**Comments on Preliminary National Rail Plan**
**June 17, 2010**

America 2050 is pleased to offer comments on the Federal Railroad Administration (FRA)'s preliminary National Rail Plan and recommendations for the long-range National Rail Plan due to Congress in October 2010. Such a plan is needed to establish U.S. policy for passenger and freight rail investment and provide clarity to states and regions about the federal government's role in passenger and freight rail investment.

America 2050 is a national planning initiative to develop an infrastructure and growth strategy for the United States in anticipation of 40 percent population growth by the year 2050. It is housed at the nation's oldest independent planning organization, Regional Plan Association in New York City. America 2050 launched a research program on high-speed rail in 2009 to provide input and help shape the federal government's new high-speed intercity passenger rail (HSIPR) program. In September 2009, we released the report "Where High-Speed Rail Works Best," which discussed factors contributing to ridership demand for high-speed rail. The paper argued that the federal government should focus preliminary ARRA grants in corridors with the greatest passenger demand for high-speed rail service.

Moving forward, our research will continue to focus on success factors in developing high-speed rail systems and strategies for developing a national intercity passenger network. To that end, we offer the following recommendations for the long-term National Rail Plan, focused primarily on the elements of success for passenger rail.

1. The Role of the Plan

The National Rail Plan provides an opportunity to clarify where and why high-speed/ intercity rail investment is needed or can provide benefits. The preliminary rail plan has already specified appropriate national goals for passenger rail investment, such as: to increase national system performance through improved rail performance; to improve safety; to improve fuel efficiency; to foster livable communities; and to increase economic competitiveness. In addition, the plan should aim to:

- Clarify the federal government's interest in investing in high-speed/ intercity passenger rail.
- Set expectations about where in the United States high-speed/intercity passenger rail can work and what levels of population density and employment concentrations are needed to support the different categories of "HSR Express," "HSR Regional" and "HSR Emerging."

- Map priority corridors for the above categories, based on an analysis of ridership demand.
- Specify goals for high-speed rail at the national level and potential benefits/goals to be realized at the regional and local levels.
- Provide a clear path for regions wishing to invest in high-speed/intercity passenger rail and how they can position their regions for federal investment.

As the HSIPR program transitions from a stimulus program born with ARRA funding to a long term investment program, a central challenge will be distinguishing where it is a federal priority to invest in HSR Express and where it is more appropriate to invest in incremental upgrades to existing rail corridors (HSR Regional and HSR Emerging). The National Rail Plan must balance creating high-speed, high volume, service connecting the most populous and congested megaregions with upgrading rail service incrementally to serve smaller metropolitan regions and bring them into the national network. One way to approach this challenge is to evaluate on a corridor-by-corridor basis where passenger rail service can compete with air and auto modes, based on trip time, frequency, and reliability.

The geographic breadth of project selection of the first round of federal distribution under the HSIPR program in January 2010 clearly indicates the intent to make this a truly national program and balance the priorities between new and incremental rail service. For this approach to be successful over the long term, however, future investments must be guided by a plan that assesses the potential for each corridor across the country, how these corridors fit into a national network, and how the funding will be phased to achieve the optimal build out of the network. We think this plan should be accompanied by a map indicating corridors most suited for HSR Express, HSR Regional, and HSR Emerging, – now, and at intervals into the future – based on federal research, state rail plans, and input received from regions. We feel the most important criterion for determining these different levels of service and federal investment is projected ridership demand.

## 2. Factors Contributing to Ridership Demand

The National Rail Plan should provide guidance about where high-speed/passenger rail has the best chance for success based on regional factors contributing to ridership demand, such as population size, density, employment concentrations, transit connections, intercity travel markets and personal income. As these data sets are publicly available in national databases, an analysis of these criteria by proposed corridor can indicate which corridors nationwide are most suited for high-speed rail investment based on current conditions. America 2050 has begun this analysis and provides a summary of our findings below, including a table with the data. This analysis can contribute to the prioritization of national investments as HSR Express, Regional, and Emerging Corridors, driven primarily by current and projected ridership demand.

However while data describing the land use, population density, and the transit ridership of regions is nationally available; good data on intercity travel is not. The FRA could provide a major contribution to intercity passenger rail planning by investing in research to document intercity travel trends by automobile, bus travel, and aviation. Today, the majority of intercity trips take place by auto, yet there is no national data source documenting intercity auto trips, undermining ridership projections for passenger rail and the ability of regions to plan adequately for these systems.

Broadly speaking, the ability to attract riders is the most critical factor in evaluating the success of passenger rail investment, and strong ridership demand is a prerequisite for investment in HSR Express. All the potential benefits of passenger rail, including gains in energy efficiency, economic productivity, greenhouse gas emission reductions, station area development, are all dependent on maximizing ridership. If ridership does not materialize, the benefits fall away.

With this in mind, we propose that the following regional characteristics are most important in evaluating baseline demand for passenger rail investments. Establishing ridership-based thresholds that achieve these objectives, similar to those that RPA has done for urban transit systems in its landmark book, Urban Rail in America (1982), can be the model for this.[1]

In addition to these endogenous regional characteristics detailed below, the level of service provided will have a major impact on attracting and retaining ridership. Factors such as trip time, frequency, reliability, and integration with other transportation networks, will help determine not only mode shift but also induced demand for the passenger rail service.

**a. Population and Employment Measures**

First, the total population of the metropolitan area is the most basic driver of intercity rail ridership. Larger regions have larger populations on which to draw for intercity rail ridership. Second, how that population is distributed around the region is an equally important measure, which can make a great difference in whether people are likely to use rail services or not. The more people that live or work at higher densities near the core of a region, the more of these intercity trips will be taken by rail. Since rail has the ability to bring people directly into city centers, densely populated center cities are more attractive as origins and destination. Third, large centers of employment, such as central business districts, contribute to rail ridership, particularly because business travel is likely to generate a large portion of the ridership.

Suggested federal investment criteria:

1. Size of Metropolitan area

[1] Boris Pushkarev and Jeff Zupan. (1982) Urban Rail in America: Exploration of Criteria for Fixed Guideway Transit Systems. Indiana University Press.

2. Number of people living within 2, 10, 25 miles rings around the rail station.
3. Number of people working within 2, 10, and 25 mile rings around the rail station.

**b. Transit**

Local and regional transit systems are critical to intercity ridership for two reasons. First, the primary competitive advantage of intercity rail over air travel is its ability to bring passengers directly into the city center. This is only an advantage, however, to the extent that the city center is a destination and navigable by foot or transit. In the case that the destination is not the central business district, local and regional transit networks can distribute passengers to their final destinations throughout the metropolitan area. Without access to transit systems, intercity passengers are dependant on autos to begin or end their trip, significantly decreasing the competitive advantage of rail travel.

The National Rail Plan should prioritize regions that show a commitment to building local and regional transit connecting to intercity rail stations. In the absence of existing rail transit, regions must show a strong commitment to building public transit systems and focusing commercial and residential development around them, appropriate to the unique land use and transportation characteristics of their region.

Suggested federal investment criteria:

1) Existence and extent of rapid rail, light rail, bus rapid transit and/or commuter rail systems.
2) *In the absence of existing rail transit,* a commitment to planning and financing transit systems in the context of an integrated regional transportation and land use plan that will leverage federal investments in intercity rail.

**c. Existing Intercity Travel Markets/ Congestion**

Existing intercity travel in a corridor is a good indication of demand for intercity passenger rail. As good data on intercity air and auto travel is incomplete or lacking entirely, the FRA should attempt to strengthen data on intercity travel markets by funding new research programs to collect data on intercity travel by air, roads, and rails. This data will be of vital importance to projecting demand for intercity rail investments.

In the absence of origin and destination (O&D) data on intercity travel, congestion in airports and on interstate highways corridors can act as a proxy for data on existing intercity travel, though congestion on highways will be caused in large part by points in between, not necessarily served by high-speed rail.

Federal funding should prioritize projects in corridors that suffer from significant congestion on the current transportation network or show significant existing intercity travel markets. While congestion and capacity constraints on all modes should be a critical input to designate federal priority corridors; however, congestion on existing rail corridors in particular should be prioritized. Other countries that have pursued grade separated, HSR Express systems have done so only after the existing rail network is at capacity.

Suggested federal investment criteria:

- Existing intercity travel markets as measured by: intercity rail passengers, short haul flights, intercity bus travel, intercity auto travel.
- Congestion on existing rail corridors due to conflicts with intercity, commuter, and/or freight services.

**d. Personal Income**

Studies show that as personal incomes rise, so does travel, whether for business or leisure. Therefore, measures of personal income can indicate a greater demand for intercity travel. Measures of a region's economic productivity, measured by regional GDP per capita, may also be useful criteria to measure demand for intercity travel.

Suggested federal investment criteria:

- Personal income per capita
- GDP per capita

3. Other Investment Criteria for High-Speed/ Intercity Rail

We strongly believe that estimates of ridership, drawn from analysis of the factors described above, should be the primary driver of investment in high-speed and intercity passenger rail. However, we understand that planning a national network demands consideration of needs beyond the regions immediately best suited for high-speed rail. For example, if the Interstate Highway System had been built only in regions where travel demand was greatest, it would not have generated the same level of connectivity and economic benefits for the entire nation.

As indicted by the selection criteria in the first round of ARRA grants, the FRA is already looking at a broader set of criteria than simply ridership demand. They included factors such as project readiness, engineering, agency capacity, matching funding, environmental regulatory review, and proposed governance structure and partnerships. We would add the following criteria also for consideration:

- Local and regional land use plans along the length of the corridor that leverage high-speed rail investment by allowing increased density at high-speed and regional transportation hubs.
- Connections to other modes of transportation, as reflected in long range regional transportation plans, such as to regional rail, local rail transit, airports, etc.
- State and locally-generated revenue sources to match federal funding for capital and operating costs.
- Commitment to expand local and regional transit networks linking to high-speed rail stations.
- Identification of goals and outcomes for leveraging federal high-speed rail investment at the megaregion, state, regional, and local levels.

4. Data on Ridership Criteria

America 2050 has analyzed existing and proposed rail corridors in the United States against the criteria outlined above. We have provided a spreadsheet with this data for your benefit, included in Appendix A.