



# **BUILDING THE FUTURE**

**Building New York's Future:  
Creating Jobs and Business  
Opportunities Through Mass  
Transit Investments**

Huge Industrial Shells in the  
Brooklyn Navy Yard Recall a  
Productive Past — and Signal the  
Possibilities for Revitalization



# Preface

A broad and growing coalition of organizations encompassing perspectives from business, community, environment, education, and labor are working together to advance a job creation and business development manufacturing strategy in New York State. Stakeholders seek to highlight the significant potential for growth in the transit manufacturing sector for New York State. With the right public policies and targeted investments, a few thousand sustainable, good paying jobs can be created for New Yorkers. As the nation's public transit capital, reinvesting taxpayer money in the state and increasing New York State content of transit rolling stock and equipment should be a top economic priority. We are working to advance the ideas articulated in this White Paper to ensure that New York State will be a leader in Building the Future, one that is environmentally sustainable and characterized by shared prosperity.

This White Paper was prepared by Brian Lombardozzi, Timothy Mathews and James Parrott.

## Organizing Committee:

ALIGN - Alliance for a Greater New York  
Amalgamated Transit Union  
BlueGreen Alliance / Apollo Alliance  
Fiscal Policy Institute  
Good Jobs First  
New York City College of Technology (CUNY)  
NYS Apollo Alliance  
Robert Paaswell, Ph.D, University Transportation Research Center  
Elliott Sclar, Ph.D, Center for Sustainable Urban Development  
Transport Workers Union Local 100  
WE ACT for Environmental Justice

## Additional Coalition Members (in formation):

BALCONY - Business and Labor Coalition of New York  
Brooklyn Chamber of Commerce  
NYPIRG/Straphangers Campaign  
NYS Transportation Equity Alliance  
Transportation Alternatives  
Transportation Learning Center  
Workforce Development Institute

## Executive Summary

New York State needs ambitious job creation and business development strategies. From Brooklyn to Buffalo, communities all across New York suffer from high and prolonged unemployment. The Empire State lost 220,000 manufacturing jobs over the past decade, nearly one in three. While other sectors added jobs in recent years, they don't come close to providing the family-sustaining wages and health benefits long associated with manufacturing. In addition to being a source of good jobs, manufacturing has a high multiplier impact, contributes to sustainable growth and provides fertile ground for entrepreneurship, technological innovation and productivity improvements.

New York State has the largest base of transit-related manufacturing firms in the U.S., and has significant potential to further expand its transit-related manufacturing capacity. The downstate Metropolitan Transportation Authority (MTA) operates the largest transit system in the U.S. accounting for one-third of all transit riders in the country. The MTA made a third of all transit rolling stock purchases in the U.S. over the past 10 years. The MTA's \$23 billion 2010-2014 transit capital program entails the purchase of \$3.7 billion in train cars and buses and \$4 billion in signaling and communications equipment. Twenty-five percent of New York City's construction industry is working on MTA expansion projects to enable the region's future growth. The MTA directly employs 65,600 people, 30,000 of whom are in operations and 29,000 in maintenance who work and live in the tri-state region.

New York State's current transportation manufacturing base largely results from a conscious effort on the part of both the state and the MTA to encourage in-state production of transit equipment. Over the past 30 years, \$80 billion has been invested in the downstate region's transit rolling stock and infrastructure, helping spur the regional economy. In fact, MTA procurement has supported the creation of thousands of jobs producing transit equipment all across New York.

New York can position itself as a leader in sustainable transportation and it can do so while creating good jobs for New Yorkers by aggressively pursuing a transit-related manufacturing strategy. With leadership from the Governor and Albany lawmakers, New York can create transit manufacturing related jobs and business development opportunities in New York City, the suburbs and upstate, and thereby promote a stronger, more sustainable economy with shared prosperity.

This strategy will become a reality when policymakers focus on public transit investments and promote innovation by, implementing procurement, business and workforce development, and the manufacturing policies necessary to meet and supply the transit vehicle and equipment needs of the MTA and other transit systems around the state and across the nation.

To build a bright future for New York, this broad and inclusive coalition of labor, business, community, academic, environment, and civic organizations reviewed federal transportation policy opportunities, and examined the MTA's procurement activities. Going forward it will work together to: (1) develop and implement a mass transit-related economic development strategy that creates jobs and fosters business development in New York State through transportation manufacturing; (2) build a campaign to secure the fullest political commitment from the Governor, the state Legislature, local elected officials and regional economic

development councils in support of a transportation manufacturing job and business development strategy; and (3) promote and secure adequate and sustainable funding for the MTA and New York State's other transit authorities' capital and operating budgets and for national mass transit infrastructure and advanced manufacturing investments.

## **I. Introduction**

Mired in high unemployment more than two years into the “recovery” from the Great Recession of 2008-09, New York State needs ambitious job creation and business development strategies. Manufacturing has been the path into the middle class for New Yorkers and a source of innovation driving the state's economy forward for generations. Yet, manufacturing was the biggest casualty of the Great Recession and manufacturing jobs have continued to shrink in number in the Empire State even as the nation overall has experienced a slight 2.5 percent rebound in factory jobs in 2010 and the first half of 2011.<sup>1</sup>

From Brooklyn to Buffalo, communities all across New York are suffering from unemployment that is much higher than before the recession began. Today, the official unemployment rate in the state hovers at 8 percent compared to 4.5 percent in 2007, and with black unemployment in particular well into double digits in most of the state. Among those unemployed, half have been jobless for more than six months and 30 percent have been without jobs for more than a year. Furthermore, these numbers fall short of painting the true hardship felt overall by New Yorkers. When discouraged workers and the under-employed are counted, the real unemployment rate in New York is 15 percent and 1.4 million workers are affected. Our economy is squandering the productive labor of unemployed men and women on a colossal scale, and our homegrown small businesses that depend on local sales are put in jeopardy because the unemployment crisis deprives them of customers.

The Empire State has lost 220,000 manufacturing jobs over the past decade, nearly one in three. Other sectors have added jobs in recent years, but they don't come close to providing the family-sustaining wages and health benefits long associated with manufacturing. With its high multiplier impact among supplier firms, manufacturing contributes to more robust and sustainable growth. Additionally, with a large share of research-and-development—70 percent being done by manufacturing companies— manufacturing provides fertile ground for technological innovation and productivity improvements.

Contrary to conventional thinking, manufacturing jobs are not jobs of yesteryear. Much of the nation's economic “recovery” has been driven by the manufacturing sector. Our ability for long-term success lies in identifying our competitive advantage in a global economy. We cannot compete with China and India producing low-cost items but rather by making high value, technology-intensive products, such as transit vehicles and component parts.

One of the areas where New York State has significant job creation potential is transit-related manufacturing. The downstate Metropolitan Transportation Authority (MTA) operates the

largest transit system in the United States, one that accounts for one-third of all transit riders in the country. Over the past ten years, transit agencies in New York State have accounted for 35 percent of the \$37 billion in transit rolling stock purchases in the U.S. The MTA accounted for 32.4 percent of national transit rolling stock purchases from 2000 to 2009.<sup>2</sup>

The MTA's current \$23 billion 2010-14 capital program entails the purchase of \$3.7 billion in train cars and buses and \$4 billion in signaling and communications equipment. According to the New York Building Congress, 25 percent of New York City's construction industry is working on MTA expansion and other megaprojects currently underway to accommodate the future growth of the region.<sup>3</sup> The MTA directly employs 65,600 people, 30,000 of whom are in operations and 29,000 in maintenance.

New York State has the largest base of transit-related manufacturing firms in the U.S., a fact that largely results from a conscious effort on both the part of the state and the MTA to encourage in-state production for the transit agency's needs. This policy dates from the early 1980s when, under MTA Chairman Richard Ravitch and Governor Hugh Carey, the state and the MTA set out to rebuild a regional transit system that had fallen into disrepair. Over the past 30 years, \$80 billion has been invested in the region's transit rolling stock and infrastructure, helping to spur the regional economy. MTA procurement has supported the creation of thousands of jobs producing transit equipment all across New York.

However, many of the major transit equipment manufacturers are based in other countries and often perform high value functions outside of New York and outside of the U.S. because of inconsistent domestic demand for transit equipment. Gaps in the U.S. supply chain for transit equipment result in missed opportunities. There is significant job creation and business development potential in filling those supply chain gaps, and in expanding investments in the nation's mass transit infrastructure. A shift toward mass transportation, both within and between urban areas, will also improve energy efficiency and reduce carbon-related pollution. For New York, a redoubled effort to maximize the in-state production of transit equipment needed by the MTA will also position New York State to serve the broader U.S. transit market.

Mass transit is a classic "public good" that yields society-wide benefits as well as individual benefits; like safe and abundant drinking water, or clean air. Transit is particularly critical in the New York City metropolitan area since it makes possible the region's very dense concentration of businesses and economic activity that, in turn, make this region the most dynamic and productive regional economy in the United States. New York's mass transit system fuels a \$1.26 trillion regional economy, second in the world only to Tokyo.

As the U.S. typically under-funds public goods, an important adjunct to any strategy to promote transit manufacturing is the need to promote more adequate public funding, for both transit operating and capital purposes. At the national level, transit capital funding is part of the package of surface transportation infrastructure needs that is funded by Congress on a multi-year basis—

and currently being debated in Washington. Transit capital was also part of the federal infrastructure spending program in the 2009 Recovery Act (the “American Recovery and Reinvestment Act”), and in the American Jobs Act proposed by President Obama on September 8, 2011.

On the state level, the MTA has had a series of five-year capital plans since the early 1980s. The MTA recently proposed a \$13.6 billion capital program for 2012-2014, the remaining unfunded three years of its current five-year capital plan. The plan needs final approval by the MTA Board by the end of the year and an affirmative vote by the state Legislature’s MTA Capital Plan Review Board. Alongside, the MTA has proposed a \$14 billion operating budget for 2012 that also requires MTA Board approval before the end of the year. The MTA operating budget includes \$5.5 billion in the form of various dedicated taxes authorized and appropriated by the Governor and the state Legislature, and state and local government subsidies.

The plan of this white paper is as follows: Chapter II will review federal transportation policy opportunities, including funding and the steps needed to expand the transit manufacturing supply chain; Chapter III will examine the extent of MTA’s procurement activities and how these currently support manufacturing facilities around New York; and Chapter IV will summarize the components of a New York State transit manufacturing job creation campaign, and discuss some of the critical next steps needed to move the strategy forward.

## **II. Federal Transportation Policy Opportunities: the Need for Investment and Action to Expand the Transit Manufacturing Supply Chain**

With millions unemployed, it is time to put Americans back to work: rebuilding our public transit systems, roads, and bridges; manufacturing advanced transportation vehicles and equipment; and laying the foundation for a more sustainable long-term economic recovery.

A decade into the 21st century, our national transportation policy remains largely shaped by a law passed in 1956—the National Interstate and Defense Highways Act. Underinvestment in our infrastructure and environmentally sustainable transportation options has left U.S. roads congested, bridges crumbling, mass transit systems in disrepair, and a transportation sector that accounts for almost one-third of the nation’s greenhouse gas emissions. Each year, traffic congestion costs Americans nearly \$90 billion in lost productivity and fuel purchases, with the average commuter losing nearly one full work week sitting in traffic.<sup>4</sup> Nearly half of all Americans lack alternatives to private automobiles and convenient access to public transit, which makes congestion even worse.<sup>5</sup>

Existing public transit infrastructure suffers from decades of deferred maintenance. A recent report by the U.S. Department of Transportation found that 30 percent of America's public transit assets are in poor or marginal condition, and an immediate investment of over \$77 billion is needed, just to bring them into a state of good repair.<sup>6</sup> The United States lags in meeting public transportation needs and falls far behind leading European and Asian countries in modernizing public transportation systems.

In the 2008 elections, voters in many states and cities supported greater public transit investments. Nearly two dozen mass transit initiatives worth a combined total of \$75 billion were approved by voters in the fall 2008 elections. Among the projects supported was the expansion of Seattle-area transit service (\$18 billion) and bonding to begin a high-speed rail network in California (\$10 billion).<sup>7</sup>

The 2009 Recovery Act financed \$17.7 billion in public transit investments that put more than 12,000 new buses, rail cars, and paratransit vans into service, supporting hundreds of jobs in domestic transportation equipment factories.<sup>8</sup> In 2009, in its factory near Portland, Oregon, United Streetcar Company produced the first U.S.-made streetcar in 60 years. Targeted investments in clean transportation manufacturing from the Department of Energy will soon support 100 manufacturing jobs at a new Allison Transmission facility in Indianapolis capable of producing more than 20,000 commercial-duty hybrid propulsion systems annually for buses and trucks.<sup>9</sup>

In response to a May 2011 announcement that the U.S. Department of Transportation was investing \$2 billion in high-speed rail projects across the country, Alstom Signaling Inc., located in West Henrietta, New York near Rochester, announced that it was adding 200 jobs and making a \$3 million investment. Alstom plans to hire another 100 people over the course of the next 12 months.<sup>10</sup>

### ***Apollo's Transportation Manufacturing Action Plan***

In March 2010, the Apollo Alliance convened the Transportation Manufacturing Action Plan (TMAP) task force of leading manufacturers, labor unions, and policy experts in transportation, energy, and economic development to examine options for expanding the domestic production of advanced transit systems, vehicles, clean trucks, and their component parts. The TMAP task force documented the substantial economic benefits that would result from increasing federal investments to \$30 billion per year for public transit and \$10 billion per year for intercity and high-speed rail (Table 1). Annual investments in this range would double ridership over the next two decades.

TABLE 1

## U.S. Economic Benefits from Increasing Annual Federal Investments to \$30 billion for Public Transit and \$10 billion for Intercity and High-Speed Rail

### Economic benefit

Manufacturing jobs	600,000
Total direct and indirect jobs	3,700,000
Net annual Gross Domestic Product	\$60 billion
Additional worker income	\$45 billion
Annual tax revenue	\$14 billion

Sources: Pollack and Thies, "Impact of Alternate Public Transit and Rail Investment Scenarios on the Labor Market," Economic Policy Institute, Oct. 2010; Apollo Alliance estimates based on Weisbrod and Reno, "Economic Impact of Public Transportation Investment," American Public Transit Association, Oct. 2009.

The next federal transportation bill will likely be a long-term investment of hundreds of billions of dollars in our nation's infrastructure and economy. Consideration should be given to innovative infrastructure financing approaches that can leverage even greater state, local, and private transportation investment, including loan guarantees and other forms of credit enhancement that can be provided through an infrastructure bank. Combined with a reliable source of ongoing federal public transportation funding, an infrastructure bank can be particularly useful in securing the capital needed for large-scale transit projects and supporting new approaches to state and local infrastructure financing. To maximize investment benefits, projects funded or supported by an infrastructure bank must be subject to strong selection criteria that evaluate economic and environmental benefits, including equity and job quality goals, and payment of a prevailing wage.

The dramatic decline in intercity passenger rail facilities in the U.S. since the 1950s and decades of underinvestment in public transit have left the U.S. transit manufacturing industry considerably underdeveloped relative to Europe, Japan and China. Several of the leading producers of passenger and transit rail cars serving the U.S. transit market build their railcar shells outside the U.S. and assemble them here. Many foreign-based transit suppliers perform high-value work—such as design, engineering, and systems integration—outside the U.S., either near their home country or their largest markets.

The relative decline in the passenger rail and transit equipment industrial base in the U.S. in the wake of the rapid expansion of the interstate highway system in the 1960s and 1970s led to the establishment of "Buy America" provisions in federal transportation policy, specifically applying to procurements funded by federal grants to state and local governments. These Buy America provisions call for the use of domestically sourced iron, steel, and manufactured goods;

require that 60 percent of the value of subcomponents of transit vehicles and equipment be produced domestically, and that final assembly of transit vehicles also occur in the country. This stipulation motivated foreign suppliers to enter the U.S. market to supplement the more stable demand for equipment in their own countries. Yet, too often suppliers have received waivers from domestic content requirements, citing the difficulty in sourcing necessary components in the U.S. because of gaps in the domestic transit equipment supply chain. The process for granting waivers has been inconsistent, lacking transparency, and has failed to take into account the impact of granting waivers on domestic employment.<sup>11</sup>

Transit expert Jonathan Michael Feldman notes that final assembly of subway cars by U.S. workers represents only about 10 percent of total value added. Engineering work, on the other hand, represents 25 to 40 percent of value added but that only half of the engineering work is done in the U.S. for subway cars manufactured here. In another example, propulsion systems for transit cars represent from 15 to 20 percent of value added, but only 60 percent of propulsion system work is done domestically.<sup>12</sup>

### ***The U.S. Supply Chain for Transit and Passenger Rail Cars***

Researchers at Duke University recently documented the supply chain for the U.S. manufacture of passenger rail and urban transit vehicles. They identified 15 Tier 1 “original equipment manufacturers” in the U.S. that design, produce the body or shell of the vehicle, and perform final assembly of railcars. Tier 1 producers are typically large, vertically integrated companies. The researchers also identified 153 Tier 2 companies across the U.S. of all sizes that supply at least one of three railcar systems—propulsion, electronics, and body and interior. (A third tier of companies not covered in the Duke study supply parts and materials to companies in the top two tiers.) Most of the Tier 1 companies and many of the larger Tier 2 transit suppliers are foreign-based businesses.<sup>13</sup>

Largely because of the scale of MTA transit equipment procurement, New York State has the largest number of Tier 1 and Tier 2 transit equipment manufacturers among all states. The Duke study identified 249 Tier 1 and 2 manufacturing locations for passenger and transit rail vehicle systems and components around the U.S. and counted 32 in New York State, followed by Pennsylvania with 26, Illinois with 23 and California with 22. The geography of transit equipment manufacturing in the U.S. is heavily concentrated in the Mid-Atlantic and Midwest states.<sup>14</sup>

Four of the 15 passenger railcar manufacturers operating in the U.S. have plants in New York State: Alstom (French) in Hornell, Bombardier (Canadian) in Plattsburgh, Kawasaki (Japanese) in Yonkers, and CAF (Spanish) in Elmira. Alstom, Kawasaki and Bombardier are the three leading subway car manufacturers with operations in New York, although Kawasaki does most

of its railcar assembly in a plant in Lincoln, Nebraska. These three companies accounted for 96 percent of the U.S. subway car market for the years 2006-2009—Alstom, 42 percent; Kawasaki, 36 percent; and Bombardier, 18 percent.<sup>15</sup>

Bombardier and Kawasaki also manufacture regional and intercity rail cars, like those used on the MTA commuter rail lines, the Long Island Railroad and MetroNorth. Bombardier also rebuilds Amtrak rail cars. Bombardier and CAF USA are among the leaders in the light rail and streetcar rebuild and maintenance market.

Based on interviews with transit equipment suppliers, the Duke University researchers identified several gaps in the U.S. transit equipment supply chain. These gaps include: body shells for high-speed rail, mainly because the U.S. lacks the required expertise in specific aluminum welding; integrated propulsion systems for subway cars, light rail and streetcars; fabricated trucks (the undercarriage assembly incorporating the wheels, suspension, brakes and traction motors) for all types of passenger and transit rail cars; and most electronic systems that are typically supplied from Asia or through large European firms' overseas operations.<sup>16</sup>

#### **A New U.S. Streetcar Producer – United Streetcar**

*In 2009, United Streetcar, a union company in Portland, Oregon, built the first American-made streetcar in over a half century. Operated as a subsidiary of Oregon Iron Works, a metal fabrication manufacturing company, United Streetcar vividly demonstrates the potential for transit manufacturing in the U.S. Its first prototype car was built with the aid of technology transferred from Skoda, a Czech railcar firm. With the help of a \$2.4 million federal grant, United Streetcar is partnering with Rockwell Automation to develop new U.S.-made propulsion systems. This will increase the domestic content of United's streetcars from the current 70 percent to 90 percent. The company will be well-positioned to compete with international firms for federally funded projects. Transit agencies receiving federal grants to support the purchase of streetcars will no longer qualify for a Buy America waiver unless the cost of the U.S.-made option is 25 percent higher.<sup>17</sup>*

#### ***Expanding the U.S. Transit Equipment Supply Base***

In order to expand the U.S. supply base for manufacturing passenger and transit rail vehicles, the Duke University study concluded the following:

- The U.S. needs to make larger and more consistent investments in passenger and transit rail. The small size of the U.S. market limits the development of domestic companies.
- The positive impact of domestic content requirements can be enhanced through improved methods for certifying domestic content, and through more transparency regarding

waiver requests so that domestic suppliers have the opportunity to respond and possibly plug an apparent supply chain gap.

- To enable the U.S. to capture higher value activities in the transit supply chain, several measures are needed, including technology agreements, government support for research-and-development, and a collaborative approach to innovation, supply chain development and commercialization. For example, the U.S. should follow the lead of large economies like China, Canada and Europe that routinely use technology agreements to develop a domestic production capacity, particularly in cases of leading-edge technologies.<sup>18</sup>

Additionally, federally-funded and regionally-based Manufacturing Extension Partnerships (MEP network) should work with manufacturers and transit agencies seeking to increase domestic content for transit equipment. The U.S. Department of Energy established a pilot project with the MEP network to respond to Buy America waiver requests related to Recovery Act implementation.<sup>19</sup> The Information Technology and Innovation Foundation (ITIF) has urged that the United States dramatically increase funding support for MEPs to assist small and medium sized firms with technology transfer and help engage them in collaborative research and development and/or technology consortia. The ITIF notes that, as a share of GDP, Japan invests thirty times more than the U.S. in MEP-type firm assistance, Germany invests over twenty times as much, and Canada almost ten times as much.<sup>20</sup>

As discussed in the next section, using its procurement power and that of the MTA, New York State could promote greater domestic, and New York, content for the transit equipment it purchases. The state could also use its economic development apparatus to assist New York-based companies, whether established or start-ups, in filling gaps in the transit equipment supply chain and in acquiring the technology needed to be a competitive supplier.

To realize the full economic benefit of our transportation investments, we must bring high-value transit and rail manufacturing back to the United States and fill out the domestic supply chains for clean transportation system component parts. According to recent research by Northeastern University, improving our domestic supply chains for buses and rail cars could increase total job creation from the purchase of these vehicles by up to 30 percent.<sup>21</sup>

New R&D investments should target current gaps in domestic supply chains and technologies with the potential to reduce fossil fuel use and greenhouse gas emissions. These areas include advanced energy storage systems, lightweight materials, hybrid drive systems, alternative fuels, intelligent transportation systems, and information technology systems that improve operations efficiency, as well as others identified by industry-based consortiums.

It is important to ensure that these technologies are then manufactured in the United States. That's why investments to develop new basic technologies should be paired with support for the

development of domestically produced prototypes; demonstration projects; early-stage commercial manufacturing to scale production; and testing of new vehicles and component parts in truck and transit fleets. This can be accomplished through an interagency program of collaborative research, development and commercialization that mobilizes the full range of government resources and takes advantage of existing innovation clusters of industry, research, and government investment to develop regional approaches to expanding the American advanced transportation manufacturing sector.

To be competitive in the global economy we must commit to a new, comprehensive transportation strategy that meets our future transportation needs, reduces carbon emissions, and spurs the creation of a strong domestic transportation manufacturing sector. This strategy must include a combination of large-scale investment and focused public policies that scale up our nation's public transportation system, transition us to cleaner methods of moving our nation's goods, and position domestic manufacturers to lead in the manufacture of advanced public transit equipment.

### **III. New York State's Demand for Transit Vehicles and Transit Equipment**

New York State is uniquely positioned to benefit from growth in the transit vehicle and component manufacturing sector. The Empire State is home to the largest public transportation system in the United States, the Metropolitan Transportation Authority (MTA). The MTA has the largest capital investment needs in the country, and New York has more transit equipment manufacturers than any other state.

The size and scale of the MTA cannot be overstated (Table 2). The MTA is an umbrella agency with an annual operating budget of \$13.4 billion. The massive transportation network that spans over a 5,000 square mile jurisdiction, and employs over 65,000 workers is comprised of a number of operating subsidiary agencies including: New York City Transit (NYCT), Long Island Rail Road (LIRR), Long Island Bus (LI Bus), Metro-North Railroad (MNR), MTA Bus, and Staten Island Railway (SIR). The MTA also operates the Triborough Bridge and Tunnel Authority (TBTA) that operates toll bridges and tunnels that are wholly within New York City, including the Verrazano Bridge. Toll revenues beyond that needed to maintain the bridges and tunnels help fund MTA's mass transit operations.

	MTA Agencywide*	NYCT/SIR	LIRR	LI Bus	MNR	MTA Bus
<b>2011 operating budget**</b>	<b>\$13.4 B</b>	\$8.6 B	\$1.6 B	\$133.6 M	\$1.3 B	\$611.6 M
<b>Average weekday ridership</b>	<b>8,487,642</b>	7,415,070	282,358	103,428	277,169	394,317
<b>Rail and subway lines, and bus Routes</b>	<b>387</b>	241	11	48	6***	80
<b>Rail and subway cars</b>	<b>8,628</b>	6,437	1,165	-	1,026	-
<b>Buses</b>	<b>5,982</b>	4,348	-	389	-	1,245
<b>Track miles</b>	<b>2,047</b>	688	594	-	765	-
<b>Bus route miles</b>	<b>3,571</b>	1,796	-	954	-	821
<b>Rail and subway stations</b>	<b>735</b>	490	124	-	121	-
<b>Employees</b>	<b>65,609</b>	45,414	6,453	1,044	5,823	3,339

\*Includes MTA Capital Construction and TBTA. \*\* Financial data as of February 24, 2011; statistical data as of December 31, 2010.  
\*\*\* Includes a line not in service. Source: MTA

In 2009, the largest subsidiary of the MTA, NYCT, which operates heavy rail, buses and paratransit systems, provided more than 3.2 billion unlinked passenger trips.<sup>22</sup> Over two-thirds of all subway trips in the country were taken on NYCT<sup>23</sup> on its fleet of 6,437 railcars<sup>24</sup>. Additionally, the NYCT bus network comprised of 4,348 buses<sup>25</sup> carried more than twice as many riders as did Los Angeles', the nation's second largest fleet.<sup>26</sup> According to national transit data, in 2009, the MTA's two commuter rail agencies, LIRR and MNR ranked first and third in the U.S. providing 97.4 million, and 79.5 million unlinked passenger trips, respectively<sup>27</sup> on their 2,191 rail cars.<sup>28</sup>

The demand for transit vehicles and components represented by public transit agencies in New York State is enormous and so too would be the return on New York taxpayer investment, if the New York State content of procurements were increased. Across the country, from 1992 to 2009, public transit agencies invested \$52.2 billion on rolling stock, of which New York State's investments comprised \$13.2 billion, or 25.2 percent. The MTA's rolling stock procurements from 1992 to 2009 totaled \$12.1 billion, 92 percent of the state's total and 23.3 percent of the national total. Over the past ten years (2000 to 2009), the MTA's share of \$37 billion in U.S. transit rolling stock expenditures has been 32.4 percent.<sup>29</sup>

In addition to the enormous potential in expanding transit rolling stock related manufacturing in New York State, there also exists a large demand for signal and communication components. Like with rolling stock, the MTA alone represents a huge percentage of U.S. procurement in this category. In particular, NYCT's signaling and communications equipment is due for state of good repair replacement. Some subway lines are still operating on signaling equipment installed five or six decades ago. The MTA's current five-year capital program calls for the investment of \$4 billion in signals and communications.

## *Funding Challenges Facing the MTA*

There are a number of funding challenges facing the MTA's operating and capital needs. First and foremost, New York State's largest public transit agency has struggled through a structural funding problem the past two decades. State and local subsidies, including in the form of dedicated taxes, are needed to supplement fare and toll revenue receipts in order to pay for operating expenses. Such subsidies, whether because of shortfalls related to economic downturns or because of inaction by elected officials, have not always kept pace with the need. Moreover, for the last decade, debt service has placed a growing burden on the MTA operating budget. This growing debt service burden resulted from the increased use of debt since the mid-1990s to fund the MTA capital program as state and local government support for the capital program has waned.

The Great Recession of 2008-09 greatly eroded dedicated revenue streams and exposed the structural funding problem via a projected near billion dollar budget gap going into 2009. Addressing the desperate situation faced by the MTA, New York State legislators passed a rescue package containing a number of items, including a regional payroll tax and other new revenue sources, as recommended by a Blue Ribbon Panel chaired by prominent business leader and former MTA Chairman, Richard Ravitch. Most recently, the MTA budget has suffered budget shortfalls caused by a series of dedicated funding raids totaling \$360 million since December of 2009, as the state diverted funds that had been statutorily obligated for the MTA to the state budget as it struggled to close its own yawning budget gaps.<sup>30</sup>

Throughout its existence, the MTA has experienced a number of fiscal emergencies. Most notably, the severe divestment of the 1970s, which resulted in deferred maintenance and a general decay of the transit system. However, the MTA reemerged with funding commitments for both operations and capital needs. New York's then governor, Hugh Carey acted quickly to rescue public transit from the brink of collapse. In addition to providing adequate operations funding through a fair fare concept, which "assumes that the farebox, and all levels of government, and all sectors of our community should share the costs of providing transit service on an equitable basis,"<sup>31</sup> Governor Carey instituted the first five-year capital budget, with dedicated funding coming from state and city coffers.

Since that first capital program in 1982, more than \$80 billion dollars have been invested in the maintenance and expansion of the MTA's regional transit network.<sup>32</sup> The current MTA transit capital program 2010-2014 contains various projects and procurements worth \$23 billion. Two of the largest investment categories are for procurements of rolling stock, and signal and communication equipment, totaling over \$7.7 billion (Table 3). These vital investments that MTA is making in these areas are focused on maintaining service reliability and safety.

	MTA Agencywide	NYCT	MTA LIRR	MNR	MTA Bus
<b>Subway Cars</b>	\$1,735	\$1,039	\$437	\$259	-
<b>Buses</b>	\$1,978	\$1,766	-	-	\$212
<b>Signals and Communications</b>	\$3,972	\$3,192	\$494	\$278	\$8*

\*Real-time bus customer information Source: MTA

Unfortunately, the commitment to supporting the MTA's capital needs was seriously undermined during the boom years of the 1990s. To fund an agenda of increasing tax cuts, Governor Pataki and New York City Mayor Giuliani diverted MTA reserves to their own budgets, reduced the amount of operating support, and forced the MTA to pay for a growing share of its capital needs through borrowing (Table 4). The sharp decline in state and local government support for capital investment forced the MTA to engage in large-scale borrowing in order to address its state of good repair needs.

An ill-advised, back-loaded restructuring of MTA's debt in 2000 provided short-term relief but it came at the cost of compounding the problem over the long term. Debt service has been growing faster than any other expense and is squeezing the operations budget of the MTA. Without any intervention, the trend will continue.

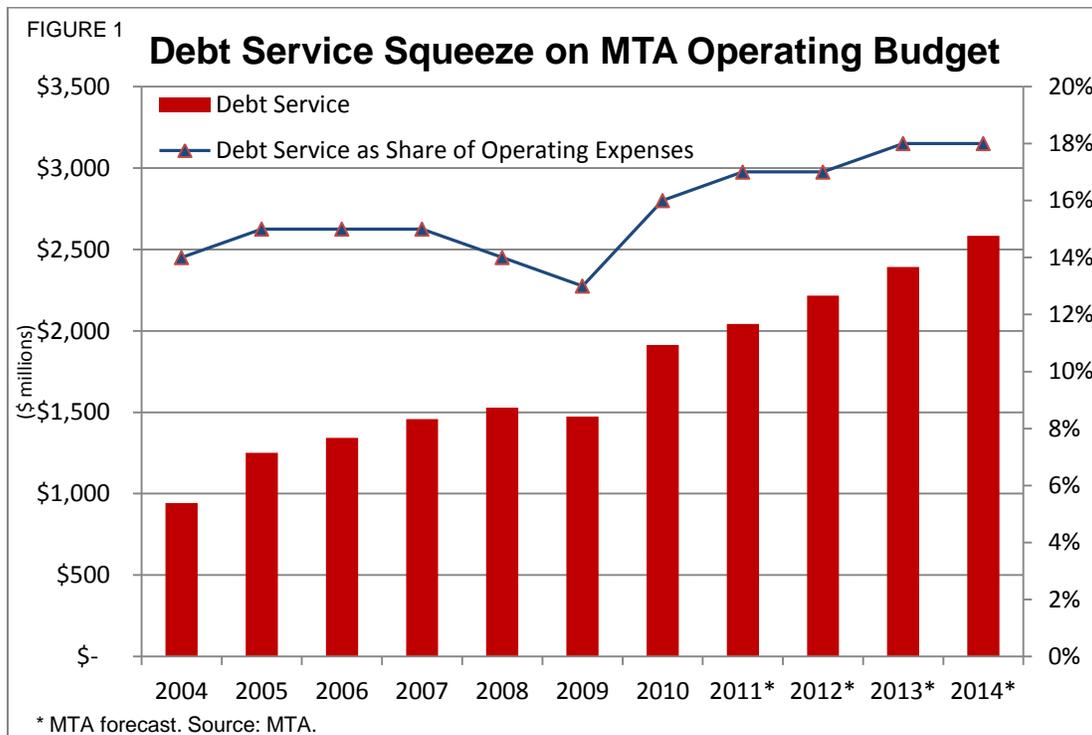
	1982-86	1987-91	1992-96	1995-99	2000-04	2005-09	2010-14
<b>Government subsidies</b>	<b>55%</b>	<b>64%</b>	<b>54%</b>	<b>41%</b>	<b>33%</b>	<b>33%</b>	<b>28%</b>
Federal	26%	38%	40%	30%	31%	31%	26%
New York State	20%	11%	0%	1%	0%	0%	0%
New York City	9%	15%	14%	10%	2%	2%	2%
<b>One-Time resources</b>							
New York City *	0%	0%	0%	0%	0%	9%	0%
2005 Transportation Bond Act	0%	0%	0%	0%	0%	7%	0%
MTA Actions - Asset Sales/Pay-Go	0%	0%	0%	0%	0%	0%	2%
<b>Debt</b>	<b>34%</b>	<b>25%</b>	<b>34%</b>	<b>42%</b>	<b>61%</b>	<b>44%</b>	<b>23%</b>
Other	11%	11%	12%	17%	6%	7%	9%
<b>Unidentified Funding -Budget Gap</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>38%</b>
<b>TOTAL</b>	<b>100%</b>						

\* NYC funding for the #7 line extension to the Hudson Yards district. Source: MTA

In July 2011, the MTA, within its constraints, proposed a plan to overcome a \$10 billion funding gap. The Authority hopes to overcome the gap by reducing the 2010-14 capital program by a total of \$4 billion and issuing \$6.9 billion in debt to cover the remaining unfunded portion of the capital program. Were the MTA to issue debt in that magnitude, it would mean that borrowing

would be the source of 60 percent of the funding for the current capital program, far higher than the 25-to-34 percent share of MTA capital spending financed through borrowing during the first three five-year capital programs, from 1982 to 1996.

Given current budget projections, \$6.9 billion in new borrowing will push the debt service share of the MTA operating budget from 16 percent in 2010 to 18 percent in 2013 (Figure 1). The State Comptroller reported in a recent analysis that MTA debt service would reach \$3.3 billion by 2018, a staggering 64 percent increase from 2011.<sup>33</sup>



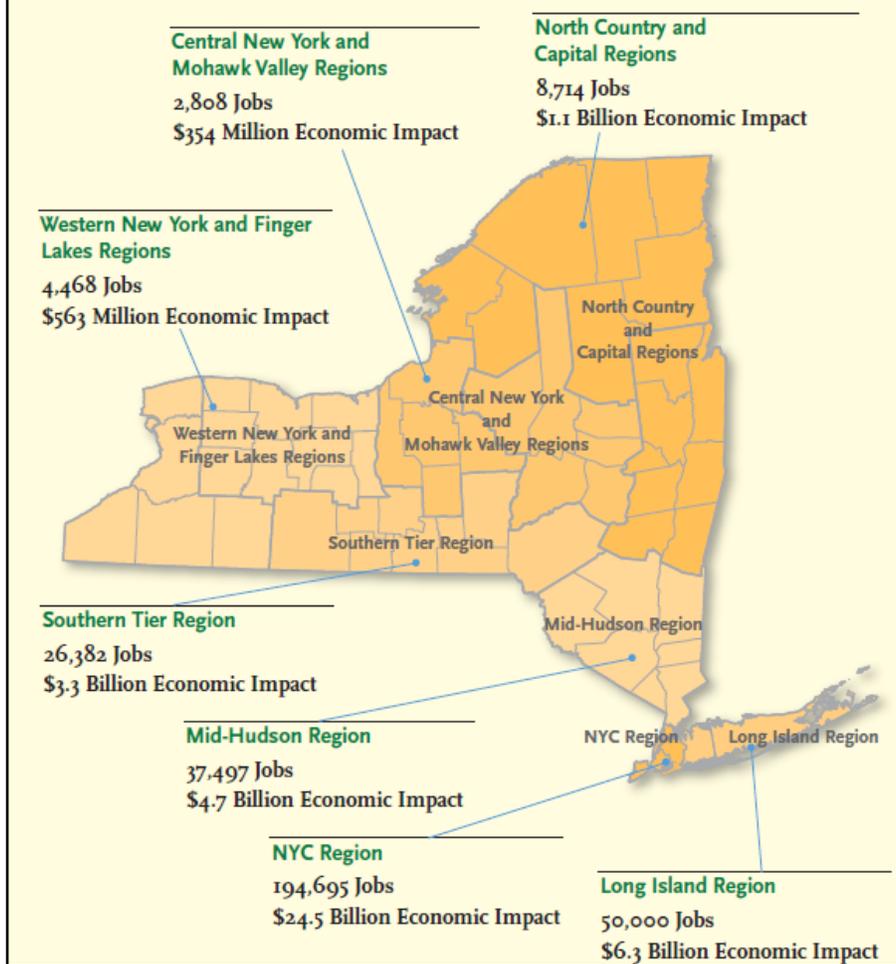
### *Existing New York State Manufacturing*

There currently are a number of companies located in New York State which manufacture transit components, from one end of the supply chain to the other, ranging from lighting or brake parts to those which assemble buses and subway cars.

The MTA projects that the current Capital Program is expected to create 350,000 New York jobs and have an overall economic impact of \$44 billion in New York State. MTA’s new report on the economic impact of the current 2010-2014 capital program provides extensive detail on the employment and economic impact of MTA procurement in every region around the state. The report identifies the wide range of transit equipment suppliers building products for the MTA.<sup>34</sup>

FIGURE 2

## Jobs and Economic Impact from the MTA 2005-09 Capital Program



Additionally, according to the New York Building Congress, 25 percent of the New York City construction industry is working on MTA megaprojects currently underway to accommodate the future growth of the region. The new report also illustrates the \$41 billion impact of the MTA’s previous capital program, across the whole state of New York (Figure 2).<sup>35</sup>

However, there is significant potential to further increase the overall economic benefit and relieve New York State’s unemployment by increasing the New York State content of transit equipment being built for the MTA. For example, NYCT recently awarded two bus procurements contracts, both of which have relatively low in-state content. The first contract award of \$231 million was to Nova Bus for the purchase of 328 low-floor articulated clean diesel buses. While all the buses are to be manufactured in Plattsburgh, New York, they will still only be comprised of 38 percent New York State content.<sup>36</sup> The second contract for \$115 million went to New Flyer of America for the purchase of 250 40-foot compressed natural gas (CNG) buses. These CNG buses will only have 13.8 percent New York State content.<sup>37</sup> Obviously, there is much room for improvement and ratcheting up the in-state content of transit equipment will translate into the creation of good jobs for New Yorkers, in New York City, the suburbs and across upstate.

New York State also needs to make sure that procurement practices and state and local economic development efforts foster necessary investments in worker skills. About a decade ago, the MTA issued a \$1 billion RFP without requiring a workforce impact statement as part of the bid. After winning the MTA contract, subway car builder Kawasaki decided that local workers in the Yonkers area did not have the requisite skills. Rather than working with local schools, unions and training providers to develop appropriate skills, Kawasaki brought in temporary workers from Japan under special visas. Although keeping taxpayer dollars in New York State, we missed an opportunity to strengthen the regional economy and build skills for the future.<sup>38</sup>

### *The Future of MTA's Capital Procurement Needs*

According to the MTA's projected 20 Year Needs Assessment, to keep the transit system in a state of good repair, the investment of over \$48 billion in rolling stock, and communications and signals is necessary. The MTA projects that rolling stock needs will total \$27.2 billion over the 2010-to-2029 period, and communications and signaling needs will total \$20.9 billion (Table 5).<sup>39</sup>

Capital Plan	Investment Category	MTA Agencywide	Agency			
			NYCT	LIRR	MNR	MTA Bus
2010-14	Rolling Stock	\$6,798	\$5,621	\$382	\$422	\$373
	Communications and Signals	\$5,642	\$4,901	\$467	\$274	\$0
2015-19	Rolling Stock	\$5,822	\$2,878	\$813	\$1,538	\$593
	Communications and Signals	\$5,962	\$4,986	\$801	\$175	\$0
2020-24	Rolling Stock	\$8,004	\$6,289	\$504	\$754	\$457
	Communications and Signals	\$4,626	\$4,130	\$360	\$136	\$0
2025-29	Rolling Stock	\$6,542	\$4,642	\$600	\$900	\$400
	Communications and Signals	\$4,676	\$3,953	\$561	\$162	\$0
Total 20YR Needs	Rolling Stock	\$27,166	\$19,430	\$2,299	\$3,614	\$1,823
	Communications and Signals	\$20,906	\$17,970	\$2,189	\$747	\$0
<b>Total 20 Year Needs</b>		<b>\$48,072</b>				

Source: MTA

In addition to benefiting numerous transit equipment factories upstate and on Long Island, there is also potential to increase transit production work in New York City at the two massive subway car overhaul shops operated by NYCT at the Coney Island Yards in Brooklyn and at the 207<sup>th</sup> Street Yard in Manhattan. Over a thousand workers are employed at the two overhaul shops that have machine shops and facilities to repair and rebuild subway cars and subsystems. These facilities restored many subway cars in the 1980s during the first few five-year capital programs and currently perform routine repair and maintenance on NYCT's fleet of 6,400 subway and rail cars.

## **IV. A New York State Manufacturing Job Creation Campaign**

Coming off the most severe economic downturn since the Great Depression, New York must position itself as a leader in sustainable transportation and it can do so while creating good, middle class jobs for New Yorkers by aggressively pursuing a transit-related manufacturing strategy. With leadership from the Governor and Albany lawmakers, New York State can create transit manufacturing related jobs and business development and thereby promote a stronger, more sustainable economy with shared prosperity. Such a strategy can become a reality with a renewed focus on public transit investments and innovation, by implementing procurement, business and workforce development, and the manufacturing policies necessary to meet and supply the transit vehicle and equipment needs of the MTA and other transit systems around the state and across the nation.

New York needs to address the potential that exists throughout the transit equipment supply chain, from repairing and building new rolling stock to identifying specific components, systems or services that could be produced in-state, and developing business models for organizing such production. New York should also put in place the workforce development programs needed to make sure that our workers have the technical skills required for advanced manufacturing.

To move this agenda forward, three objectives need to be addressed:

- (1) Develop and implement a mass transit-related economic development strategy that creates middle class jobs and fosters business development in New York State through transportation-related manufacturing;
- (2) Build a campaign to secure the fullest political commitment from the Governor, the legislature, local elected officials and regional economic development councils in New York State to a transportation manufacturing job and business development strategy; and
- (3) Promote adequate funding for the MTA and New York State's other transit authorities' capital and operating budgets, and for national mass transit infrastructure by working closely with existing civic-labor-business-environment-community coalition efforts in New York and nationally, as well as ensure adequate and sustainable funding for advanced manufacturing investments.

A broad and inclusive labor, business, community, academic, environment and civic coalition is needed to promote this agenda and make it a reality. Participants in the September 27 conference are invited to join this coalition.

## Endnotes

- <sup>1</sup> Fiscal Policy Institute, *The State of Working New York 2011: The Unemployment Crisis Two Years into Recovery*, August 31, 2011.
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- <sup>6</sup> Peter M. Rogoff, "Next Stop: A National Summit on the Future of Transit," Remarks at the Federal Reserve Bank of Boston (delivered May 18, 2010).
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- <sup>8</sup> Michael Renner and Gary Gardner, *Global Competitiveness in the Rail and Transit Industry*, Worldwatch Institute and Northeastern University, Kitty and Michael Dukakis Center for Urban and Regional Policy, September 2010.
- <sup>9</sup> "Allison Transmission Prepares to Manufacture New Hybrid Commercial-Duty Truck Drive Systems in Indianapolis, Indiana," Press release from Allison Transmission, Inc. Available at: <http://www.prnewswire.com/news-releases/allison-transmission-prepares-to-manufacture-new-hybrid-commercial-duty-truck-drive-systems-in-indianapolis-indiana-97374414.html>
- <sup>10</sup> Jeffrey Blackwell, *Alstom Signaling called a model of growth by U.S. Official*. Democrat and Chronicle, May 11, 2011.
- <sup>11</sup> Apollo Alliance, "Make It In America: The Apollo Clean Transportation Manufacturing Action Plan, October 2010, p. 11.
- <sup>12</sup> Jonathan Michael Feldman, "From Mass Transit to New Manufacturing," *The American Prospect*, April 2009.
- <sup>13</sup> Marcy Lowe, Saori Tokuoka, Kristen Dubay, and Gary Gereffi, *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*, Duke University Center on Globalization, Governance & Competitiveness, June 2010.
- <sup>14</sup> Lowe, et. al. *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*.
- <sup>15</sup> Lowe, et. al. *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*.
- <sup>16</sup> Lowe, et. al. *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*.
- <sup>17</sup> Lowe, et. al. *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*.
- <sup>18</sup> Lowe, et. al. *U.S. Manufacture of Rail Vehicles for Intercity Passenger Rail and Urban Transit*.
- <sup>19</sup> Apollo Alliance, "Make It in America," p. 13.
- <sup>20</sup> Stephen J. Ezell and Robert D. Atkinson, *International Benchmarking of Countries' Policies and Programs Supporting SME Manufacturers*, Information Technology & Innovation Foundation, September 2011.
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- <sup>22</sup> American Public Transportation Association: 2011 Public Transportation Fact Book, Washington, DC, April, 2011. Table 3.
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<sup>29</sup> National Transit Database, TS3.1 Capital Expenditures Times-Series, 1992-2009. [ntdprogram.gov / Home Page](http://www.ntdprogram.gov/HomePage). Web. 22 Aug. 2011. <<http://www.ntdprogram.gov/ntdprogram/data.htm>>.

<sup>30</sup> New York State diverted \$143 million in funds earmarked for the MTA to the state budget in December 2009, \$17 million in July 2010, and \$200 million in April 2011.

<sup>31</sup> Public papers of Hugh L. Carey, fifty-first governor of the State of New York, 1981, Page 1337.

<sup>32</sup> MTA Twenty Year Capital Needs Assessment 2010-2039, August 2009, Page 7.

<sup>33</sup> NYS Comptroller Thomas P. DiNapoli, *Financial Outlook for the Metropolitan Transportation Authority*, September 2011.

<sup>34</sup> MTA, *Built in New York: The Economic Impact of MTA Capital Program Investment on New York State*, August 2011.

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<sup>36</sup> MTA Bus Operations Committee Meeting Book, May 2011, page 53

<sup>37</sup> MTA Bus Operations Committee Meeting Book, May 2011, page 55.

<sup>38</sup> Letter from Ed Murphy, September 20, 2011, Executive Director, Workforce Development Institute.

<sup>39</sup> MTA Twenty Year Capital Needs Assessment 2010-2039, August 2009, Pages 22, 42, 54 and 64.