Proposed study of 'islanded' renewable energy generation sites along the BNSF Needles Subdivision, Union Pacific Cima Subdivision, and Arizona & California Railroad in California.

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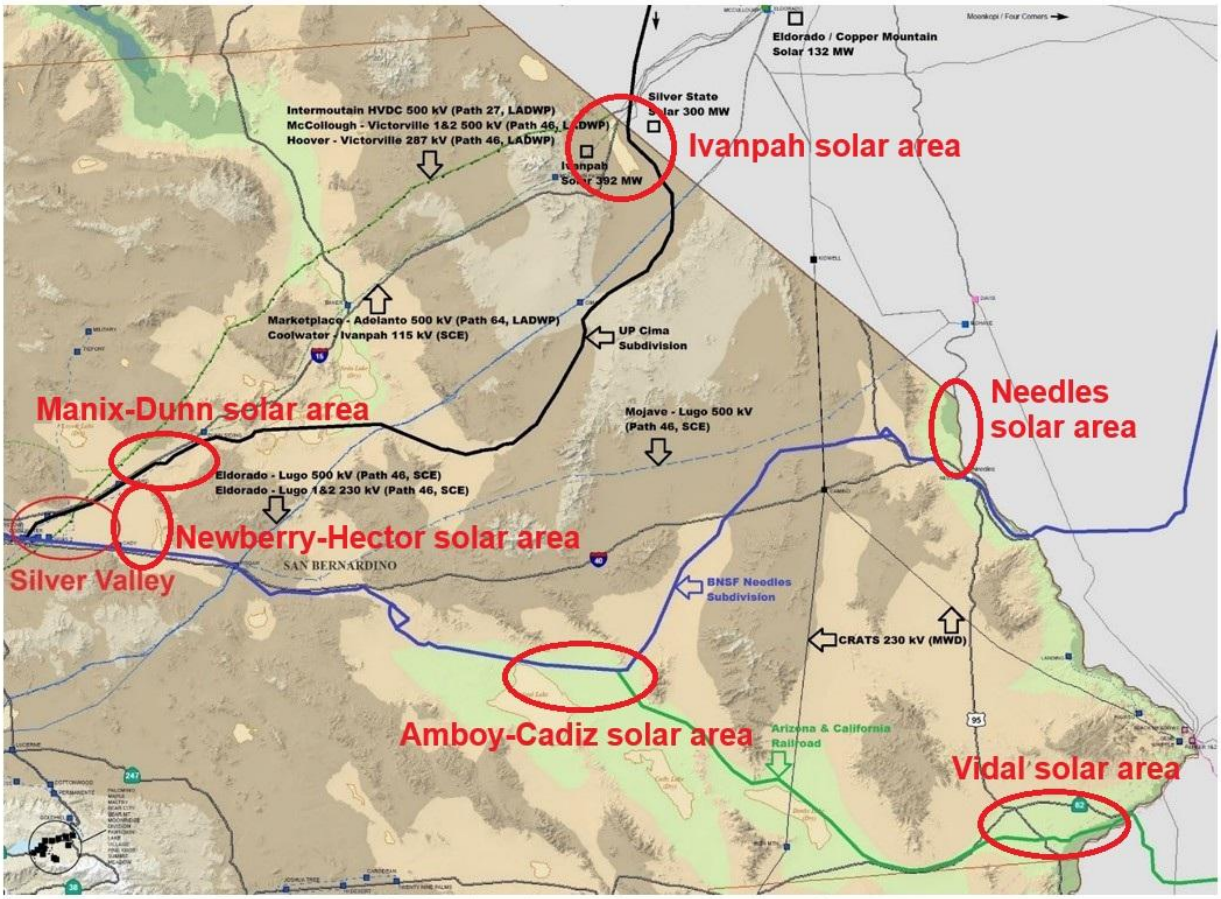
The freight railroad mainlines between the Ports of LA and Long Beach, the Inland Empire and the Barstow area (and the Silver Valley to the east) are well-situated for grid interconnection because the large number of existing major electric utility substations along these rail corridors[1]. However, in the Mojave Desert of California, the BNSF Railway and Union Pacific (UP) Railroad's mainlines are often far from the existing transmission lines. This proposed study will focus on renewable energy sites within California, in order to take advantage of state incentives, near these freight rail mainlines.



Silver Valley highlighted on map showing freight rail corridors and selected existing renewable power generation capacity overlaid on *California Transmission Lines & Substations* (Background map: California Energy Commission)

[1] White papers on electrifying freight rail lines in Southern California, which happen to be adjacent to many existing large electric utility substations:

- BNSF Railway Cajon Subdivision (between San Bernardino and Barstow)
- BNSF Railway Fullerton-Riverside-San Bernardino
- Port of LA rail and the Alameda Corridor

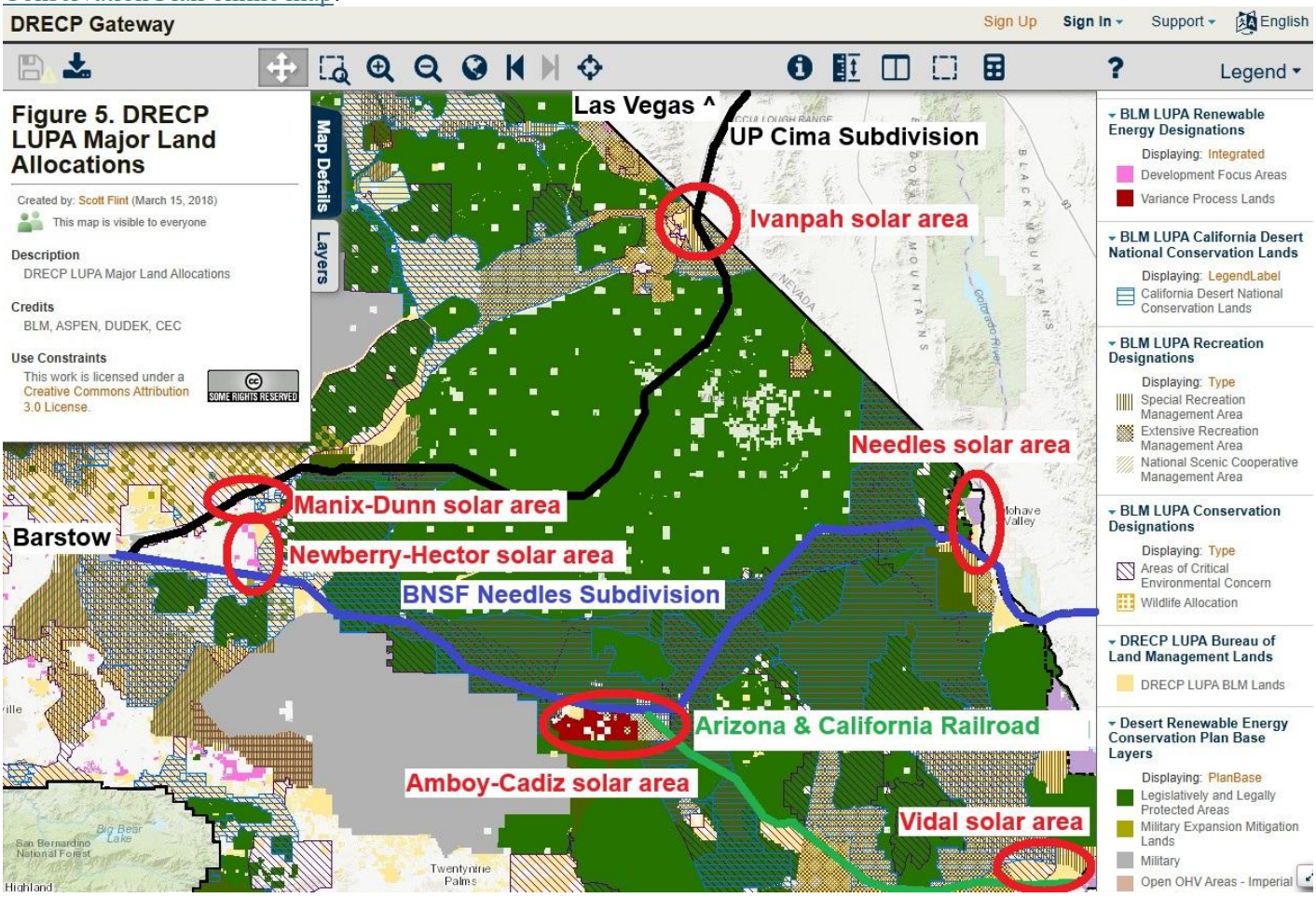
Subdivisions of three freight railroads run through or along the potential solar energy development areas:

- The BNSF Railway's 171-mile (275 km) Needles Subdivision between Barstow and Needles, is part of the LA-Chicago Southern Transcon, and is one of the busiest line-haul freight railroad subdivisions in the U.S. In 2022, the Needles Subdivision had an average of 62 freight trains per day[2].

- The Union Pacific (UP) Railroad's 175-mile (282 km) Cima Subdivision between Yermo and Las Vegas saw an average of 13 freight trains per day in 2022.

- The 240-mile (386 km) Class III Arizona & California Railroad (ARZC) connects the BNSF Railway at Cadiz to Matthie in Arizona, has 133 miles (214 km) in California.

Much private land suitable for solar and battery energy development, including former mining, industrial, salt works and former agricultural land, exists in areas identified. Solar development areas identified are outside of protected areas such as the Mojave National Preserve, Bureau of Land Management Wilderness areas, etc. Rail lines and proposed solar development areas annotated on Desert Renewable Energy Conservation Plan online map:



[2] See Exhibit 8-10 on pg. 61: https://www.anacostia.com/wp-content/uploads/2024/01/Anacostia-Feasibility-and-Benefits-of-Intermodal-Service-in-Short-Haul-Markets-Report-final-rev.pdf