



White Paper

# Complexity Simplified: A Survey of Current High-Speed Rail (HSR) Projects

## The Importance of a Customized Approach to Environmental Review

*By David Freytag and Mike Davis, ICF*

### A Look Back

The National Environmental Policy Act (NEPA) was established in 1970 to inform and improve decision-making by federal government agencies. By requiring an environmental review for actions involving federal resources, NEPA provides a framework to balance the needs of economic development and nature, involve stakeholders early in the process, and promote transparency about potential consequences. The goal is straightforward—and NEPA has persisted in its mission since it was enacted—but implementation has presented many complex challenges. Initial concerns about applicability evolved into compliance to avoid litigation rather than contribute in a meaningful way to planning.<sup>1</sup>

High-Speed Rail (HSR) stakeholders have experienced the frustration of NEPA being seen as an end in itself for planning instead of the means to an end for improved decision-making, but HSR also offers good examples of a prime NEPA attribute: Flexibility. Current HSR projects across the country take a range of approaches to tiering and lead agency roles. This is due in part to the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which among many other directives, tasked the Federal Railroad Administration (FRA) with responsibility for the environmental review of HSR projects.

<sup>1</sup> <https://archive.epa.gov/epa/aboutepa/national-environmental-policy-act-interview-william-hedeman-jr.html>, accessed 10/14/16



## California HSR (CAHSR)

### Project Background

In 1996 (prior to PRIIA), the California High-Speed Rail Authority (Authority) was created to oversee planning of a system to connect the state's major metropolitan areas. While awaiting a vote on a bond measure to finance the system, the Authority and the FRA issued a Draft Program-Level Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Through the NEPA process more than 2,000 public comments on the Draft EIR/EIS were received and reviewed. In November 2008, the \$9.95 billion bond measure (Proposition 1A) was approved by California voters, augmented by \$3.3 billion in federal funds—including an allocation from the American Recovery and Reinvestment Act (ARRA) of 2009—and additional funding through California's Greenhouse Gas Reduction Fund. In 2015, ground was broken at the site of the future high-speed rail station in Fresno, and by 2025, the CAHSR system will connect the Silicon Valley to the Central Valley.<sup>2</sup>

### Environmental Review<sup>3</sup>

**Approach:** California completed a program-level environmental review and is reviewing each proposed geographic segment individually.

**Federal Lead Agency:** FRA issues Record of Decision under NEPA.

**State Lead Agency:** The Authority (also project sponsor) certifies compliance with CEQA, determines parameters of environmental review for individual segments, works with local governments, transportation agencies and private parties on right-of-way preservation and land acquisition

**Status:** After more than six months of public review for the Draft Program EIR/EIS, the final Program EIR/EIS was completed on November 18, 2005 with the FRA's Record of Decision. It identified high-speed trains as the preferred alternative, rejecting "the No Action alternative as well as the Modal Alternative (highway/aviation improvements)."<sup>4</sup>

**Pros and Cons:** Because CAHSR was initiated before PRIIA, the Authority worked with the FRA to prepare the programmatic EIR/EIS. This positioned the Authority to move into project-level NEPA and CEQA review to become eligible for ARRA funds as a "shovel-ready" project. To date, in part due to the advancement of environmental reviews, the Authority has been allocated \$3.3 billion in ARRA funds. Matched with voter-approved bond funds, this enabled construction of the initial operating segment marked by an official groundbreaking ceremony in January 2015. Non-ARRA funds have been allocated to project level reviews of

<sup>2</sup> [http://www.hsr.ca.gov/docs/about/business\\_plans/2016\\_BusinessPlan.pdf](http://www.hsr.ca.gov/docs/about/business_plans/2016_BusinessPlan.pdf), accessed 9/20/2016

<sup>3</sup> [http://www.hsr.ca.gov/docs/programs/eir-eis/statewide\\_EIR\\_EIS\\_brochure.pdf](http://www.hsr.ca.gov/docs/programs/eir-eis/statewide_EIR_EIS_brochure.pdf), accessed 9/20/2016

<sup>4</sup> [http://www.hsr.ca.gov/docs/programs/eir-eis/Federal%20Railroad%20Administration%20Record%20of%20Decision%20for%20Final%20Program%20EIR\\_EIS.pdf](http://www.hsr.ca.gov/docs/programs/eir-eis/Federal%20Railroad%20Administration%20Record%20of%20Decision%20for%20Final%20Program%20EIR_EIS.pdf), accessed 9/20/2016

proposals in the 2016 Business Plan<sup>5</sup> to upgrade rail facilities in existing urban rail corridor that the HSR would initially share. Subsequent project-specific reviews by the Authority can be sequenced to geographic segments based on the Authority's business plans. The challenges of addressing project-level reviews by segment include regulatory and land use changes in the corridors over time; making sure that environmental reviews among segments analyze specific local issues while addressing statewide impact criteria and mitigation approaches; and consistently evaluating system-wide benefits.

## Northeast Corridor (NEC) HSR

### Project Background

Considered the "rail transportation spine of the Northeast region," the 457-mile NEC runs between Washington, D.C.'s Union Station in the south and Boston's South Station in the north. It is used for intercity, commuter, and freight travel and carries more than 365 million passengers per year. The NEC is reaching a critical state in its ability to meet current and future demand, challenged by old infrastructure and outdated technology. Charged with oversight under PRIIA, the FRA is planning the investments needed in the NEC to improve passenger rail service through 2040.<sup>6</sup>

### Environmental Review<sup>7</sup>

**Approach:** Considers the whole Northeast corridor, not individual segments

**Federal Lead Agency:** FRA

**Owner:** Amtrak, New York State, Connecticut Department of Transportation and the Massachusetts Bay Transportation Authority

**Status:** In compliance with NEPA, the FRA prepared a draft [Tier 1 Environmental Impact Statement \(EIS\)](#) and [Service Development Plan \(SDP\)](#) along with a Draft Programmatic Agreement under Section 106 of the National Historic Preservation Act. This environmental review at the program level seeks to set the vision for transportation mode and project corridor alignment. The draft Tier 1 EIS was released for public review and comment from November 2015 to February 2016, and hearings were held in Maryland, Delaware, Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, and Massachusetts, and the District of Columbia. The Tier 1 Draft EIS and Draft Programmatic Agreement were sent also sent to Native American tribal governments within the corridor as required by Section 106.

The FRA received over 5,000 comments on the Tier 1 Draft EIS, which will help guide its development of a Preferred Alternative. The Tier 1 Final EIS is scheduled for release in the Fall of 2016.

<sup>5</sup> <http://www.caltrain.com/projectsplans/CaltrainModernization/BlendedSystem.html>, accessed 9/20/2016

<sup>6</sup> <http://necfuture.com/about/>, accessed 9/20/2016

<sup>7</sup> <http://necfuture.com/environmental/>, accessed 9/20/2016



**Pros and Cons:** Involvement of multiple states increases the potential for conflicts and delays in planning, construction, and operations. Coordination is required between the different transit operators in the corridor (SEPTA, NJ Transit, etc.) and public-private partnership stakeholders. Efforts to improve and promote communication include early collaboration between federal and state agencies and participation in a Council on Environmental Quality (CEQ) pilot project.

Because this work involves upgrades to an existing system rather than new construction, projects do not need to be sequential and can be addressed as needs are identified and funding secured. Incremental improvements that demonstrate the promise of HSR could help sway public opinion and unclog bottlenecks. The concept for project level environmental reviews differs from the California approach where the CHSRA is conducting project environmental reviews for all segments. In the NEC, different local service operators will lead NEPA reviews. For example, the states of New Jersey and New York are working to form the Gateway Development Corporation to advance critical improvements at the Hudson River crossing.<sup>8</sup>

## Texas Central HSR

### Project Background

Texas Central Partners is a private company that is developing an HSR system (TC HSR) to connect Dallas/Ft. Worth and Houston via a 250-mile corridor. Using state-of-the-art Japanese technology—with top speeds of 205 miles per hour—the TC HSR could reduce travel time between the cities to less than 90 minutes using clean, quiet electrical power on its own track.<sup>9</sup>

An independent evaluation determined that the existing utility corridor is the only feasible end-to-end alternative, but 6 alignment alternatives were identified for further evaluation in the Draft EIS.

In July 2016, responding to concerns about Texas law and use of eminent domain to acquire land rights for the project, the Surface Transportation Board (STB) ruled that it had no federal jurisdiction over the Texas HSR.

### Environmental Review<sup>10</sup>

**Approach:** FRA, TCR, and the Texas Department of Transportation (TxDOT) have entered into a Memorandum of Understanding (MOU) to develop and complete a project-level EIS for the Project.

**Federal Lead Agency:** FRA in partnership with TxDOT. No state-level review.

**Status:** FRA is preparing a draft EIS after completing an independent evaluation of potential high-speed rail corridor alternatives. Because TC HSR a privately

<sup>8</sup> <http://nec.amtrak.com/content/gateway-program>, accessed 9/20/2016

<sup>9</sup> <http://www.texascentral.com/project/>, accessed 9/20/2016

<sup>10</sup> <http://www.texascentral.com/wp-content/uploads/2016/04/Economic-Impact-Study-Executive-Summary.pdf>, accessed 9/20/2016

financed project, FRA's determination of this corridor was based on compliance with technical requirements, economic viability, and minimized impacts to the natural environment.

**Pros and Cons:** The TC HSR would not share track or infrastructure with existing trains or rail lines, which despite operational benefits, adds complexity to the planning process. Its technology has proven highly successful in Japan, but raises concerns about "Buy American" from some in Texas.<sup>11</sup> In response to concerns that the TC HSR would not be interoperable with the larger national railroad network because of its unique technology, a separate NEPA analysis is being conducted to address network connectivity in the Dallas-Fort Worth Metroplex.<sup>12</sup> Private ownership is also uncharted ground for a U.S. high-speed passenger rail project in the 21st century (the all-aboard Florida service set to begin operation in 2017 is no longer under FRA jurisdiction).<sup>13</sup> A streamlined process and even tax benefits from 100% Japanese funding is countered by concerns about lack of control and the potential for withdrawal before completion.

## Looking Ahead

Delivery of HSR is likely to be seen as a laboratory of creative approaches to project delivery.<sup>14</sup> The FAST Act included a call for request for proposals for HSR privatization proposals, resulting in 11 proposals addressing almost 20 HSR corridors. This response can be seen as a continued interest in developing HSR, making the need for timely, creative and legally-sufficient environmental review an ongoing topic of conversation.

---

<sup>11</sup> <http://www.railwayage.com/index.php/blogs/frank-n-wilner/texas-choo-choo-a-pain-on-the-range.html>, accessed 9/20/2016

<sup>12</sup> <https://www.fra.dot.gov/Page/P0715>, accessed 9/20/2016

<sup>13</sup> <https://www.fra.dot.gov/Page/P0819>, accessed 9/20/2016

<sup>14</sup> <https://www.regulations.gov/document?D=FRA-2016-0014-0001>, accessed 9/20/2016

**About ICF**

ICF (NASDAQ:ICFI) is a global consulting and technology services provider with more than 5,000 professionals focused on making big things possible for our clients. We are business analysts, policy specialists, technologists, researchers, digital strategists, social scientists, and creatives. Since 1969, government and commercial clients have worked with ICF to overcome their toughest challenges on issues that matter profoundly to their success. Come engage with us at [icf.com](http://icf.com).

**About the Authors**

**David Freytag** has more than 21 years of experience in environmental planning and project management. He is the Transportation Sector Leader for the western United States.

Mr. Freytag prepares complex multiagency planning and environmental documents for major infrastructure projects throughout the United States. He has managed environmental documents for transportation projects involving analyses and documentation to meet the requirements of the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), Sections 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and Section 4(f) of the U.S. Department of Transportation Act.



**Mike Davis** has more than 30 years of experience as a national player in the transportation and environment market. He served as Vice President and the National Director of Environmental Planning for HNTB Corporation's Infrastructure Division, where he provided strategic guidance to local practices and supported regional and local initiatives to grow the environmental practice. Mr. Davis worked at

Jones & Stokes and was responsible for opening the first Bay Area branch in Oakland in 2000. In addition, he has been an environmental project manager/task manager on high-profile transportation projects, including bridge replacements, transit system expansions, and roadway improvements.

Mr. Davis has a Master's degree in Urban and Regional Planning from Texas A&M University and a B.A. in Geography from University of North Alabama.

For more information, contact:

**David Freytag**

[david.freytag@icf.com](mailto:david.freytag@icf.com) +1.949.333.6616

**Mike Davis**

[mike.davis@icf.com](mailto:mike.davis@icf.com) +1.415.677.7149

Any views or opinions expressed in this white paper are solely those of the author(s) and do not necessarily represent those of ICF. This white paper is provided for informational purposes only and the contents are subject to change without notice. No contractual obligations are formed directly or indirectly by this document. ICF MAKES NO WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INFORMATION IN THIS DOCUMENT.

No part of this document may be reproduced or transmitted in any form, or by any means (electronic, mechanical, or otherwise), for any purpose without prior written permission.

ICF and ICF INTERNATIONAL are registered trademarks of ICF and/or its affiliates. Other names may be trademarks of their respective owners.

