Rethinking Mega-Region Air Travel
A Surprising Use for High-Speed Rail

What if there were a way to significantly reduce delays occurring at our most congested airports—the kinds of delays that cost air travelers nationwide more than $3 billion annually and our economy more than $40 billion? What if we could meet the growing demand for air travel—and meet the demand with ease—while creating jobs and strengthening our nation’s ability to compete globally?

We can. An ambitious task such as this can be accomplished using a completely fresh approach to integrating the various modes of transportation in the United States—in particular, rethinking how we might connect air and rail in a new and surprising way.

This task can be achieved with some remarkable benefits:

• Greater air passenger satisfaction, with more predictable air travel and fewer delays
• Economic growth
• New revenue-generating opportunities for airlines and others
• Increased environmentally friendly passenger travel
• New permanent jobs.

Reducing air traffic congestion is imperative. One of the few bright sides of the recession is that it has tamped down air travel, temporarily holding off a crisis in delays and congestion that could put a chokehold on the economies of our major cities and our nation. As we recover from the recession, however, that future will be upon us. Air traffic already is increasing, and the Federal Aviation Administration (FAA) predicts that the number of passengers flying on U.S. carriers will break the 1-billion mark in 10 years—a nearly 40-percent increase over numbers today.

Chicago’s O’Hare International Airport, currently handling more than 800,000 flights annually, offers a glimpse of what the future might hold for our nation’s busiest airports. O’Hare already is so congested that one out of every five flights at O’Hare is now delayed an average of an hour. Yet, there is pent-up demand for even more flights. If they could, airlines would add many more flights to various destinations. But they cannot because additional delays that would result from oversaturation would be cost prohibitive. Consequently, airlines voluntarily limit their numbers of flights in and out of O’Hare.

A New Approach
Imagine if congested airports such as O’Hare were connected directly by high-speed train to one or more regional airports. Such a train—for example, one connecting O’Hare with Milwaukee’s Mitchell International Airport—would be accessed after passengers passed through the security checkpoint.

Think of this approach as the equivalent of today’s tram systems that many airports use to connect various terminals. This “tram” would take passengers to terminals in another city—usually in about the same time it takes passengers to get through airport security checkpoints.

Seven airports account for 80 percent of all flight delays nationwide

• O’Hare International
• John F. Kennedy International
• Los Angeles International
• San Francisco International
• Newark Liberty International
• Hartsfield-Jackson Atlanta International
• Philadelphia International

Source: International Air Transport Association 2010
time as a jet flight or even less. Now, consider the possibilities that would arise from this airport-to-airport high-speed connection.

As with numerous other major airports, a majority of travelers to O’Hare are actually on their way to somewhere else—it’s a major hub for connections to final destinations. Of the more than 1,100 daily arrivals at O’Hare, about half are small regional jets, each carrying roughly 50 passengers destined to change planes and head elsewhere.

If an airport-to-airport high-speed express train were in place, the bulk of these small regional jet arrivals—say, 300—could be scheduled into Milwaukee, rather than Chicago. In such a scenario, the 15,000 arriving passengers would deplane, take a 35-minute high-speed train trip to O’Hare, and then proceed to their connecting flights, all without having to pass through security again. On the return trip, the reverse would occur. Airline connection schedules would be adjusted to accommodate this model (see Exhibit 1).

In many cases, the high-speed train trip between airports would take no longer than a typical flight, often less. In the Milwaukee-O’Hare example, the train trip would take about 35 minutes compared with the average hour-long flight. Considering that one out of

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**Exhibit 1 | Airport-To-Airport High-Speed Express Train**

Smaller jets currently flying to Chicago’s O’Hare International Airport would land instead at Milwaukee’s Mitchell International Airport. Passengers would deplane and, still behind security, take the high-speed train to a gate at O’Hare, where they would proceed to their connecting flights.

Source: Booz Allen Hamilton
every five flights to O’Hare is delayed for an average of an hour, the difference in times could be even more substantial.

Perhaps even more important, there would be relatively little chance of a train delay; therefore, passengers would be far more confident that they could make their connecting flights. For example, instead of the inconvenience of taking an excessively early regional flight into O’Hare to cover the risk of a missed connection, passengers from other cities could take a later flight to Mitchell and be confident that the train to O’Hare would get them there on time.

The result: A happier customer.

Similar scenarios could play out in the pairing of other congested major airports with airports in their mega-region (e.g., Philadelphia with Allentown or Harrisburg, Miami with Ft. Lauderdale or West Palm Beach, or San Francisco with San Jose).

Customers are not the only winners. Airport-to-airport high-speed rail would open up new revenue opportunities for airlines. In our O’Hare example (see Exhibit 2), consider that we have now freed up 300 arrival and departure spaces at the airport that small regional jets had used previously. Airlines could take advantage of

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**Exhibit 2 | Additional Passengers Accommodated at Chicago O’Hare International**

At a mega-region hub such as O’Hare, a one-for-one replacement of small regional jet operations with higher yield, larger aircraft would increase passenger throughput with no new net operations.

Source: Booz Allen Hamilton
those open spaces with 300 higher revenue-generating flights, such as wide-body jets carrying 200 or more passengers headed to high-demand destinations. Therefore, instead of moving 15,000 passengers in and out of O’Hare on those 300 regional jets, airlines could now move 60,000 passengers on the same number of larger planes—an increase of 45,000 passengers per day. This effort would be achieved without using a single additional arrival and departure space—no new net flight operations at O’Hare.

**Economic Growth and Environmental Gains**

Following along with our scenario, the increased passenger flow through O’Hare would mean additional revenue and jobs at shops, restaurants, and other concessionaires filling the massive complex. Similarly, a large influx of passengers would occur at Mitchell International when people would fly into that airport on regional jets from other cities before taking the high-speed train to O’Hare. Mitchell would likely expand its infrastructure, creating new, permanent jobs for workers in the terminals and on the tarmac servicing aircraft.

Auto emissions also would be cut. Rather than driving, passengers would take the high-speed train to the major hub airport. Today, many people from the Milwaukee area drive directly to O’Hare instead of flying there from Mitchell, choosing to drive to avoid the risk of missing a connecting flight. Private long-term parking companies near O’Hare estimate that at least 20 to 40 percent of their customers are from Wisconsin.

Such figures are not surprising; the Milwaukee area alone has 1.75 million people. If an airport-to-airport high-speed rail connection were available, many Milwaukee-area passengers would find it more convenient to take the train from Mitchell. They could avoid a lengthy, possibly congested drive, and would have the added incentive of going through potentially shorter lines at airport security at Mitchell rather than at O’Hare. The large number of cars taken off the road would have a positive environmental impact. According to a recent study conducted for the International Union of Railways, the carbon footprint of high-speed rail can be up to 14 times less intensive, per passenger, than car travel.

**Integrated Transportation = Regaining Our Nation’s Competitive Edge**

Limiting congestion and delays is one of the great aviation challenges of our time. The FAA has responded with a multi-year, multi-billion-dollar transformation of the nation’s air transportation system, known as NextGen. NextGen shifts air travel from radar to satellite-based navigation, from voice to data communications, and from traditional airways to far more efficient routes. High-speed rail between airports works hand-in-hand with NextGen by supporting the gains in air-traffic capacity and efficiency, which are central goals of the program.

Airport-to-airport high-speed rail also is an example of how we might revitalize our entire transportation system, an imperative if our nation is to maintain its prosperity and remain globally competitive. A recent report by the Building America’s Future Educational Fund, a bipartisan coalition of elected officials—led by former California Governor Arnold Schwarzenegger, former Pennsylvania Governor Edward Rendell, and New York Mayor Michael Bloomberg—declared that America’s transportation system is “environmentally, politically, and economically unsustainable.”

“In the last decade,” states the report, “our global economic competitors have led the way in planning and building the transportation networks of the 21st century.” Meanwhile, America has failed to move forward, leaving “every mode of transportation in the United States—highways and railroads, airports and seaports—stuck in the last century and ill equipped for the demands of a churning global economy.” The report also states, “Unless we make significant changes in our course and direction, the foreign competition will pass us by, and a real opportunity to restore America’s economic strength will be lost.”

A major reason that America’s transportation system is falling so far behind is that our various modes of
transportation are only loosely connected. Although that might not have been an issue through much of the last century, it is now putting our nation at a serious disadvantage. To compete globally, a nation’s transportation system must function as an organic whole, greater than the sum of its parts. The key is to identify new and powerful ways to integrate the various modes of transportation. Countries in Europe and elsewhere are far ahead of us in this regard. However, we can catch up…and even move ahead.

Airport-to-airport high-speed rail does more than revolutionize mega-region air travel; it provides a template for the kind of innovative thinking that must be applied to our entire transportation system.

Using the Megacommunity to Make It All Work

Integrating our transportation system through initiatives such as the one presented here requires a collective vision and commitment. Stakeholder communities are wired to pursue their own self-interests, and while this is perhaps as it should be, it has made it difficult for us to think about how we might achieve consensus regarding such a common purpose.


The idea of a mega- or larger community is critical; it is an expansive and a self-sustaining network that links people with the right resources in the right place at the right time. Perhaps the most powerful aspect of the megacommunity is that it does not discourage self-interest—it actually promotes it. Stakeholders are brought together based on their overlapping vital interests, and they can pursue those interests, to their benefit, without worrying about giving up their identities or betraying their core constituencies.

With a megacommunity approach, airport-to-airport high-speed rail can become a reality. A megacommunity brings together entities that often do not collaborate and sometimes are even competitive—for example, aviation and rail communities, airlines, major and regional airports, civic groups from various cities, and disparate government agencies.

In the United States, even the notion of high-speed rail between cities has yet to gain traction, partly because of the belief that rail cannot pay for itself through ridership revenues; however, high-speed express rail between airports lends itself to a more robust business case. It brings in non-traditional rail stakeholders, from airline passengers to airlines to airport authorities—all of whom would benefit from the rail line.

Traditional stakeholders would also benefit. The airport-to-airport high-speed rail track could serve a dual use for other applications—other high-speed trains could be interspersed with the airport-to-airport express trains. For example if spur rail lines exist, or were built, connecting the airport with the downtown area, then one could envision a dual use of the high-speed track that would benefit city-to-city travelers as well.

Such a dual-use airport-to-airport line brings in additional motivated stakeholders and enlarges the megacommunity even further. Each stakeholder group might have its own self-serving reasons for supporting an airport-to-airport line, but that would not matter. Their collective vision and commitment would turn a powerful idea into reality. In essence, the airport-to-airport connection is an added dimension, with added stakeholders, that can make the business case for high-speed rail.

It Can Be Done

There is no doubt that building airport-to-airport high-speed rail—and any integrated transportation infrastructure—is a complex undertaking, requiring stable financing, new business models, policy frameworks, legislation and a host of other elements. But it is well within our nation’s ability to achieve. As
noted in the 2011 *The American Interest* magazine article, “Re-Imagining Infrastructure,” the United States has the talent, engineering capacity, construction know-how, and processes and experience to complete major new intermodal projects of all types. Indeed, the irony is that much of the best transportation infrastructure now being developed around the world is based on American invention and technology.

We also have the money to build major transportation projects, even in these difficult economic times. The surprising new revenue sources that would arise through intermodal projects could help unleash private capital, and take advantage of a wide range of financing mechanisms.

America has a history of doing big transportation infrastructure projects, and doing them well—for example, the Erie Canal in the 1800s, which opened up the Midwest to development; the vast interstate highway system in the 1950s, and the modern Washington-area Metro rapid-transit system, which continues to expand today.

Our next challenge is to build new transportation projects as fully integrated systems, in which the various modes work in concert to achieve a new level of mobility—and competitiveness—for the United States for decades to come. As with the example of airport-to-airport high-speed rail, we need an approach that essentially sees two or more types of transportation as a single mode.

This wider vision must inform the planning, design, and implementation of America’s transportation projects. And it must be made a national priority, one that is actively promoted at the highest levels of government. Now is the time to bring together all the stakeholders—from business, government and civil society—in a special commission or similar body that will drive the vision, develop objectives and approaches, and define the measures of success.

Only then will we realize the full benefits for each stakeholder group, while simultaneously achieving the national benefit. We can integrate our nation’s transportation system. And we must do this, without delay, if our nation is to remain prosperous. The first step is to reimagine what is possible.
About the Author

Fred Messina is a Vice President in the Transportation business, with a focus on aviation infrastructure. He is responsible for driving the creation and application of critical service offerings for clients in the Department of Transportation and especially the Federal Aviation Administration. Mr. Messina is currently working with government and industry stakeholders on the transformation of the US national air transportation system, NextGen.

In 2009, Mr. Messina received recognition for his leadership on a government task force representing more than 100 stakeholder organizations and 300 aviation professionals. This nearly year-long task force resulted in the redefinition of the future of aviation in the United States. Mr. Messina also orchestrated the Harvard Executive Session “Assuring NextGen Success,” which brought together senior executives from across civil aviation. He co-authored the resulting publication, Assuring the Transition to the Next Generation Air Transportation System, which received high acclaim nationwide and in the international aviation communities. He has appeared as a guest speaker or panel moderator at numerous national conferences and technical symposia. He also has been interviewed on WTOP’s Federal News Radio.

Mr. Messina has more than 26 years of experience in corporate leadership and growth, mission-critical program management, and technology leadership for complex systems of national importance. Before joining Booz Allen Hamilton, he held numerous officer and leadership positions in large and small aerospace concerns. Mr. Messina holds bachelor’s and master’s degrees in Mathematics, as well as an M.B.A.

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