



DOTs Can Show the Way on Rail Electrification

Climate change and electrification of the economy are state and Federal concerns. The Rail Electrification Council made a key contribution to the State Rail Plan issued by the State of Nevada Department of Transportation in 2020.¹ Because the Federal Railroad Administration requires states to develop rail plans, state departments of transportation are taking a fresh look at how railroad companies can assist in the fight to curb carbon emissions and improve economic or operational efficiency. Nevada Governor Steve Sisolak's 2019 Executive Order On



Climate Change called for “support for transportation electrification and demand management, including infrastructure, fleet procurement, alternative funding mechanisms, and other programs.”² When the Nevada DOT formulated its SRP in 2020, it included the innovative observations of the Rail Electrification Council in its 20-year projection about how the transition to non-petroleum-based power may manifest itself in the freight and passenger rail sectors in that state.

In its statement of the potential benefits of rail electrification in Nevada, REC advocated that the state explore the prospects of, and barriers to, electrification of rail operations and the use of railroad rights-of-way for lateral energy transmission facilities (e.g., electric transmission lines). It stated that the benefits could include:

- (1) enhancing the efficiency of in-state and interstate supply chains
- (2) helping foster job creation, new freight transload facilities, warehousing, and industrial development, particularly at mineral extraction sites
- (3) improving the health and environment of Nevadans by reducing diesel emissions and promoting investment in renewable energy resources
- (4) supporting the production and transmission of electricity, particularly of Nevada's renewable energy resources, over high-voltage direct current (HVDC) lines located in railroad rights of way

REC also identified the potential costs of electrification and the other challenges to rail modernization, including prioritizing passenger rail electrification over freight, the capacity of

¹ <https://www.dot.nv.gov/home/showpublisheddocument?id=18681#page=19>

² Nevada State Government Website, “Governor Sisolak Signs Executive Order Directing Administration to Collaborate on Achieving Nevada’s Climate” article, source link, published November 22, 2019

electric utilities to meet such new loads, and the ability of energy and transportation companies to finance and build the necessary infrastructure.

Because Nevada is becoming an industrial, commercial, and trans-shipment hub in the Southwest, it is facing the potential for highway congestion, regional air quality concerns, and challenges in moving electric power around in that “megaregion.” Planning and siting electric transmission is a major obstacle to grid expansion and integration. Nevada also recognizes the national trends that favor renewable energy development from cost and environmental perspectives and electrification of highway vehicles competing with the railroads. REC raised all these issues to stimulate discussion and action in the West about the various ways in which rail modernization must be part of how these challenges get addressed in both the near term and over the next two decades.

At the national level, the Secretary of Transportation, whose department includes the Federal Railroad Administration (FRA), is also becoming more involved in encouraging the co-location of electric transmission infrastructure in transportation ROWs. Early in the Biden Administration, the Federal Highway Administration issued guidance to state DOTs about leveraging highway rights-of-way to address climate change, energy reliability, and other issues by co-locating renewable generation and electric transmission. REC will pursue a similar approach with the FRA regarding railroad ROWs. Stay tuned.