

MAKE IT IN AMERICA

THE APOLLO CLEAN TRANSPORTATION MANUFACTURING ACTION PLAN

Introduction

Ten years into the 21st century, our national transportation policy remains shaped by a law passed in 1956. Three years into a global economic recession, the U.S. economy continues to languish. 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 laying the foundation for long-term economic recovery.

In March 2010, the Apollo Alliance convened a task force of leading manufacturers, labor unions, and policy experts in transportation, energy, and economic development—the Transportation Manufacturing Action Plan, or TMAP, task force—to examine options for expanding the domestic production of advanced transit systems, vehicles, clean trucks, and their component parts. Based on input from the task force, we call for a comprehensive strategy to boost domestic transit and freight manufacturing that starts with increasing current federal investment to \$30 billion per year for public transit and \$10 billion per year for intercity and high-speed rail.

Bringing transit and rail investments up to these levels will create 3.7 million direct and indirect jobs, double ridership over the next two decades, and build out a comprehensive intercity and high-speed rail system. In addition, these investments will generate \$60 billion in net annual gross domestic product, nearly \$45 billion in additional worker income, and \$14 billion in annual tax revenue, spurring additional growth throughout the economy.

More than 600,000 jobs could be created in the manufacturing sector alone, many of which will be in the production of advanced buses, rail cars, cleaner freight movement technologies and component parts. Realizing this manufacturing job growth potential and restoring productive capacity is essential to broader U.S. economic recovery because manufacturing drives innovation and wealth creation across the entire economy. In fact, the manufacturing sector generates 70 percent of all private-

sector research and development spending and 90 percent of all U.S. patents. And one higher-tech manufacturing job, such as those available in advanced transportation equipment, will support up to 16 additional jobs in other sectors.

Summary of Recommendations

Spur Demand for Transit Vehicles, Systems, Clean Trucks, and Their Component Parts

1. Invest \$30 billion in public transit and \$10 billion in intercity rail annually to double public transit ridership and connect our nation's communities with modern and efficient rail service
2. Expand competitive, mode-neutral financing approaches to leverage greater state, local, and private transportation investment, reduce energy consumption, and support domestic manufacturing
3. Develop a national freight plan and upgrade our nation's freight vehicle fleet, and support local port clean-up plans to drive clean freight movement

Support Domestic Manufacturers in Making the Vehicles, Systems, and Component Parts Demanded by Clean, Efficient Public Transit and Freight Movement Systems

1. Support American manufacturers in retooling and making new investments in clean truck, transit vehicle, and component part manufacturing
2. Improve transparency and accountability of domestic content requirements and introduce incentives to increase domestic content
3. Encourage product standardization and improve procurement practices
4. Invest in research and development programs that create new technologies and support the commercialization of these products

However, due to decades of underinvestment in public transit, the U.S. transit manufacturing industry is underdeveloped. Existing public transit bus, rail vehicle and clean truck supply chains support approximately 40,000 U.S. manufacturing jobs. While relatively small today, jobs in these supply chains are spread across all 50 states, among more than 320 existing companies that could scale up to meet expanded demand.

In order to fully reap manufacturing job-creation benefits, transit investments must be accompanied by measures that strengthen domestic production capacity. Since the passage of the last transportation reauthorization, over \$10 billion has gone toward the purchase of public transit vehicles, track, and supporting equipment manufactured abroad. With an estimated 27,600 transit buses, 4,000 passenger rail cars and locomotives, and 220 light rail cars in need of replacement over the next six years, America simply cannot afford to continue purchasing this equipment overseas.

It is time to embrace a 21st century transportation plan: one that creates millions of American jobs; provides increased transportation options and alternatives to fossil fuels; and recognizes our potential to invent and manufacture cleaner vehicles and transit systems here at home, instead of sending our dollars overseas.

TMAP Policy Recommendations

[Spur Demand for Transit Vehicles, Systems, Clean Trucks, and Their Component Parts](#)

Creating new domestic manufacturing jobs in the clean transportation sector begins by ensuring strong and reliable domestic demand for rail, public transit and clean freight movement. To create new and expanded markets for domestic manufacturers of advanced transportation vehicles and components, we must:

Invest \$30 billion in public transit and \$10 billion in intercity rail annually to double public transit ridership and connect our nation's communities with modern and efficient rail service.

Investing \$30 billion annually at the federal level into public transit infrastructure and rolling stock will bring our existing transit system to a state of good repair, double public transit ridership over the next two decades, support greater adoption of fuel-efficient and low-emissions technologies, and expand the market for domestic transit manufacturers. And to ensure these investments yield the greatest possible reductions in energy use and greenhouse gas emissions, this investment must be linked to meaningful fuel efficiency and low-emissions performance targets.

In addition, to continue the progress we have made through American Recovery and Reinvestment Act, or ARRA, investments, we must commit at least \$10 billion per year to improve our intercity passenger rail network and build new high-speed rail corridors. In 2008, the National Surface Transportation Policy and Revenue Study Commission estimated that an annual investment of more than \$8 billion was needed to support an improved national rail network through 2050, an estimate that included the development of just one high-speed rail line. Since then, planning and development of several new rail corridors has begun under ARRA. To ensure that these projects are completed and we build out comprehensive intercity rail systems, the next transportation authorization should contain at least \$10 billion per year for the country's passenger rail infrastructure.

Expand competitive, mode-neutral financing approaches to leverage greater state, local, and private transportation investment, reduce energy consumption, and support domestic manufacturing.

The next federal transportation bill will be a long-term investment of hundreds of billions of dollars in our nation's infrastructure and economy. At a time of historic unemployment across the economy and depression-level unemployment in blue-collar labor markets, we must ensure that these investments yield the greatest possible economic benefit.

For this reason, we must expand 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.

In addition, we must build upon successful programs developed through ARRA and lay the foundation for a performance-based transportation system by expanding competitive transportation infrastructure grants that are mode-neutral and target reductions in energy consumption and greenhouse gas emissions. New competitive infrastructure financing programs should also support domestic manufacturing to the highest degree possible, by giving preference to projects that use vehicles, infrastructure, and supporting equipment with higher-than-required domestic content.

Develop a national freight plan and upgrade our nation's freight vehicle fleet, and support local port clean-up plans to drive clean freight movement.

To make our freight infrastructure more sustainable, we must develop a national freight plan, which identifies corridors and hubs of national significance and prioritizes and funds infrastructure investments such as upgrades to freight rail track or installation of double-tracked rail line in congested corridors. Priority must be given to projects that improve freight transportation reliability and throughput, as well as reduce fuel consumption, greenhouse gas emissions, and localized air pollutants, such as toxic diesel particulate matter.

In addition, to ensure the trucks and rail cars running on this infrastructure are more efficient, we should also provide incentives for the purchase of diesel retrofit components, natural gas and other alternative-fuel trucks, as well as modern freight switcher locomotives and rail cars. Finally, we must amend the Federal Motor Carrier Act to specifically allow states, cities and port governing bodies to regulate the emissions of trucks coming in and out of port facilities, which will increase demand for clean trucks.

[Support Domestic Manufacturers in Making the Vehicles, Systems, and Component Parts Demanded by Clean, Efficient Public Transit and Freight Movement Systems](#)

We won't reap the full economic benefits of new transit and rail investments in cleaner transportation unless we 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. To capture these jobs, we must:

Support American manufacturers in retooling and making new investments in clean truck, transit vehicle, and component part manufacturing.

The United States is home to five public transit bus manufacturers, a dozen railcar builders, and a wide range of truck manufacturers. Yet there are still gaps in the supply chains for clean transit and freight vehicles. A recent analysis by Duke University found that supply bottlenecks exist for propulsion, electronics, air conditioning, and brake systems in the rail sector, and only a handful of suppliers exist for key components such as engines, transmissions, and axles in the bus industry. In spite of existing domestic

content requirements, many higher-value-added manufacturing activities are still performed overseas.

To strengthen domestic supply chains, we must provide direct financial support to domestic manufacturers of clean transportation systems. Targeting this assistance towards both the transit and freight sectors will help rebuild our transit supply chains and enable manufacturers to retool to meet the growing demand for clean trucks, which will result from the first-ever fuel efficiency regulations in the truck and bus markets that the Obama administration announced this year.

Federal assistance could take a number of different forms, including direct grants, loan guarantees, or low-interest loans.

Improve transparency and accountability of domestic content requirements and introduce incentives to increase domestic content.

Current law requires that all projects funded by the FTA must use 100 percent domestically-produced steel and all rolling stock must include a minimum of 60 percent domestic content and have final assembly occur in the United States. These measures provide critical support for companies – foreign- or domestically-owned – that manufacture buses, trains and their component parts domestically.

As transportation investments expand, accountability must improve to ensure that manufacturers meet current standards and incentives and supports should be provided that will increase domestic content in advanced public transit and freight systems.

To start, Buy America and Buy American standards for all federal transportation investments must be clarified, streamlined, and made more transparent by posting rules and guidance on a central website.

Second, the full effects of waivers granted should be compiled in regular federal reports that contain the number and value of domestic content waivers, the reasons that the waivers were issued, and estimates of total American jobs sent overseas as a result.

Finally, new competitively administered transportation investments should include preferences for projects that exceed domestic content requirements, encouraging transit agencies to purchase vehicles, systems, and supporting equipment with a greater share of domestic content. To assist agencies and manufacturers seeking to increase domestic content, the Department of Transportation should engage the Hollings Manufacturing Extension Partnership, or MEP, network to expand the number of domestic suppliers to the bus and rail industries.

Encourage product standardization and improve procurement practices.

Currently, transit agencies across the United States purchase vehicles and systems with unique specifications. Since each transit agency sets its own vehicle specifications, manufacturers must navigate complicated and widely-varied Requests For Proposals—raising procurement costs by 20 to 30 percent in the bus market alone. New standards being developed with participation from industry members will help to address these challenges, making it easier for U.S. suppliers to bring down costs and remain competitive.

Therefore, in addition to supporting continued development and updating of product standards for the bus and rail industries, we must promote the use of product standards by providing incentives for projects that purchase vehicles compliant with industry-recognized standards, where available.

To ensure that transit agency staff is knowledgeable about these standards, future transportation policies must also provide support for the development of a procurement training curriculum that incorporates these product standards with an understanding of how to coordinate pooled purchasing and detailed information that will help improve domestic content compliance.

Invest in research and development programs that create new technologies and support the commercialization of these products.

Investments in research and development are essential to ensure that the next generation of technological advances in people and freight transportation occur – and are commercialized – in the U.S. To help continue the development of new technologies across all forms of clean transportation, we must invest in a comprehensive domestic research, development and commercialization program for transit and clean freight vehicles.

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. In addition, 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.

Conclusion

The languishing U.S. economic recovery and deepening climate and energy crisis demand that we seize the current opportunity to reduce transportation emissions and create millions of good American jobs. In 1956, President Dwight Eisenhower laid the foundation for decades of American prosperity through a national transportation policy suited to the automobile age. Today we are on the cusp of an emerging low-carbon economy, and we must again use forward-thinking transportation policy to drive national prosperity. The Transportation Manufacturing Action Plan is a national strategy to do just that. Let's make it happen.

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