



IMPACT OF ALTERNATE PUBLIC TRANSIT AND RAIL INVESTMENT SCENARIOS ON THE LABOR MARKET

BY ETHAN POLLACK AND REBECCA THIESS

Transportation investments represent an opportunity for Congress to kick the economy into a higher gear by creating millions of well-paying jobs while simultaneously boosting the condition and performance of our nation's transportation system. The Federal Transit Administration (FTA) recently released a report estimating the total capital investment backlog for the nation's transit systems (FTA 2010b). This FTA report led us to look at the effect on jobs—particularly in the manufacturing sector—of two scenarios for public transit and rail funding: the first scenario addresses the backlog, while the second expands the system to meet future needs. This analysis builds on our recent reports on the effects of temporary transportation stimulus and full reauthorization of transportation law with varying funding priorities (Bivens and Pollack 2010; Pollack 2010).

Findings

Transit Backlog Scenario

- An annual investment of \$27.3 billion over six years into public transit capital would support 15,554 direct and indirect jobs for each billion dollars of transportation investment (or 2.5 million jobs from the entire proposal). Of those jobs, this funding scenario would generate 403,961 direct and indirect jobs specifically in the manufacturing sector (Pollack 2010). It should also be noted that this does not represent the full job impact of such investments, as it does not include jobs created from the re-spending of new employees' incomes back into the economy.
- Overall, this type of transit investment supports jobs targeted toward the lower and middle parts of the wage distribution, which have been hit the hardest by this recession. Over half of the jobs would go to those with a high school education or less. Yet these jobs are well-paying, with only 15% falling in the bottom wage quintile, and over two-thirds falling in the middle three quintiles. This funding scenario also supports a higher share of unionized jobs (50% more than the overall economy), which often translates into higher benefits and greater job security.

Transportation Manufacturing Action Plan (TMAP) Scenario

- Investing \$30 billion into public transit capital and \$10 billion into intercity/high-speed rail annually for six years would support 15,524 direct and indirect jobs for each billion dollars invested (or 3.7 million jobs for the entire proposal). Of those jobs, this funding scenario would generate 605,352 direct and indirect jobs specifically in manufacturing.
- Like the “transit backlog” scenario above, the TMAP transportation investment would support jobs targeted toward the middle class, with over half of the jobs going to workers with a high school education or less, and provide jobs with wages mainly in the middle of the wage distribution. This proposal would also create a similarly high share of unionized jobs.

Funding Scenarios

Transit Backlog Scenario

The first scenario addresses the transit backlog referenced in a recent report by the Federal Transit Administration (FTA). According to its analysis, fully 29% of all transit assets are in poor or marginal condition (FTA 2010a). To bring these systems into a state of good repair, the FTA estimates that an annual investment of \$27.3 billion is needed over six years, for a total of \$163.8 billion (FTA 2010b). The first set of jobs estimates model the employment impacts of the six-year public transit capital investment needed to attain a state of good repair.

Transportation Manufacturing Action Plan (TMAP) Scenario

The second scenario is proposed in the Apollo Alliance’s Transportation Manufacturing Action Plan (TMAP). This proposal goes even further, estimating the employment supported through expanded federal investment to not only achieve a state of good repair, but also to expand public transit service and build out a national intercity and high-speed rail system.¹ The report estimates the job impact of an annual investment of \$30 billion into public transit infrastructure and \$10 billion into intercity and high-speed rail over six years, for a total of \$180 billion in public transit capital and \$60 billion in high-speed rail.

Methodology

For a discussion of the methodology, please see Pollack (2010).

TABLE 1

Direct and indirect jobs supported through the \$163.8 billion transit backlog scenario

<i>Job characteristics</i>	Direct	Indirect	Total	Direct	Indirect	Total	Overall economy
				<i>(% of total)</i>			
Totals	1,486,493	1,061,228	2,547,721	58%	42%	100%	
Gender							
<i>Male</i>	1,221,318	674,903	1,896,221	82%	64%	74%	60%
<i>Female</i>	265,175	383,939	649,115	18	36	26	40
Race							
<i>White</i>	932,110	692,088	1,624,198	63%	65%	64%	67%
<i>Black</i>	177,112	149,322	326,434	12	14	13	11
<i>Hispanic</i>	329,599	155,612	485,211	22	15	19	15
<i>Asian</i>	23,177	44,560	67,737	2	4	3	4
<i>Other</i>	24,494	17,261	41,755	2	2	2	2
Union status							
<i>Covered</i>	327,020	140,509	467,530	22%	13%	18%	12%
<i>Non-covered</i>	1,159,473	918,333	2,077,806	78	87	82	88
Education							
<i>Less than high school</i>	296,637	120,823	417,460	20%	11%	16%	11%
<i>High school only</i>	612,447	371,961	984,408	41	35	39	31
<i>Some college</i>	402,207	305,602	707,809	27	29	28	30
<i>BA or greater</i>	175,202	260,457	435,659	12	25	17	28
Wage quintiles							
<i>First (lowest)</i>	196,299	194,466	390,764	13%	18%	15%	19%
<i>Second</i>	356,755	222,120	578,875	24	21	23	21
<i>Third</i>	370,892	229,497	600,389	25	22	24	20
<i>Fourth</i>	329,821	217,049	546,870	22	20	21	20
<i>Fifth (highest)</i>	232,727	195,711	428,437	16	18	17	20

SOURCE: Author's analysis of BLS and Census data.

TABLE 2

Direct and indirect jobs supported through the \$240 billion TMAP scenario

<i>Job characteristics</i>	Direct	Indirect	Total	Direct	Indirect	Total	Overall economy
				<i>(% of total)</i>			
Totals	2,214,557	1,511,108	3,725,665	59%	41%	100%	
Gender							
<i>Male</i>	1,863,550	962,560	2,826,110	84%	64%	76%	60%
<i>Female</i>	351,007	545,167	896,174	16	36	24	40
Race							
<i>White</i>	1,407,554	1,001,854	2,409,408	64%	66%	65%	67%
<i>Black</i>	227,447	198,687	426,134	10	13	11	11
<i>Hispanic</i>	510,060	220,035	730,096	23	15	20	15
<i>Asian</i>	32,605	62,530	95,135	1	4	3	4
<i>Other</i>	36,891	24,621	61,511	2	2	2	2
Union status							
<i>Covered</i>	451,099	183,216	634,316	20.4%	12.2%	17.0%	12%
<i>Non-covered</i>	1,763,459	1,324,510	3,087,969	80	88	83	88
Education							
<i>Less than high school</i>	461,413	172,570	633,983	21%	11%	17%	11%
<i>High school only</i>	908,608	524,077	1,432,685	41	35	38	31
<i>Some college</i>	588,125	434,821	1,022,946	27	29	27	30
<i>BA or greater</i>	256,411	376,259	632,670	12	25	17	28
Wage quintiles							
<i>First (lowest)</i>	285,357	277,383	562,740	12.9%	18%	15%	19%
<i>Second</i>	529,616	313,755	843,372	24	21	23	21
<i>Third</i>	550,464	324,456	874,921	25	22	24	20
<i>Fourth</i>	493,696	309,147	802,843	22	21	22	20
<i>Fifth (highest)</i>	355,424	282,985	638,409	16	19	17	20

SOURCE: Author's analysis of BLS and Census data.

TABLE 3

Industry and occupational breakdown of direct and indirect jobs from transit backlog scenario

Broad Industries/Occupations	Direct	Indirect	Total	Industry breakouts	Indirect		Total
					Direct	(thousands)	
Broad industries				Industry breakouts			
<i>Natural resources and mining</i>	0	19,132	19,132	<i>Truck transportation</i>	0	21,480	21,480
<i>Construction</i>	937,387	3,613	941,000	<i>Rail transportation</i>	0	3,896	3,896
<i>Manufacturing – total</i>	180,183	223,778	403,961	Transit			
<i>Wholesale trade</i>	0	68,529	68,529	<i>Transit and ground</i>	368,923	2,002	370,925
<i>Retail trade</i>	0	83,378	83,378	<i>Local govt. transit</i>	0	207,316	207,316
<i>Information</i>	0	34,775	34,775	Warehousing	0	3,447	3,447
<i>Financial activities</i>	0	48,804	48,804	Construction	937,387	3,613	941,000
<i>Professional and business services</i>	0	139,045	139,045	Manufacturing			
<i>Education services</i>	0	1,171	1,171	<i>Cement and concrete</i>	0	15,488	15,488
<i>Leisure and hospitality</i>	0	43,398	43,398	<i>Iron and steel mills</i>	0	3,614	3,614
<i>Other services</i>	0	100,158	100,158	<i>Steel product</i>	0	2,193	2,193
<i>Utilities</i>	0	4,393	4,393	<i>Aluminum</i>	0	1,181	1,181
<i>Transportation and warehousing</i>	368,923	52,612	421,535	<i>Nonferrous metal</i>	0	1,548	1,548
<i>Government – total</i>	0	215,628	215,628	<i>Industrial machinery</i>	0	400	400
Broad occupations				<i>Metalworking machinery</i>	0	1,445	1,445
<i>Management, business, and finance</i>	145,663	150,044	295,707	<i>Engine, turbine, and power transmission</i>	0	959	959
<i>Professional</i>	42,946	124,559	167,506	<i>Motor vehicle</i>	0	684	684
<i>Service</i>	39,237	80,945	120,182	<i>Motor vehicle body and trailer</i>	0	1,503	1,503
<i>Sales & related</i>	18,797	101,169	119,966	<i>Motor vehicle parts</i>	0	9,594	9,594
<i>Office & admin. support</i>	102,628	152,628	255,256	<i>Railroad rolling stock</i>	180,183	111	180,294
<i>Farm, fish, forest</i>	465	6,586	7,052	<i>Other transportation</i>	0	85	85
<i>Construction & extraction</i>	660,988	25,077	686,065	Ports			
<i>Install, maintain, & repair</i>	91,626	54,607	146,233	<i>Water transportation</i>	0	26	26
<i>Production</i>	99,942	131,151	231,093	<i>Support activities for transportation</i>	0	5,463	5,463
<i>Transport</i>	284,199	232,076	516,275				

SOURCE: Author's analysis of BLS and Census data.

TABLE 4

Industry and occupational breakdown of direct and indirect jobs from TMAP

Broad Industries/Occupations	Direct	Indirect	Total	Industry breakouts	Indirect		Total
					Direct	(thousands)	
Broad industries				Industry breakouts			
<i>Natural resources and mining</i>	0	29,723	29,723	<i>Truck transportation</i>	0	32,952	32,952
<i>Construction</i>	1,545,143	4,344	1,549,486	<i>Rail transportation</i>	0	6,105	6,105
<i>Manufacturing – total</i>	264,005	341,348	605,352	<i>Transit</i>			
<i>Wholesale trade</i>	0	101,763	101,763	<i>Transit and ground</i>	405,410	3,235	408,645
<i>Retail trade</i>	0	134,691	134,691	<i>Local govt. transit</i>	0	228,396	228,396
<i>Information</i>	0	51,325	51,325	<i>Warehousing</i>	0	5,076	5,076
<i>Financial activities</i>	0	70,917	70,917	<i>Construction</i>	1,545,143	4,344	1,549,486
<i>Professional and business services</i>	0	205,874	205,874	<i>Manufacturing</i>			
<i>Education services</i>	0	1,851	1,851	<i>Cement and concrete</i>	0	25,217	25,217
<i>Leisure and hospitality</i>	0	65,639	65,639	<i>Iron and steel mills</i>	0	5,457	5,457
<i>Other services</i>	0	146,087	146,087	<i>Steel product</i>	0	3,315	3,315
<i>Utilities</i>	0	6,386	6,386	<i>Aluminum</i>	0	1,801	1,801
<i>Transportation and warehousing</i>	405,410	78,757	484,167	<i>Nonferrous metal</i>	0	2,302	2,302
<i>Government – total</i>	0	240,179	240,179	<i>Industrial machinery</i>	0	601	601
Broad occupations				<i>Metalworking machinery</i>	0	2,119	2,119
<i>Management, business, and finance</i>	221,596	217,456	439,052	<i>Engine, turbine, and power transmission</i>	0	1,272	1,272
<i>Professional</i>	63,712	185,281	248,993	<i>Motor vehicle</i>	0	1,005	1,005
<i>Service</i>	47,155	115,570	162,725	<i>Motor vehicle body and trailer</i>	0	2,199	2,199
<i>Sales & related</i>	27,687	154,188	181,875	<i>Motor vehicle parts</i>	0	12,559	12,559
<i>Office & admin. support</i>	150,514	220,716	371,230	<i>Railroad rolling stock</i>	264,005	146	264,150
<i>Farm, fish, forest</i>	767	10,484	11,252	<i>Other transportation</i>	0	110	110
<i>Construction & extraction</i>	1,086,359	36,524	1,122,883	<i>Ports</i>			
<i>Install, maintain, & repair</i>	132,763	77,008	209,771	<i>Water transportation</i>	0	38	38
<i>Production</i>	148,946	197,092	346,038	<i>Support activities for transportation</i>	0	7,766	7,766
<i>Transport</i>	335,058	293,407	628,465				

SOURCE: Author's analysis of BLS and Census data.

TABLE 5

Direct and indirect manufacturing jobs by state, transit backlog scenario

Total manufacturing jobs	403,961	South	
		<i>Virginia</i>	7,970
		<i>West Virginia</i>	1,696
		<i>North Carolina</i>	15,495
		<i>South Carolina</i>	7,302
		<i>Georgia</i>	12,299
		<i>Florida</i>	11,233
		<i>Kentucky</i>	7,380
		<i>Tennessee</i>	10,898
		<i>Alabama</i>	8,576
		<i>Mississippi</i>	4,820
		<i>Arkansas</i>	5,500
		<i>Louisiana</i>	4,591
		<i>Oklahoma</i>	4,539
		<i>Texas</i>	27,833
		West	
		<i>Montana</i>	602
		<i>Idaho</i>	1,910
		<i>Wyoming</i>	298
		<i>Colorado</i>	4,347
		<i>New Mexico</i>	1,060
		<i>Arizona</i>	5,256
		<i>Utah</i>	3,798
		<i>Nevada</i>	1,455
		<i>Washington</i>	8,766
		<i>Oregon</i>	5,877
		<i>California</i>	42,937
		<i>Alaska</i>	398
		<i>Hawaii</i>	449
Northeast			
<i>Maine</i>	1,774		
<i>New Hampshire</i>	2,277		
<i>Vermont</i>	1,048		
<i>Massachusetts</i>	8,621		
<i>Rhode Island</i>	1,446		
<i>Connecticut</i>	5,648		
<i>New York</i>	16,088		
<i>New Jersey</i>	9,004		
<i>Pennsylvania</i>	19,405		
<i>Delaware</i>	949		
<i>Maryland</i>	3,868		
<i>District of Columbia</i>	48		
Midwest			
<i>Ohio</i>	22,279		
<i>Indiana</i>	15,730		
<i>Illinois</i>	19,866		
<i>Michigan</i>	17,329		
<i>Wisconsin</i>	14,838		
<i>Minnesota</i>	10,094		
<i>Iowa</i>	6,862		
<i>Missouri</i>	8,714		
<i>North Dakota</i>	795		
<i>South Dakota</i>	1,283		
<i>Nebraska</i>	3,060		
<i>Kansas</i>	5,648		

SOURCE: Author's analysis of BLS and Census data.

TABLE 6

Direct and indirect manufacturing jobs by state, TMAP scenario

Total manufacturing jobs	604,084	South	
		<i>Virginia</i>	11,944
		<i>West Virginia</i>	2,541
		<i>North Carolina</i>	23,220
		<i>South Carolina</i>	10,942
		<i>Georgia</i>	18,431
		<i>Florida</i>	16,833
		<i>Kentucky</i>	11,059
		<i>Tennessee</i>	16,332
		<i>Alabama</i>	12,851
		<i>Mississippi</i>	7,222
		<i>Arkansas</i>	8,243
		<i>Louisiana</i>	6,879
		<i>Oklahoma</i>	6,803
		<i>Texas</i>	41,709
		West	
		<i>Montana</i>	903
		<i>Idaho</i>	2,862
		<i>Wyoming</i>	447
		<i>Colorado</i>	6,514
		<i>New Mexico</i>	1,589
		<i>Arizona</i>	7,877
		<i>Utah</i>	5,692
		<i>Nevada</i>	2,180
		<i>Washington</i>	13,136
		<i>Oregon</i>	8,807
		<i>California</i>	64,342
		<i>Alaska</i>	596
		<i>Hawaii</i>	673
Northeast			
<i>Maine</i>	2,659		
<i>New Hampshire</i>	3,413		
<i>Vermont</i>	1,571		
<i>Massachusetts</i>	12,919		
<i>Rhode Island</i>	2,167		
<i>Connecticut</i>	8,464		
<i>New York</i>	24,109		
<i>New Jersey</i>	13,492		
<i>Pennsylvania</i>	29,079		
<i>Delaware</i>	1,422		
<i>Maryland</i>	5,796		
<i>District of Columbia</i>	72		
Midwest			
<i>Ohio</i>	33,385		
<i>Indiana</i>	23,572		
<i>Illinois</i>	29,770		
<i>Michigan</i>	25,969		
<i>Wisconsin</i>	22,236		
<i>Minnesota</i>	15,126		
<i>Iowa</i>	10,283		
<i>Missouri</i>	13,059		
<i>North Dakota</i>	1,192		
<i>South Dakota</i>	1,923		
<i>Nebraska</i>	4,586		
<i>Kansas</i>	8,464		

SOURCE: Author's analysis of BLS and Census data.

Endnotes

1. In 2008, Cambridge Systematics found that an annual investment of \$59.2 billion at all levels of government would be needed to bring all assets into good condition and expand and modernize public transit systems to accommodate a doubling in ridership over 20 years (Cambridge Systematics 2008). Historically, the federal share of total transit capital investment has been between 40% and 50% since 1990 (American Public Transportation Association 2010). Given the current fiscal crises facing state and local governments and transit agencies, TMAP assumed that the federal government would need to shoulder approximately 50% of the total transit capital investment needed to double ridership by 2030.

The estimate for total rail spending is based off of a study conducted by the Passenger Rail Working Group for the National Surface Transportation Policy and Revenue Study Commission, which estimates that an annual investment of \$8.1 billion was needed to support an improved national rail network through 2050. This initial estimate included just one high-speed rail line (in California). Since then, planning and development for several new high-speed rail corridors has advanced in California, Florida, and the Midwest, aided by the American Recovery and Reinvestment Act (ARRA). To accommodate for the improvement and expansion of our existing intercity rail service, plus the continued development of these high-speed rail projects, TMAP estimated that a total investment of \$10 billion is needed each year.

References

- American Public Transportation Association. 2010. "2010 Public Transportation Fact Book: Appendix A: Historical Tables." Washington, D.C., April. Table 37, Page 47. http://www.apta.com/resources/statistics/Documents/FactBook/2010_Fact_Book_Appendix_A.pdf
- Bivens, Josh and Ethan Pollack. 2010. "An Analysis of Transportation for America's Jobs Proposals." *Economic Policy Institute*, Washington, D.C. February 4. <http://www.epi.org/publications/entry/ib271/>
- Cambridge Systematics 2008. "State and National Public Transportation Needs Analysis." Requested by the American Public Transportation Association and the American Association of State Highway and Transportation Officials. Bethesda, Md.. September 9. http://www.apta.com/gap/policyresearch/Documents/transit_needs_studies.pdf
- Passenger Rail Working Group. 2007. "Vision for the Future: U.S. Intercity Passenger Rail Network Through 2050." *National Surface Transportation Policy and Revenue Study Commission*. Washington, D.C., December. <http://www.dot.wisconsin.gov/projects/state/docs/prwg-report.pdf>
- Federal Transit Administration. 2010a. "Next Stop: A National Summit on the Future of Transit." Administrator Rogoff's remarks delivered at the Federal Reserve Bank of Boston, May 18. http://www.fta.dot.gov/news/speeches/news_events_11682.html
- Federal Transit Administration. 2010b. "National State of Good Repair Assessment 2010." Washington, D.C., June. [http://www.fta.dot.gov/documents/National_SGR_Study_072010\(2\).pdf](http://www.fta.dot.gov/documents/National_SGR_Study_072010(2).pdf)
- Pollack, Ethan 2010. *The Job Impact of Transportation Reauthorization*. Economic Policy Institute, Washington, D.C. June 24. http://www.epi.org/publications/entry/the_job_impact_of_transportation_reauthorization/