

The preferred alternative in 2016 was estimated to cost \$4.5 billion, in part due to a third track dedicated to passenger trains between Picacho Junction and Tucson. No funding sources or construction schedule has yet been identified. Amtrak-style corridor service on the Sun Corridor could first be established, as a precursor to higher- or high-speed rail.

### Valley of the Sun Regional/Commuter Rail -

<https://www.azmag.gov/Programs/Transportation/Transit/Commuter-Rail-Planning>

Since 2007, the Maricopa Association of Governments (MAG) in association with ADOT and other stakeholders have studied regional (commuter) rail in the Valley of the Sun. and initiate regional/commuter service to such suburbs as Buckeye, Goodyear, Glendale, Peoria, Surprise, Mesa, Gilbert, and Chandler. The 2018 study update estimated a capital cost of about \$2.5 billion to start a Valley of the Sun regional rail system with 30 stations on two lines on over 100 miles of track along existing freight rail corridors. Projected weekday ridership was estimated to be almost 21,000 by the year 2040.

The City of Phoenix, or other public entity such as MAG or a future joint powers agency, could purchase Phoenix Union Station and refurbish it as a hub for regional passenger rail, Amtrak, and future high-speed rail service.

### Next Steps

RailPAC and All Aboard Arizona’s ongoing collaboration efforts are a natural nucleus to start a “Southwest rail working group” or “LA-Phoenix blue ribbon commission” as proposed by the 2014 FRA Southwest rail study. RailPAC board members attended (via Zoom) the December 2020 All Aboard Arizona

annual meeting, and are discussing further collaboration to advocate for the daily Sunset, Coachella Valley and LA-Phoenix service.

Following the successful example of recent efforts to support the Southwest Chief, state and local governments can apply for federal funds outside of the normal Amtrak budget (such as BUILD or CRISI grants, etc.) to leverage local dollars for capital improvement and maintenance projects along the Sunset Limited route. To restore LA-Phoenix passenger rail service, the following initiatives listed below (with key organizations) should collaborate on seeking funds, and include accommodations for a daily Sunset to Phoenix as part of their plans:

- LA-Coachella Valley regional passenger rail (RCTC, UP, Amtrak, Caltrans)
- Wellton Cutoff improvement and restoration plan (UP, ADOT, Amtrak)
- Phoenix Union Station purchase and restoration (City of Phoenix, MAG, UP)
- Sun Corridor Tucson-Phoenix passenger rail (ADOT, UP, Amtrak)
- Valley of the Sun regional passenger rail (MAG, ADOT, UP, BNSF)

There is a need for a new, publicly available capacity study for the entire Sunset Route. The scope of this capacity study would describe the projects in California, Arizona, New Mexico, Texas and Louisiana needed for projected future passenger and UP freight traffic of the next 20 years, with preliminary designs, environmental clearances needed, cost estimates and construction schedules. For the long term however, a daily Sunset on its own is not sufficient to be the prime mover of rail passengers between LA, Coachella Valley, Phoenix and Tucson. Dedicated Southern California-Arizona corridor passenger trains should start with a minimum service of two daily trains each way, morning and evening from LA and Phoenix/Tucson (complimenting other future LA-Coachella Valley and Tucson-Phoenix trains). The most economical plan for new infrastructure would start by setting a service plan first, then figuring out a meeting point that would serve the morning and evening pair and ensure double tracks or at least a siding where they meet. This meeting place would be on the UP Sunset Route presumably somewhere in Imperial County, between Indio and Yuma.

High speed rail on new, dedicated track along the I-10 corridor between LA, the Coachella Valley, Phoenix, and Tucson should also be studied. Since the environmental and planning stages for a whole new line would take some time, they should be done concurrently with the first steps to improving passenger rail between Southern California and Arizona: upgrade the existing Sunset Limited to daily service, and bringing it back to Phoenix Union Station by restoring the Wellton Branch.

*Special thanks to Todd Liebman (President- All Aboard Arizona) Steve Roberts (President- RailPAC), Jon Talton ( <https://roguecolumnist.typepad.com/> ), and Tom White of VTD Rail Consulting for providing information and review of this article.*

# Chicago Regional Rail Agency Metra Orders Bi-Level Cars

*Courtesy of Railway Age magazine, including pictures.*



Metra's initial order will be for 200 cars, with an option for up to 300 more. Total price tag: \$1.8 billion.

**Railway Age reports that the Metra Board of Directors has approved the purchase of up to 500 multi-level commuter railcars from Alstom to replace aging bi-level gallery cars.**

Metra's initial order will be for 200 cars, with an option for up to 300 more, totaling \$1.8 billion. The cars, a customized version of the European Coradia Duplex, are to be built at Alstom's Hornell, N.Y., manufacturing facility where the Surfliner bilevels were built. The first car is slated for delivery in mid-2024 (42 months after the contract is finalized), with the full base order complete 30 months later (late 2027 or early 2028).

The agency's \$386.8 million capital program for 2021, approved in November, set aside \$61.5 million for the cars, which had been part of the Board's plan since 2014. A request for proposals was issued in March 2019.

About 40% of Metra's 840-car fleet is "rated in marginal or poor condition, although they are still safe to operate," the agency said. "The new cars will offer increased reliability, while reducing operating costs—a substantial improvement over the increasing expense of maintaining the older cars."



The new Alstom cars will have an advanced HVAC system, "which will scrub the circulated air—reducing staleness, allergens and airborne viruses," Metra said, as well as a microprocessor-controlled braking system and rider area cameras. Additionally, to reduce dwell times and increase rider accessibility, the cars will have two entranceways on each side with doors nearly level with the platform, requiring only one step to enter instead of multiple steps on the old gallery cars. The cars will also be wheelchair accessible, deploying lifts to bridge the slight difference between the platform and entrance. Among their amenities: video screens, bike racks, storage for bags, charging outlets, cupholders and arm rests. to 300 more, totaling \$1.8 billion. The cars, a customized version of the Coradia Duplex, are to be built at Alstom's Hornell, N.Y., manufacturing facility. The first car is slated for delivery in mid-2024 (42 months after the contract is finalized), with the full base order complete 30 months later (late 2027 or early 2028).

ED: In the same way that you can buy a Boeing 737 fitted out as a luxury business jet or a 170 seat regional carrier, so you can use the same railcar hull to be more than be just a commuter car. We have pointed out for many years the possible advantages of a common fleet (on the outside) of both commuter and intercity trains, each fitted out with appropriate levels of seat pitch, lighting, luggage racks etc. These new cars for Metra might well be able to fill the bill for California, meet all our requirements AND offer low level boarding without having to add funky short lengths of high-level platform. California has 154 stations with low-level platforms. There is no budget for rebuilding stations to high level boarding, and there are many more priorities for scarce dollars.

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# European Night Trains – Lessons for USA?

By Paul Dyson

On 21 September, 2020, German Transport minister Andreas Scheuer presented proposals to transport ministers from all European Union states for the creation of a new “Trans Europe Express” (TEE) network, based upon both daytime high-speed trains and a revitalized night train network. The original TEE network was established in 1954 with purpose-built trains beginning in 1957. For that era these trains were fast and luxurious, and the network lasted until the 1980s. Air and freeway competition eroded the customer base, but the Europeans believe that new high-speed routes and the desire for greener alternatives together provide a basis for a renewed TEE network.

The European proposals also include night train networks, which ironically look very similar to the former City Night Line network DB (German Federal Railways) shut down in 2016 as unprofitable. Critics at the time noted that DB had included coach passengers on these trains as “intercity” revenue and not against the night trains, hence exaggerating the losses. In December 2016, in what seems extraordinary to American readers, Austrian Railways (ÖBB) stepped up to introduce its “Nightjet” network, taking over many DB routes in neighboring countries and some of its rolling stock. Imagine Via Rail Canada taking over an abandoned Amtrak service! The Dutch government is planning to subsidize a connection from Amsterdam to connect into Nightjet. While there is still some earlier generation rolling stock available, both sleepers and couchettes, ÖBB has ordered new sleepers from Siemens. The trains are a mixture of day coaches, couchette cars and sleepers.

The short term list of EU proposed routes consists of:

- Amsterdam – Basel – Venice
- Frankfurt – Lyon – Barcelona
- Paris – Stuttgart – Zagreb/Budapest
- Paris/Brussels – Berlin – Warsaw
- Berlin – Innsbruck – Rome/Nice
- Copenhagen – Berlin – Vienna/Budapest

While ÖBB is striving to run a profitable operation the consensus in Europe is that the new network will require both operating subsidy and capital for new rolling stock.

In addition to the EU plan the Swedish government has proposed a service between Stockholm and Brussels via Copenhagen while open access operator Snälltåget has plans to link Stockholm with Berlin. It seems as if every month brings new announcements as the state operators who very recently opined that high speed lines would signal the end of overnight trains are now having second thoughts.



*Austrian Railways “Nightjet” Berlin-Zurich service near Brugg, Switzerland. Note the taller sleeping cars towards the rear, purchased from DB. Photo, Georg Trub.*

While we may be encouraged by this trend in Europe we have to keep in mind the differences, especially institutional, between Europe and the USA. ÖBB started a network on the tracks of neighboring countries under EC open access policies. Remember that because of the scale of operations in Europe there is a much larger fleet of passenger rolling stock on which to draw, as well as locomotives, whereas USA’s inventory of trains is pitifully small.

Elsewhere in this issue of Steel Wheels Brian Yanity examines the prospects for intercity service between Los Angeles and Phoenix, including overnight operations. There are certainly city pairs that would seem to lend themselves to this type of service, and RailPAC supports the general idea. What we need as a prerequisite is rolling stock. Many years ago I called upon Amtrak and the other agencies to “build 1,000 railcars” to supplement the existing fleet. We have a long way to go, but I am encouraged by Metra’s order for 200 cars plus an option for 300 more (see p 16).

The second but equally important issue is access, track on which to run the trains. With multiple routes available and the decline in coal traffic there should be the capacity available for additional trains on the route of the California Zephyr, for example. Perhaps the FRA should review the inventory of railroad main lines and designate some for passenger development, routes that have declining freight traffic, or are duplicated, and which could be upgraded to 90mph? Suggestions, please!

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# A TURNING POINT

*By Andrew Selden, President, United Rail Passenger Alliance*

(Dick Spotswood wrote advocating splitting Amtrak in Steel Wheels 3Q18 (A 21st Century Model for Passenger Rail). This story essentially builds on that premise, Ed.)

May 1 marks the 50th anniversary of the takeover of intercity rail passenger service by the National Railroad Passenger Corporation (NRPC). The law stated that NRPC was chartered to operate at federal expense a nationwide network of intercity routes designated by the Secretary of Transportation. This remains NRPC's legal mission.

Congress acted to relieve the private railroads of the burden of providing passenger service. Many services were lightly patronized secondary and branch line trains that lost money; some mainline trains (like the Empire Builder and the Southern Crescent) made money, but the industry as a whole was on shaky financial footing in 1970.

Political leaders feared that Penn Central's collapse could cascade through the industry, crippling the national economy. The law offered railroads a one-time choice to shed their common carrier passenger obligation in exchange for contributing equipment, facilities, cash and operating rights for NRPC at discounted rates.

The day before the takeover, Penn Central accounted for half of all daily passenger train starts nationwide. It owned the Northeast Corridor, where it ran short distance intercity and commuter services at a huge loss. (The NEC infrastructure costs were so great that in 1975 the US Railway Administration gave the NEC to Amtrak to allow rehabilitation of PC into Conrail; between 1975 and 1978 Amtrak's annual subsidy quadrupled.) (Ed: 1975-\$277M, 1978-\$1116M)

NRPC's operating plan eliminated the vast majority of US passenger trains and routes, except in the NEC. All NRPC services were financed by federal subsidies.

Today, NRPC has abandoned its statutory purpose. NRPC is moving steadily towards no longer operating a nationwide network of usable intercity rail passenger services. Instead, it seeks to operate only a dense cluster of mostly commuter services in the Northeast, carrying commuters to and from New York City. Federal taxpayers finance that service, which incurs ongoing annual losses exceeding a billion dollars a year; it also has accumulated deficits (largely, deferred maintenance) of \$30 billion more.

Outside the NEC, Amtrak operates some discontinuous regional corridors, but only under contract to a sponsoring state (or states). Many were originally federally-subsidized, but NRPC persuaded congress to change the law a decade ago to make all regional corridors—except the NEC—a purely state responsibility. (PRIIA 2008).

Amtrak also operates, grudgingly and poorly, at federal expense, 15 surviving inter-regional routes. It apparently

wants to eliminate all of them (save AutoTrain) unless states or congress pay what Amtrak falsely claims they "lose." These trains are the economic backbone of the national system and Amtrak's only trains that fulfill its charter purpose.

Amtrak doubled down this fiscal year on its foolish obsession with wanting to be a New York City commuter railroad, and a contract operator of other sponsors' trains with a huge investment in new "high-speed" trains. It is naïve to believe that NRPC's management can be persuaded or forced to do what it was chartered, and is still legally obliged, to do. If the will of the American people, expressed through their elected representatives, is to provide a national network of intercity passenger trains, that mission must now be transferred to a new, separate entity created specifically for that purpose, managed entirely independently from NRPC, whose sole purpose is to operate a national network of intercity passenger trains, except local services in the NEC, at federal expense.

The new entity would be spun off from NRPC in a customary corporate reorganization along with all assets and rights other than NEC real estate and trains. Congress would capitalize it. It would have its own board and management, and financial statements. It would be headquartered in a business-friendly state such as Texas. It would get a new name. Its route accounting system would comply with generally-accepted accounting principles and be fully transparent. It would have no responsibility for NEC costs.

NRPC would retain its NEC assets, its name, its accounting systems, its own board and management and its own financial statements. It would be solely responsible for the NEC and would operate only inside the NEC. It would have no responsibility for any costs associated with trains outside the NEC.

NRPC should support this because it would completely relieve it of all responsibility for trains it doesn't want anyway and their alleged losses. It would allow Amtrak to focus 100% of its resources and management attention on its NEC trains and allow the NEC to stand on its own, financially.

Congress would mandate that NRPC enter into an interline agreement with the new entity, overseen by the STB, providing the new entity rights to run its inter-regional trains (e.g. through trains from Boston and Montreal to Florida) on the NEC at rates reflecting only demonstrated incremental cash costs, requiring joint ticketing and baggage handling, and a neutral arbitrator to resolve disputes. State-sponsored regional services would be awarded through competitive bidding to the new national entity or other qualified operators other than NRPC.

If we as a country don't do this and do it soon, we can kiss good-bye ALL passenger train services outside the NEC and a handful of isolated regional corridors. Is that really what we want?

# German Study Says Battery Trains 35% Cheaper Than Hydrogen

Paul Dyson – With thanks to Keith Fender, Europe Editor, Modern Railways

A detailed report by the German federal transport ministry has compared the economics of battery-electric multiple-units (BEMU) and hydrogen-electric multiple-units (HEMU) as alternatives to conventional DMUs. It suggests that BEMUs are likely to be €59million cheaper to buy and operate on a whole life cost basis than alternative non-diesel trains powered using hydrogen fuel cells. The report was compiled by German electrical standards and research organization Verband der Elektrotechnik, Elektronik und Informationstechnik (VDE).

The report suggests that not only is the initial cost of HEMU trains significantly more, their energy costs and the cost of multiple replacement of fuel cells during a 30-year working life means they are around 35% more expensive than BEMUs, which can draw power from existing overhead catenary on electrified routes. In addition, HEMUs are more expensive to use than the DMUs they would replace unless either hydrogen costs fall dramatically or oil prices rise considerably. BEMU trains currently available in Germany have a battery power range of 80 to 120km between charges; the VDE assumes batteries will need replacing every eight years.

The VDE study takes a practical example to calculate operating and whole life costs using the network of regional lines from Düren, located between Aachen and Köln, with planned timetables and data reflecting the actual topography to calculate energy usage and operating costs. This network is at present completely unelectrified other than the Düren station area, but will be connected to electrified lines at two of the three interchange points by the mid-2020s. The network is currently

operated by DMUs and thus the study evaluates replacing the DMUs by 2026. By then trains will either start and/or finish in stations with catenary but will not run under it for the rest of the route. A BEMU train would have to rely on regenerative braking on route and recharging at each end of the route. A HEMU could recharge its batteries when power produced by the fuel cells exceeds that needed for traction.

Both battery costs and hydrogen cost are declining, but hydrogen remains more expensive. Studies published in the UK suggest that to generate 1kW of power at the wheel using “green hydrogen” requires 3.4kW of grid power for electrolysis, whilst a straight EMU taking traction current would need 1.2kW from the grid for 1kW at the wheel. It is hard to see hydrogen cost diminishing sufficiently to bridge this gap.

For southern California this poses an interesting opportunity. Given the high cost of catenary electrification, especially to provide for clearances for double stack container trains, it should still be possible to enjoy the benefits of electric trains, whether BEMUs or battery locomotive-hauled trains. By electrifying Los Angeles Union Station and its approaches, plus similar stretches at Laguna Niguel, Chatsworth, Santa Clarita, and San Bernardino, for example, there will be ample opportunities to recharge batteries. The electrified sections should also be long enough to allow trains to accelerate away from stations without drawing on battery power.

If High Speed Rail funds become available to electrify Burbank - Anaheim, this could happen quite soon, and provide the basis for an electric/battery network.



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