



EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER



September 24, 2026

The Honorable Doug Chaffee
Chair
Metrolink Board of Directors
Los Angeles County Metropolitan Transportation Agency (Metro) Board Room
One Gateway Plaza, 3rd floor
Los Angeles, California 90012

Re: Agenda Item 8B: Multiple Unit Implementation Plan Final Report

Dear Chair Chaffee and Metrolink Board,

The undersigned represent transit, environmental, and environmental justice organizations throughout Southern California. All of us are committed to improving air quality and reducing emissions from transportation, and many of us have invested many hours this year fighting Metrolink service reductions (which remain unresolved). We have long opposed the deployment of hydrogen trains and supported the electrification of railways throughout Southern California, including Metrolink. The results of the Multiple Unit Implementation Plan Report confirm what we have long suspected, that hydrogen is a poor choice for Metrolink. **Rather than continue down this path, which will worsen service at considerable cost, Metro and Metrolink should direct remaining AVL zero emissions pilot funds to a technical study that lays the foundations for overhead electrification.**

The study indicates that the hydrogen multiple unit trains (ZEMUs) perform worse than existing diesel trains, with negative impacts on service and schedules. Due to the lower acceleration of the ZEMU compared to diesel locomotives and the steep grades on the Antelope Valley Line, the trains would be 2-3 minutes slower than existing schedules and struggle to operate 30 minute headways. The study does not incorporate the one minute/stop time savings of level boarding, which could compensate for the slower acceleration. However, the study indicates that to safely operate in Tunnel 25, speeds would need to be further reduced. Overall, the study concludes that ZEMU operations would degrade service on the Antelope Valley Line.

According to the study, none of the ZEMU configurations have sufficient passenger capacity to meet projected peak ridership at pre-pandemic levels. The only configuration that can meet *current* ridership is the 8-car configuration, which would require expensive platform extensions and require the skipping of certain stops because the cars are too long for existing platforms.

Investing in ZEMUs is spending public money to reduce capacity and ridership. Southern California's traffic and air pollution issues and the ongoing climate crisis demand that Metrolink ridership meet and exceed pre-pandemic ridership; we cannot settle for managed decline.

Figure 2-1. Average Weekday Peak Load by Train, Westbound SBL

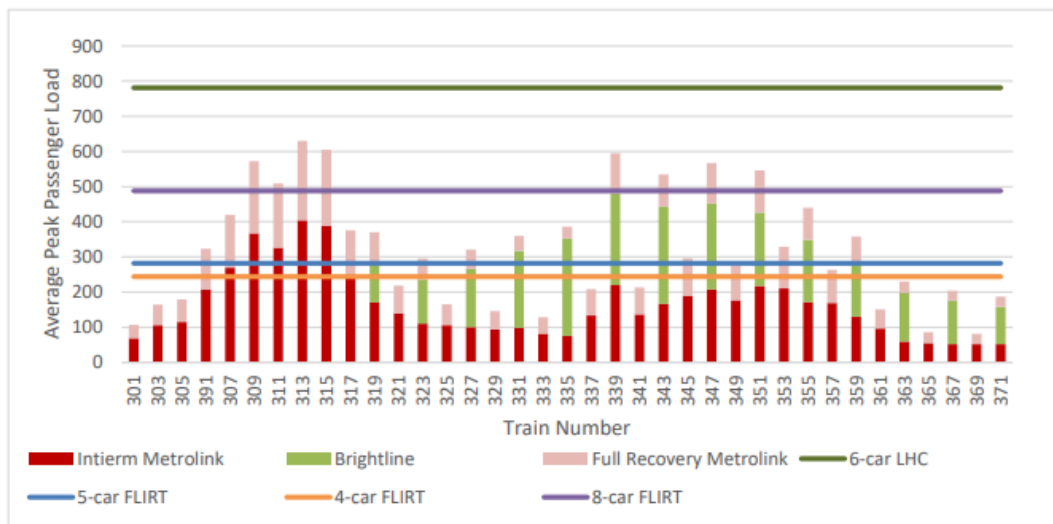
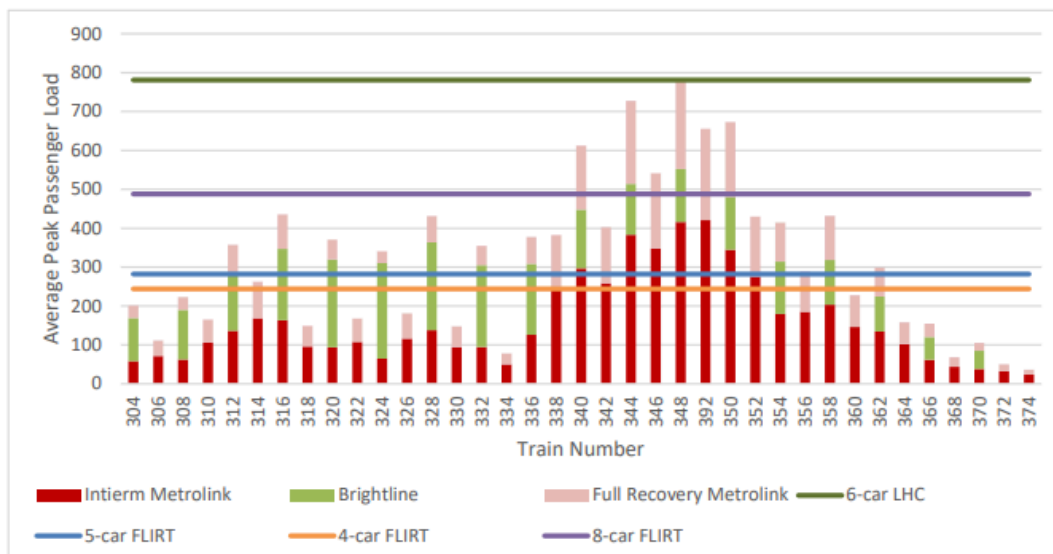


Figure 2-2. Average Weekday Peak Load by Train, Eastbound SBL



Metrolink Final Multiple Unit Implementation Plan

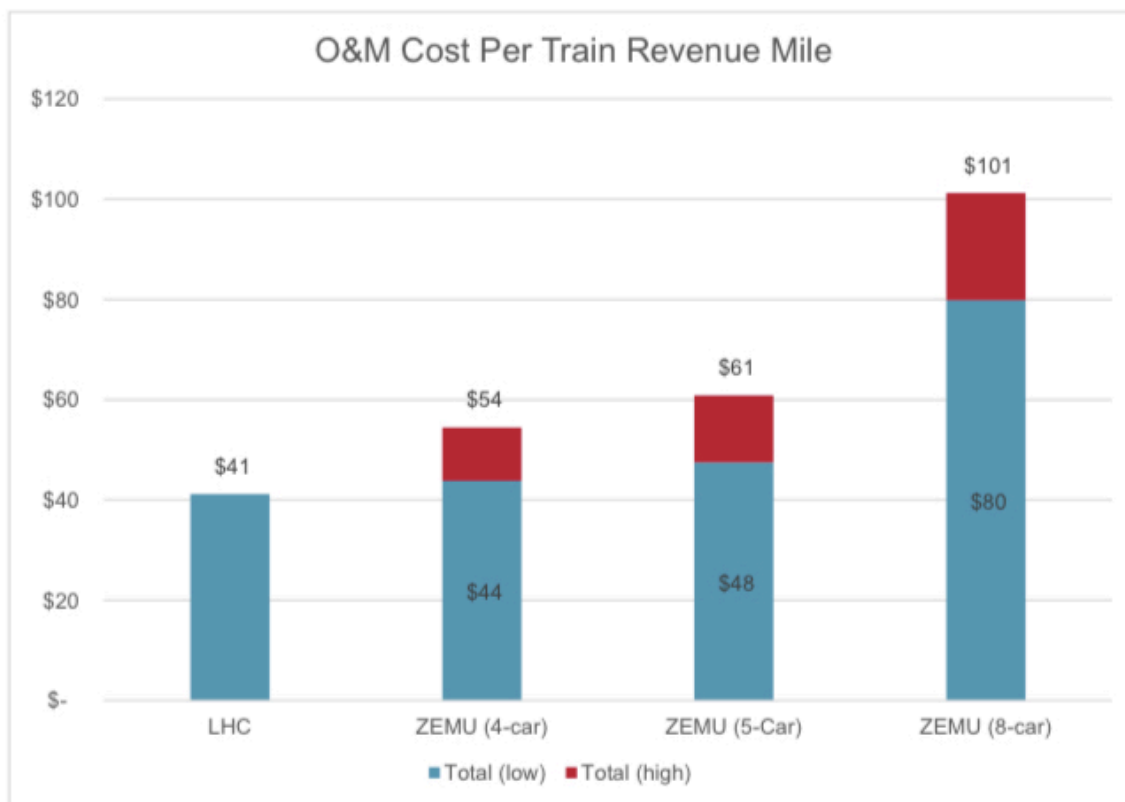
The study raises serious concerns about the safety of hydrogen in tunnels such as those on the Antelope Valley line, suggesting that explosions would be impossible to mitigate in the case of a leak and that leak prevention was the only feasible intervention - a difficult task given the ease of hydrogen leaks. In addition to the concerns for human life, this risk could impact FRA certification, implying additional costs and delays not quantified in the study. The study additionally suggests that the modeled hydrogen service patterns would require new refueling infrastructure at the existing Eastern Maintenance Facility in Colton, at one of the existing yards near LA Union Station in eastern Los Angeles, and at a new maintenance facility in Santa

Clarita. These new facilities would expose environmental justice communities to additional hazards from highly flammable hydrogen; Colton has already experienced two fatalities from a hydrogen explosion in early 2026¹.

Hydrogen trains provide minimal environmental benefit to justify their many drawbacks². The vast majority of hydrogen on the market, including that currently used by SBCTA, is derived from fossil gas and as such contributes to climate change. While hydrogen trains are free of smog-forming emissions during operation, the air quality impact of Metrolink's cleanest-available Tier 4 diesel engines is marginal compared to other sources such as cars, trucks, or dirtier freight locomotives. Because hydrogen is derived from fossil fuels, it is also subject to the same price volatility and supply chain issues that are currently plaguing other fossil fuels.

Final Multiple Unit Implementation Plan
San Bernardino and Antelope Valley Lines

Figure ES-1. O&M Cost (Crew Labor, Fuel, and Vehicle Maintenance) per Train Revenue Mile



The study shows that all ZEMU configurations have higher operating costs than existing diesel locomotives. The only configuration with the capacity for current, let alone future service, the 8-car, has operating costs more than twice existing diesel locomotives. Metrolink currently has a structural deficit driven in part by rising operating costs. Metrolink has already raised fares and

¹ <https://ktla.com/news/california/widow-sues-after-fatal-southern-california-hydrogen-truck-explosion/>

² <https://calelectricrail.org/caltrans-hydrogen-strategy-goes-down-in-flames/>

slashed service, and is contemplating additional service cuts. The last thing the system needs is even higher costs that provide no benefit.

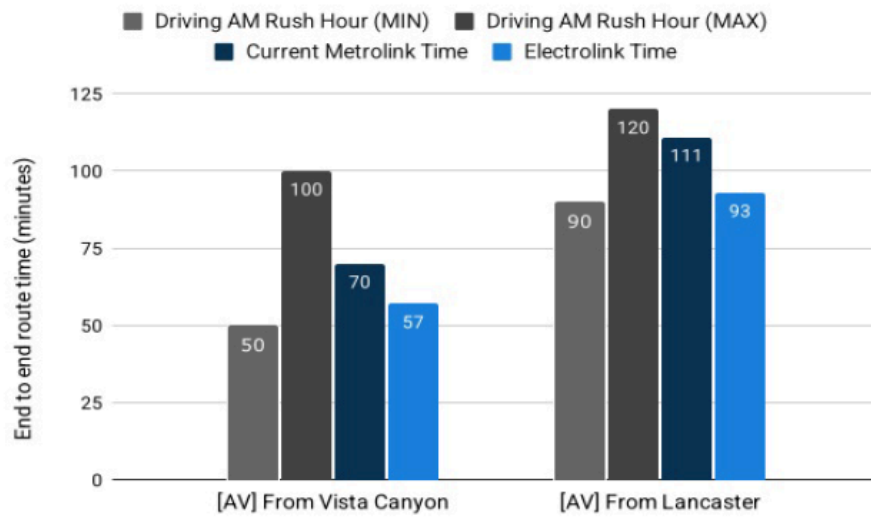
Due to the need for new maintenance facility capacity, refueling infrastructure, and platform extensions to accommodate the longer trains, there are significant capital costs associated with both a full ZEMU implementation and a pilot. The full buildout would cost \$1.05B for infrastructure that would degrade capacity and speed and substantially increase annual operating costs, with minimal benefit. A pilot would cost \$19.2M, more than twice the funding on hand (\$8.5M). Metro has many Metrolink capital projects with funding gaps such as LinkUS, and the legislature this year substantially reduced the amount of funding available in the Transit and Intercity Rail Capital Program (TIRCP). Both a pilot and full buildout are not good uses of scarce capital funding.

Electrification with overhead catenary wires (OCS) is a proven zero-emissions alternative to hydrogen. OCS is a widely-used, mature technology with none of the safety issues of hydrogen. Unlike fossil hydrogen, OCS trains are truly zero emission, and provide an even greater environmental benefit due to the potential for enhanced service and modal shift from cars, providing a meaningful improvement over the Tier 4 diesel locomotives currently in use.

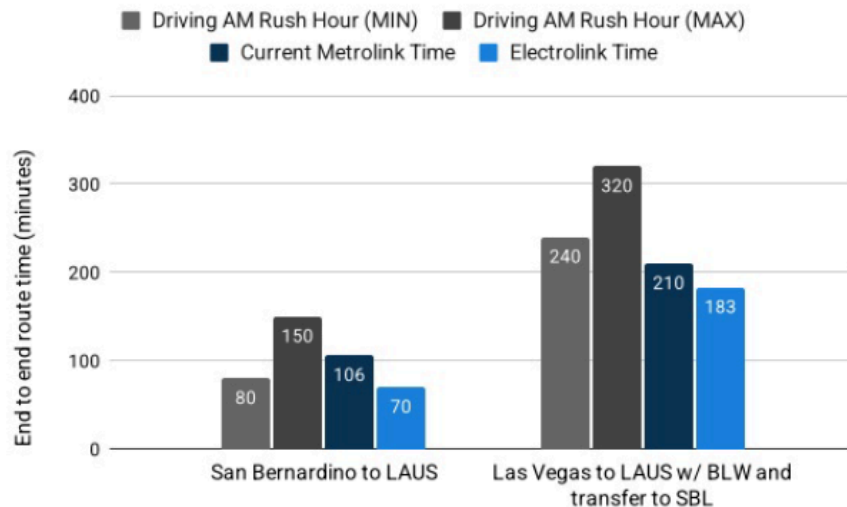
Electric trains have greater power, no charging or refueling constraints, and lower fuel and maintenance costs compared to both diesel and hydrogen trains. Due to faster acceleration, they can shorten trip times and enable more frequent service without additional staff or rolling stock - increasing efficiency and growing ridership. Californians for Electric Rail's 2025 Electrolink whitepaper³, found that electrification and level boarding would reduce trip times on the Antelope Valley Line by 18 minutes and the San Bernardino Line by 36 minutes. Caltrain, which began electric service in 2024 with similar magnitude trip time reductions, has experienced higher ridership recovery than Metrolink despite being more exposed to remote work, and saw the nation's fastest growing ridership⁴. At a time when Metrolink is under enhanced scrutiny for rising operating costs and sub-par ridership recovery, it cannot afford to miss this opportunity.

³ <https://calelectricrail.org/electrolink-modern-passenger-rail-service-for-southern-california/>

⁴ <https://www.caltrain.com/news/caltrain-named-one-north-americas-top-transit-agencies>



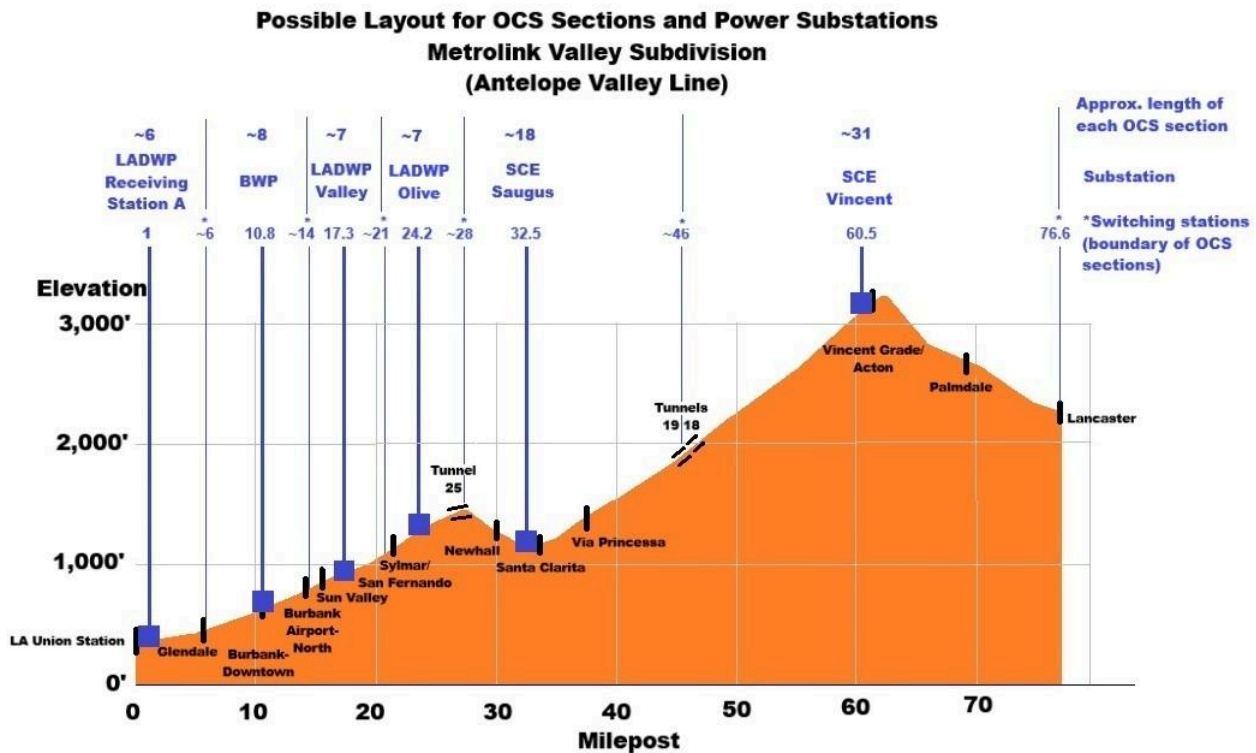
AV Line Electrolink time savings. From designated location to LA Union Station



Electrolink - Californians for Electric Rail

The steep grade of the Antelope Valley Line route (SCRRA Valley Subdivision) in fact makes the line prime for economical application of conventional OCS electric power, which would markedly improve speed and acceleration performance uphill (and enable regenerative braking downhill). Also, as documented in a 2025 Californians for Electric concept paper on electrifying the Antelope Valley Line⁵ and below diagram, large-scale electric utility substations already exist at key locations along the line, which are natural locations for economical construction of traction power substations which would serve each of these discrete OCS sections. The good news is that thanks to battery-OCS-hybrid propulsion technology, the overhead line does not need to cover the entire route, avoiding challenges with tunnel clearances.

⁵ <https://calelectricrail.org/wp-content/uploads/2025/06/Metrolink-AVL-OCS-concept-paper-2025.06.20.pdf>

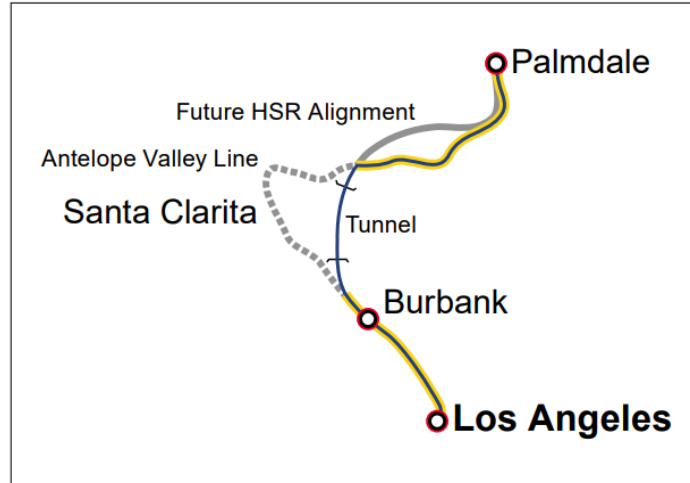


Metrolink Antelope Valley Line Concept Paper - Californians for Electric Rail

Electrification of the Antelope Valley Line also opens up new opportunities for funding and supports regional goals. According to the latest Business Plan, California High-Speed Rail will share tracks with the Antelope Valley Line much like with electrified Caltrain - requiring the AVL's electrification. A recent study by Streets for All estimates that an Enhanced Infrastructure Finance District in Los Angeles County could pay for nearly all of the county's High-Speed Rail segment without raising taxes.⁶ This proposal is currently under study by Los Angeles County.

⁶ https://data.streetsforall.org/blog/cahsr_eifd/

Southern Regional Alignment



California High-speed Rail 2026 Draft Business Plan

Hydrogen trains have already been tested on the Arrow, and the results are not impressive. **Rather than wasting money to degrade service with another pilot, Metrolink and Metro should redirect the \$8.5M in Antelope Valley Line pilot funds to a detailed technical study,** similar to the one under discussion, of complete and discontinuous overhead electrification of the SBL and AVL. This study should examine operational benefits and needs with regards to substations, maintenance facilities, and operating costs of bilevel electric multiple units, including the Stadler bilevel KISS used on Caltrain and any other commercially available vehicles. This is a more responsible use of limited resources that will move Southern California closer to a high-speed rail connection, better Metrolink service and ridership growth, and a zero-emissions transportation system.

Sincerely,
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