

High Speed Rail: Planning and Financing the Next Fifty Years of American Mobility

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I. INTRODUCTION

In the second decade of high speed rail regulation in the U.S., concerted efforts of the federal government and many States have produced a rich patchwork of plans for a new transcontinental railroad. These plans provide solutions to myriad transportation problems ailing many major metropolitan areas; however, they lack the financial support to make them a reality.

Over the next half century, investments in high speed rail will change the way major U.S. cities are connected. High speed rail will insulate the U.S. from its dangerous reliance on fossil fuels and make intercity travel more efficient. High speed rail services will create permanent jobs and catalyze adjacent long-term economic development.

To put this vision of the future in context, this article first describes the federal and State developments in regulating high speed rail. Then, several financial and political solutions are proffered for the transition from planning to implementation. Current market forces favoring high speed rail development are then considered. The discussion concludes with a vision for future development of high speed rail in the Rocky Mountains and the West within the prevailing multimodal transportation environment.

II. THE FEDERAL REGULATORY FRAMEWORK AND DEVELOPMENTS

The Swift Rail Development Act of 1994 (Swift Act) might well be considered the heart of federal regulation of high speed rail.¹ In the Swift Act, Congress declared high speed rail to be an environmentally advantageous alternative to other intercity transportation, and acknowledged that federal funding would be necessary to develop the technology necessary to make high speed rail a reality in the U.S.² The purpose of the Act

1. Swift Rail Act of 1994, Pub. L. 103-440, 106 Stat. 1994.

2. Pub. L. 103-440 § 102 (codified at 49 U.S.C. 26101 note).

was “to encourage farsighted State, local, and private efforts in the analysis and planning for high-speed rail systems in appropriate intercity corridors.”³ The Swift Act put the onus on “State and local governments” to develop the technology with federal planning support when necessary, and states that “new high-speed rail service should not receive Federal subsidies for operating and maintenance expenses.”⁴ The Secretary of Transportation delegated authority under the Swift Act as it related to high speed rail to the Federal Railroad Administrator.⁵

Congress, therefore, directed the States to develop and operate high speed rail services with preliminary guidance from the Federal Railroad Administration (FRA). Accordingly, codified portions of the Swift Act provide “high-speed rail assistance” for continued corridor development through “eligible activities,” including: environmental study, economic analysis, financial planning, and acquisitions.⁶ The assistance provides “matching funds”⁷ not to exceed fifty percent of the costs of qualifying eligible activities.⁸ In terms of financing for fiscal years 2006-2013, the federal government makes \$100,000,000⁹ available to State and local governments for corridor development¹⁰ and technological improvements.¹¹ The FRA publishes an annual “Notice of funding availability; solicitation for applications” for State and local governments to apply for high speed rail assistance.¹²

A) MAGNETIC LEVITATION TECHNOLOGY

Indicating that State and local authorities can choose the technology that will best serve their needs in the planning process, Congress has defined “high-speed rail” broadly as:

- all forms of nonhighway ground transportation that run on rails or electromagnetic guideways providing transportation service which is—
- (A) reasonably expected to reach sustained speeds of more than 125 miles per hour; and
 - (B) made available to members of the general public as passengers, but does not include rapid transit operations within an urban area that are

3. § 102.

4. § 102.

5. Delegations to Federal Railroad Administrator, 49 C.F.R. § 1.49(jj) (2008).

6. 49 U.S.C. § 26101 (2008).

7. Peter Richmond, *A Better Way to Travel?*, PARADE, Nov. 4, 2007, at 6, 7.

8. § 26101(a)(1).

9. 49 U.S.C. § 26104 (2008).

10. § 26101.

11. 49 U.S.C. § 26102 (1994).

12. Solicitation of Applications and Notice of Funding Availability for the Capital Assistance to States - - Intercity Passenger Rail Service Program, 73 Fed. Reg. 9162 (Feb. 19, 2008).

not connected to the general rail system of transportation[.]¹³

This definition thus incorporates magnetic levitation technology, or “maglev,” further defined as, “transportation systems employing magnetic levitation that would be capable of safe use by the public at a speed in excess of 240 miles per hour.”¹⁴ The emergence of second-generation maglev systems, which are installed on existing railroad crossings, may make maglev a more favorable choice not only for passenger rail corridors, but as an innovation for freight service.¹⁵ Furthering the goal of developing better intercity rail services in the U.S.,¹⁶ this definition allows for technological flexibility, but strictly limits federal financial assistance to projects that facilitate intercity transportation.

Toward enhancing flexibility, Congress also created the Magnetic Levitation Transportation Technology Deployment Program (“Maglev Program”) to demonstrate maglev technology in a partnership financing.¹⁷ Regarding the partnership financing, although the federal share is not to be more than two thirds, funds received by States under the Congestion Mitigation and Air Quality Improvement Program (CMAQ)¹⁸ did not count against the federal share.¹⁹ Much like the Swift Act delegation, duties regarding maglev development, under the Maglev Program and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETY-LU),²⁰ were delegated to the Federal Railroad Administrator.²¹ The currently relevant phase of the Maglev Program is “Phase V— Completion of Detailed Engineering and Construction January 1, 2002 and beyond,”²² as projects have been selected in the Baltimore-Washington and Pittsburgh, Pennsylvania areas.²³ Both projects are in the final stages of environmental analysis, while preliminary environmental and engineering studies for projects in California and Nevada are underway.²⁴

13. 49 U.S.C. § 26105(2) (2005).

14. 23 U.S.C. § 322(a)(3) (1998).

15. Angela Cotey, *Magnetic Pull*, PROGRESSIVE RAILROADING, Feb 2008, at 12.

16. Pub. L. 103-440 § 102 (codified at 49 U.S.C. 26101 note).

17. § 332(d).

18. 23 U.S.C. § 149. The Federal Highway Administration and Federal Transit Administration have opined that high speed rail projects will compete equally with other transportation modes for CMAQ funds. High Speed Rail Projects for the Congestion Mitigation and Air Quality Improvement Program (CMAQ) 67 Fed. Reg. 2278 (Jan. 16, 2002).

19. § 322(b), (h).

20. Safe, Accountable, Flexible, Efficient Transportation Equity Act Pub. L. 109-59, 119 Stat. 2005.

21. 49 CFR 1.49(kk), (mm).

22. Different Phases of the Maglev Deployment Program, 49 C.F.R. § 268.3(f) (2008).

23. Federal Railroad Administration, U.S. Department of Transportation, *Current Project Status*, <http://www.fra.dot.gov/us/content/211>.

24. *Current Project Status*, supra note 23.

B) ENVIRONMENTAL LAW

Such environmental analysis is mandated by the National Environmental Policy Act (NEPA),²⁵ and comprises much of the FRA's significant current activity in high speed rail development. NEPA promotes informed decisions by the federal government through an analysis of alternatives.²⁶ Regulations promulgated by the Council on Environmental Quality further provided that federal agencies performing analysis under NEPA can engage in tiering, by incorporating findings from broad studies into more specific environmental analyses.²⁷ "Tiering is appropriate when the sequence of statements or analyses is . . . [f]rom a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis."²⁸

The California High-Speed Train Program Environmental Review/Environmental Impact Statement illustrates the first step in a two-tiered environmental review process under NEPA.²⁹ A 2005 Record of Decision indicated that the FRA would first lead a collaborative determination with the California High Speed Rail Authority over whether to develop high speed rail in California.³⁰ After choosing the high speed rail option, over alternatives to do nothing or enhance highways and airports, the second phase involves more site-specific analysis.³¹ Subsequently, the FRA announced its intent to conduct such second tier analyses in California.³² Similar tiered environmental reviews are underway in other parts of the country.³³

C) REAL PROPERTY ACCOMMODATIONS

To accelerate planning and development, Congress also empowered the Secretary of Transportation to authorize States to make accommodations within federal-aid highway rights-of-ways, in the form of available

25. 42 U.S.C. § 4331 *et. seq.* (1970).

26. CHRISTINE A. KLEIN ET AL., NATURAL RESOURCES LAW 123 (2005) (citing 42 U.S.C. § 4332(2)(C)).

27. *Id.* at 148-49 (quoting 40 C.F.R. § 1508.28 (2008)).

28. *Id.*

29. FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, RECORD OF DECISION, CALIFORNIA HIGH-SPEED TRAIN SYSTEM 1, (Nov. 18, 2005) *available at* http://www.fra.dot.gov/downloads/RRDev/hst_rod.pdf.

30. *Id.* at 3.

31. *Id.* at 4, 11-14.

32. *E.g.*, Environmental Impact Statement for the California High Speed Train System from Los Angeles to Orange County, CA, 72 Fed. Reg. 12250 (Mar. 15, 2007).

33. *See* Southeast High Speed Rail Corridor, *Project History*, <http://www.sehsr.org/history.html> (describing the goal of completing the second tier of environmental analysis toward beginning passenger service between 2013 and 2015).

air space or land, for high speed rail and maglev systems.³⁴ Such available land or air space is to be provided “with or without charge to a publicly or privately owned authority or company or any other person for such purposes if such accommodation will not adversely affect automotive safety.”³⁵ Resultant provisions appear in state laws to accommodate high speed rail and maglev systems by providing necessary land or airspace.³⁶

D) SAFETY TECHNOLOGY

The Secretary of Transportation is also responsible for establishing safety regulations regarding high speed rail service.³⁷ FRA safety regulations for passenger and freight overlap in certain areas, such as: track design,³⁸ use of horns at crossings,³⁹ and engineer qualification and certification.⁴⁰ However, specific regulations for passenger service revolve around equipment standards⁴¹ and emergency response.⁴² Similarly, mandates concerning certain power braking systems apply only to freight.⁴³

Recent research and development efforts by the FRA involve demonstrating Intelligent Railroad Systems: “computers, and digital communications to collect, process, and disseminate information to improve the safety, security, and operational effectiveness of railroads.”⁴⁴ The FRA is working with applicable industries to integrate “new sensor, computer, and digital communications technologies into train control, braking systems, grade crossings, and defect detection, and into planning and scheduling systems[.]”⁴⁵ Greg Summy, General Solicitor for Norfolk Southern, expressed his enthusiasm for such systems, stating:

the hot thing at our company is a dynamic braking system that can allow the brakes in one train [to] know where other trains on the line are and brake automatically, which will hopefully prevent collisions. Also, . . . new crossing systems that are being tested . . . make it very difficult for vehicles to cross

34. 23 U.S.C. § 142(f) (1998).

35. *Id.*

36. E.g. CAL. STS. & HIGH. CODE § 104.12(b) (2001).

37. *See generally* 49 U.S.C. § 26103 (1994).

38. *See generally* 49 C.F.R. § 213.1 (2008).

39. *See generally* 49 C.F.R. § 222.1 (2006).

40. *See generally* 49 C.F.R. § 240.1 (1999).

41. *See generally* 49 C.F.R. § 238.1 (2002).

42. *See generally* 49 C.F.R. § 239.1 (2004).

43. *See generally* 49 C.F.R. § 232.1 (2004).

44. Federal Railroad Administration, U.S. Department of Transportation, *Intelligent Railroad Systems*, <http://www.fra.dot.gov/us/content/779>.

45. *Intelligent Railroad Systems*, *supra* note 44.

train tracks when they shouldn't.⁴⁶

The implementation of such devices will produce the benefits of “making railroad operations—freight, intercity passenger, and commuter—safer and more secure, reducing delays, reducing costs, raising effective capacity, improving customer satisfaction, improving energy utilization, [and] reducing emissions.”⁴⁷ To spur implementation, of these systems Michigan is exemplary, where the legislature provides that deployment of traffic control devices may be ordered “at no cost to the freight railroads” to secure high speed rail corridor crossings.⁴⁸ Michigan also calls for state and federal fund expenditures to secure land to build crossings along high speed rail corridors.⁴⁹

Congress’ October 16, 2008 passage of the Rail Safety Improvement Act of 2008⁵⁰ renews a national commitment to safety by mandating that the FRA “shall consider the assignment and maintenance of safety as the highest priority. . . in railroad transportation.”⁵¹ Toward this end, Congress required the FRA to “develop a long-term strategy” consisting of annual plans and schedules to attain the following goals:

- 1) Reducing the number and rates of accidents, incidents, injuries, and fatalities involving railroads including train collisions, derailments, and human factors.
- (2) Improving the consistency and effectiveness of enforcement and compliance programs.
- (3) Improving the identification of high-risk highway-rail grade crossings and strengthening enforcement and other methods to increase grade crossing safety.
- (4) Improving research efforts to enhance and promote railroad safety and performance.
- (5) Preventing railroad trespasser accidents, incidents, injuries, and fatalities.
- (6) Improving the safety of railroad bridges, tunnels, and related infrastructure to prevent accidents, incidents, injuries, and fatalities caused by catastrophic failures and other bridge and tunnel failures.⁵²

Congress also appropriated upwards of \$225,000,000 for each fiscal year from 2009 to 2013 to implement its vision.⁵³ It also provided \$50,000,000 for the same fiscal years for “Railroad Safety Technology Grants” to railroads and railroad suppliers, as well as State and local gov-

46. E-mail from Greg E. Summy, General Solicitor, Norfolk Southern Corporation, to author (Feb. 3, 2008, 13:43 MST) (on file with author).

47. *Intelligent Railroad Systems*, *supra* note 44.

48. MICH. COMP. LAWS § 462.303 (1994).

49. MICH. COMP. LAWS § 462.317 (1994).

50. Rail Safety I Pub. L. 110-432 (2008) (codified in scattered sections of 49 U.S.C.).

51. *Id.* § 101 (amending 40 U.S.C.A. § 103(c)).

52. *Id.* § 102 (codified at 49 U.S.C.A. § 20101 note).

53. *Id.* § 3 (amending 49 U.S.C.A. § 20117(a)).

ernments, to deploy train control technologies.⁵⁴ Drawing upon these federal efforts will ensure that future high speed rail development in the U.S. will be a model for safety throughout the world.

E) TRANSIT POLICY

The Federal Transit Administration (FTA) also administers a Rail Infrastructure Technology program seeking to improve planning and construction of transit equipment and systems.⁵⁵ Through its joint efforts with University Transit Centers, the program seeks to make safety a larger concern for transit planners by providing more realistic cost forecasts for transit development.⁵⁶ Concerning the risk inherent in track shared by freight and transit operations, such as light rail, the FTA has concluded that little or no increased risk to passengers is entailed.⁵⁷

F) EMERGENCY LEGISLATION

President Barack Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA) into law on February 17, 2009, making appropriations:

- (1) To preserve and create jobs and promote economic recovery.
- (2) To assist those most impacted by the recession.
- (3) To provide investments needed to increase economic efficiency by spurring technological advances in science and health.
- (4) To invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits.
- (5) To stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases.⁵⁸

Such appropriations carry “emergency designations” under “pay-as-you-go principles.”⁵⁹ Accordingly, the ARRA provides some \$8 billion in “Capital Assistance for High Speed Rail Corridors and Intercity Passenger Rail Service” through the end of the 2011-12 fiscal year, as well as \$1.3 billion in “Grants to the National Railroad Passenger Corporation” and \$6.9 billion in “Transit Capital Assistance” through the end of the

54. *Id.* § 105 (codified at 49 U.S.C.A. § 20158).

55. Federal Transit Administration, U.S. Department of Transportation, *Rail Technology and Systems Information*, http://www.fta.dot.gov/assistance/technology/research_4506.html.

56. *Rail Technology and Systems Information*, *supra* note 55.

57. FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, *SHARING OF TRACK BY TRANSIT AND FREIGHT RAILROADS: LIABILITY AND INSURANCE ISSUES 14*, Sept. 21, 2005, available at http://www.fta.dot.gov/documents/Shared_Track.pdf.

58. American Recovery and Reinvestment Act of 2009, H.R. 1, 111th Cong. § 3 (Enrolled as Agreed to or Passed by Both House and Senate), available at <http://thomas.loc.gov/home/approp/app09.html#h1> (following the “H1” link at the upper right of the screen).

59. *Id.* at § 5.

2009-10 fiscal year.⁶⁰ These emergency appropriations dwarf Congress' prior funding of high speed rail and other public transit investments to date, including the prior legislation discussed. The ARRA also charts a course for long-term investments that diversify and democratize our critical national transportation infrastructure.

III. LEGAL FRAMEWORKS AND ACTIVITIES IN THE STATES

The FRA has designated eleven major high speed rail corridors across the U.S.:

(1) Pacific Northwest (from Eugene, Oregon to Vancouver, British Columbia); (2) California (from Sacramento to San Diego); (3) Chicago Hub Network (including several cities in Illinois, Indiana, Minnesota, Wisconsin, Missouri, Michigan, and Ohio); (4) South Central (including cities in Texas, Oklahoma, and Arkansas); (5) Gulf Coast (including Houston, parts of Louisiana, Mississippi, Alabama, and Georgia); (6) Florida; (7) Southeast (including North Carolina and South Carolina); (8) Keystone (including Pennsylvania, District of Columbia, and Maryland); (9) Empire State, Northern New England, and Northeast (including New York, Massachusetts, Connecticut, and Montreal, Quebec).⁶¹

This section analyzes relevant portions of recent State legislation dealing with high speed rail or maglev regulation and development.

A) PACIFIC NORTHWEST

Oregon defines a "high speed rail system" in terms of passenger service "exceeding 79 miles per hour and connecting two or more urban areas."⁶² Oregon law deals primarily with settling disputes over ownership of high speed rail crossings.⁶³ Washington has found "intercity passenger rail services [and] intercity high-speed ground transportation" to be "transportation facilities and services. . . of statewide significance."⁶⁴ It furthermore characterizes high-speed rail development as "economic development activities."⁶⁵ Thus, the Pacific Northwest has recognized high speed rail as a future economic driver.

60. *Id.* at Title XII.

61. Kamaal R. Zaidi, *High Speed Rail Transit*, 26 TEMP. J. SCI. TECH. & ENVTL. L. 301, 326 (2007); Bureau of Transportation Statistics, *Box 1-1 Designated High-Speed Rail Corridors*, http://www.bts.gov/publications/transportation_statistics_annual_report/1999/chapter_1/box_map_01_01.html.

62. OR. REV. STAT. § 824.200 (2007).

63. OR. REV. STAT. § 824.224 (2007).

64. WASH. REV. CODE § 47.06.140 (2007).

65. WASH. REV. CODE § 43.163.010 (1999).

B) CALIFORNIA

The California High-Speed Rail Act governs high speed rail development throughout the state.⁶⁶ It created the California High Speed Rail Authority (CHSRA) to design a California High Speed Rail Service with the goal of providing high speed rail as an environmentally friendly alternative to expanding airports and highways in the state by 2020.⁶⁷ The California Legislature cited successes in both Europe and Japan to rationalize high speed rail development to compete with short air travel.⁶⁸ The legislation emphasized integration of high speed rail service with existing transit systems, such as bus and conventional rail.⁶⁹ Accordingly, the CHSRA was charged with planning the system, but ultimate approval of financing options remained with the Legislature and Governor, as did decisions regarding implementation of the plans, including, issuing debt and acquiring rights-of-way.⁷⁰

Subsequently, grants have been provided to fund planning activities,⁷¹ along with toll revenues.⁷² California also provided for the CHSRA to create guidelines for issuance of securities for eligible highway-railroad crossing safety projects.⁷³ Debt has been issued to finance high speed rail under the Highway Safety, Traffic Reduction, Air Quality and Port Security Fund of 2006.⁷⁴ Finally, the Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century⁷⁵ was approved in a November 4, 2008 election.⁷⁶ Passed as Proposition 1A, the legislation provides State guarantees for some \$9.95 billion of the “first phase” costs of the plan while:

establish[ing] rigorous fiscal and legislative controls on the expenditure of state bond funds to ensure that they are directed to construction activities in the most cost effective and efficient way, and ensure that the project will be successfully completed.”⁷⁷

Governor Swarzenegger authorized delaying this ballot initiative un-

66. CAL. PUB. UTIL. CODE §§ 185000 *et. seq.* (2008).

67. CAL. PUB. UTIL. CODE §§ 185010-185012 (2008).

68. § 185010.

69. § 185030.

70. §§ 185034-185036.

71. *E.g.*, CAL. PUB. UTIL. CODE § 99622 (1991).

72. *E.g.*, Cal. Sts. & High. CODE § 30914.5 (2006).

73. CAL. GOV'T CODE § 8879.63 (2007).

74. CAL. GOV'T CODE § 8879.23(j)(1) (2006).

75. CAL. STS. & HIGH. CODE §§ 2704 *et. seq.*

76. *See* Press Release, Quentin Kopp, Chairman, California High-Speed Rail Authority, Statement on Voter Approval of Proposition 1A (Nov. 5, 2008), available at <http://www.cahighspeedrail.ca.gov/news/MediaStatementfromQuentinKoppProp1A.pdf>.

77. California High-Speed Rail Authority, *Questions & Answers, What is Proposition 1A?*, <http://www.cahighspeedrail.ca.gov/faqs/proposition-1a.htm>.

til 2008, citing the CHSRA's failure to provide "a business and finance plan that substantiates the viability of the project."⁷⁸ This delay came in the face of the federal government's determination that the CHSRA had developed an economically viable plan, as discussed above.⁷⁹ Despite controversy, California, therefore, has committed itself to leadership in high speed rail development.

C) CHICAGO HUB NETWORK

Congress provided for the states to enter into compacts to aid the development of high speed rail:

(a) Consent to compacts.—Congress grants consent to States with an interest in a specific form, route, or corridor of intercity passenger rail service (including high speed rail service) to enter into interstate compacts to promote the provision of the service, including—

(1) retaining an existing service or commencing a new service;

(2) assembling rights-of-way; and

(3) performing capital improvements, including—

(A) the construction and rehabilitation of maintenance facilities;

(B) the purchase of locomotives; and

(C) operational improvements, including communications, signals, and other systems.

(b) Financing.—An interstate compact established by States under subsection (a) may provide that, in order to carry out the compact, the States may—

(1) accept contributions from a unit of State or local government or a person;

(2) use any Federal or State funds made available for intercity passenger rail service (except funds made available for Amtrak);

(3) on such terms and conditions as the States consider advisable—

(A) borrow money on a short-term basis and issue notes for the borrowing; and

(B) issue bonds; and

(4) obtain financing by other means permitted under Federal or State law.⁸⁰

Several compacts have since been formed, with differing responsibilities delegated to the resulting regulatory bodies.

By the terms of the Midwest Interstate Passenger Rail Compact (Midwest Compact), the following states are eligible to join: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Da-

78. CAL. STS. & HIGH. CODE § 2704.13 (2008 Electronic Pocket Part Update).

79. U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL RAILROAD ADMINISTRATION, RECORD OF DECISION, CALIFORNIA HIGH-SPEED TRAIN SYSTEM 3 (2005), available at http://www.fra.dot.gov/downloads/RRDev/hst_rod.pdf.

80. Amtrak Reform and Accountability Act of 1997, Pub. L. 105-134, § 410 (1997) (as annotated under 49 U.S.C.A. 24101 (2008)).

kota, Ohio, South Dakota, and Wisconsin.⁸¹ The Midwest Compact empowers a Commission to spend funds from the federal government and the member states to accomplish its objectives, including planning and advocacy for high speed rail development.⁸² The Midwest Compact became effective in 2000, when it was ratified by Indiana, Minnesota, and Missouri.⁸³ To date, Illinois,⁸⁴ Indiana,⁸⁵ Iowa,⁸⁶ Michigan,⁸⁷ Minnesota,⁸⁸ Missouri,⁸⁹ Nebraska,⁹⁰ North Dakota,⁹¹ and Ohio⁹² have entered into the Midwest Compact. The Commission currently focuses on garnering support from members of Congress to fund high speed rail in a manner similar to other transportation investments: an “80/20 federal-state split.”⁹³

The Tri-State High Speed Rail Line Compact (Tri-State Compact) is another compact more bent on execution than planning.⁹⁴ Michigan ratified the Tri-State Compact, although Illinois has repealed its membership.⁹⁵

Ohio additionally has a Rail Development Commission charged to “develop, promote and support safe, adequate, and efficient rail service throughout the state,”⁹⁶ including a plan for high speed rail.⁹⁷ The State provided that the body shall administer “rail service continuation subsid[ies]” and “acquisition or modernization loan[s],”⁹⁸ as well as a Rail Development Fund⁹⁹ and Federal Rail Fund¹⁰⁰ for purposes of rail development and rehabilitation. The Rail Development Commission also has

81. *E.g.*, MO. ANN. STAT. § 680.200 (2007) (described at art. VIII).

82. *E.g.*, *id.* (described at arts. IV, VII); MIDWEST INTERSTATE PASSENGER RAIL COMMISSION, THE MIDWEST INTERSTATE PASSENGER RAIL COMPACT 1 (updated Oct. 23, 2008), *available at* <http://www.miprc.org/Portals/0/pdfs/compoverviewupdate1008.pdf>.

83. MIDWEST INTERSTATE PASSENGER RAIL COMPACT, *supra* note 82.

84. 45 ILL. COMP. STAT. § 78/5 (2007).

85. IND. CODE § 8-3-22-1 (2008).

86. IOWA CODE § 327K.1 (2007).

87. MICH. COMP. LAWS § 3.1022 (2006).

88. MINN. STAT. ANN. § 218.75 (2008).

89. MO. ANN. STAT. § 680.200.

90. NEB. REV. STAT. § 74-1601 (2007).

91. N.D. CENT. CODE § 8-11.1-01 (2007).

92. OHIO REV. CODE ANN. § 4981.36 (2002).

93. THE MIDWEST INTERSTATE PASSENGER RAIL COMPACT, *supra* note 82.

94. *Compare* MICH. COMP. LAWS § 462.81 (2008) (art. I defining the purpose in terms of “awarding of a contract to the private sector”) with MICH. COMP. LAWS § 3.1022 (2008) (art. I defining the purpose in terms of promoting development).

95. 45 ILL. COMP. STAT. §§ 75/0.01 *et. seq.* (1996).

96. OHIO REV. CODE ANN. § 4981.03 (West 2008).

97. OHIO REV. CODE ANN. § 4981.04 (West 2008).

98. OHIO REV. CODE ANN. § 4981.05 (West 2008).

99. OHIO REV. CODE ANN. § 4981.09 (West 2008).

100. OHIO REV. CODE ANN. § 4981.091 (West 2008).

authority to issue bonds for rail projects.¹⁰¹ While concerted planning efforts in the Chicago Hub Network Corridor have been significant, more financial preparation along the lines of Ohio's experience are necessary to implement high speed rail.

D) SOUTH CENTRAL

Oklahoma has ratified the Interstate Midwest Regional Passenger Compact.¹⁰² Texas enacted the Texas High-Speed Rail Act in 1989, and awarded a franchise to the "Texas TGV Consortium" in 1991.¹⁰³ Texas abolished its High-Speed Rail Authority, however, in 1995.¹⁰⁴ Renewed public support for high speed rail in Texas therefore may be crucial for future development in the South Central Corridor.

E) GULF COAST

Louisiana established the Interstate 10-12 Corridor Commission to work collaboratively with the state's Department of Transportation and Development and parish governments to bring about "transportation improvement," including "high-speed rail service. . .into Texas."¹⁰⁵ Georgia law is speculative, designating passenger rail corridors and waiting for "federal or private funds" to convert those areas to high speed rail development.¹⁰⁶ Much like the situation in the South Central Corridor, the leadership of Texas, possibly through a new interstate compact, would likely spur development of high speed rail in the Gulf Coast Corridor.

F) FLORIDA

Florida declared that it would "establish a high-speed rail system that links the Tampa Bay area, Orlando, and Miami" by 1995.¹⁰⁷ Much like the California equivalent, The Florida High Speed Rail Authority Act¹⁰⁸ was created largely as a palliative of environmental concerns and traffic congestion, and as a "catalyst for economic growth and development."¹⁰⁹ Unlike the CHSRA, the Florida High-Speed Rail Authority (FHSRA) has wider powers, including ownership of the state's high

101. OHIO REV. CODE ANN. § 4981.13 (West 2008).

102. OKLA. STAT. ANN. tit. 66, § 328 (West 2008).

103. Kathy Fox Powell, *Southwest Airlines v. High-Speed Rail*, 60 J. AIR L. & COM. 1091, 1095-96 (1995).

104. TEX. REV. CIV. STAT. ANN. art. 6674v.2 (2008).

105. LA. REV. STAT. ANNOTATED §§ 48:1811.1-1811.2 (West 2007).

106. GA. CODE ANN. § 46-9-290(a)-(b) (2007).

107. FLA. STAT. ANN. § 187.201(19)(b) (2008).

108. FLA. STAT. ANN. §§ 341.8201 *et. seq.* (West 2008).

109. FLA. STAT. ANN. §§ 341.8202(b)-(c) (West 2008).

speed rail system as a corporation.¹¹⁰ However, the FSHRA is still limited by legislative control over the amount of its debt accumulation.¹¹¹ The FSHRA is similarly constrained to legislative designation of initial construction priorities and thereafter local and private financial participation is to guide development.¹¹²

“Associated development,” by the FSHRA or in joint ventures, is also contemplated as a “source of revenue for the establishment, construction, operation or maintenance of the high-speed rail system.”¹¹³ Associated development includes: “property, including air rights, necessary for joint development, such as parking facilities, retail establishments, restaurants, hotels, offices, or other commercial, civic, residential, or support facilities, and may also include property necessary to protect or preserve the rail station area by reducing urban blight or traffic congestion. . . .”¹¹⁴ Purchases or leases of property by the FSHRA, not including associated development, are exempted from certain state taxes when they become part of the system; as are the sales and income from securities issued by the FSHRA or on its behalf.¹¹⁵ Florida’s broader view that recognizes the economic vitality that high speed development will attract into surrounding areas should be a selling point for other States considering their own projects.

G) SOUTHEAST

North Carolina and Virginia formed the Virginia-North Carolina Interstate High-Speed Rail Compact.¹¹⁶ This agreement is also focused on planning and advocacy through a Commission.¹¹⁷ South Carolina designated its Division of Mass Transit to receive “federal and other funds for . . . high-speed rail planning and development.”¹¹⁸ Whether in pairs or larger coalitions, compacts move States closer to implementing high speed rail as they share a common goal, and the resources necessary to attain it.

H) KEYSTONE

By the terms of the Interstate High Speed Intercity Rail Passenger Network Compact (Network Compact), the following states are eligible

110. FLA. STAT. ANN. §§ 341.822(1), (3) (West 2008).

111. § 341.822(2).

112. FLA. STAT. ANN. §§ 341.827 (West 2008).

113. FLA. STAT. ANN. §§ 341.836 (West 2008).

114. FLA. STAT. ANN. §§ 341.8203 (West 2008).

115. FLA. STAT. ANN. §§ 341.840 (West 2008).

116. N.C. GEN. STATS. § 136-220 (2007).

117. *E.g.* N.C. GEN. STATS. §§ 136-221 – 136-222 (2007).

118. S.C. CODE ANN. § 57-3-40 (2007).

to join: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, and West Virginia.¹¹⁹ The Network Compact sought a joint effort to examine the feasibility of a high speed rail line connecting major cities in the member states.¹²⁰ The regulatory body it created was the Interstate Rail Passenger Advisory Council.¹²¹ Illinois,¹²² Indiana,¹²³ Michigan,¹²⁴ New York,¹²⁵ Ohio,¹²⁶ and Pennsylvania¹²⁷ joined the Network Compact. Pennsylvania also enacted the High Speed Intercity Rail Passenger Commission Act¹²⁸ that created a High Speed Intercity Rail Passenger Commission¹²⁹ responsible for planning high speed rail in the state,¹³⁰ in cooperation with the Federal government and the Interstate Rail Passenger Advisory Council.¹³¹ More work on funding the shared plans of the States in the Keystone Corridor is now necessary.

I) EMPIRE STATE

Beyond joining the Network Compact, New York has authorized the issuance of close to \$1.5 billion in bonds for transportation improvements, including intercity rail improvements.¹³² Indiana has created a High Speed Rail Development Fund¹³³ and an Industrial Rail Service Fund¹³⁴ that provide financial support for its membership in high speed rail compacts. Illinois similarly authorized its Department of Transportation to determine its financial obligations in its high speed rail and maglev development organizations by agreements.¹³⁵ Similar financial planning can assist other areas seeking to expedite high speed rail development.

J) NORTHERN NEW ENGLAND

New Hampshire also provided \$85,000 of certain railroad taxes to aid feasibility study of a high speed rail line connecting Boston and Montreal,

119. *E.g.*, N.Y. TRANSP. LAW § 19 (2008).

120. *E.g.*, § 19 at art. I.

121. *E.g.*, IND. CODE § 8-3-19-1 (2008) (described at art. III).

122. 45 ILL. COMP. STAT. 70/1 (2007).

123. IND. CODE § 8-3-19-1.

124. MICH. COMP. LAWS § 462.71 (2008).

125. N.Y. TRANSP. LAW § 19.

126. OHIO REV. CODE ANN. § 4981.35 (2008).

127. 55 PA. STAT. ANN. § 671 (2007).

128. 55 PA. STAT. ANN. §§ 681 *et. seq.* (2007).

129. § 683.

130. § 684.

131. § 685.

132. N.Y. TRANSP. LAW § 480 (2008).

133. *E.g.*, IND. CODE § 8-23-25-4 (2008).

134. IND. CODE § 8-3-1.7-2 (2008).

135. 20 ILL. COMP. STAT. § 2705/2705-450 (2009).

Canada.¹³⁶ Support for high speed rail in Connecticut is more abstract, where it has empowered a Commissioner to “engage in experimental projects relating to any available or future mode of transportation, including but not limited to, high speed rail service.”¹³⁷

K) NORTHEAST

The Northeast Corridor is characterized by federal regulation, through Amtrak, because Congress found the corridor particularly important to the nation.¹³⁸ Specifically, Amtrak has authority to develop high speed rail in the corridor to serve Boston, Massachusetts, the District of Columbia, and intermediate intercity markets.¹³⁹ Just over \$2 billion in appropriations for the corridor have already been authorized by Congress.¹⁴⁰ Consequently, Congress foreclosed the Northeast Corridor from eligibility for “high-speed rail assistance.”¹⁴¹ Final system plans for the United States Railway Association aspire to coordinate efforts by the National Railroad Passenger Corporation and similar entities to identify corridors where “upgrading rail lines for high-speed passenger operation would return substantial public benefits.”¹⁴²

IV. THE TRANSITION FROM PLANNING TO IMPLEMENTATION

The staggering costs involved in transforming existing rail infrastructure to accommodate high speed service, or building dedicated lines from the ground up, is a major stumbling block for implementation of the planning activities described above.¹⁴³ Even with the recent increases in federal attention to and funding of high speed rail development,¹⁴⁴ the capital necessary to construct new national high speed rail projects, or renovate existing rail infrastructure to accommodate high speed service, easily exceeds the billions already allocated.¹⁴⁵ China, for example, has committed “a quarter-trillion dollars” to continue developing its high speed rail services.¹⁴⁶ In addition to public funding, therefore, other fi-

136. N.H. REV. STAT. § 228:69 (2008).

137. C.G.S.A. § 13b-16(a)-(b) (2002) (2008 Supp.)

138. See 49 U.S.C. 24901.

139. 49 U.S.C. § 24904.

140. 49 U.S.C. § 24909.

141. 49 U.S.C. § 26101(2) (2008).

142. 45 U.S.C. § 716(a).

143. Jan Dennis, Associated Press, *High-Speed Rail Looks for Traction*, ROCKY MOUNTAIN NEWS, Wall Street West 3 (Sept. 8, 2007).

144. See PART II, *supra*.

145. See David W. Kubissa, *All Aboard: Train Travel Still Viable in Some Regions*, STAR-GAZETTE 14A (March 2, 2008).

146. Richmond, *supra* note 7 at 7.

nancing sources are critical to bridge the gap from planning to implementation.

A) THE CALIFORNIA BUSINESS PLANS

An example is California, where the California High-Speed Rail Authority devised a Business Plan (“2000 CHSRA Plan”) in June 2000 that estimated funding requirements of \$24.97 billion under a “phased financing” plan.¹⁴⁷ In contrast to a “full financing” alternative, the phased plan would have funded the project over time, recognizing the incremental nature of the development process required by the strictures of federal environmental law and funding requirements.¹⁴⁸ Revised financial estimates, however, put the figure near \$45 billion for the system linking major cities from Sacramento to San Diego.¹⁴⁹

The 2000 CHSRA Plan would have relied on “1/4-cent statewide sales tax revenue,” “sales tax bond net proceeds,” “commercial paper net proceeds,” “other funding sources,” and interest to fund its high-speed rail system.¹⁵⁰ Federal funding under the Transportation Infrastructure Finance and Innovation Act (TIFIA) is another potential resource.¹⁵¹ The CHSRA Plan also remarked, “[f]reight revenues could be a source of funding for constructing and operating the high-speed train system, if sufficient freight operations were to occur.”¹⁵²

Subsequent to the passage of Proposition 1A in 2008, the largest chunk of financing will come from bonds backed by the State of California.¹⁵³ Such “private activity bonds” may be tax-exempt under federal law.¹⁵⁴ “High-speed intercity rail facility bonds are exempt facility bonds if 95% of the net proceeds of the bond issue are used to provide a high-speed intercity rail facility, and all of the property financed by the issue is owned by a governmental unit.”¹⁵⁵ Owners of any remaining property financed by the bonds must make an “irrevocable election not to claim depreciation or any tax credit with respect to the bond-financed prop-

147. CALIFORNIA HIGH SPEED RAIL AUTHORITY, 6.0 Funding and Building the System 5-6, June 2000, available at http://www.cahighspeedrail.ca.gov/images/chsr/20080117120711_Plan_6.pdf.

148. *Id.*; 49 U.S.C. § 26101 (2008); 42 U.S.C. § 4331 *et. seq.* (2008).

149. California High-Speed Rail Authority, *Questions & Answers, Financing/Costs*, <http://www.cahighspeedrail.ca.gov/faqs/financing.htm>.

150. FUNDING AND BUILDING THE SYSTEM, *supra* note 147 at 3.

151. Transportation and Infrastructure Finance and Innovation Act of 1998, Pub. L. 105-178, 112 Stat. 1998.

152. FUNDING AND BUILDING THE SYSTEM, *supra* note 147 at 3.

153. CALIFORNIA HIGH-SPEED RAIL AUTHORITY, BUSINESS PLAN 2008 SUMMARY 2, available at http://www.cahighspeedrail.ca.gov/images/chsr/20081107144941_BPSummary.pdf.

154. MERTENS LAW OF FEDERAL INCOME TAXATION § 8:54 (Revised by Gina M. Torielli 2008).

155. *Id.* (citing I.R.C. § 142(a)(11) (2008)).

erty.”¹⁵⁶ All proceeds from tax-exempt bonds must be spent within three years of issuance, or applied toward redemption of outstanding bonds.¹⁵⁷ As is the case in California, a high speed rail agency’s ability to issue debt may be constrained by legislative, executive, or popular control.¹⁵⁸

Based on “conservative estimates,” the 2000 CHSRA Plan promised to “return twice as much financial benefit to” California in its first twenty years, generating “\$900 million in annual revenues” and “an annual operating surplus of more than \$300 million.”¹⁵⁹ Expectations from the CHSRA’s most recent 2008 Business Plan further project an overall economic impact of “\$150 billion in measurable present value benefits—approximately three times the present value of the train’s capital and operational costs over the next 40 years.”¹⁶⁰ Accordingly, some \$11 billion in “direct benefits to Californians” are expected in 2030, such as: “320,000 permanent jobs,” “12 billion pounds” of avoided carbon dioxide emissions, and some 55 million passenger trips generating revenues of some \$2.4 billion.¹⁶¹

B) ATTRACTING PRIVATE INVESTMENT

This confidence in revenues also suggests that project financing may be attractive for private investors.¹⁶² As such, the CHSRA 2008 Business Plan envisions “public private partnerships” and “local support” to round out financing sources in addition to the State and federal funds already discussed.¹⁶³ Specifically concerning private investment,

“[n]on-recourse project financing” is a type of financing in capital-intensive industries in which a project’s financial backing is based upon the ability of the project’s potential cash flow to pay off project debt, rather than relying upon the credit-worthiness of the project sponsors. Under this type of project financing, the debt, equity, and credit enhancement are combined for the construction and operation of a facility. The assets of the facility, including the long-term revenue producing contracts, become the collateral or the lenders.¹⁶⁴

156. *Id.* (citing I.R.C. § 142(i)(2)).

157. *Id.* (citing I.R.C. § 142(i)(3)).

158. See PART III, *supra* at B.

159. CALIFORNIA HIGH SPEED RAIL AUTHORITY, SUMMARY OF THE HIGH-SPEED RAIL SYSTEM BUSINESS PLAN 2, June 2000, available at http://www.cahighspeedrail.ca.gov/images/chsr/20080102162820_Plan_Summary.pdf.

160. BUSINESS PLAN 2008 SUMMARY, *supra* note 153 at 1.

161. *Id.*

162. See *id.*; SUMMARY OF THE HIGH-SPEED RAIL SYSTEM BUSINESS PLAN, *supra* note 159 at 2.

163. BUSINESS PLAN 2008 SUMMARY, *supra* note 153 at 2.

164. John A. Herrick, *Federal Project Financing Incentives for Green Industries*, 43 Nat. Res. J. 77, 79 (Winter 2003).

Federal guarantees may also be necessary to enhance private interest in undertaking the risk of operating losses entailed in project financing.¹⁶⁵ Increased private investment, and complementary private operation, may also allay critics who cite Amtrak's lack of profitability to discourage future public investment in high speed rail.¹⁶⁶

Freight service on the high speed lines could also provide "credit enhancement" for high speed rail projects, as committed buyers of the service will augment future revenue returns.¹⁶⁷ The 2000 CHSRA Plan suggested that freight service could provide valuable financing for implementation costs associated with high speed rail development, especially if freight operations were linked to passenger service cars.¹⁶⁸ Due to the track congestion that conventional freight services entail, dedicated lines for high speed rail service are usually advocated to keep speeds up.¹⁶⁹ With the advent and further refinement of Intelligent Railroad Systems, however, freight and passenger services may be able to share track more safely and efficiently.¹⁷⁰ Thus, synchronizing freight operations to passenger service schedules, and linking freight and passenger cars, would eliminate conventional congestion and safety concerns, and enhance financing.

C) CHANGING THE MULTIMODAL BALANCE

Although high speed rail is typically marketed as an alternative to airline travel, consideration of high speed rail freight service would necessitate a contemporary shift away from certain regional motor carrier operations providing similar services now.¹⁷¹ The FRA's Intermodal Transportation and Inventory Cost (ITIC-IM) Model is a valuable tool for confronting the economic feasibility of changing from motor carriers to rail freight service in the face of dynamic market conditions.¹⁷² Sample data in the documentation accompanying the ITIC-IM suggests that intermodal freight poses a cost-effective alternative to truck transporta-

165. E-mail from Greg Summy, General Solicitor, Norfolk Southern Corporation, to author (Mar. 10, 2008 10:31 MST) (on file with author).

166. E-mail from Michael Steele, Chairman, Republican National Committee, to author (June 5, 2009, 12:33 MST) (on file with author).

167. Herrick, *supra* note 164 at 79.

168. *Funding and Building the System*, *supra* note 148 at 3.

169. See e.g., JAMES S. NOBLE AND CHARLES J. NEMMERS, MISSOURI FREIGHT AND PASSENGER RAIL CAPACITY ANALYSIS, EXECUTIVE SUMMARY 1 (July 15, 2007), available at http://www.miprc.org/portal/uploads/lkiewer/MOraail_capacity_analysis_ExecSummaryJul07.pdf.

170. See PART II, *supra* at D.

171. See Alan S. Drake, *Electrification of Transportation as a Response to Peaking World Oil Production*, revised Dec. 2005, http://www.lightrailnow.org/features/f_lrt_2005-02.htm.

172. U.S. Department of Transportation, Federal Railroad Administration, *ITIC-IM*, last updated Dec. 28 2007, <http://www.fra.dot.gov/us/content/1543>.

tion in terms of “annual logistics costs,” and that savings are accentuated as the speed of rail service increases.¹⁷³ While some uncertainty over freight access to new high speed rail lines exists, public policy can still adapt to allow this option to front part of the hefty bill.

Such changes in the multimodal balance could portend future legal battles as high speed rail development changes the dynamics of business allocation in passenger and freight transportation, as motor carriers and airlines will seek to retain their market positions.¹⁷⁴ Southwest Airlines fought development of high speed rail in Texas, when high speed rail development threatened its dominance of the “short-to-medium distance market” in the State.¹⁷⁵ Although the court dispute ultimately resolved itself through an analysis of whether the Texas High-Speed Rail Authority had waived its governmental immunity, the practical resolution came when Texas’ chosen high speed rail franchisee defaulted.¹⁷⁶ Current portents of the intermodal shift to come in the U.S. include the downsizing and service reductions at Air France, in the face of competition from intercity high speed rail for passengers in France.¹⁷⁷ By investing in high speed rail service, and changing the multimodal balance, however, California estimated savings of \$12 billion in operating costs by 2050 for airlines and \$13.6 billion in “highway-related benefits,” including avoided accident costs and reduced congestion.¹⁷⁸ Extrapolating to other markets, the American Planning Association has noted that “U.S. airports are nearing saturation,” and “[m]ore than half of all flights in and out of U.S. airports are less than 500 miles,” meaning that high speed rail can provide a more efficient alternative to compete with most current air travel in this nation, and also expand capacity to accommodate future demand.¹⁷⁹

D) ENHANCING POPULAR SUPPORT

Whether by taxation, administering direct grants and guarantees, controlling debt issuance, or resolving intermodal disputes, governmental mechanisms will largely control funding the advancement of high speed

173. U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL RAILROAD ADMINISTRATION, ITIC-IM, USER’S MANUAL 32-34 (March 2005), available at http://www.fra.dot.gov/downloads/Policy/ITIC-IM%20documentation%20v1_0.pdf.

174. See generally Powell, *supra* note 103 at 1091.

175. *Id.* at 1094-95.

176. *Id.* at 1135-37.

177. Bruno Trevidic, *Air France Prepares to Reduce Provincial Coverage*, LES ECHOS, March 7, 2008, (abstracted by THE FINANCIAL TIMES, LTD.).

178. SUMMARY OF THE HIGH-SPEED RAIL SYSTEM BUSINESS PLAN, *supra* note 159 at 3.

179. Shelly Poticha, *Transportation in the Multi-City Regions* in SMART GROWTH IN A CHANGING WORLD 51-52 (Jonathan Barnett, ed, 2007) (illustrating the current airport saturation in Figure 4-5).

rail in the U.S. Therefore, popular support, reflected in the policy forwarded by elected governmental officials, is a key to successful implementation of the existing high speed rail service plans. Wavering public support led to the preliminary failure of a Transrapid maglev project in Germany.¹⁸⁰ Conversely, the enhanced power of government in China may have made their decision to develop high speed rail easier as it built the first commercial high speed maglev route which began revenue service in January 2004.¹⁸¹ Recently, the Committee on Senate Banking, Housing and Urban Affairs heard testimony regarding the establishment of a National Infrastructure Bank,¹⁸² proposed by Senator Hagel, and modeled after the European Investment Bank, that would use a \$60 billion initial appropriation to catalyze private investment in infrastructure improvements, including a “railway that is as good as Europe’s.”¹⁸³ Authorizing the National Infrastructure Bank to issue “long bonds” that mature in up to fifty years, and to provide subsidies of “credit insurance, interest rate discounts, or even grants,” would constitute a huge step forward in putting State high speed rail plans into action.¹⁸⁴

Without risking paternalism, or even socialism, in continuing high speed rail development policy, another way to gauge public support is to enhance public participation in the planning process. The federal government is already implementing pilot programs that encourage public participation in the transit planning process.¹⁸⁵ Also, the FTA’s work in encouraging Transit Oriented Development is important for the public to practically use new high speed rail.¹⁸⁶ Integrating high speed rail into intermodal transportation hubs, like the San Francisco International Airport, will make high speed rail accessible and competitive in the intercity transportation market.¹⁸⁷ California meets this need by accommodating high speed rail development into airport facilities.¹⁸⁸ Florida also recog-

180. Transrapid International-USA, Inc., *History of Maglev*, <http://www.transrapid-usa.com/content.asp>

181. *History of Maglev*, *supra* note 180.

182. See National Infrastructure Bank Act of 2007, S. 1926, 110th Cong. (2008) (available online via the search engine at <http://www.thomas.gov>).

183. *National Infrastructure Improvement: Hearing Before the S. Comm. On Banking, Housing and Urban Affairs*, 110th Cong. (2008) (Statement by Felix Rohatyn, Trustee, Center for Strategic and International Studies).

184. *Id.*

185. U.S. Department of Transportation, Federal Transit Administration, *Public Transportation Participation Pilot Program*, updated Mar. 21, 2008, http://www.fta.dot.gov/planning/programs/planning_environment_5925.html.

186. U.S. Department of Transportation, Federal Transit Administration, *Transit Oriented Development and Joint Development*, updated Oct. 10, 2007, http://www.fta.dot.gov/planning/planning_environment_6932.html.

187. See REGIONAL PLAN ASSOCIATION, *AMERICA 2050: A PROSPECTUS* 17 (Sept. 2006), available at <http://www.america2050.org/pdf/America2050prospectus.pdf>.

188. CAL. PUB. UTIL. CODE § 132359(e)(6) (West 2008).

nized the benefits of high speed rail in the urban development overflow of “associated development.”¹⁸⁹ Such associated development has already occurred around railroads in Texas.¹⁹⁰ If the public is more involved in planning, and continuing urban development and renewal provides a lifestyle conducive to using transit systems, including intercity high speed rail, advocacy for enhanced public funding may become more robust.

Mobilizing public support, however, presents a significant hurdle for bridging the gap from planning to implementing high speed rail in the U.S., given the spirit of individualism that permeates this nation. In this vein, the centuries-old commentary of Alexis de Tocqueville largely still rings true: “[the] American way [is] relying on [oneself] alone to control [one’s] judgment.”¹⁹¹ Thus, if the public fails to support bond initiatives to raise capital for high speed rail, or appears unreceptive to transit oriented development, market forces will provide the extra impetus to surmount the current challenges in enhancing transportation infrastructure in the U.S.

V. THE PUSH FROM ENERGY MARKET FORCES

Former President George W. Bush recently stated, “America’s got to change its habits; we’ve got to get off oil[. . .] Until we change our habits, there’s going to be more dependency on oil.”¹⁹² The existing high speed rail development structure entails a choice among technological alternatives that rely on different power sources for locomotion, namely: diesel, electricity,¹⁹³ and electromagnetism.¹⁹⁴ In an environmentally-sensitive age, society is perhaps more motivated to develop high speed rail technologies that will rely less on fossil fuels, especially foreign oil.¹⁹⁵ Since adherence to conventional scarce energy resources for transportation also dictates war and peace, the market becomes another potent factor on this choice as never before.

Spiking oil prices in 2008 showed the dangers inherent in the prevail-

189. FLA. STAT. ANN. §§ 341.836 (West 2008); *see also* FLA. STAT. ANN. §§ 341.8202(b)-(c) (West 2008) (recognizing high-speed rail development as a “catalyst”).

190. Daniel Machalaba, *New Era Dawns for Rail Building*, WALL ST J. A1, Feb. 13, 2008.

191. ALEXIS DE TOCQUEVILLE, *DEMOCRACY IN AMERICA* 430 (George Lawrence trans., J.P. Mayer ed., HarperCollins 2000).

192. Jad Mouawad, *Oil Tops Inflation-Adjusted Record Set in 1980*, N.Y. TIMES, Mar. 4, 2008, (viewed March 4, 2008 at <http://www.nytimes.com>).

193. *See* TRANSPORTATION ECONOMICS & MANAGEMENT, INC., *TRI-STATE II HIGH SPEED RAIL FEASIBILITY STUDY 2-18*, available at <http://ntl.bts.gov/lib/9000/9900/9993/HSRFS.pdf>.

194. *See* 49 U.S.C. § 26105(2) (2008).

195. *See, E.g.*, Nick Bunkley, *Vehicle Sales Fell by 10% Last Month*, N.Y. TIMES, March 4, 2008 (viewed March 4, 2008 at nytimes.com).

ing undiversified transportation fuel situation.¹⁹⁶ High and volatile gasoline prices decreased consumer demand for automobiles.¹⁹⁷ High liquid fuel prices, and the weak dollar, even translated to higher food prices.¹⁹⁸ High fuel prices have also forced airlines to cut costs, service routes, and jobs, while increasing fares.¹⁹⁹ As for motor carriers, independent truckers vociferously protested in Washington for relief, one Pennsylvania trucker saying, “[i]f we don’t do something, then the next time you see us, we’ll be in the welfare line[.] There are so many people here hurting.”²⁰⁰ “Environmentalists, hunters, landowners, and lawmakers” also have rallied to stop domestic oil and gas production.²⁰¹ These outcries show that the rising costs of conventional transportation fuels put parts of the transportation business at risk. At the same time, they highlight an opportunity to diversify and change.

The current energy economy thus provides an atmosphere that should prompt high speed rail planners to choose electrified systems. France adopted a Grand Strategy to power its intercity rail with nuclear and hydroelectric generation.²⁰² It subsequently reduced its carbon emissions from liquid fuels by some 34% in 2000; meanwhile, the U.S. increased its emissions by 2.4% during the same timeframe.²⁰³ Indicating a break from this shameful record, President Obama made environmental stewardship part of his campaign platform in 2008.²⁰⁴

Although the electrification of high speed rail corridors may present an unwarranted expense under some analyses,²⁰⁵ integrating distributed wind technology into the high speed rail corridors holds the potential to

196. Energy Information Administration, *This Week in Petroleum*, <http://tonto.eia.doe.gov/oog/info/twip/twip.asp> (showing the recent volatility in retail gasoline prices in a chart on the upper left).

197. Bunkley, *supra* note 195.

198. Mark Schwanhausser, *Sticker Shock: Food Prices Surge*, SAN JOSE MERCURY NEWS, Business, Local, Personal Finance (Mar. 17, 2008).

199. Chris Walsh, *United Gushes Red Ink*, ROCKY MOUNTAIN NEWS, 1 Rocky Business, Apr. 23, 2008.

200. CNN.com, *Truckers Rally in Washington Seeking Relief From High Fuel Costs*, March 17, 2008, <http://archives.cnn.com/2000/US/03/16/gas.prices.03/index.html>.

201. James B. Meadow, *Activists Speak Mind Ahead of Oil, Gas Rules*, ROCKY MOUNTAIN NEWS 16 News, Mar. 31, 2008.

202. Drake, *supra* note 171.

203. *Id.*

204. Maeve Reston and Paul Richter, *McCain Stresses Cooperation in L.A. Speech on Foreign Policy*, L.A. TIMES, Mar. 27, 2008 (viewed online on March 27, 2008 at <http://www.latimes.com>) (quoting John McCain’s statement that we need to be “good stewards of our planet”); Salena Zito and Mike Wereschagin, *Clinton Reaches to Her Choir*, PITTSBURGH TRIBUNE REVIEW, March 15, 2008 (citing opinion of Pennsylvania Governor Ed Rendell that Hillary Clinton would be better in “developing renewable energy resources” than both Barack Obama and John McCain).

205. TRANSPORTATION ECONOMICS & MANAGEMENT, INC., *supra* note 193 at 2-18.

recover these expenditures by making the infrastructures de facto power plants. The wind created by trains is aptly illustrated by the “Kinetic Light Air Curtain” at the Denver International Airport,

a grouping of 5,280 propellers laid out on a grid system that changes from tight to loose configurations as the train passes. The propellers are made of reflective stainless steel and are 12” in diameter . . . The propellers are activated by physical phenomena already existing in the tunnel, including . . . wind generated by the movement of the train.²⁰⁶

Micro turbine technology exists to turn this art into a real power plant model, but further commercial development of the technology for this application is necessary.²⁰⁷ Uses of wind electricity generated from trains in operation can power Intelligent Railroad Systems and other new safety technology; security enhancements, including surveillance systems; and onboard amenities like electrical and internet connections for passengers. Since the high speed rail planning process is still underway, the necessary adaptation to accommodate this efficiency innovation is possible. Exploring this energy opportunity will put consumers in control of a new electrical supply through their decision to use high speed rail, democratizing the energy marketplace.²⁰⁸ Making high speed rail corridors into electric power plants will also enhance the financial viability of these expensive projects.

National security concerns from the reliance on imported liquid transportation fuels will also be alleviated by choosing electrification, due primarily to the abundance of U.S. coal resources.²⁰⁹ The U.S. has the moniker “Saudi Arabia of coal” due to the abundance of domestic reserves, of which half are federally owned.²¹⁰ Although electricity developed with coal entails “environmental concerns,”²¹¹ they could be limited in a system that efficiently captures and uses the wind energy produced by the trains in operation.

Notwithstanding the environmental and national security advantages of developing high speed rail over other alternatives, the high price of gasoline has already convinced consumers across the U.S. to rely on mass

206. Antonette Rosato and William Maxwell, Public Art Program, Kinetic Light Air Curtain, <http://www.flydenver.com/guide/art/detail.asp?ID=17>.

207. See generally Joshua D. Prok, *Interstate Wind*, 35 *TRANSP. L. J.* 67 (2008) (describing the application of micro-turbine technology in the context of deployments on the Interstate Highway System).

208. See VIJAY V. VAITHEESWARAN, *POWER TO THE PEOPLE* 23 (2003).

209. Marla E. Mansfield, *Coal*, in *ENERGY LAW AND POLICY FOR THE 21ST CENTURY* 9-1 (2000).

210. *Id.* at 9-2.

211. *Id.* at 9-1.

transit.²¹² New York, Boston, San Francisco, Miami, Charlotte, and Denver are among the major cities where mass transit ridership has increased five percent or more in the first quarter of 2008.²¹³ Additionally, transit managers forecasted public transportation to grow by five percent nationally in 2008, the most robust growth in over a decade.²¹⁴ Extrapolating these trends to a complementary intercity high speed rail market indicates a strong potential ridership base.

Meanwhile, freight railroads are investing more heavily in track improvements and expansion than at any point in the last century: \$10 billion since 2000, with another \$12 billion investment planned.²¹⁵ Adding capacity and straightening track has allowed the railroads to expand from shipping traditional railroad commodities to more finished goods, enhancing competition with long-haul motor carriers that use up to three times more fuel.²¹⁶ Thus, the railroads seem well prepared to accept a greater role in providing transportation services throughout the U.S., and are “urging Congress to pass a railroad investment tax credit” for improvements in intercity rail corridors.²¹⁷

VI. CONCLUSION: REGIONAL HIGH SPEED RAIL IN 2050

As the second decade of high speed rail regulation continues in the U.S., current market forces and inadequate infrastructure capacity may turn the public’s favor back to trains, with the help of the government. Since the 1930’s, the federal government has steadily moved the U.S. away from its trains, starting with the efforts of Franklin Roosevelt to thin “fat-cat railroad barons.”²¹⁸ The liquid fuel industry, as well as manufacturers of individual automobiles, later had great influence on the steady realization of Dwight Eisenhower’s interstate highway vision disfavoring passenger rail.²¹⁹ Today, congestion in all modes is commonly documented, especially on the highways.²²⁰ To wit, Kenneth Hoffman, a member of the Transportation Lawyers Association, recently commented that the highway congestion problem is so bad in certain areas that trips on the interstate highway take longer now than before the interstate sys-

212. Clifford Krauss, *Gas Prices Send Surge of Riders to Mass Transit*, N.Y. TIMES, May 10, 2008 (viewed May 10, 2008 at <http://www.nytimes.com>).

213. *Id.*

214. *Id.*

215. Machalaba, *supra* note 190.

216. *Id.*

217. *Id.*

218. Richmond, *supra* note 7 at 6-7.

219. *See id.*; Interview with John A. Herrick, General Counsel, U.S. Dept. of Energy, in Golden, Colo. (Apr. 21, 2008) (describing a cabal among the administration, fuel industry, and automobile manufacturers that led to the interstate highway policies).

220. *See* REGIONAL PLAN ASSOCIATION, *supra* note 187 at 9.

tem was built.²²¹

Advancing from the current situation, America 2050: A Prospectus (Prospectus) provides a vision of the U.S. halfway through the 21st century as a patchwork of “globally competitive megaregions” connected by “a world class multimodal transportation system,” forming a “national framework for prosperity, growth, and competitiveness.”²²² The Prospectus identifies confronting land use strategies that “force reliance on personal automobiles” and creating “new capacity . . . in roads, rails, airports, seaports and other systems” as major challenges for the years ahead.²²³ To pay for these improvements, the Prospectus envisions:

new financing methods that leverage private capital to build strengthened, expanded transportation networks of high-speed rail, improved metropolitan commuter rail, smart highways, seaports and airports connected at multimodal transportation hubs. Congestion pricing and user fees will reinvest transportation-generated revenue into maintaining and expanding the systems.²²⁴

This sentiment that the government must work with the private sector to fund infrastructure improvements, including high speed rail, promises to “create economic integration among various regions.”²²⁵ Recognizing this benefit, many States have been working to attract private investment through bond initiatives, by encouraging development around new high speed rail services, and by joining compacts to leverage their administrative and financial resources.

Thinking on a regional level will furthermore provide long-term stability via strength in numbers and economic leverage. Operating new railways will provide jobs to fuel our economy through the recessions of the next fifty years. Moving to rail will democratize transportation by enhancing choices for the public. Enhancing choice will insulate our national economy from the adverse economic consequences of systemic reliance on the volatile fossil fuel markets. Efficiency benefits from rail can also be reaped in both passenger and freight services.

A) THE ROCKY MOUNTAINS AND THE WEST: A 2050 VISION

Recently, “representatives of the Colorado Department of Transportation, communities along [Interstate 70] from Golden to Glenwood Springs, the trucking and ski industries, and transit and highway advo-

221. Kenneth Hoffman, Transportation Business Law Lecture at the University of Denver Sturm College of Law (Apr. 21, 2008) (commenting on congestion plaguing the stretch on Interstate 35 between Dallas and San Antonio).

222. REGIONAL PLAN ASSOCIATION, *supra* note 187 at 3.

223. *Id.* at 8.

224. REGIONAL PLAN ASSOCIATION, *supra* note 187 at 17.

225. Zaidi, *supra* note 61 at 339.

ates” approved an “historic agreement” to widen the highway and provide for a new mass transit system by 2025.²²⁶ Traffic on the Interstate 70 corridor between Denver and several world class ski areas, mostly in the westward Summit and Eagle Counties, has increased steadily over the last two decades.²²⁷ To pay the “\$5 billion to \$10 billion” price tag on these corridor improvements, including high speed rail, congestion pricing mechanisms suggested by local lawmakers have encountered intense political opposition.²²⁸ Therefore, the public demands better assurance that such short-term sacrifices will fund infrastructure improvements with long-term benefits. Given the capital intensiveness of high speed rail development, supporting it is necessarily an investment in the future.

Following the template of similar high speed rail projects in the U.S., the Interstate 70 corridor needs high speed rail assistance in the form of necessary funds and FRA expertise to guide its high speed rail planning. The Rocky Mountain Rail Authority began studying the feasibility of high speed rail development in Colorado in 2008.²²⁹ To date, however, the entire Rocky Mountain region, including Denver and the Interstate 70 corridor, lacks recognition as a designated high speed rail corridor.²³⁰ Until the political will supporting high speed rail in this area gains the federal government’s attention, Colorado would do well to prepare taxation plans including tax incentives for associated development and improvements of existing track, while attracting other private financing for the Interstate 70 project by creating an agency to administer direct grants and guarantees, and control issuing tax exempt long bonds. In the event that a National Infrastructure Bank becomes a reality, exerting pressure in Congress should also be a chief concern among the State’s representatives therein.

Assuming federal spending continues, as exemplified by the recent doling out of some \$8 billion for high speed rail in the ARRA, building coalitions across state lines to will be essential to enhance the lobbying power within Congress for the Interstate 70 project, and others in the Rocky Mountain West. Additionally, if the communities supporting high speed rail along Interstate 70 expand their vision westward, they may find eager partners in Utah for an interstate compact. Regional planners have already shared a vision for connecting the “Front Range” from Laramie

226. Kevin Flynn, *I-70 Groups Forge Historic Agreement*, ROCKY MOUNTAIN NEWS 8 News, Apr. 25, 2008.

227. Kirk Johnson, *Snow is Great. But that Road Plan to Get to It?*, N.Y. TIMES, Feb. 13, 2008 (viewed Feb. 13, 2008 at <http://www.nytimes.com>).

228. *Id.*

229. Press Release, Michael Penny, Chairman, I-70 Solutions, Reality Check for I-70 Timeline 1 (Dec. 8, 2008), available at <http://www.i70solutions.org/docs/press-releases/I-70GuestCommentaryMichaelPennyNov2008.pdf>.

230. Bureau of Transportation Statistics, *supra* note 61.

County, Wyoming down to Albuquerque, New Mexico.²³¹ Accordingly, Denver's Union Station would be converted into a world class transit port, instead of a museum;²³² as this author can attest, several gates in the current terminal, like the gate for the Portland Rose line, are merely façades. Furthermore, high speed rail development along Amtrak's California Zephyr line, through the Rocky Mountains to Northern California, provides the vision for a more trans-continental Interstate 70 expansion starting from Denver.²³³

Given the current market forces favoring high speed rail development, the problem on Interstate 70 reiterates that financing is the fundamental challenge of building the next transcontinental railroad in the U.S. As the private railroads are already eagerly investing in corridor improvements, they should be viewed as valuable partners in developing high speed rail. Other industries should consider partnerships as well, particularly those that depend on tourism and travel. Coordinated efforts among neighboring communities and States, to effectively use their combined resources to enhance and improve rail services, can be accomplished through new interstate compacts aimed at implementing existing plans.

B) A NEW MULTIMODAL BALANCE

Meanwhile, the federal government should continue to follow the lead of China, and make its financial commitment to high speed rail projects in the States meaningful and long-term. If high speed rail is to compete with automobiles and airplanes, it should be funded at a commensurate level. Such a commitment would help realize the larger vision of making the multimodal transportation system in the U.S. the envy of the world for safety and efficiency. The ARRA is a strong starting point for this long-term commitment. As this commitment continues to develop, transportation industries must brace themselves for new business niches, and transportation lawyers must prepare their clients for a dynamic future in the multimodal business of moving people and freight.

231. James van Hemert and Peter Pollock, *Connecting the Tracks*, DENVER POST, Dec. 8, 2006 (viewed Oct. 16, 2008 at http://www.denverpost.com/opinion/ci_4713187).

232. *Id.*

233. Amtrak, *National Route Map*, <http://www.amtrak.com/pdf/national.pdf>.