

STEEL WHEELS

PASSENGER RAIL IN CALIFORNIA AND THE WEST

ISSN 2325-629X

MAGAZINE OF THE STEEL WHEELS COALITION®

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Phil Villalobos
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Albert Borden*

President's Commentary

By Steve Roberts – RailPAC President



These are clearly stressful and extraordinary times and on behalf of RailPAC and its Board I want to offer my sympathies for those who have suffered from the COVID-19 virus and most especially for anyone who has lost family or friends to this virus.

In January, as a country and a world we reached one of those forks in the road and can never go back. One fork was the path we thought we would be taking; the other path to the future is the one we are now on. That path is full of unknowns and the stress of having no idea what the future holds for ourselves or our families.

Adding to this stress is the fact we face two distinct but intertwined disasters that have highlighted society's vulnerabilities. The health related disaster (COVID-19) threatens our lives, while the pandemic induced depression threatens our wellbeing. These two disasters come back-to-back meaning this unsettled situation will last longer. There is also the psychological impact from the undermining of our confidence in technology and planning.

On the positive side and learning from past recessions, these twin disasters have been met with more coordinated fiscal and monetary measures than past economic downturns. Some trends, already underway may be accelerated. Past trends, the assumed waves of the future a few years ago, may be modified. Certainly the risks and resiliency of the lean "just in time" worldwide supply chain is front and center for reevaluation. Reliability may have a higher value. Many retail establishments and restaurants may never reopen replaced by Amazon, multi-menu central kitchens paired with dinner delivery services. Also does this situation accelerate the complete change to contactless payment (phone or credit card) and an end to cash? Has the pandemic accelerated teleworking and virtual meetings to a level that will impact commuter and business travel? Or will the newly available road capacity be filled with delivery vans? These are all unknowns, but perhaps representative of a new normal.

Turning to our main focus, the travel industry, it has been decimated with reduction in travel at or near 90%. The majority consensus is that travel will not recover without a vaccine and with the deep recession it may take three to five years for the travel market to fully recover. Will the ability to isolate, lower traffic volumes and low gas prices favor auto

travel? To recover, common carrier travel will need travelers to feel confident in their personnel health and safety. Also transportation is a secondary purchase - one piece of a multi item purchase. A traveler may feel comfortable about the carrier's protocols but what about the taxi, subway, hotel or restaurant? The economics of establishing this confidence is staggering for a carrier's cash flow.

Block out the all the middle seats on an airplane, limit cruises to short 3-day trips, double the number of coaches on a train to maintain a 50% load factor (and the extra locomotive to haul them), only selling a sleeping car compartment once until it can be thoroughly stripped and cleaned? All these actions are also recipes for losses. The camaraderie and socialization

between passengers in the diner or lounge car has always been a key feature for rail travel. What happens when that is now a negative and passengers want to get their boxed food, and get back to their seats or accommodations ASAP? Do diners, lounge cars and coaches need to be re-imagined and rebuilt for social distancing before full service can be offered? Will seniors self-quarantine at home and quit traveling? If vacation travel declines will core demand be for

a coach only train running the entire route but primarily serving 300-500 mile trips along the route? Will

bedrooms be more attractive because of privacy but roomettes less attractive because of communal restrooms? What actions are needed to keep the train continually sanitized? Before you can attract riders again you need to address these issues as well crew safety issues. Near-term limited demand will facilitate this social distancing but the revenue shortfalls and losses may require major subsidies.

And confidence and health safety is just one issue. The other challenge will be the impact of the deep recession. The level of economic activity is a major factor in determining ridership. People don't travel if they have lost or fear losing their job. Others may not travel if their retirement nest eggs have been battered by market declines. Even those relatively secure may instead divert discretionary income normally used for travel to savings as a precaution. All of this suppresses demand.

In addition the state funded corridor routes are generally funded by revenue flows that are very sensitive to changes in economic activity. Discontinuance of state funded corridor frequencies reduces network connectivity which negatively impacts other state funded routes and ridership on the National Network trains. Amtrak's FY21 Corridor Development funding



Orange County Metrolink Train in April, 2 passengers including the photographer, Noel Braymer.

may instead be required to support the existing state funded routes. If air travel does not rebound by September 30th, the end of the CARES Act, there will be a substantial layoffs and route restructuring for the airline industry (and possibly Amtrak). Will Venture Capital consuming Uber and Lyft, which were supposed to reach profitability in the 2020-21 timeframe, survive? Will there be another funding package for transportation? Another challenge will be Federal debt issues and how that will effect spending priorities.

And it may never be the same. This shock over this loss of control may result in changes about what is important in life, a new normal. However, we may be able to speculate on the trends that impact rail travel. As was noted above auto travel may be the "go to" mode especially early on. On the flip side long worldwide cruises filled with seniors will probably not be a high demand product. Business travel at some level will return early. Despite the growth of video meetings, some things need to be done in person. It may be the same with the daily commute, off-agenda networking and body language are a critical part of decision making. One of the realizations from the new growth in teleworking is the security vulnerabilities when the corporate network is linked to a wide variety of unsecured home WI FI routers/modems. Depending on the industry, it may be cheaper to continue to have offices rather than upgrade all these private connections.

One of the largest travel categories, especially for rail travel, is visiting family and friends. As soon as household incomes



Amtrak 6, California Zephyr, approaches Martinez CA 5/3/2020 with half the usual number of cars Photo: Albert Borden

stabilized this should see a rebound. This will be especially so after being cooped up, first by the stay at home requirements and then by economic challenges.

As we proceed down this unknown path, we should move safely but staying focused on our goals of improved intercity and commuter rail network.

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High-Speed Rail Update – 2nd Quarter Steel Wheels

Steve Roberts – RailPAC President

The key undertaking completed recently by the California High-Speed Rail Authority (CAHSRA) was their 2020 Business Plan update. Business Plan updates are undertaken every two years in order to report, to the legislature, the current status of the project including construction progress, forecasts vs. budgets and the results of analysis of the current financial situation and funding flows. It also serves as a vehicle to report the status of the progress in operational planning.

The beginnings of the 2020 Business Plan and its recommendations actually began in early 2019 when Governor Gavin Newsom clarified that the near term goals of the project be strictly defined as those which were within the scope of the funds available. This led to the May 2019 Project Update Report to the Legislature. In this report CHSRA, following the Governor's direction, strictly defined a project within financial resources as an electrified high-speed line between Merced and Bakersfield. This line, with endpoints at actual cities, was leveraged with proposed San Joaquin and ACE rail service connectivity on the north and the existing Thruway bus service on the south.

Following the May 2019 update, per the Board's direction, the agency undertook two other in-depth studies. One study analyzed the benefits of spending the unallocated high-speed rail funding on urban HSR segments compared to the Merced to Bakersfield Interim Valley route. The Valley route was chosen as Central Valley study option since earlier analysis indicated it generated substantial value for the investment. The second study was to provide governance, operational details and critical future tasks and agreements needed to operate the proposed Central Valley line. Both studies ran concurrently.

The Side-By-Side Study was defined by the Board and weighed three alternatives. The three investment options were - the NorCal segment San Jose - Gilroy which serves a key part of the Bay Area urban area, the SoCal segment, Burbank – Anaheim, which serves a key segment of the Los Angeles/Orange County urban area, while the Central Valley segment, Merced - Bakersfield coordinated with the San Joaquin/ACE route network, serves the entire state urban and rural. All options serve significant population areas.

Driven by both a doubling of frequencies and faster schedule times (compared to the

baseline) the Central Valley network generates significantly more ridership and ticket revenues (Figure One). The baseline was each of the current routes including fully funded projects that will be constructed. As was noted earlier, the coordinated HSR/San Joaquin/ACE leverages the populations of NorCal, SoCal and the Central Valley. This drives significant ridership increases. Also impacting ticket revenue growth for the Central Valley option was the longer trip lengths than the urban corridors. This results in higher average ticket revenue per passenger. Finally, since projects built in the NorCal and SoCal options focus on adding capacity and additional frequencies but with no time savings, incremental growth is less. Short trip lengths and low commuter fares result in less revenue per passenger. In the case of the NorCal option the greatest increase in frequencies was south of San Jose to Gilroy, a suburban area with lower population density.

Figure One

Ridership and Ticket Revenue Change Baseline Scenario vs. Optimum Scenario

Route	Passenger Increase	% Change	Tkt Revenue Increase	% Change
NorCal Option	430,000 Riders	+ 2%	\$4,950,000 Annually	+ 4%
SoCal Option	2,100,000 Riders	+13%	\$28,500,000 Annually	+18%
Central Valley Option	4,810,000 Riders	+120%	\$117,240,000 Annually	+190%

Driven by the greatest incremental passenger growth and the longest trip lengths the Central Valley option also results in greatest reduction in greenhouse gas emissions compared to the baseline. Another important factor is the goal, not for just a group of projects, but a serviceable rail line that can generate incremental (new) rail ridership and ticket revenue. A half built rail line will not generate the desired incremental growth. In all cases each of the proposed routes, NorCal, SoCal and Central Valley, will require planned but unfunded local investment in addition to HSR funds in order to create a fully competitive service positioned for growth. The Central Valley option requires the smallest amount of unfunded additional investment (the San Joaquin connection at Merced) to create a viable service.

The Merced to Bakersfield Business Case Study looked at the feasibility of the Interim Valley Service. So while the Side-By-Side Study developed ridership, ticket revenue and capital cost estimates the Business Case Study asked "can this be done" and what are the operational, maintenance, governance, institutional requirements and commercial considerations needed to make this work. Also can this all be done within the revenues and funding available. It also provided an overview of the risks and economic benefits of the interim service. The study sought to answer the question, is the Valley Interim Service, Merced to Bakersfield, really a viable option?

The study indicated that the Interim Valley Service proposal was in fact viable and the additional ticket revenues generated would reduce the current state payments for ACE and San Joaquin service. The increase in ridership would generate significant social-economic benefits not only from the reduction in greenhouse gas emissions, but from increased mobility options, safety, job creation and development in downtown Merced and Bakersfield. Interim service also utilizes a publicly funded asset (the high-speed rail line) as early as possible generating revenues to fund security and infrastructure maintenance for this asset while other options are developed.

One critical benchmark that needs to be developed is a new form of

governance or business model to manage and operate the Interim Valley Service until the Early Train Operator can take over the service. What has been proposed is the full involvement of the manager of all the connecting services, the San Joaquin Regional Rail Commission (SJRR). The SJRR currently operates the Altamont Commuter Express (ACE) and the San Joaquins. The SJRR is developing Valley Rail, a major expansion in service between Sacramento and Merced.

SJRR would lease the Merced – Bakersfield high-speed rail line and operate high-speed service coordinated and in concert with ACE, San Joaquins and the San Joaquin Thruway bus network. With a passenger only rail line Merced to Bakersfield and two routes north of Merced frequencies would be substantially increased (Figure Two). Higher speeds and improved reliability would result in reduced travel times.

The overall finding was that leveraging an integrated and expanded ACE and statewide San Joaquin train and Thruway bus network was very productive and resulted in the electrified HSR in the Central Valley being the optimum path forward. Much preparatory work needs to be undertaken and several interagency agreements need to be developed and agreed to between multiple parties. Looking ahead this is very complex undertaking.

The near-term 2020 Business Plan tasks is a review by the State Senate and Assembly Transportation committees, and a vote on accepting the 2020 Business Plan by the CAHSRA Board. These actions are expected to take place in May and June 2020.

In the field, as a transportation project, construction continued apace. The number workers dispatched and the pace of construction increased. The virus restrictions slowed the right-of-way acquisition process slightly with challenges in coordinating with property owners and their lawyers. On the plus side processes have become more streamlined with the utilities and freight railroads moving those tasks forward in a timelier manner than in the past year.

Major HSR benchmarks were achieved or that are upcoming:

- October 2019 Final Approval of the Environmental Report, Poplar Ave to Bakersfield. This clears this section for pre-construction activities;
- September 2019 Draft Final Environmental Report released for the Central Valley Wye (Chowchilla). Final approval expected September 2020;
- January 2020 Draft Final Environmental Report released for Bakersfield to Palmdale;
- April 2020 Draft Final Environmental Report released for San Jose to Merced;
- May 2020 Draft Final Environmental Report scheduled for release Burbank to Los Angeles;
- June 2020 Draft Final Environmental Report scheduled for release San Francisco to San Jose.
- Draft final Environmental Reports, Palmdale – Burbank and Los Angeles – Anaheim are scheduled for release within the next six months.

In the case of mega-projects an approved environmental reports with the preliminary engineering completed, is a critical milestone. It shields the project from the majority of lawsuits making the project more attractive to the private sector since an approved environmental study provides more confidence in the project's timeline to completion.

In April the CAHSRA Board approved the formal transfer of \$423 million in Proposition 1A funds to LA Metro to fund LINK US, the LA Union Station track upgrade and run through tracks. With this allocation Phase A of the project is fully funded.

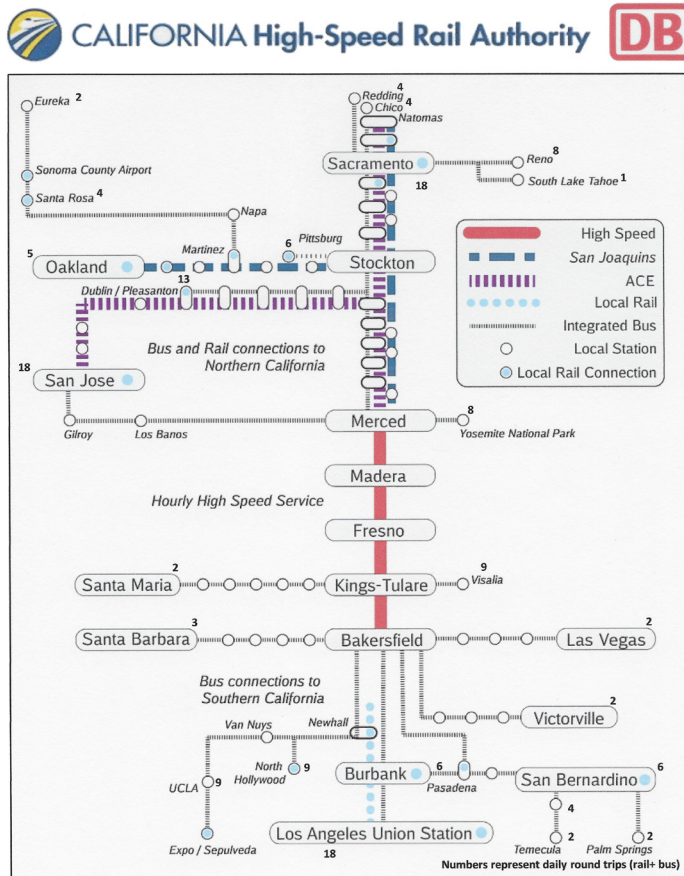


Figure 3-6: Central Valley Service Integration with Rail and Bus Connections to HSR

Finally, the Virgin – Las Vegas project is gaining momentum and moving forward. In March the US Department of Transportation approved the issuance of \$1 billion in private activity bonds. California followed in April approving bonds leveraging \$2.4 billion in private activity bonds. Nevada is expected to follow suit with \$800 million in private activity bonds. When these bonds are sold, required by September 2020, and combined with \$600 million in private equity it should provide sufficient funding for the project.

Private activity bonds are a tax exempt financial instrument like municipal bonds, sold on the private market to fund a revenue generating facility with public benefit (i.e. airline terminals, toll roads). Bond payment is based on the revenue potential of the facility and is not guaranteed by the county or municipality. California State Treasurer Fiona Ma is quoted as saying that the tax-free bond market remains liquid based on recent California sales. If successful, this sale will be an indicator of the private market's willingness to invest in high-speed passenger rail. Virgin – Las Vegas is reported to be acquiring property and discussing the project with construction firms. One critical near-term task is to finalize the lease with Caltrans for use of state owned property along or in the median of I-15 for the project.

LESSON LEARNED

by Andrew Selden, President, United Rail Passenger Alliance



Amtrak 3 the Southwest Chief at Verdmont CA in the Cajon Pass 4/5/2020 Photo:Matthew Griffin

The coronavirus epidemic has all but halted intercity travel, and crippled all carriers. The \$40 billion cruise industry is completely shut down, as are tourist railway businesses ranging from the Durango & Silverton NGRR to Rocky Mountaineer. Domestic air travel is down 96%, and Amtrak is down about 95%.

But Amtrak is not down uniformly across all of its business sectors, and therein lies a useful lesson.

The trains that are aimed strictly at the expense account business travel market, the Acela Express services between Boston, New York and Washington, D.C., are shut down entirely for the simple reason that no one was riding them. A few other short corridors also are shut down entirely for the same reason, but at the request of their sponsoring states, notably Maine's Downeaster and Wisconsin's Hiawatha services. Northeast Corridor Amfleet trains are sharply reduced to Sunday service levels, as are regional corridor services elsewhere, including California, also due to extremely low usage.

But one segment labors on, with retained ridership that is three to five times higher than the short corridors: the interregional ("long distance") trains, which have retained 10 to 15% of their pre-epidemic traffic levels. These trains also provide the only service on most or all of their routes (some, like the Coast Starlight and the Empire Builder, also overlap regional corridor services), so tremendous political pressure exists on Amtrak to keep them going, albeit with reduced consists and on board services. But while trains that are carrying 20 to 25 passengers at any given point on their route are

not sustainable in the long term, they do serve as reminders of what rail's strongest markets are: interregional routes each one of which connects hundreds of origin-destination city pairs and dozens of overlapping intra-route regional corridors.

Just as in normal times, the interregional trains during the epidemic are proving to be Amtrak's largest, strongest segment by all metrics that matter: intercity ridership, retained ridership, output (in passenger miles), load factor, and market share for intercity transport in their respective corridors.

This is a critical lesson. As Amtrak plans its rebuilding from the epidemic retrenchment, if it asks itself "How can we quickly restore the most output (passenger miles of transport) per dollar expended?" there is only one answer, only one segment where that will happen—the national system interregional trains.

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.



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The image shows the front of a blue Siemens Charger diesel locomotive, model CDTX 2111, on a railway track. The locomotive features a prominent American flag, a 'STOP' sign, and 'AMTRAK PACIFIC SURFLINER' branding. The locomotive is positioned on tracks with gravel ballast under a clear blue sky.

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RailPAC Recommendations for Nevada State Rail Plan

Steve Roberts, with contributions from Ron Kaminkow, RailPAC Nevada, and Paul Dyson

Transportation investment requires a multi-level planning process in order to qualify for funding and move forward to construction. The purpose of the process is to assure that the investment is coordinated and supports the overall transportation network and most importantly that there is an opportunity for public input/comment on proposed investments. The planning process moves in phases from a high-level overlook down to project specific.

The first, the highest level, is the state transportation plan made up of four independent reports - aeronautics, highway, rail and maritime. The state transportation plan demonstrates how each of the modes interacts, and how all proposed projects contribute to overall connectivity within and beyond the state. In addition, the statewide modal plans provide a key opportunity for stakeholders to outline a vision of the transportation network if there were no funding constraints. The next level of detail might be a corridor study while the final level would be the project specific planning effort. The key fact is that in order to be funded, a proposed project has to be in the state transportation plan which provides the opportunity for public comment.

Generally, these planning requirements were an outgrowth of the experience during the construction of the Interstate highway system, when many urban working class neighborhoods were demolished and divided to construct commuter roads from the new far suburbs. These planning processes also try to create a backstop against “midnight raids” in appropriation bills for special interest projects, i.e. roads to open up property for development.

Outlined below are the RailPAC’s recommended action items for the Nevada State Rail Plan. Over the years RailPAC has provide input and comment on how to achieve improvements to state rail networks

Northern Nevada/Reno California Zephyr

Currently Greyhound Lines no longer operates schedules between Reno and Salt Lake City along the I-80 corridor. As a

result there is no longer any other public transportation service along the I-80 corridor except Amtrak. Greyhound serves its customers by offering a code share via Amtrak. However this leaves several towns without transportation service. In order to address this shortfall in mobility, RailPAC recommends that the state, local communities, Amtrak and Union Pacific analyze implementing additional stops along the I-80 corridor. In addition to the current stops at Winnemucca and Elko the following towns should be considered for stops.

Fernley is a satellite community of Reno, roughly 35 rail miles east of the Reno depot. It has seen significant growth over the past decade. A stop at Fernley would also provide more convenient access to Fallon, NV. Fernley has a growing industrial base (Tesla’s Gigafactory) while Fallon is the home of the Naval Aviation Warfighting Development Center (Top Gun). Combined populations total almost 30,000. About 60



*Amtrak 5 Westbound California Zephyr at Arnolds Loop near West Wendover, NV. RailPAC is calling for additional station stops in Northern NV, but not here!
Photo: Dick Ebright*

miles further east and almost mid-way between Fernley and Winnemucca is Lovelock, the County Seat of Pershing County, (pop.6700). Similarly, about mid-way between Elko and Salt Lake City are the cities of West Wendover, NV and Wendover, UT. Their combined population is approximately 5,700. Since West Wendover is the closest legal gambling location to Salt Lake City, there are several hotel and casinos and supporting service business. This stop offers potential travel for those visiting the casinos

and general travel from residents and casino workers. These potential stops are attractive, even at modest ridership levels, because the Reno – Salt Lake City segment of the Zephyr has the lightest coach load along the route. Finally, this UP route sees fewer freight trains than it did prior to the 2008 recession,

Capitol Corridor

There is substantial travel from Northern California cities to the Reno metro area as a result of leisure/vacation activities, visiting family and friends (many California retirees have relocated to the Reno area) and student travel from California to the University of Nevada, Reno. This travel demand becomes especially problematic during winter storms when I-80 can be unreliable.

As part of the California State Rail Plan, extension of Capitol Corridor Service to Reno/Sparks was listed. RailPAC recommends that Nevada DOT coordinate with Caltrans and the Capitol Corridor Joint Powers Authority (CCJPA) in identifying and funding capacity improvements for extending Capitol Corridor service between the Bay Area and Reno/Sparks. Nevada DOT would be the lead agency for capacity projects in Nevada. Nevada DOT should also coordinate with Caltrans and the CCJPA on the location, scope and design of a layover facility for the extended Capitol Corridor service.

In addition to Capitol Corridor service, additional coaches have often been added to the California Zephyr during periods of high demand. Nevada DOT should explore with Amtrak whether any Superliner coaches, in need of overhaul or repair (currently unfunded) could be returned to service with work funded by Nevada with equipment dedicated to Bay Area – Reno service. California has undertaken similar investments. In addition as part of the scoping effort coordinate with Amtrak to facilitate the use of the Capitol Corridor layover facility for local Oakland – Reno “cut-off” cars and for servicing private rail cars. Nevada DOT would be the lead agency for the service facility projects.

Reno Area Transit Service

With continue population and economic growth in the Reno metro area the existing road network will be under pressure to handle future traffic volumes. To forestall gridlock or every more costly highway expansion, RailPAC recommends efforts to preserve and/or acquire existing historic rail right of ways. In addition studies should be undertaken to analyze the feasibility of using these local rights of way to provide passenger transit in the greater Reno area.

Suggested routes include the following:

The Reno Branch north to Bordertown and Reno Junction; plus V&T gradient/Hwy 395 South to Carson City, Minden and Gardnerville; plus East to Fernley (MP 276) on the UP mainline and branch line from the main at Hazen (Nevada Subdivision MP 288) to Fallon; West on UP mainline to CA border at Verdi, NV (Roseville Subdivision MP229).

The study would look at various technologies such as battery electric, diesel hybrid, tram trains, light rail etc. The study would also recommend integration with local bus services and changes to routes to coordinate rather than compete or overlap.

Southern Nevada/ Las Vegas

Coordinate with Amtrak, Utah DOT and Caltrans on the reinstatement of the Desert Wind intercity rail service between Los Angeles and Salt Lake City with through cars to/from Chicago. Given the benefit of providing additional travel options to Las Vegas, it would be appropriate for Nevada DOT to be the

lead agency in developing a multistate effort for capital grants under CRISI and Restoration and Enhancement Titles

RailPAC supports the new Virgin – Las Vegas passenger service on a reserved right of way from Las Vegas to Southern California. RailPAC recommends Nevada DOT facilitate Virgin’s efforts to construct this project. In support of that effort RailPAC recommends that a feasibility study be undertaken to explore the extension of either the Las Vegas Monorail or Las Vegas light rail to the Virgin – Las Vegas station.

In addition, potential station sites for the Desert Wind near or adjacent to the Virgin station should be explored with early action to protect the property from development. This facility should also include provisions for a layover facility, including facilities for private cars, allowing the option, when Virgin reaches Los Angeles, of truncating the Desert Wind at Las Vegas with through passengers transferring to Virgin service.

Las Vegas Area Transit

RailPAC recommends further expansion of the Las Vegas Light Rail system.

RailPAC also recommends a study of rail service on the Boulder Branch from Boulder to downtown Las Vegas with a connection to either the Virgin station extension of the Las Vegas Monorail or Las Vegas light rail. The study would look at various technologies such as battery electric, diesel hybrid, tram trains, light rail etc. The study would also recommend integration with local bus services and changes to routes to coordinate rather than compete or overlap.

Multi-State Intercity Equipment Pool

RailPAC recommends that Nevada explore, with other states, the initiation of a multi-state equipment pool. This pool would provide Nevada with equipment to contribute to the Capitol Corridor service extension to Reno, California Zephyr Reno cut-off cars and the reestablishment of the Desert Wind LA – Las Vegas – Salt Lake City. Another goal of this effort is to provide, as states phase in additional rail service over time, a steady stream of production to maintain a robust US railway passenger equipment manufacturing base.

Public Impacts of Changes in Rail Freight Operations

Over the past few years and into the future the freight rail carriers are making changes to their operations. In the near term these changes have had negative impacts on motorists with blocked crossings, and train riders with delays, etc. Nevada DOT should coordinate with the Nevada PUC on providing the public a user friendly channel to document any issues with these revised operating practices. Utilizing this data Nevada DOT and Nevada PUC can coordinate with stakeholders on developing mitigations, (i.e. longer sidings, grade separations, changes or relocations of rail yards, etc.)

RailPAC's Recommended Priority Investments

There has been some discussion in Congress regarding an economic stimulus package (Federal) and a New Green Deal bond issue (California legislature). Since the prospective list of rail projects is generally provided by agencies with a long list of all their projects, RailPAC has compiled a list of selected projects and studies that are of high value and would appear to be ready for construction.

Capital Corridor

Project	Benefit
Third main track Sacramento - Roseville	Additional capacity and major increase in train frequencies
Santa Clara Siding	Additional capacity, operational flexibility and additional frequencies
South Bay Connect Oakland – San Jose	Major increase in capacity to match capacity east of Oakland. Major increase in train frequencies

Caltrain

Project	Benefit
Diridon Station San Jose Rebuild	Additional funding to enable the rebuilding of Diridon Station for BART and HSR to occur concurrently
DTX – Extension of Caltrain from current station to Sales Force Transit Center	Improved access and competitive positioning compare to auto and dramatically increased ridership
Undertake Selected Construction Ready Grade Separations Burlingame – Santa Clara	Improved reliability and safety

San Joaquins/ACE

Project	Benefit
Stockton BNSF/Union Pacific Grade Separation	Expanded capacity for rail passenger service, improved reliability from reduced train congestion
San Joaquin Route Connection to Downtown Merced Station and ACE/San Joaquin Downtown Merced Station	Development of a joint ACE/San Joaquin/HSR station in downtown Merced. Improved connectivity, ridership and community development
Altamont ACE/Valley Link Tunnel	Expanded capacity and improved run times allowing additional frequencies and increased ridership

Metrolink

Project	Benefit
LINKUS (LAUS Run Thru) Phase B	Expanded train and passenger flow capacity, improved reliability and run times
Antelope Valley Capacity Project Remaining Projects	Service expansion, reliability, run-time improvements and ridership increase
SCORE – Completion of Remaining Phase 1 Projects on LOSSAN Corridor	Service expansion, reliability, run-time improvements and ridership increase
Undertake Selected Construction Ready Grade Separations Burbank - Anaheim	Improved reliability and safety

LOSSAN/Pacific Surfliner

Project	Benefit
Del Mar Bluffs Phase 5 Stabilization	Maintains current intercity and commuter rail service
Del Mar Bluffs Alternatives Analysis and Environmental/ Preliminary Engineering Studies	Relocates the rail line to avoid long term failure due wave action and settlement, develops a high capacity, high performance railway to support future growth
Raymer to Bernson Double Track	Additional capacity and reliability for high frequency service within the suburban core to generate ridership growth
Sorrento to Miramar Phase 2 Double Track	Additional capacity, frequency, run time improvements and reliability resulting in increased ridership
Eastbrook to Shell Double Track	Additional capacity, frequency run time improvements and reliability resulting in increased ridership
San Dieguito Bridge and Del Mar Racetrack Platform	Additional capacity, frequency, run time improvements and reliability resulting in increased ridership
Carlsbad Village Double Track	Additional capacity, frequency, run time improvements and reliability resulting in increased ridership

California Company Makes Progress With Zero Emissions Locomotives



Locomotive 999 about to begin testing at a rail yard in Orange County Photo Credit: Brian Yanity

Rail Propulsions Systems, LLC, of Fullerton, California, (“RPS”) has announced the successful restoration and recycling of locomotive 999, an early zero emission battery prototype. 999 was developed by Norfolk Southern railroad more than ten years ago to be a road switcher but did not meet their requirements and the project was abandoned. RPS recently acquired 999 and has installed their power control systems and other upgrades which will enable 999 to be productively employed in southern California’s Los Angeles Basin. Although improved in recent years, the air quality in the L.A. Basin is still the worst in the country, and diesel engines are a major source of air pollutants.

The philosophy of RPS is to modernize and recycle existing railroad locomotives. “The manufacture of a new locomotive has a huge carbon footprint” says RPS Chief Technical Officer Dave Cook. “Up to a hundred tons of new steel, plastics and copper wiring goes into new construction. We are able to re-

use the main components avoiding the production of tons of CO2”.

RPS has also developed an emission system to bring existing diesel locomotives to today’s standards and is working on further developments of batteries and power electronics. Even the batteries are recycled, from automotive applications, and can be further used for power storage after their use in locomotives.

RPS is a “homegrown” southern California enterprise. The founders of the company met as students at Cal Poly Pomona. CEO Ian Stewart says that it is a goal of the company to source components and to employ more local people. “Our projects to date have involved 11 local companies as partners and suppliers” says Stewart. “We have a great knowledge base here in southern California that’s as good as any in Europe or Asia.”

999, and the second battery locomotive 1201 will be tested in a rail yard in Orange County before being made available to a regional passenger agency or industrial user.

For Information Contact paul.dyson@railpropulsion.com



RPS designed and built racks for the Lithium Iron Batteries for the second battery prototype. The batteries are recycled from “Mini-E” electric cars. Photo Credit: Brian Yanity

Other Rolling Stock News

While announcing funds for an overnight storage track at San Luis Obispo CALSTA made no mention of the fact that the track was designed for a 7 car bi-level train. If California continues with the policy of purchasing and deploying single level cars with reduced capacity then these storage tracks will need to be longer if the trains are to carry at least as many passengers. Thanks to Ed Von Nordeck for bringing this to my attention.

Recycling continues apace at **Vivarail** in the UK. (Vivarail.co.uk). The company acquired a fleet of retired but not life expired London Underground trains and have repurposed them in a number of configurations for local purposes. Options include diesel hybrid, battery, and fuel cell versions. Another example of minimal carbon footprint by reusing the heavy steel parts of the train and adding modern electronics and power systems.

To quote from the company:

Consider the amount of energy required to build a new train, not least the raw materials needed to make the body and the bogies...

The Class 230 is built using the aluminium bodyshell of the D-stock trains, and bogies manufactured by Bombardier less than ten years ago. Both bodyshell and bogies have been expertly inspected and assessed to have 25+ years of active service.

Re-using quality parts saves waste, energy, money and time – creating a train that starts its life nigh on carbon neutral. Added to which it costs significantly less to acquire, operate, maintain and can be in service in a fraction of the time of a traditional new-build.

The Class 230 makes commercial sense for operators and financiers – and it’s also good for the environment.

It's Time for SMART to Consider reconfiguring its board

Report and Commentary from Dick Spotwood

SMART Board of Directors Gary Phillips (holding large scissors) stands with other dignitaries at the ribbon cutting ceremony for the Larkspur station. SMART held a grand opening celebration of its 2.2-mile, \$55 million Larkspur extension in Larkspur, Calif. on Dec. 13, 2019. Regular service to Larkspur begins on Saturday Dec. 14. (Douglas Zimmerman/Special to the Marin Independent Journal)



This suggested change isn't a slam on current directors.

It remains helpful to have some political and geographically centered directors, but a governing board 100% composed of local politicians is excessive. Even if SMART's Measure I sales tax election had prevailed, the agency would be better governed with a board composed of both local elected officials and appointees from each county each with specific professional expertise.

State legislation should authorize a nine-member board composed of two county supervisors and two city council members, one each from Sonoma and Marin, and four individuals, two from each county with specific expertise in finance, marketing, operational safety and human resources. Plus, a North Bay resident who has professional railroad operating experience should be named chair by the governor.

Some elected officials sitting on SMART's board will be reluctant to give up their posts. It's not the money. Directors earn only a \$100-a-meeting stipend. It's the prestige of serving on a regional agency. The number of county and regional agency liaison assignments that council members and county supervisors' treasure is excessive. These folks have enough to deal with in their own bailiwicks without being overburdened by excessive regional agency assignments.

A worse alternative is to make SMART's board directly elected. That's usually the dream of activists who see themselves in the posts or budding politicians who'll use it as a stepping-stone. Attracting first-rate candidates to run will be difficult and, in any event, few who are elected will have the professional expertise SMART's board needs for effective oversight.

To gauge the effectiveness of elected transit boards, look at BART. Under the Bay Area Rapid Transit District's three-county board elected by district, ridership is declining, crime is spiking and, due to outsized influence exercised by BART's labor unions, unsustainable salaries and benefits proliferate.

Last week this column outlined a series of reforms the Sonoma-Marine Area Rail Transit District might implement after defeat of efforts to continue its one-quarter cent sales tax funding for 30 years. There's plenty of time to make those changes since the current sales tax doesn't expire until 2029.

The suggested reforms include alternative means of refinancing the agency's long-term debt, contracting aspects of SMART,

including operation to either private-sector contractors or the Golden Gate Bridge District, indefinitely halt plans to extend the tracks or parallel bikeway and reconstituting the commuter train's board of directors.

The current 12-member board consists exclusively of political appointees: Four county supervisors, two each from the Sonoma and Marin; six city council members, three each from each of the two counties and two Golden Gate Bridge District directors. It was

a reasonable mix when devised in 2002. That board achieved its twin goals of obtaining supermajority voter approval for the train's sales tax funding and building the current 70-mile rail line.

In times of fiscal challenges, far better oversight will be provided by a board of directors that includes members with professional experience in fields in which SMART needs guidance.

This suggested change isn't a slam on current directors. It remains helpful to have some political and geographically centered directors, but a governing board 100% composed of local politicians is excessive. Even if SMART's Measure I sales tax election had prevailed, the agency would be better governed with a board composed of both local elected officials and appointees from each county each with specific professional expertise.

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All Aboard Arizona

Todd Liebman, President



In March, I had the privilege of being elected President of All Aboard Arizona. Taking over for Chuck Mott means filling big shoes, but with the assistance of our excellent board, I am quite confident in the future of our endeavors to enhance passenger rail in Arizona. The reality is that

nobody can predict the future, and the COVID19 situation has thrown the entire world for a loop. But, if there is one thing I truly believe, it is that the future for passenger rail in America is bright, and that includes in vibrant and growing Arizona.

At our board meeting in fall, we discussed how to move forward with key components of our strategic plan. The highest priority on our list is the Sun Corridor and returning service between Tucson and Phoenix. A large percentage of Arizona's population live in that corridor, and Interstate 10 is straining to keep pace with growth. In 2016, the Final Environmental Impact Statement for the corridor was completed, and the only thing holding back development is funding and political structure. To that end, All Aboard Arizona Executive Director Tony Trifiletti and Board Member Roger Clark met with Mayor Kate Gallego of Phoenix and presented an excellent power point outlining the opportunities. One potential for moving forward is to obtain statutory changes permitting municipalities to form a Joint Powers Authority. The pandemic interrupted our ability to move forward with meetings with elected officials in the Sun Corridor, but we hope to continue outreach and create opportunities in the near future. Elections are coming in November, and this summer will be a good time to engage with candidates and help educate them on the potential for rail.

A daily Sunset Limited/Texas Eagle is likewise essential, and the time has come to move that project forward. The Sunset Route is the only transcontinental Amtrak route that isn't daily. Its tri-weekly operation is a legacy of the late Southern Pacific days that traded service enhancements (diner and sleeper), in exchange for cutting the service to three days per week. In the intervening 50 years, the southwest has become the fastest growing region of the country, and the Sunset Route has as much potential as any in the Amtrak system. It is long past time that the Sunset/Texas Eagle achieve daily operation. In order for that to happen, Amtrak and the Union Pacific must agree on a realistic, win-win operating plan. With carloadings down by 10% this year, the Union Pacific has track capacity, and Amtrak can be a reliable revenue stream. Rail infrastructure improvements that mutually benefit passenger and freight rail are a double win for everyone. If the will is there by Amtrak management, we believe this can happen.

I have also had the opportunity to reach out to rail advocates in other states nearby including New Mexico and Texas. One concept we are exploring is a joint meeting of southwestern states to discuss moving forward with passenger rail. One opportunity is engaging with the Native American Nations on

issues of joint interest. Bringing all governments to the table, state, county, municipal and tribal is key to advancing rail. The benefit of rail is that it can serve all these communities, providing needed transportation and economic development.

COVID19 has led many to speculate as to what the future of passenger rail looks like in a post pandemic world. Some things are undeniable. Many jobs have successfully transitioned to telework. The impediments to telework have been broken down, and there will be an impact in the number of commuters in the future. Similarly, business travel has come to a standstill, and it is apparent that many business trips for conferences and meetings can be transitioned to successfully to videoconferencing. Some think tanks are postulating that the need to social distance will lead to more driving, road construction and more sprawl. That's possible, but not probable. The same issues that have driven trends worldwide; urbanization, denser development, and the need to address global warming, are as existent and critical now as ever.

Regardless of which vision of the future comes to pass, neither should negatively impact passenger rail. Worldwide trends demonstrate significant possibilities that can be translated here. Europe is seeing a renaissance in overnight trains, and European governments are working toward lowering rail fares and encouraging more rail travel. The development of night trains in certain corridors in the US is a sweet spot because they travel at slower speeds and can be implemented without the need for significant and costly speed upgrades while ridership and the rail market grow.

According to today's Wall Street Journal (May 4, 2020 Business News, page B3, "Airlines See Slow Recovery"), the airlines are now "digging in for a recovery that could take years". The economic effects have been devastating. The top four air carriers have collectively lost over \$4.5 billion in first quarter of 2020. Between the challenges of making people feel confident in the safety of travel, improving cleanliness, and reduced capacity necessary to social distance, the bottom line is that future air travel will cost much more, offer fewer flights, provide fewer amenities and take longer. Herein are great marketing and sales opportunities for Amtrak which can offer more individual travel spaces, reduced crowding in stations, and onboard the trains, and less delays and cost in keeping equipment cleaned. Of course, train cars cost a whole lot less than a jet plane as well.

Amtrak just celebrated its 49th birthday, and the new President of Amtrak, William Flynn, created an inspiring video in commemoration of that event. The optimism and positive spirit presented in that video, are hopeful signs that positive change is underway at Amtrak.

We have work to do, but we have already come so far. What's good for passenger rail in our neighboring states and across the country is good for Arizona. See you on the rails post pandemic as we continue the effort to grow passenger rail in Arizona and throughout the region.

From The Rear Platform – Editor’s Column

by Paul Dyson

I have been accused of being old and bitter. The reason? Instead of heaping praise on California and Los Angeles County Metro for allocating funds to the Antelope Valley (“AV”) line I’ve been complaining that it’s 25 years overdue. To me it’s a symptom that the transportation agencies still consider passenger rail as an optional extra rather than an equally necessary mobility element, equal that is to highways. Consider that a billion dollars is being spent right now on widening Interstate 5 between Sylmar and State 134 at Glendale. The route is parallel to the Metrolink AV line and any improvements in highway capacity inevitably take passengers from the train. Did Caltrans and Metro, providers of the money for the highway project as well, stop to consider that the \$150 million of AV projects could move as many or more people as the billion dollars of pavement? Ah, you say, it’s State policy to build HOV (carpool) lanes. Well, that’s OK then, if it’s “policy”, then we must do it.

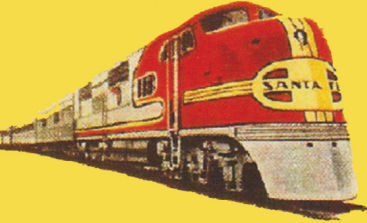
I well remember the early success of the AV line, and the tremendous efforts that were made to start the service after the 1994 Northridge earthquake. But the subsequent twenty five years have seen little progress in increasing capacity and eliminating bottlenecks. There’s a new siding at Ravenna/Acton that is rarely used. We have a new station at Burbank Airport North that has almost no passengers (as I predicted) and will most likely be demolished when the second track is added. During those years the demographics and the market have both changed. Many of the original riders from Santa Clarita to the studios at Burbank have retired and their younger replacements are more likely to come from Hollywood or downtown Los Angeles. The NBC studios have moved from Burbank to Universal City, too far from a Metrolink station, and the work at the studios today is mostly short term, not career employees with

regular hours. As a result, even before the pandemic, Burbank downtown station’s passenger count was down by 50% from the pre 2008 peak years.

That’s what happens if you create a product and fail to improve it. Indeed, not only did Metrolink fail to keep up with the competition but let quality slip with delays due to poor locomotive performance, Positive Train Control, and poor security at stations. If you don’t pay attention to the market you lose business. There’s still a lot of travel along the AV corridor, but it’s less a traditional commuter flow and more varied as to time of day and direction. Is Metrolink still relevant? Certainly not as it operates today, with about 22,000 regular customers (40,000 +/- round trips) from a five county population of 19 million! (Pre-Covid 19). That’s simply not good enough, and hardly worth the operating subsidies, capital expenditure, cost of stations born by the cities, employee fare subsidies, Air Quality funds for new diesel locomotives and so on.

So Metrolink management was already confronted with a huge problem, even before Covid-19 crept in unnoticed. Restoring confidence in public transportation in general will be a major task, as will building a service that responds to new journey patterns. As Dick Spotswood notes in his column, now would be a good time to overhaul the membership of Boards of all the rail agencies. There is an immediate need for fresh thinking from professional transportation executives, travel experts, public health professionals, engineers and yes, representatives of the traveling public. To quote Abraham Lincoln: “The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew and act anew.”

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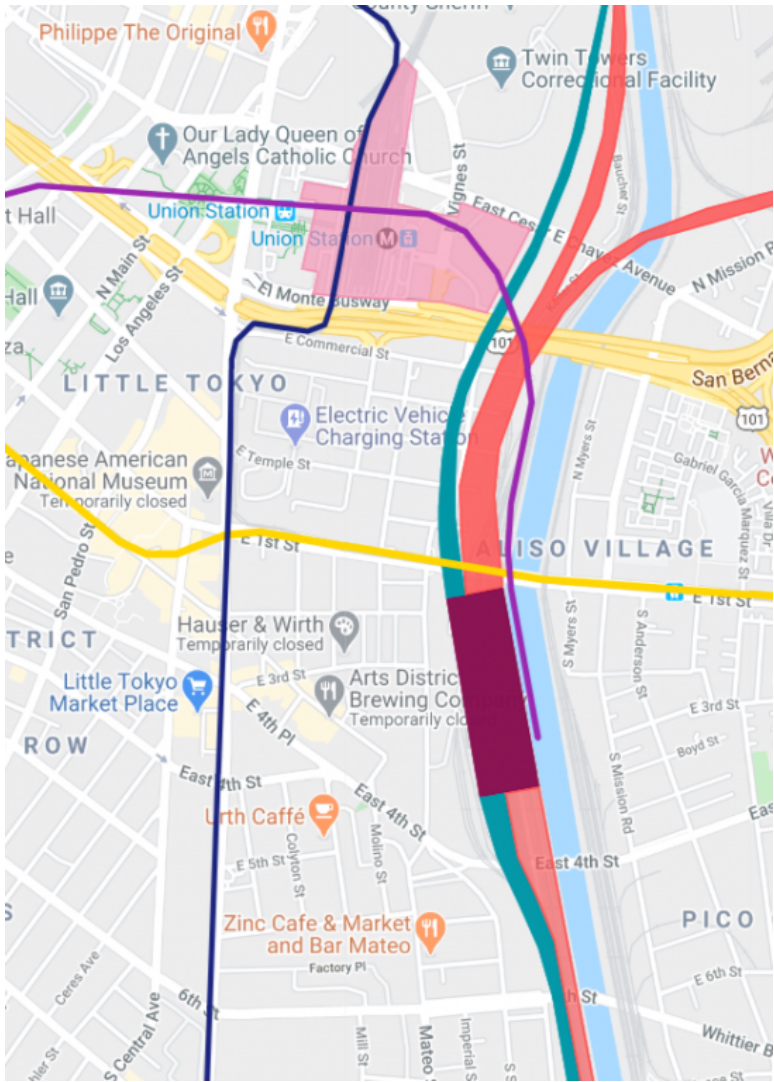
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Union Station – Looking For A Lower Cost Solution



We all know what is happening, and let's not kid ourselves that plans for expansion and modernization of public transport will emerge unscathed from Covid-19. We have no more right than any other interest group to claim that our projects should be exempt from the inevitable pain of what is currently expected to be a \$50 billion plus budget deficit just here in California. So where do we stand? I like to think that I have been consistent on this, in good times and bad. I believe that safety and convenience for the passenger and value for money for the community are paramount. Every project must be examined to determine whether it delivers significant benefits.

As you know, RailPAC has campaigned for through tracks at Los Angeles Union Station since the eighties. The operational need is still there but LA Metro is pushing ahead with a scheme that has more to do with retail and real estate development than its efficiency as a station and transit hub. The cost is now astronomical compared with the basic project that was almost built fifteen years ago. We have to rethink this. I'll be addressing this in the next issue, but in the interim take a look at this schematic for a First Street Station as an alternative. If for no other reason, we need a First Street station as a way of keeping trains out of the station during construction.



As usual your comments are welcome. pdyson@railpac.org

SAVE THE DATE!

Citizens For Rail California, inc. dba Rail Passenger Association of California and Nevada gives notice that the annual meeting of the association, and the Steel Wheels Conference, will take place on Saturday September 12, 2020, at the California State Railroad Museum in Sacramento, starting at 11.00am.



PLEASE NOTE: While we have reserved the auditorium at the Museum we are well aware that the Museum may not yet be open in September. RailPAC is making arrangements to hold an on line meeting to conduct the formal business of the Association, including receiving reports from the officers and electing the Board of directors, should that be our only option.

We will be in touch with members in the next 60-90 days with a final decision as to how we will proceed.

Thank you for your continued support of RailPAC. Marcus Jung, Secretary

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

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