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Lessons Learned from Abroad: Potential Influence of California High-Speed Rail on Economic Development, Land Use Patterns, and Future Growth of Cities

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Issue

As California is in the process of building its high-speed rail (HSR) network, reviewing the experience from other established HSR networks abroad can help understand the potential economic and development impacts of HSR and the prerequisites to realize them. HSR systems involve large financial investments and infrastructure projects, which have the potential to deeply change the regions where they are deployed. However, little attention has focused on the potential of the California HSR (Figure 1) to impact economic activities and urban development. This study reviews relevant literature and analyzes case studies from HSR station-cities in France (Le Creusot, Vendôme, Le Mans, Reims), Spain (Galicia Corridor, Valladolid, Zaragoza), and Italy (Reggio Emilia) to provide insights into these topics.

Key Findings

The literature tells us that not all cities connected to the HSR network experience the same impacts. Certain existing HSR stations have underperformed with respect to development expectations, while others have attracted economic development and spurred urban regeneration. Additionally, the impacts of HSR on economic activities and urban development may take years to appear. During this time, such impacts may be confounded with other factors, such as the impacts of economic cycles, changes in local economies and built environment, and local policy and planning. This makes isolating the portion of the impacts attributable to the HSR deployment difficult. Nevertheless, it is worth summarizing the following findings.

In regards to job development, the study shows that HSR can encourage economic development and job growth, but by itself cannot be a catalyst for the economy. The case study from Le Creusot, France, in particular shows that it is often difficult to change the nature of economic activities of a station-city to attract industries from economic sectors that do not have a history in the region. On the other hand, the case studies from Le Mans, France, and Zaragoza, Spain, show that economic development is more commonly achieved through integrating HSR in the strategic vision for a city or region, and promoting the expansion of already existing economic activities that can benefit from the increased accessibility brought by HSR services.

HSR projects can also generate economic development through growth in real estate activity and increased land values. The case studies show that this is more often the situation for cities with central station locations. Peripheral stations often experience disappointing ridership numbers and smaller impacts on economic activities in the region. Such stations usually require special efforts to increase their connectivity with multimodal alternatives like public transportation, bicycle lanes and bikeshare systems. However, such infrastructure projects and feeder service improvements are difficult to deploy in regions with traditionally lower demand for these services.

HSR systems can also change the dynamics between and across cities, including a rebalancing of population and changes in the commuting flows over longer distances allowed by HSR, especially for distances up



Figure 1: The California High-Speed Rail Network

to 100 km, but also up to about 1-hour travel time on HSR services (up to 300 km, depending on the service). Not all population segments benefit from the increased possibilities of commuting, as commuting with HSR is more common among white-collar workers and those who can more easily work remotely or in hybrid settings and do not commute daily. The Vendôme, France, case study, for example, highlights how HSR can support the move of remote/hybrid workers to smaller cities, which increases their population but also has important implications on real estate and rental values, and brings the possibility of gentrification. Such impacts might become even more common in the post-COVID-19 society in California, due to the higher prevalence of service and high-tech jobs in the region, and the increased acceptance of hybrid work.

Conclusion

Both the review of the relevant literature and analysis of the case studies suggest that coordination with local

policymakers and the development of a collaborative strategic vision for HSR development can expand the economic impacts of HSR. This coordination could span various topics, from the relocation of firms and economic activities to bringing in new economic sectors such as tourism and convention activities, or high-tech industry.

The differences in the economic structure, land use patterns, urban form, and transportation systems in California might mean that the impacts of HSR might differ from those observed in the analyzed European case studies. Nevertheless, we believe some valuable insights from the experiences of the European HSR station-cities still apply. In summary, these include the importance of central over peripheral station locations and increased station connectivity, the bolstering of existing industries and economic activities, and the importance of coordination with local planners and policymakers to generate strategic visions that may take advantage of the coming of the HSR. Important for California are also some of the equity concerns associated with the HSR observed in some of the studied HSR contexts abroad, namely, that HSR service might primarily bring benefits to higher-earning households and high-income commuters, and that gentrification might appear in areas around stations. All the above effects should be the object of appropriate studies and plans for mitigation through the policymaking process.

More Information

This policy brief is drawn from the report “Lessons Learned From Abroad: Possible Impacts of High-Speed Rail Stations in California ” prepared by Anastasia Loukaitou-Sideris of UCLA and Giovanni Circella of UC Davis. The report can be found at www.ucits.org/research-project/2022-14. For more information, please contact Anastasia Loukaitou-Sideris at sideris@ucla.edu.

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