An Economic Analysis of All Aboard Florida[†]

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Executive Summary of Key Findings

All Aboard Florida (AAF) proposes building a 220-mile line connecting the Miami area with Orlando via long-distance train. This study analyzes the market for this mode of transportation, as compared with alternative travel options, to project fares and annual ridership. It then takes these projections to assess the overall economic feasibility of the project. Finally, the report studies the size and efficiency of the taxpayer subsidy for All Aboard Florida through the issuance of tax-exempt Private Activity Bonds. The primary conclusions of this report are as follows:

- **All Aboard Florida will generate an average ticket price of $34 and attract between 1.5 and 2 million riders.**
  Train fares are limited for business travelers by the relatively cheap airfare for the one-hour flight between Miami and Orlando, as well as the fact that – unlike other long-distance trains – All Aboard Florida will arrive at the Orlando airport rather than downtown, which is more advantageous to passengers. Fares for personal travelers will be limited by the relative ease of car travel. Train ridership will also be limited by high levels of urban sprawl and the lack of connecting public transit.

- **All Aboard Florida will generate annual losses of more than $100 million and will be unable to service its large debt burden.**
  Under optimistic projections, this report projects annual revenues of $95.8 million, operating costs of $81.5 million, and debt-service costs of $125 million, for annual losses of $110.7 million. AAF has no way to pay the resulting annual deficit, except perhaps by non-train-related business such as real estate profits.

- **All Aboard Florida would have to charge $273 per train ticket one-way, even under unrealistically optimistic assumptions, in order to service its debt.**
  The revenue required to service its debt is more than twice as large as actual projected revenues. The implied fare of $273 required to raise this revenue – even holding ridership constant – would be $145 more expensive than airfare on the Miami to Orlando route. But of course ridership would fall drastically at such high prices.

- **All Aboard Florida will benefit from between $50 and $73 million of annual taxpayer subsidies.**
  All Aboard Florida plans to issue $1.75 billion of Private Activity Bonds, which are tax-exempt bonds similar to municipal bonds. The foregone tax revenue is an inefficient taxpayer subsidy of $37-$60 million for a private enterprise. AAF will also benefit from another $13 million of annual subsidies from the State of Florida and local governments in the form of state-funded station in Orlando and safety upgrades and maintenance along the rail line.

I. Transportation Market Analysis in Southern Florida

All Abroad Florida (AAF) proposes to build a 220-mile train line connecting Miami, Fort Lauderdale, West Palm Beach, and Orlando. This section analyzes the market for long-distance rail in Southern Florida to estimate the projected fare for each route and the projected annual ridership.

A. Analysis of AAF Ticket Prices

The market for AAF's long-distance rail service will contain different types of consumers: business travelers, who have a high value of time and less cost sensitivity, and personal or leisure travelers, who have low values of time and higher cost sensitivity. For business travelers, air travel is the main transportation mode that will compete with AAF's long-distance train. (Other modes of travel either take significantly longer (6 hours for Amtrak's current passenger rail service, or 5 hours by bus) or require the traveler to drive (4 hours) so the traveler cannot read or work.) In contrast, for personal and leisure travelers car travel will compete with AAF's train service. I now analyze the exact costs of each mode of travel and for each traveler separately in order to project likely fares.

Business Travelers

Business travelers choose between rail and airplane. Most obviously, air travel will remain faster; a direct flight from Miami International Airport to Orlando International Airport takes one hour, in comparison with a projected time of just over three hours for AAF's rail line.[1] This difference exaggerates the time savings from air travel, however, since travelers must arrive at the airport significantly earlier in order to get through security and board. I assume this process takes an additional hour. In total, after arriving at the departure station or airport, the train will take one extra hour to reach the destination in Orlando.

Air travel and long-distance rail also differ in the time and expense it takes to reach the departure terminal. For most travelers, Miami Airport is further than the downtown location of the AAF train station. But the high degree of urban sprawl of both homes and businesses in the Miami area implies that most passengers will not be leaving from Downtown Miami on their journey, and so most will also have to travel significantly to reach the train station. Some will take a taxi to the departure terminal, in which case the cost of transport scales with distance; others will drive, in which case the costs are a combination of the time spent commuting and the cost of parking. The benefit of the more remote location of the airport is cheaper parking for those who drive. To capture these costs, I assume that passengers, on average, travel 15 minutes further to reach the airport than the train station, but that parking costs at least an additional $4 at the centrally-located train stations.

In order to combine the monetary and time costs of each mode of travel, we must make an assumption on the value of time (VOT) used by travelers when choosing between different options. I follow the most recent recommended hourly value for travel time

[1] Note that both air travel and the AAF rail line will bring passengers to Orlando Airport, and so the modes of travel are equivalent from the perspective of traveling within the Orlando area. This aspect of travel is therefore omitted from this analysis.

savings from the U.S. Department of Transportation's analysis, which is $57.20 for business travelers.[2] This implies that the average traveler values the 45 minutes saved through air travel at $42.90. Including the higher cost of parking at the train station increases this benefit to $46.90.

This analysis suggests that the average passenger is willing to pay $46.90 extra for air travel relative to the proposed AAF rail line. Average one-way tickets from Miami to Orlando cost $127.50.[3] Therefore, the market should be able to support one-way AAF train fares between Miami and Orlando of roughly $81.

Leisure and Personal Travelers

Leisure and personal travelers choose between train and car. In order to better define the costs of each, I analyze a hypothetical trip from Miami to Disneyworld Resort. The direct car trip is 227 miles, which I assume would take 4 hours. The train would take 3 hours from station to station, plus an additional 15 minutes to reach the station in Miami and an additional 30 minutes to reach Disneyworld from Orlando Airport (the site of the Orlando AAF station).[4] Therefore, the train trip would save just 15 minutes relative to the car trip. The U.S. Department of Transportation recommends a value of time of $16.70 for intercity personal auto travel, so the extra 15 minutes is worth just $4, which is just enough to offset the assumed $4 parking fee at the train station.

The only other cost of car travel is the use of the car itself; AAA estimated in 2014 that the cost of driving each additional mile is $0.19, including gas, maintenance, and tires, for a total of $43 for the entire one-way trip. Thus, personal travelers who drive by themselves will pay up to $43 for a train ticket. This number is lower for families who travel in larger groups; a similar analysis that accounts for the cost of time for each traveler but allows parties to share other costs suggests that families of 4 will pay just $19 per person for a train ticket. I take the average of $31 between these figures for the single projected ticket price for personal and leisure travelers.[5]

Estimated Fares for Other Station Pairs

Based on theoretical AAF fares of $81 and $31 between Miami and Orlando for business and personal travelers, respectively, I assume a constant per-mile train fare to project fares for a one-way ticket to Orlando from Fort Lauderdale and West Palm Beach. For business travelers, the fares would be of $71 and $56, respectively; for personal travelers it would be $27 and $22.[6] For business travelers between Miami and West Palm Beach, I

[2] Table 3, DOT "Departmental Guidance for the Valuation of Travel Time in Economic Analysis, Revision 2," September 28, 2011.
[3] Data analysis from www.farereport.com, based on Office of Aviation Analysis data from the U.S. Department of Transportation.
[4] I assume no cost other than time between Orlando Airport and Disneyworld due to the prevalence of free shuttles.
[5] An alternative interpretation of this analysis is that, at higher fares, AAF will fail to attract many personal travelers, and especially those traveling in large groups. In this case, fares would be higher and ridership lower, so revenue would be roughly similar to the case I present below.
[6] Throughout this analysis, I assume that AAF can charge distinct fares to business and personal travelers. In practice this separation is not exact, but one can do quite a bit through differential pricing across departure times and other price discrimination.

then take AAF's own projections of a $24 fare.[7] I assume a $18 fare from Miami to Fort Lauderdale and Fort Lauderdale to West Palm Beach. Relative to my market-based projections for the Orlando routes, the AAF projections are slightly higher fares-per-mile, though the gradient is roughly similar to that seen in Amtrak fares between shorter and longer routes. These fares are clearly too high to attract personal travelers, so I reduce them by 33% to $16 and $12, respectively. Table 1 presents the full set of fares. The average one-way fare is $30.50, based on population-weighted ridership shares between city-pairs and assuming that half of riders are business riders and half are personal riders.[8]

Table 1: Projected Fare Prices

Average Fare: $30.50		**Arrival Station**			
		Miami	Fort Lauderdale	West Palm Beach	Orlando
		Panel A: Business Travelers			
Departure Station	Miami		$18	$24	$81
	Fort Lauderdale	$18		$18	$71
	West Palm Beach	$24	$18		$56
	Orlando	$81	$71	$56	
		Panel B: Leisure and Personal Travelers			
Departure Station	Miami		$12	$16	$31
	Fort Lauderdale	$12		$12	$27
	West Palm Beach	$16	$12		$22
	Orlando	$31	$27	$22	

B. Analysis of AAF Ridership

To assess potential ridership for All Aboard Florida's services, it is useful to first benchmark against other markets for long-distance trains. In the United States, the most successful long-distance passenger rail line is Amtrak's *Northeast Corridor*, which runs from Boston to Washington D.C. and links together four major combined metropolitan areas with a total population of 48 million.[9] These cities are not just large but also well-connected internally, so that long-distance trains link with other modes of public transportation. Across all four cities, more than 20% of workers use public transportation in any given week to commute to work.[10] Even Philadelphia, which has the lowest public transportation usage across these cities at 9.3%, still ranks 7th in the country; New

[7] AAF Bond Prospectus, as reported by Treasure Coast Palm: http://www.tcpalm.com/franchise/shaping-our-future/our-roads/exclusive-all-aboard-florida-document-has

[8] Throughout this analysis, I assume a relationship high share of personal travelers combined with a relative low price (from the analysis in Section I.A). AAF might instead achieve similar revenue by raising prices on personal travelers, which would lower their share.

[9] U.S. Census, 2013 Estimates by Combined Metropolitan Statistical Area.

[10] U.S. Census, "Public Transportation Usage Among U.S. Workers" October 2010.

York of course comes on top by far with 30.5% usage. Amtrak maintains 13 stations along this route for the highest-speed *Acela* service, as well as a number of additional stations served by its *Northeast Regional* service. With all of these advantages, in FY2014 Amtrak ridership on this route grew to 11.6 million, its highest ridership ever.[11]

All Aboard Florida proposes to link two combined metropolitan areas with total population of 9.4 million people. Just scaling ridership for the *Northeast Corridor* down to account for population would predict 2.27 million riders annually along the entire route. This clear overestimate is still considerably smaller than AAF's projection of 3.47 million passengers once fully operational.[12] Clearly these AAF projections do not line up with the experience of long-distance rail in the United States.

There are a number of other factors that drive any reasonable prediction below this basic estimate. First, AAF's route would include just four stops; as compared with the *Northeast Corridor*, AAF simply generates fewer routes to attract riders. Second, Orlando and Miami do not have nearly the existing local public transit links to connect AAF stations to other destinations. The combined public transit usage among workers in Miami and Orlando is just 3%. This lack of public transit links is compounded by the fact that the Orlando station is not in the city center but instead at the airport.

Finally, businesses and individuals are located far more diffusely around the city centers in Miami and Orlando, as compared with the relatively compact cities along the *Northeast Corridor*. For example, U.S. Census records show that 40% of the population of cities along the *Northeast Corridor* live within 10 miles of the city center (where the train stations are located), as compared with just 23% in Miami.[13] Similarly, cities along the *Northeast Corridor* have 27% of jobs located within 3 miles of the central business district, as compared with just 21% of jobs in Miami and Orlando. This situation is also not improving; over the past decade, Orlando has had one of the fastest growing "outer rings," with the share of jobs outside 10 miles from the city center increasing by 7 percentage points from 38% to 45%.[14]

Put simply, even after accounting for their size, Miami and Orlando are not cities with characteristics in which passenger trains can thrive. Taking this into account, a reasonable forecast would have somewhere between 1.5 and 2 million AAF riders annually; I conduct the rest of this analysis using both of these figures as alternative scenarios, with 2 million as the optimistic case and 1.5 million as the realistic case.

I then assume that that these riders are distributed along the line proportionally with population – that is, if Fort Lauderdale has 50% higher population than West Palm Beach, then there will be 50% more riders embarking at Fort Lauderdale for each destination than at West Palm Beach. The route-specific ridership shares appear below in Table 2; my assumptions imply symmetry between departure-destination pairs. Roughly 60% of the ridership is between the three cities in the Greater Miami area; the remaining 40% of journeys connect the Miami area with Orlando.

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[11] "Amtrak Ridership and Revenues Continue Strong Growth in FY2014," October 27, 2014. http://www.amtrak.com/ccurl/238/481/Amtrak-FY2014-Ridership-and-Revenue-ATK-14-096%20.pdf

[12] AAF Draft Environmental Impact Statement, p. 3-47.

[13] U.S., Census, Distance Profiles for U.S. MSA in 2000 and 2010.

[14] Brookings Institute Report, "Job Sprawl Stalls," April 2013.

Table 2: Projected AAF Ridership

		Arrivals (thousands)			
		Miami	Fort Lauderdale	West Palm Beach	Orlando
		Panel A: Optimistic Case (2 million)			
Departure (thousands)	Miami		262.8	189.8	189.8
	Fort Lauderdale	262.8		131.4	131.4
	West Palm Beach	189.8	131.4		94.9
	Orlando	189.8	131.4	94.9	
		Panel B: Realistic Case (1.5 million)			
Departure (thousands)	Miami		197.1	142.3	142.3
	Fort Lauderdale	197.1		98.5	98.5
	West Palm Beach	142.3	98.5		71.2
	Orlando	142.3	98.5	71.2	

II. Economic Feasibility of All Aboard Florida

The previous section estimated that AAF could charge an average up to $81 while remaining competitive for business with currently available modes of transportation between Miami and Orlando, most importantly air travel. Including shorter routes within the Greater Miami area, the average fare price would be $30.50. This section assesses the economic feasibility of All Aboard Florida as a private company given these market opportunities.

Importantly, this analysis will consider only the revenues and costs associated with the construction and operation of the rail line from Miami to Orlando, and not the associated commercial opportunities such as office space rental or commercial property development around stations. It may be that there are profitable opportunities for real estate development in urban centers in Southern Florida; however those opportunities are not clearly related to the operation of a train line. Put differently, one could invest in real estate development completely independent of a train line; thus, we must be careful to not build the case for the profitability of a rail line based on such a side project.

This analysis will also strictly focus on the financial condition of AAF and will not analyze any impacts of AAF on surrounding communities. For instance, this analysis will not consider any potential costs to surrounding communities from the increase in rail traffic, nor to the coastal waterways from either environmental damage or waterway restrictions. This analysis will also not consider any claimed regional economic benefits.

A. Revenue Estimates

I build revenue projections from tickets sold by combining the fare projections from Section I.A and the ridership projections from Section I.B. Multiplying projected

ridership by projected ticket prices for each route yields projected "farebox" revenue of $61.0 million annually under the optimistic ridership scenario, and $45.7 million annually under the realistic scenario.

AAF will also generate revenue from ancillary sources such as advertising or sponsorship.[15] AAF projects these revenues at $21 million for the Miami-WPB section of the line. In order to present an optimistic case for AAF, I accept the AAF forecasts for the Miami area and then I assume that these revenues scale with ridership to account for additional ancillary revenues from routes to and from Orlando. Section I.B projects that ridership within the Miami area accounts for 60% of total ridership; therefore I assume that the additional line to Orlando would increase these revenues by 66%, from $21 to $34.2 million.

Putting these two sources of revenue together yields $95.2 million annual revenue for the full line under the optimistic scenario, and $80.0 million under the realistic scenario.

B. Operating Costs

Operating costs include fuel, labor, rolling stock maintenance, and any other expense that AAF will incur in the course of running the train line. In order to estimate operating costs, I extrapolate from AAF's own estimates contained in various documents. Once at full operating capacity in 2018, AAF projects annual operating expenses of $30.3 million for 16 round-trip train trips (and 5 physical trains) on the Miami-WPB segment (66.5 miles). The full route from Miami-Orlando will also have 16 round-trips (and 10 physical trains), covering 220 miles.

For most expenses, including on-train labor, fuel, maintenance of equipment and maintenance of way, it is most appropriate to scale by the total miles traveled. These expenses are expected to total $19.0 million for the Miami area alone, and so I project they will increase to $62.7 billion for the full line. Certain other expenses, such as off-train labor, will scale by a smaller percentage; as with ancillary revenues in the previous section, I assume that these other expenses scale with ridership and so increase by 66% when moving to the full line.[16] These expenses increase from $11.4 million to $18.9 million. Putting these numbers together, I project annual operating costs of $81.5 million for the full line.

C. Capital Costs

The operating costs discussed in Section II.B do not yet include the very large expenses of acquiring the land, constructing the line, and acquiring rolling stock. AAF plans to raise $1.75 billion in Private Activity Bonds (PABs) under authority from the Department of Transportation. AAF's application for the PABs suggested that total start-up costs would include an additional $1.4 billion, for a total of $3.1 billion in capital to fund construction, land acquisition, rolling stock purchases, and other expenses. I assume that

[15] Ibid. Footnote 7.

[16] Starting with AAF's 2013 cost projection for 2017, I assume that 25% of labor costs are on-train and 75% of labor costs are off-train. I assume that 50% of Other Expenses are on-train and 50% off-train. All other operating expenses are on-train.

50% of the additional funds are raised via equity. The total debt will then be roughly $2.5 billion.

The cost of this capital depends on the interest rate demanded by the market to finance the bonds. In June 2014, AAF raised $405 million in bonds at a 12% coupon rate. As I discuss below, this is equivalent to roughly a rate of 9.5% once factoring in the government tax subsidy for the Private Activity Bonds. Furthermore, some of the debt will be secured on rolling stock or other assets and will require a lower interest rate.

I make the optimistic assumption that AAF will be able to achieve a weighted average cost of capital for debt of 5%. I also assume no dividend or other service costs of equity. This implies annual capital costs of at least $125 million. If interest rates rise above this optimistic benchmark – for instance due to the recent downgrade of AAF's parent company Fortress Investment Group – then costs would increase. For instance, a weighted average cost of capital of 8% would generate $200 million in annual debt service. Cost overruns in construction that require additional borrowing would also increase capital costs.[17]

D. Overall Feasibility

Table 3 puts together the numbers from the previous three sections, under each scenario. Under the optimistic scenario, AAF will generate $95.8 million in annual revenue, face $81.5 million in annual operating costs, plus $125 million in interest costs for tax-exempt bonds and other debt. Total annual losses will be $110.7 million. Under the realistic scenario, losses will be even larger at $125.9 million. In either case, AAF has annual losses that are greater than annual revenues – put another way, one could arbitrarily double revenue projects and still not project that AAF would be able to pay off its debt. This problem will become even worse if AAF were to experience delays in the construction process than would require more years of debt service before generating revenue.

Table 3: Project AAF Annual Profits

(in millions of dollars)	Optimistic Scenario	Realistic Scenario
Revenue	$95.8	$80.6
Operating Cost	$81.5	$81.5
Annualized Capital Costs	$125.0	$125.0
Annual Profits	**($110.7)**	**($125.9)**

[17] For example, the Draft Environmental Impact Statement responses included significant evidence that the planned line will utilize 80 year old railroad bridges. If these antiquated facilities need to be replaced or upgraded in order to obtain EIS and Coast Guard approval, it would add significantly to construction costs.

Another way to look at this financing problem is to ask the question: how much would AAF need to charge in order to break even? After accounting for ancillary revenue sources, this analysis shows that AAF would need to raise $171.7 million in ticket revenue, more than a tripling of the revenue projection in the optimistic scenario. Even holding ridership constant, this would imply charging $273 for a one-way ticket from Miami to Orlando, about $145 *more* than the average airline fare on this route. But of course ridership would in fact plummet at such high prices, necessitating even higher fares. Although it is difficult to project exactly how such a negative feedback loop would end, it is likely that there exists no fare structure with which AAF could generate revenue merely to cover its operating and capital expenses.

This forecast's pessimism on AAF's ability to service its debt is shared by the bond market. In June 2014, AAF sold $405 million of five-year bonds at 12%; this high interest rate is striking given the historically low spreads that characterized the high-yield debt market during that period. Data from the St. Louis Federal Reserve Bank measured the average US high-yield bond option-adjusted spread over treasuries at just 3.5 percentage points in June 2014, lower than at other point since 2007.

A similarly negative assessment may also underlie the U.S. Department of Transportation's decision to offer AAF support for Private Activity Bonds rather than accept their initial application for a loan through the Railroad Rehabilitation and Improvement Financing (RRIF) program. This program offers subsidized direct loans for the development of railroad infrastructure but require the payment of a Credit Risk Premium that is assessed as a percentage of the total loan amount and varies by the overall risk of each transaction based on repayment and other non-payment risk.[18] Although these calculations are not public, the analysis in this report suggests that this Credit Risk Premium may have been extremely high.

III. Government Subsidies for All Aboard Florida

The previous section has demonstrated the serious problems that AAF will face in generating enough operating profit to cover the very high cost of servicing its debt. This situation is remarkable because these numbers already account for the benefit to AAF from millions of dollars in annual subsidies from taxpayers across the country as a result of AAF's Private Activity Bond (PAB) issuance and other subsidies; in total, AAF will receive $50 to $73 million of subsidies annually. This section details the nature of this subsidy and analyzes the economic efficiency of this policy.

A. Taxpayer Costs for AAF's Private Activity Bond

AAF intends to finance itself in large part through issuing $1.75 billion of PABs, which are a form of taxpayer-subsidized finance, in that – similar to municipal bonds – taxpayers need not pay taxes on interest that they receive for holding the bond.

[18] RRIF Program Fact Sheet, US DOT, September 2014, available at http://www.fra.dot.gov/Elib/Document/3092

The tax-exempt status generates a significant subsidy for borrowers, as well as significant costs for taxpayers. Table 3 demonstrates these subsidies in the case of AAF. Column 1 gives the baseline case, in which a firm borrows $1.75 billion of corporate bonds that are not tax exempt. For the purposes of this example, I assume optimistically that the bonds would carry a 7.5% coupon. Note that at higher interest rates – such as the 12% coupon rate on the private bond notes previously issued by AAF on July 1, 2014 – these numbers would be correspondingly larger.

Paying 7.5%, AAF would pay $131 million in interest each year, on which bond holders would owe approximately $37 million in taxes (assuming an average tax rate of 28%).[19] Investors would receive net interest payments of $94.5 million.

Table 4: Consequences of Tax-Exempt Bond Issuance

	Corporate Bond	Private Activity Bond
Principal	$1,750	$1,750
Interest Rate	7.5%	5.9%
Annual Interest Cost	$131	$104
Annual Taxes on Interest	$36.8	-
Investor Proceeds	$94.5	$104

Notes: All dollar figures are in millions of dollars.

Now consider the effects if AAF raised the same amount of money through a tax-exempt Private Activity Bond. Because investors pay no tax on interest received, AAF need not offer the full 7.5% coupon; in fact, research suggests that coupon rates fall by 21% on equivalent tax-exempt bonds.[20] In this case, the rate falls from 7.5% to 5.9%, and interest costs for the firm fall to $104 million, all of which investors keep.[21]

Comparing the two methods of finance, tax-exempt bonds represent roughly a $37 million annual subsidy for the project, of which roughly 75% accrues to AAF itself and 25% accrues to investors. If AAF were to pay a tax-exempt equivalent to the 12% coupon rate on its PABs, the tax-payer subsidy would rise to $60 million per year.

[19] 28% is at the mid-point of estimates of the federal tax cost of tax-exempt bonds. "Treasury Analysis of Build America Bonds Issuance and Savings," May 16, 2011, U.S. Treasury.
[20] "Subsidizing Infrastructure Investment with Tax-Preferred Bonds," CBO/JCT, October 2009.
[21] The coupon rate for the PABs is above the 5% weighted average cost of capital because some of the debt not issued through PABs will be secured against the rolling stock. In contrast the PABs are unsecured.

B. Economic Inefficiency of Tax-Exempt Bonds

PABs attempt to replicate the benefits of tax-exempt finance for borrowers other than state or local governments undertaking projects of public interest. In some cases, these private enterprises are very similar to public enterprises that would be eligible for municipal bonds; for example, American Airlines issued $1.3 billion in PABs to finance construction of a new airport terminal at Kennedy Airport that was owned by the City of New York. In such cases, the existence of PABs makes economic sense.

In the case of a publicly owned project such as the Kennedy Airport terminal, there is a strong economic rationale behind PABs. Various fundamental factors might make it more efficient for either the City of New York (the owner) or American (the builder and tenant) to issue the bonds; because of the existence of PABs, either party can issue essentially equivalent bonds, so the decision of how to organize the project can be made based on economic merits rather than tax optimization. If PABs were not an option, and only municipal bonds received a tax preference, then there would have been a large incentive for the City of New York to issue the bonds, even if that was not the most efficient financing arrangement based on the underlying economics. Taxes would thus have distorted the structure of the project, leading to inefficiency. Other examples of such efficient uses of PABs include non-profit hospitals and many public-private infrastructure partnerships.

But in other cases, however, PABs are used to finance entirely private enterprises with far fewer broad public benefits. In the extreme, PABs have been used to finance golf courses, professional sports stadiums, and industrial parks, all privately owned but where backers route the financing through a public-private development corporation in order to qualify. The amount of PABs devoted to these types of activities are limited by annual volume caps issued to states and other governmental bodies, but within those caps there is generally wide latitude in the choice of projects. Other pools of PABs also exist at the federal level, such as that requested by AAF from the Department of Transportation.

In these entirely private projects, the existence of PABs instead distorts the allocation of resources and reduces economic efficiency. This is because projects now compete for funds in part based on access to tax subsidies rather than on underlying economic merits. For instance, consider the use of PABs to finance a golf course. The relevant alternative is not the issuance of tax-exempt municipal bonds by a government, but rather the issuance of standard corporate bonds by a private company. But this private issuance is disadvantaged by the lack of a tax subsidy.

As an entity that is entirely privately owned, All Aboard Florida represents an inefficient use of tax-exempt bonds. These subsidies distort the allocation of capital towards this project and away from others that are potentially more efficient yet lack tax subsidies. The subsidies also reward the operating company and bondholders. The subsidies are not likely to lower ticket prices substantially, since ticket prices will be set based on the market for transportation in Southern Florida, and so consumers are unlikely to benefit substantially from the government subsidy (relative to unsubsidized private financing).

C. Other Government Subsidies

In addition to the large annual subsidy from the use of PABs, AAF will receive a number of other taxpayer subsidies from state and local sources.

The State of Florida and the Federal Aviation Administration (FAA) are paying for the construction of an intermodal facility at Orlando International Airport, at the cost of $214 million. AAF will use this subsidized facility as the Orlando terminal for their service, saving them the costs of station construction. The State of Florida is also paying an initial subsidy to local governments along AAF's route for safety upgrades of $10 million. [22] Amortized at a 5% interest rate, the annual value of these subsidies is $11.2 million.

Another source of subsidies comes from counties along the AAF route, which will be required by Florida law to pay for the improvement and maintenance of road crossings as AAF converts the existing freight line to handle passenger rail service. The exact value of these subsidies is somewhat more difficult to calculate, but an estimate from Brevard County suggests that these costs are $300,000-$400,000 for just the crossings in that county (in which AAF trains will not stop at all). Scaling up for the entire rail line puts these subsidies at roughly $2 million annually.[23]

[22] "Setting the Record Straight," Florida DOT Release June 8, 2014.
[23] Brevard County includes 55 at-grade crossings out of a total of 342 (AFF DEIS p. 4-15).

About the Author

John N. Friedman is an Associate Professor of Economics, International Affairs, and Public Policy at Brown University. His research brings together theory and data, harnessing the power of large administrative datasets to yield policy-relevant insights on a wide range of policy areas. His work has appeared in top academic journals as well as in major media outlets, and his findings have played a key role in policy development at both federal and state levels. His work was cited by President Obama in his 2012 State of the Union Address. Prof. Friedman worked as Special Assistant to the President for Economic Policy at the National Economic Council in the White House from 2013-2014. He holds a Ph.D. in Economics, an A.M. in Statistics, and a B.A. in Economics, all from Harvard University.