Notes

Harold A. Shertz Award Winner

High Speed Ground Transportation Systems: A Future Component of America's Intermodal Network?

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I. INTRODUCTION

This article provides an overview of what appears to be a major change in national transportation policy of the United States. It focuses on the legislative efforts to integrate high speed ground transportation[1] (HSGT) systems into the intermodal mix of methods of moving people throughout the country. In order to put this developing policy within its proper perspective, the status of high speed ground transportation in the United States will be compared to developments in Europe and Japan. This will be followed by a discussion of the policy objectives of the Intermodal Transportation Efficiency Act of 1991[2] (ISTEA), legislation which was designed to promote efficiency, cost effectiveness and environmental sensitivity in our nation's transportation planning process. The article will then analyze the Clinton Administration's High Speed Rail Development Act of 1993[3] in an effort to identify the obstacles that HSGT must overcome to be implemented effectively into the nation's intermodal transportation network.

II. THE DEVELOPMENT OF HIGH SPEED GROUND TRANSPORTATION

Great strides have been made in passenger rail service since the Baltimore & Ohio railroad began passenger service in 1830, when it ran a horse-drawn passenger car a few miles out of Baltimore.[4] By 1835, Congress began to take an active interest in railways and with the national government's active participation, railroads became an important factor in the nation's transportation economy.[5] In the 1850s, the federal government adopted the policy of granting lands to help the states develop the railroads.[6] In the late 1800s, many American railroad companies began to experiment with increasing the speed of passenger rail service. Perhaps most notably, the New York Central broke all records when, on May 10, 1883, "steam locomotive No. 999 pulled the Empire State Express at the then breathtaking speed of 112 1/2 mph between Batavia and Buffalo."[7]

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1. The term high speed ground transportation (HSGT) systems includes both the traditional steel wheel on rail and the more technologically sophisticated magnetic levitation (maglev) passenger transportation systems capable of sustained speeds of 125 miles-per-hour or greater. This definition is consistent with that used in the legislation.

2. Intermodal Surface Transportation Efficiency Act of 1991, Pub. L. No. 102-240, 105 Stat. 1914 (1991).

3. S. 839, 103d Cong., 1st Sess. (1993) and H.R. 1919, 103d Cong., 1st Sess. (1993).

4. *See* DANIEL OVERBY, RAILROADS, THE FREE ENTERPRISE ALTERNATIVE 5-6 (1982).

5. *See* 1 LEWIS H. HANEY, CONGRESSIONAL HISTORY OF RAILWAYS IN THE UNITED STATES, 99 (rev. perm ed. 1968).

6. *Id.* at 13.

7. JOSEPH VRANICH, SUPERTRAINS — SOLUTIONS TO AMERICA'S TRANSPORTATION GRIDLOCK 14 (1991).

By the 1930s, a number of railroad companies conducted regularly scheduled passenger service at 100 miles-per-hour.[8] Unfortunately, in the 1930s American interest in and development of passenger rail service began to wane. Railroads, effectively a collective of corporate monopolies at the time, found themselves in competition with highways and airports which were being built with public funds. With increased competition came a change in corporate strategy; the focus shifted from passenger to freight service. As a result, companies did not provide financing for technological development of equipment or improved customer service, leaving much of the passenger rail facilities in the state of disrepair.[9] In an attempt to prevent passenger rail service from becoming extinct, Congress passed the Rail Passenger Service Act[10] in October, 1970, creating Amtrak. Currently, the United States' only operating HSGT project is Amtrak's Metroliner, operating in the Northeast Corridor, which travels at an average speed of eighty-seven miles-per-hour with a top speed of 125 miles-per-hour achievable on certain stretches of track.[11]

In contrast, when development of rail passenger service ended in the United States, its development and use within the European and Japanese communities flourished. Tremendous advances have been made in both technology and customer service. The French have developed the Train a Grande Vitess (TGV), providing regularly scheduled passenger service at speeds of over 180 miles-per-hour. On May 18, 1990 the TGV set the world's current speed record, reaching 320.2 miles-per-hour in a special test run.[12] The Japanese Shinkansen, or Bullet Train, has been in operation for over twenty-five years and has become an integral part of Japanese Culture. The Shinkansen operates approximately 260 trains each day, serving over 400,000 passengers, with an on-time record of ninety-nine percent.[13] Traveling at speeds up to 125 miles-per-hour, the Bullet Train' operation has not resulted in a single injury or fatality.[14] The German Federal Railway operates the Intercity Express (ICE), which was developed by a government/private industry consortium. Since the opening of the Berlin Wall, more than 200 daily trains run be-

8. *Id.*

9. *See id.* at 227.

10. Rail Passenger Service Act, Pub. L. No. 91-518, 80 Stat. 1327 (1970).

11. Although current signal restriction limit the Metroliner's top speed to 125 miles-per-hour on this route, the more technologically advanced Swedish X-2000 tilt train was tested on the Northeast Corridor without passengers at a speed of 155 miles-per-hour. Machalaba, *Amtrak Test Train That Goes Faster on Curves*, WALL ST. J., Dec. 9, 1992, at B1.

12. VRANICH, *supra* note 7, at 25-26.

13. *Id.* at 80.

14. *Id.* at 85. During this time the Shinkansen has carried approximately three billion passengers, "equal to more than half the world's population. In the United States over half of the country's accidental deaths occur in the transportation sector, and more than 90% of those are on the highways." *Id.*

tween the two halves of Germany.[15] The ICE trains are among the fastest in the world, achieving 186 miles-per-hour service on new lines and up to 137 miles-per-hour on upgraded lines.[16] Great Britain, Belgium, Portugal, Switzerland, Austria, Spain, and the Netherlands are also participating in the vigorous pursuit of electric powered HSGT system development.[17]

In addition to the steel wheel HSGT systems described above, Germany and Japan have separately developed prototype magnetic levitation (maglev) systems.[18] Maglev systems use forces of attraction or repulsion from magnets located in the vehicle to suspend it, while a linear motor located in the guideway propels the vehicle forward.[19] Ironically, these maglev systems are based on technology pioneered in the United States in the 1960s and early 1970s.[20] Currently the German Transrapid appears to be the maglev system most adapted to regular passenger service. It has demonstrated the capability to "climb grades as steep as 10 percent and negotiate curves at speeds as high as 250 mph."[21] In addition, the manufacturer assures complete safety due to the inability of the vehicle to come off of the guideway or collide with another vehicle "because the propulsion system prevents two trains from approaching head-on or overtaking the other from the rear."[22]

The companies involved in the development of the Transrapid technology look forward to introducing their products in paid passenger service in the not-too-distant future. A consortium of German, Japanese, and American companies have introduced a proposal to the state of Florida to build a maglev demonstration project from the Orlando, Florida airport to an area located near the Disney Complex.[23] Recognizing the vast potential market that exists for HSGT development in the United States, a number of foreign corporations have pursued developmental opportunities in this county. The most notable inroad was made by GEC Alsthom, the French manufacturer of the TGV, who formed the Texas TGV consortium with the American company, Morrison Knudsen, win-

15. *Id.* at 61.

16. *Id.* at 60.

17. *Id.* at 16.

18. *Id.* at 90.

19. Maglev trains float on waves of electromagnetic energy. The Japanese system uses repulsion forces to suspend the vehicle over the guideway. The electrodynamic suspension system is unable to lift off at zero velocity and requires wheels until the vehicle reaches a speed of 60 miles-per-hour. By contrast, the German electromagnetic suspension system uses attractive forces to levitate the vehicle; this enables the vehicle to lift off at zero velocity. *See id.* at 95-96.

20. *See id.* at 115.

21. *Id.* at 101.

22. *Id.* at 101-102.

23. *Id.* at 142.

ning a franchise agreement to build and operate a high speed rail route linking Dallas, Fort Worth, Houston, San Antonio, Austin, and Waco.[24] Texas TGV won the franchise in a competition with Fastrac Incorporated, a consortium of three prominent Texas companies and a similar number German multinational firms.[25]

Although promising, both of these efforts have been slowed by a number of factors, the most important of which is financing. A general consensus exists that if the public sector is unwilling to participate financially in the development of these and other HSGT projects, as have the public sectors in all other countries in the world pursuing HSGT implementation, the benefits of HSGT will likely not be realized in the United States.

III. Policy Developments

With a number of American travelers returning from Europe and Japan commenting on the pleasant experiences they had riding the high speed trains and the obvious interest by foreign corporations in the potential United States market for HSGT passenger service, Congress authorized research and development funds to assess the potential for HSGT in this country.[26] In addition, several state legislatures formed commissions whose objectives was to develop new privately financed HSGT systems.[27]

As a result of this interest, a number of studies were conducted to assess the feasibility of implementing HSGT systems in the United States. At the request of the U.S. Department of Transportation (DOT), the National Research Council, operating through the Transportation Research Board, assembled a committee to assess the applicability of HSGT technologies to meed the demand for passenger transportation service in high-density travel markets and corridors.[28] The study examined both technical and financial issues and concluded HSGT systems could be an effective alternative to auto and air travel in corridors where travel demands are increasing, but where increasing the capacities of highways and airports is difficult.[29] Among a number of recommendations, the report urges that DOT to join its efforts with the states "to develop a capacity to

24. *Id.* at 168-71.

25. *See id.* at 169-71.

26. Transportation Research Board, National Research Council, In Pursuit of Speed: New Options for Intercity Passenger Transport, Special Report 233, Ch. 3, (1991).

27. *Id.*

28. The committee was comprised of individuals with experience in transportation systems analysis, intercity travel demands, advanced transport technologies, environmental assessment, economics, finance and administration, and operation of passenger transportation systems.

29. *Supra* note 26.

evaluate HSGT systems in the context of alternative intercity travel mode investments and ultimately to make funding decisions (or resource allocations) reflecting the most cost-effective investment opportunities regardless of mode."[30] If a HSGT system were justified based on such an evaluation, public subsidies could include contributions from the national airport and airways or highways trust funds.[31] In addition, the committee notes that the states, special authorities, and the DOT should consider not only high speed rail and maglev systems but also incremental speed improvements to existing intercity rail services.[32]

Based in part by this and numerous other studies focusing on our national transportation needs, President Bush signed the Intermodal Surface Transportation Efficiency Act[33] on December 18, 1991. This new law was viewed as a historic restructuring of surface transportation programs with an emphasis on intermodalism and efficiency. Several provisions in the bill also addressed high speed rail and maglev development over a funding period of six years.[34] The legislation established a National Magnetic Levitation Prototype Development Program financed by $725 million in federal funds, of which $500 million came from the highway trust fund.[35] It initiated a Technology Demonstration Program of $50 million, half of which comes from highway trust fund grants, to demonstrate any steel wheel or maglev technology that is under construction or operation at the time of application.[36] It approved $30 million from highway trust funds for use in eliminating or improving rail-highway grade crossings in corridors considered eligible for high speed service.[37] Also, under certain conditions, states could use "flexible" highway funds for grade crossing work.

The Act created a $25 million research and development effort for all forms of high speed steel wheel and maglev transport through agreements with industry.[38] The purpose of this provision was to encourage investment by domestic firms in extending the limits of the state-of-the-art technologies. It permitted high speed maglev and steel wheel systems to use the rights-of-way of any highway in which federal funds have been invested, if it could be done without impairing auto safety. At state dis-

30. *Id.*

31. *Id.*

32. *Id.* at 14.

33. Intermodal Surface Transportation Efficiency Act of 1991, *supra* note 2.

34. 6 Cathy Connor, *Legislative Outlook for High Speed Rail and Maglev*, PARSONS BRINKERHOFF NETWORK, No. 3 (J. Chow Winter 1992-93) at 9.

35. *Id.*

36. *Id.*

37. *Id.*

38. *Id.*

cretion, such rights-of-way may be used without charge.[39] It also amended the Railroad Revitalization and Regulatory Reform Act of 1976[40] to authorize as much as $1 billion in government guaranteed loans to help finance construction of high speed steel wheel systems.[41] However, a separate appropriations measure, necessary for this provision to take effect, has yet to be passed.

Although ISTEA appeared to hold great promise for HSGT systems, the reality has been somewhat disappointing for all modes of transportation. Even though the bill authorized large sums of money, the annual congressional appropriations process, constrained by the deficit, failed to fund most of the ISTEA programs in fiscal year 1993. In the case of the National Maglev Prototype Program, no money was provided. The National Maglev Initiative received only $4 million out of a requested $15 million in DOT funds and $2.8 million in Army Corps of Engineers funds.[42] However, the Federal Railroad Administration (FRA) did receive $6 million for continued high speed rail research and development, $3 million for high speed rail safety programs, and $5 million for the ISTEA Technology Demonstration Program.[43] The electrification of Amtrak's Northeast Corridor to increase speeds was fully funded. An additional $6 million was made available from the Highway Trust Fund for rail/highway grade crossing grants in five high speed rail corridors.[44]

High speed ground transportation advocates experienced some long-term gains, and a temporary setback, when Congress reached agreement on appropriations for the DOT in fiscal year 1994. The biggest victory was $225 million for Amtrak's Northeast Corridor improvement project.[45] In addition, $20 million in funding for magnetic levitation research was appropriated as authorized by ISTEA.[46] This represents the largest federal government investment ever in such technology. Congress also "authorized $5 million in loan guarantees that may be used for high speed steel wheel facilities or equipment and $3.5 million to develop the Chicago-St. Louis and Washington D.C.-Charlotte rail corridors."[47] There was also an effort to appropriate $95.2 million for corridor implementa-

39. *Id.*

40. Railroad Revitalization and Regulatory Reform Act, Pub. L. No. 94-210, 90 Stat. 33 (1976).

41. Connor, *supra* note 34, at 9.

42. *Id.*

43. *Id.*

44. *Id.*

45. *Congress Funds High-Speed Trains*, PR Newswire Association, Inc., Oct. 21, 1993, available in LEXIS, Legis Library, ALLNWS file.

46. *Id.*

47. *Id.*

tion under the Clinton Administration's High Speed Rail Development Act.[48] This request failed due to rules prohibiting appropriations for programs that have not yet been authorized by Congress.[49]

IV. The High Speed Rail Development Act of 1993

During the 1992 presidential campaign, candidates Bill Clinton and Al Gore promised a high speed rail network linking major cities with trains running up to 300 miles-per-hour.[50] The network would be financed partially from the "peace dividend" resulting from cutbacks in defense spending. It was hoped that greater focus on HSGT systems would add a new dimension to the nation's transportation infrastructure, as well as providing a mechanism for the defense industry to make a transition from manufacturing weapons to developing HSGT system components. Only a few months after the inauguration, on April 28, 1993, Secretary of Transportation Federico Pena introduced the Clinton Administration's proposal for a major new initiative in the advancement of high speed ground transportation.[51] In announcing the Administration's proposal, Secretary Pena outlined a strategy in which the federal government would work in partnership with state and local communities to build high speed rail corridors which would, creating jobs and spuring economic growth. Total proposed federal expenditures under the Clinton initiative during the ensuing five years would total $1.285 billion. In addi-

48. *Id.*

49. *Id.*

50. Don Phillips, *Two Trains Running: President's is on Slower Track*, The Houston Chronicle, April 28, 1993, at A4 (2 Star ed.).

51. The legislation was introduced in the Senate on April 28, 1993, by Senator Ernest F. Hollings (D-S.C.), Chairman of the Commerce, Science, and Transportation Committee. Co-sponsors included Sen. Jim Exon (D-Neb.) and Sen. Frank Lautenberg (D-N.J.). After being referred to the Commerce, Science, and Transportation Committee, it was given to the Subcommittee on Surface Transportation for hearings. The legislation was simultaneously introduced in the House of Representatives by Energy and Commerce Committee Chairman, John D. Dingell (D-Mich.) Its co-sponsors included Rep. Al Swift (D-Wash.), Chairman of the Energy and Commerce Committee's Transportation Subcommittee, Rep. Carlos Moorhead (R-Cal.), ranking minority member of the Energy and Commerce Committee, Re. Bob Carr (D-Mich.), Chairman of the House Appropriations Committee's Transportation and Related Agencies Subcommittee, Rep. Richard Durbin (D-Ill.), Rep. Lynn Schenck (D-Cal.), Rep. Maria Cantwell (D-Wash), Rep. Ron Wyden (D-Or.), Rep. Roy Rowland (D-Ga.), Rep. Thomas Foglietta (D-Pa.), Rep. Jolene Unsoeld (D-Wash.), Rep. Cardiss Collins (D-Ill.), Rep. Thomas Manton (D-N.Y.), and Rep. Fredrick Upton (R-Mich.). The bill was referred to the House Energy and Commerce Committee where an initial hearing was held, it was then given to the Subcommittee on Transportation and Hazardous Materials to conduct hearings. *See* Reed, Smith, Shaw and McClay, *Clinton Administration Announces High Speed Rail Initiative*, 3 On Track: High Speed Ground Transportation Update 1 (Spring 1993).

tion, the Clinton Administration hopes to leverage the federal funds invested in high speed rail to generate at least $2 billion in investment in high speed rail infrastructure from state, local, and private sources.[52]

The High Speed Rail Development Act of 1993 amended the Railroad Revitalization and Regulatory Reform Act of 1976[53] (the "4R Act"). The first section of the legislation identifies a number of benefits to high speed rail. It also places the leadership responsibility for the implementation of high speed rail service on state and local governments, and envisions private sector participation in the funding of meritorious projects.[54] While it recognizes that federal financial assistance is essential to the success of such projects, it restricts continuing federal subsidies for operation and maintenance expenses.[55] Section two of the Act amended the 4R Act by adding a new Title X creating a National High Speed Rail Assistance Program.[56] Title X establishes a financial assistance program to facilitate the implementation of high speed rail corridors in the United States. The objective of the National High Speed Rail Assistance Program is to aid state, local, and private sector efforts to improve intercity mobility through development of high speed rail in appropriate intercity corridors. The 4R Act is the source of the Secretary's additional authority to undertake capital investments in high speed rail infrastructure. Title V authorizes the Secretary to issue loan guarantees for rail capital improvements, including high speed rail.[57] Title VII authorizes the Secretary to undertake the Northeast Corridor Improvement Project.[58]

Section 1001 in the new Title X authorizes the Secretary to designate as high speed rail corridors those that serve two or more major metropolitan areas where the Secretary determines high speed rail offers the potential for cost effective intercity public transportation.[59] Eligibility for federal financial assistance is predicated on obtaining such designation by the Secretary. Such designation requires the submission of a petition by the state, or states, indicating that they meet certain objective criteria pertaining to effective planning, cost-effectiveness, environmental considera-

52. *Clinton's High-Speed Rail Plan in Need of Fine-tuning, Regulation*, ECONOMICS AND LAW (BNA) No. 97, at D-35 (May 21, 1993).

53. Railroad Revitalization and Regulatory Reform Act, *supra* note 35.

54. S. 839 and H.R. 1919, supra note 3, at § 1.

55. *Id.*

56. *Supra* note 3, at § 2.

57. *Supra* note 3, at § 3.

58. *Id.*

59. *Supra* note 3, at § 1001.

tions, and broad-based financial support. Six corridors,[60] already officially designated by the DOT as high speed rail corridors, will be automatically re-designated upon request to the Secretary.

Section 1002 requires the public agency responsible for the development of a designated corridor to develop a master plan for the corridor. The plan must identify a coordinated program of improvements to permit the establishment of high speed rail service in the corridor. This corridor master plan program is similar to the program required for the Northeast Corridor Improvement Project. The master plan will be the basis for identifying the elements of the corridor project that will receive federal funding under the program. The Secretary is authorized to enter into an agreement with the public agency preparing a corridor master plan to fund up to eighty percent of the eligible costs, providing that state and local governments fund at least twenty percent of such costs.[61]

Section 1003 of the Act outlines the objectives and framework for federal financial assistance to designated corridors.[62] Funding is not available to those corridors in which the state prohibits the use of state or local funds for the construction or operation of such a corridor. Requiring the active participation of state and local governments in the program is intended to ensure projects receiving assistance under the program become integral parts of state and local transportation systems and that these projects have substantial public support. The bill encourages states and localities to obtain as large a portion of the funds as possible from private sources before seeking federal funding. Federal funds available under the program can provide for up to eighty percent of the cost of specific eligible improvements on a project and for up to fifty percent of the "public share" of the cost of an approved element of a high speed program.[63] The "public share" is defined in the bill as the total cost of the infrastructure improvement, minus the maximum practicable private

60. These Corridors include: (1) Chicago to Milwaukee, St. Louis and Detroit; (2) Miami-Orlando-Tampa; (3) Washington, D.C.-Richmond-Raleigh-Charlotte; (4) San Diego-Los Angeles-Sacramento; (5) Eugene-Portland-Seattle-Vancouver; and (6) the Empire Corridor (New York-Albany-Buffalo). The Northeast Corridor is separately funded and will not be eligible for funding under this program (the bill includes a separate authorization of appropriations for continuation of the Northeast Corridor Improvement Project). The Administration is actively seeking additional regions wishing to be designated as corridors. REED, SMITH, SHAW, & MCCLAY, *Analysis of the High-Speed Rail Development Act of 1993*, 3 ON TRACK: HIGH SPEED GROUND TRANSPORTATION UPDATE 3 (Spring 1993).

61. High Speed Rail Development Act, *supra* note 3, at § 1002.

62. *Id.* at § 1003.

63. *Id.* The term 'state or local funds' means funds generally available to states or local governments to fund transportation projects excluding any payments of contributions to state and/or local governments or authorities from holders of a franchise or other private parties with an interest in the development operation of the high speed rail system. High Speed Rail Development Act, *supra* note 3, at § 1005.

share of the infrastructure costs. As mentioned earlier, federal assistance requires matching state and local funds. This section recognizes because high speed rail projects are expensive and available funds are limited, it is impossible to fund all eligible projects in any given year. This section also grants the Secretary discretion to make decisions on how to allocate resources among the eligible corridors, and improvements to ensure that maximum benefit is derived from the federal investment.

Section 1004 authorizes the Secretary of Transportation to undertake research, development, and demonstration of steel wheel on rail technologies that may facilitate the introduction of high speed rail service in the United States.[64] The Secretary is authorized under this section to enter into financial assistance agreements[65] with any United States private business, educational institution, state or local government, public authority or agency of the federal government.

V. Policy and Legislative Analysis

The Clinton Administration envisions the development of HSGT as a component of an integrated intercity transportation system that includes aviation and HSGT systems in complementary roles, each technology serving its appropriate market niche.[66] As part of this vision, HSGT systems would be fully integrated with intercity bus and intracity bus, rail, and transit systems. Diversions from short-haul air service would free scarce airport capacity, which could then be used for more profitable longer-haul service.[67] HSGT would also address highway congestion by diverting a portion of highway trips.[68] This would result in an improved environment and reduced dependence on fossil fuels.

Such policy objectives are widely supported by a large segment of the traveling public, as well as politicians who see HSGT as a mechanism for bringing jobs and economic development to their states. However, a number of forces shaping the high speed rail legislation today have little to do with the development of a coherent, long-term transportation pol-

64. High Speed Rail Development Act, *supra* note 3, at § 1004.

65. "The term 'financial assistance agreement' means various forms of arrangements to provide financial assistance, including grants, contracts or cooperative agreements." High Speed Rail Development Act, *supra* note 3, at § 1005.

66. *See Federal Railroad Administration's Funding for Amtrak, the Northeast Corridor, and President Clinton's new High-Speed Ground Transportation Program: Hearings on H.R. 1919 Before the Subcomm. on Transportation of the House Comm. on Appropriations*, 103d Cong., 1st Sess. (May 5, 1993) (statements of S. Mark Lindsey, Acting Administrator of the FRA) (Available from the Federal Railroad Administration).

67. *Id.* at 7.

68. *Id.* Surveys of passengers on Amtrak's existing service indicate that between 45 and 65 percent of intercity rail passengers would have used automobiles if the rail service had not been available.

icy. The primary force is the federal budget deficit, a major "stumbling block" to the implementation of HSGT systems in the United States.[69] High speed ground transportation infrastructure is costly, and costs increase as the design speed increases.[70] Funding for HSGT projects and programs has not met expectations; the 1993 and 1994 appropriations for HSGT system development under ISTEA were not funded as authorized. The Clinton Administration's "incremental approach" to HSGT, which builds on existing infrastructure and requires little or no acquisition of rights-of-way, is at least in part a recognition that levels of funding anticipated for HSGT infrastructure development during the campaign, are unlikely to be realized in this period of fiscal restraint.

Ultimately, the incremental approach may prove to be a politically desirable strategy for the Administration to pursue. In order to obtain the broad-based support needed in Congress to pass the High Speed Rail Development Act, the potential must exist for a broad spectrum of states to at least be eligible for funding. The incremental approach offers just such an allure. Although states may not be currently pursuing formal plans for HSGT systems, they do have existing railroads which could serve as the backbone for incremental upgrading. The legislation is written broadly enough to be attractive to legislators whose states lack such formal plans, yet provides the Secretary of Transportation with the necessary discretion to focus the funding once appropriated. This will allow the DOT to fund those projects that have the greatest potential for successful development and operation.

However, the same characteristics in the legislation that initially attracted strong bipartisan support in the House Energy and Commerce Committee have come under fire from the railroad unions and freight railroads which would provide most of the trackage under the incremental approach. The transportation unions, which believe the new routes could result in layoffs or wage cuts for workers on conventional rail and bus lines, want provisions included to protect them from such career-ending events.[71] Although the version of the bill that the House Energy and Commerce Committee reported on July 27, 1993 includes several provi-

69. *See* Abelardo L. Valdez, *Financing High Speed Rail; Meeting the Transportation Challenge of the '90s*, 18 TRANSP. L.J. 173, 177 (1990).

70. *See* High Speed Ground Transportation, Financing Issues: Hearings on S. 839 Before the Subcomm. on Transportation of the Senate Comm. on Appropriations, 103d Cong., 1st Sess. (1993) (statement of Kenneth M. Mead, Director, Transportation Issues, Government Accounting Office). According to a recent estimate, the capital loss of achieving high speed operations for a hypothetical 200 mile-long system ranges from $500 million for incremental improvements of existing tracks that could bring speeds up to 110 miles-per-hour to more than $12 billion for maglev systems that might allow speeds of more than 200 miles-per-hour. *Id.* at 3.

71. Jon Healy, *High-Speed Measure Slowed in Its Tracks*, CONGRESSIONAL QUARTERLY, July 31, 1993, at 2045.

sions to protect transportation workers, it does not go far enough to satisfy the unions, and goes too far for many Republicans who might otherwise support the bill.[72] Additionally, the freight railroads want shielding from lawsuits that might result from high speed rail accidents occurring on their trackage. Discussions concerning this liability are being pursued within the House Judiciary Committee, but no solution has been found.[73] A proposal which would place a cap on the liability of the freight railroads was recently submitted to Senator Ernest Hollings by the Association of American Railroads.[74] Such liability concerns are likely to be amplified as a result of the recent wreck of Amtrak's Sunset Limited.[75]

In addition to the concerns expressed by the transportation unions and the freight railroads, there is also fierce competition from other modes of transportation, both for the limited share of the federal funds and for the potential passengers or users of the particular mode of transportation. An example of this competition is the Partnership for Improved Air Travel, a lobbying effort supported by the large airline and aircraft companies to pursue additional public spending on airports and opposing proposed increases in airline ticket and fuel taxes.[76] The Chairman of Southwest Airlines, Herb Kellehar, the chief spokesperson for this group, is also a major opponent of HSGT.[77] Southwest Airlines bitterly opposes the construction of HSGT, especially the Texas high speed rail line that would provide service to a number of the cities that the airline currently serves.[78] The lobby places subtle, yet effective, pressure

72. *Id.*

73. *Id.*

74. Thomas C. White, *Railroads Propose Liability Limit for High-Speed Trains*, RAIL NEWS, Sept. 16, 1993, at 1. The cap would supersede state laws that prohibit full immunity for railroads. Such a cap was enacted by Congress in 1990 to address liability concerning the Virginia Railway Express commuter service, linking Washington, D.C. with its northern Virginia suburbs.

75. Don Phillips, *Alabama Tragedy is Latest on Amtrak's List of Woes; Budget Crunch May Lead to Cut in Routes*, THE WASHINGTON POST, Sept. 27, 1993, at A1 (final ed.). On September 22, 1993, Amtrak's Sunset Limited fell off of a weakened bridge and into an Alabama bayou, killing 47 passengers.

76. *See* VRANICH, *supra* note 7, at 293. HSGT proponents have also developed an industry group composed of such American technology titan s as Gruman Corp., Martin Marietta, General Motors, McDonnell Douglas, and Bechtel Corp., as well as many of Europe's largest technology companies, who are all interested in the development of U.S. high speed rail systems. These and a number of smaller companies and individuals have boosted membership of the High Speed Rail Association, an influential umbrella group based in Pittsburgh to well over 1200 members. O'Malley, *Rapid Rails*, POPULAR SCIENCE, June 1992, at 74.

77. *See* VRANICH, *supra* note 7, at 293.

78. *See* VRANICH, *supra* note 7, at 288.

on Congress not to subsidize HSGT at the expense of "self supporting" commercial aviation, conveniently overlooking the massive subsidies that the airlines enjoy.[79]

Compounding the problem that other modes of transportation must also compete for federal transportation dollars is the fact that the Clinton Administration legislation and the DOT place the responsibility for making important transportation financial resource allocation decisions on the state and local governments. Although it appears to be sound fiscal policy to ensure that adequate public and financial commitment exists for HSGT projects at the state and local levels before the federal government participates financially, a number of practical concerns need to be considered.

The state executive primarily responsible for the transportation function is typically more knowledgeable about highways, waterways, and airport planning and operation than with HSGT systems. Furthermore, at the local level, the metropolitan planning organizations, while vested with the authority to identify and plan for a jurisdiction's long-term transportation needs, are often forced to allocate limited federal and state funding to more immediate road and local public transit issues in order to meet the demands of the local citizenry.[80] Under such circumstances, it becomes increasingly difficult for these officials to make the long-term investment and take the risk to support HSGT development.

The legislation also contemplates that two or more states might cooperate in establishing a high speed rail corridor.[81] From a national transportation planning perspective and in order to achieve the efficiency and effectiveness objectives of intermodalism, it would seem almost imperative that such joint ventures be pursued. However, from a very practical perspective, such collaboration, if not presenting an inherent conflict of interest, may prove difficult to manage. Federal transportation funds are not allocated to all states in a uniform fashion. In addition, individual states often must fund some projects over others based on such factors as technical merit, necessity, and political considerations. Unlike the state coordination necessary to implement the interstate highway system, the

79. The federal government provides the following subsidies for the airline and aircraft industry: funds the FAA air traffic control system and personnel, reduces infrastructure and borrowing costs through the aviation trust fund, funds the Essential Air Services Program to allow flights to small towns, pays for FAA and NASA research which helps in designing jetliners, and trains thousands of military pilots who later shift employment to the private sector.

80. The increasing propensity of Congress to pass legislation which requires local government funds to implement such projects is financially strangling many cities, counties, and towns. Confronted with funding federally mandated programs, local governments must shift their discretionary spending which might otherwise be used for transportation projects. Senator Paul Coverdell (R-Ga.), *Give Local Governments a Break*, USA TODAY, Nov. 16, 1993, at 15A.

81. High Speed Rail Development Act, *supra* note 3, at § 1001.

requirements to implement a high speed rail corridor would demand joint investment in such things as rolling stock and a long term partnership for operations and maintenance. Conflicts might arise, for example, if one state were forced to forgo the full investment and associated economic development benefits of the construction of an international airport in order to participate with an adjoining state on a HSGT project. Combining such a multi-state venture with private sector participation would, out of necessity, require some sort of coordinating and management organization. This would most certainly add complexities to the implementation process, since the management organization would most likely fall within the regulatory jurisdiction of the Interstate Commerce Commission.

The private investment legislation envisions may also prove to be problematic. The long delay between project startup and return on investment makes it difficult to attract investment capital.[82] In addition, the United States lacks expertise and experience in the design, construction, and manufacturing of HSGT systems. This may make the "Buy America Requirements" of the Act[83] difficult to meet, or may potentially foreclose certain possibilities for foreign investment in such projects. In the final analysis, "private investors need to be convinced that high speed rail has a viable future in this country"[84] before they will aggressively participate in such a private-public partnership.

VI. Conclusion

Whether the Clinton Administration's high speed rail legislation is signed into law during the next session of Congress depends primarily on how successfully its proponents negotiate the interests of the transportation unions regarding job security. Also, consideration must be given to the concerns of the freight railroads regarding liability. However, how well this legislation will achieve the policy objectives it is designed to accomplish is quite another matter. While the High Speed Rail Development Act's $1.285 billion in funding would be the largest investment ever made in HSGT technology, there is no way to determine exactly how much federal funding is necessary for any given project to be successful.[85] For example, if the $1 billion estimated for corridor development is

82. *See* Valdez, *supra* note 69, at 178.

83. High Speed Rail Development Act, *supra* note 3, at § 1005.

84. Valdez, *supra* note 69, at 187.

85. High Speed Ground Transportation, Funds Need to be Focused Under Proposed Legislation: Hearings on S. 839 Before the Subcomm. on Surface Transportation of the Comm. on Commerce, Science, and Transportation, 103d Cong., 1st Sess. 8 (1993) (statement of Kenneth M. Mead, Director, Transportation Issues, Government Accounting Office) (available from GAO).

spread over as few as five projects, each would receive an average of only $40 million a year.[86] although allocating small amounts of federal funds to several projects could certainly facilitate limited incremental improvements in speed, it would be a long time before speeds of 125 miles-per-hour could be attained.[87] Obtaining truly high speeds would be virtually impossible at such funding levels.[88]

The funding obstacles which face HSGT confront all modes of transportation infrastructure in the United States. Since the early 1980s, the net public transportation investment by federal, state, and local governments has dropped considerably.[89] This has resulted in increased urban traffic congestion and has left roads, bridges, and airports in desperate need of improvement.[90] It is estimated that up to $3 trillion is needed for transportation investment in the next twenty years in order to bring our current transportation system up to par.[91] However, in today's budgetary environment, prospects for such spending increases are unlikely. This is unfortunate as the country's transportation network can have a significant impact on the country's overall economic productivity.[92]

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86. *Id.* An incremental improvement program designed to increase speeds on a 200-mile corridor using existing right-of-way could cost over $2 billion. Electrification alone could cost $400 million and the elimination of grade crossing hazards, $200 million. *Id.*

87. *Id.* The current status of the Northeast Corridor, where speeds of 125 miles-per-hour can be achieved in limited areas, is the result of 17 years of congressional appropriations averaging about $147 million every year. *Id.*

88. *See High Speed Ground Transportation, Strategic Approach Needed for Introduction of HSGT: Hearings on H.R. 1919 Before the Subcomm. on Transportation and Hazardous Materials, Comm. on Energy and Commerce*, 103d Cong., (1993) (statement of Kenneth M. Mead, Director, Transportation Issues, Government Accounting Office) (available from GAO). Building a TGV-type HSGT system designed to achieve speeds in excess of 200 miles-per-hour would cost approximately $3.5 billion for a 200-mile corridor. Construction of a maglev system capable of attaining speeds in excess of 250 miles-per-hour would cost as much as $12 billion dollars for a corridor of the same length. *Id.* at 11.

89. Norman Y. Mineta, *Getting from Here to There in the 1990s: Trains, Planes, and Automobiles*, TRIAL, Feb 1991, at 44 (Congressman Mineta (D-Cal.) chairs the House Subcommittee on Surface Transportation of the Public Works and Transportation Committee). In the 1960s and 1970s, investment averaged 2.3 percent of gross national product. In the 1980s, that average dropped to 0.4 percent, leaving the United States 55th in the world in infrastructure development. *Id.* at 46.

90. *See id.* According to the Federal Highway Administration, traffic congestion has increased nationally by 50 percent, half of the nation's bridges are deficient or functionally obsolete, and 60 percent of the roads are considered substandard. *Id.* at 46.

91. *Id.* at 46.

92. Mead & William-Bridgers, *The Intermodal Approach to Transportation*, G.A.O. JOURNAL, Spring 1991, at 9. David Aschauer, a professor of economics at Bates College in Lewiston, Maine, contends that there are direct links between spending on infrastructure and overall economic growth. David Aschauer, *The Third Deficit*, G.A.O. JOURNAL, Spring 1991, at 5. "Up to 50 percent of the decline in our long-term economic growth can be attributed to the falloff in infrastructure investment which occurred in the 1970s and '80s relative to the '50s and '60s." David C. Walters, *Repairing America: Investment in Roads, Bridges, and Ports Lays Foundation*

Policymakers may avert this apparent impasse if they are willing to make some fundamental changes in the way they formulate the nation's transportation policy.[93] Currently, when analyses are conducted to determine needs for highways, mass transit, and airways, the DOT prepares each separately. Such an approach precludes consideration of comprehensive strategies to meet the transportation needs of the states in the most cost-effective manner. To achieve this result would require interagency cooperation in planning, funding, and policymaking.[94] This lack of coordination not only prevents the federal government from producing the necessary leadership to achieve comprehensive intermodal projects but also presents obstacles to state and local governments hoping to plan and fund such projects.[95]

Another complicating factor is the distribution of transportation modes among the various congressional committees.[96] National transportation policy is formulated by five different committees and an even greater number of subcommittees in Congress. Such jurisdictional fragmentation is further exacerbated by the variety of financing mechanisms currently used to fund transportation programs.[97] In addition to Congress, the Executive Branch can also play a role in frustrating the transportation planning and funding process.[98] As was evinced by the ISTEA legislation, the President's budget does not always contain sufficient appropriations to fund all projects and programs authorized.

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for Economic Revival, CHRISTIAN SCIENCE MONITOR, Sept. 28, 1992, at 9. Historically, transportation investment has had a tremendous impact on economic growth and productivity improvement. *Id.* at 12.

93. Mead & Williams-Bridgers, *supra* note 92, at 9.

94. *Id.* at 10. The DOT must coordinate the policies and practices of the Federal Aviation Administration, Federal Highway Administration, Federal Transit Administration, and Federal Railroad Administration.

95. *Id.*

96. *Id.* at 12. In the House, the Public Works and Transportation Committee has jurisdiction over both mass transit and highways, whereas in the Senate, mass transit issues are handled by the Banking, Housing, and Urban Affairs Committee and oversight of highways is exercised by the Senate Environment and Public Works Committee. Similarly, jurisdiction over passenger rail in the House is split between the Public Works and Transportation Committee and the Committee on Energy and Commerce. *Id.*

97. *Id.* Congress funds each transportation mode in a different way — through trust funds, contract authority, borrowing authority, and loan guarantees, as well as through regular authorizations and appropriations from general revenue. *Id.*

98. Mineta, *supra* note 89, at 45. Currently there is a substantial surplus in the highway trust fund, which is funded from a combination of user fees and taxes on gasoline that can only be used for transportation projects chosen by Congress and the Office of Management and Budget. There has been a recent reluctance to not allocate these funds, as a surplus gives an appearance the national budget deficit is not as high as it otherwise would be. *Id.*

Once these impediments to intermodal decision-making at the federal level are removed, the federal government should adopt a greater leadership role, and in conjunction with the states, develop an integrated transportation plan.[99] While state and local officials are in the best position to determine and implement effective solutions to their transportation needs, a national perspective and greater expertise are essential to make cost-effective planning decisions. Based on such a plan, in the near term, a single HSGT project should be chosen for implementation. The project should incorporate the latest in technology and not be constrained by the use of existing infrastructure. Under such conditions, the private sector is more likely to take the necessary financial risks to make the HSGT vision a reality in the United States. Only within this context is it likely that HSGT systems will become a future component of America's transportation network.

99. Mead & Williams-Bridgers, *supra* note 92, at 14.