

## **The Economic Benefit of the MTA Capital Program: A Call to Show the Full Impact**

The Permanent Citizens Advisory Committee (PCAC) to the Metropolitan Transportation Authority (MTA) represents the interests of the riders of the nation's largest public transportation system.<sup>1</sup> This report is the third in a series of discussions relating to the MTA Capital Program: the first, a historical review, *The Road Back*<sup>2</sup>, was issued in May 2012 and describes the huge fiscal challenge in rescuing the system from its derelict state in 1980; the second focuses on the visualization of data<sup>3</sup> as a way to hone in on those areas that need capital investment and to highlight the service improvements as a result of capital investment; and this report, a white paper that highlights key studies that view the economic value of public transportation across many facets. It is also an appeal to the MTA to seek research partners who can provide the kind of analyses that better capture the true worth of this extraordinary system, thus adding further support for continued capital investment.

This third paper grew out of a reaction to MTA's report, *Built in New York, The Economic Impact of the MTA Capital Program on New York State*, which was released in October 2011. *Built in New York* is a worthy effort to remind the public and particularly Albany legislators about the employment and economic ripple effect created by the various facets of the MTA capital program — from building railcars and buses, rehabbing stations, repairing bridges to the highly publicized mega construction projects such as East Side Access and Second Avenue subway. At the time that *Built in New York* was released, the last three years of the 2010–2014 Capital Program were unfunded<sup>4</sup> and it was important to have taxpayers and elected officials understand how important these infrastructure projects are to the State's economic health.

Using a national model developed by the American Public Transportation Association (APTA),<sup>5</sup> *Built in New York* states that the 2010–2014 Capital Program will provide 350,000 jobs in New York with an overall economic impact of \$44 billion statewide.

---

<sup>1</sup> PCAC is comprised of three rider councils: the Long Island Rail Road Commuter Council (LIRRCC); the Metro-North Railroad Commuter Council (MNRCC); and, the New York City Transit Riders Council (NYCTRC).

<sup>2</sup> May 2012.

<sup>3</sup> Forthcoming, December 2012.

<sup>4</sup> See PCAC's *The Road Back* for details on the funding tribulations of the 2010–2014 Capital Program.

<sup>5</sup> Prepared for APTA by Glen Weisbrod, Economic Development Research Group, Inc. and Arlee Reno, Cambridge Systematics, Inc.

These numbers reflect direct employment plus indirect (supplier industries) and induced (consumer goods and services) jobs.

While PCAC does not challenge these estimated benefits of construction employment, it believes that the full economic value of the MTA services have not been adequately presented. In addition to direct employment, the APTA model also highlights other influences on an area's economy as a result of transit capital investment:

- Travel time savings — more direct routes, more frequent service
- Travel costs savings — for job related trips, employers benefit from reduced employee travel time and greater productivity
- Reliability improvements — reduces unanticipated delays in worker arrival times
- Safety improvements — accident reductions on roads due to shifts from auto use to public transportation<sup>6</sup>

Further, beyond the time and vehicle costs savings described above, expanded public transportation service and reduced traffic congestion lead to two other major economic outcomes that are particularly relevant for the New York metropolitan region:

### 1. Mobility and Market Access

Business productivity benefits from access to a broader and more diverse labor market with a better fit of worker skills, and access to a wider customer market; and vice versa, worker access to more and better jobs. These advantages can be described from both the employer and the worker perspective. In the case of the MTA, the access provided to the jobs in New York City by the LIRR and MNR commuter railroads is historic and well known. However, even within New York City's five boroughs the direct access to jobs, say between the Bronx from Brooklyn, is only reasonably feasible because of the most extensive subway system in the country. For places where subways aren't found, for short trips, or an inability to use a subway due to a disability, the largest bus fleet (5,600) in the United States provides accessibility for 2.5 million riders daily.

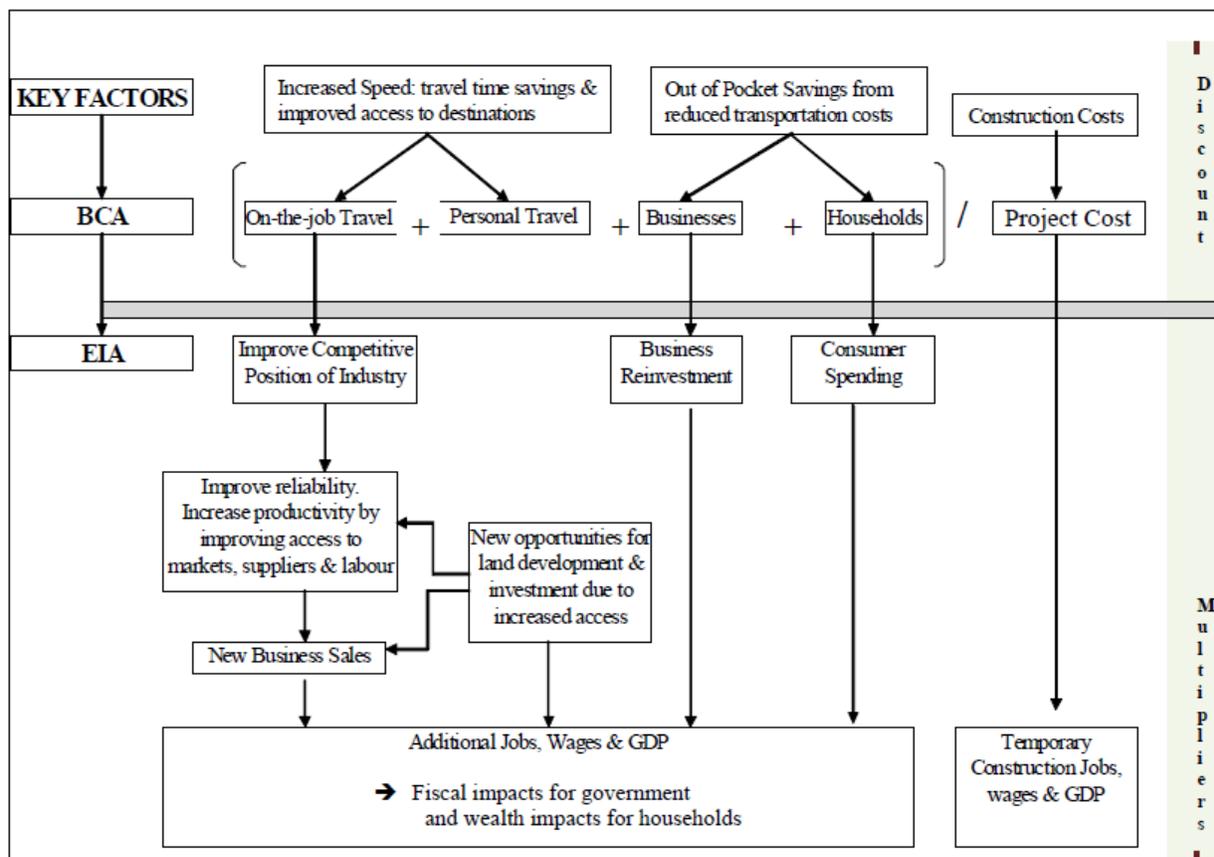
As with economic benefits of direct, indirect and induced employment from Capital Program construction projects, job access also has related ripple effects. The wages earned in New York City flow back to suburban communities where they pay for property taxes and support local businesses which in turn support jobs in those

---

<sup>6</sup> See discussion pp. 12–17.

businesses. Furthermore, for businesses there are economies of scale enabled by access to a wider customer market.<sup>7</sup>

**Figure 1: Factors in Transit Benefit-Cost Analysis (BCA) and Economic Impact Analysis (EIA)**



Source: APTA

## 2. Spatial Agglomeration Economies

Business productivity benefits from agglomeration (clustering) of similar and complementary activities enabled by public transportation services and terminal facilities. These benefits can be more specifically delineated as “labor pooling” (particularly valuable for highly specialized industries such as legal and financial businesses); and “knowledge spillover”, the informal interaction of employees working in similar fields. The relationship between public transportation service and business density is widely recognized. New York City is the premier example of clustering

<sup>7</sup> There are also economic benefits of improving mobility for medical, shopping and other classes of trips. According to APTA it is possible to calculate an economic valuation of improving mobility for these trips as well, p. 19.

enabled by public transportation investment. The locations of downtown office districts, often focused on financial services and related business sectors, usually are marked by better transportation services, as driving can present parking and congestion challenges for workers. Agglomeration benefits are typically capitalized into land values and rents at locations where access to public transportation service is concentrated.<sup>8</sup> Figure 1 illustrates APTA's interpretation of how transit impacts economic activity.

### Other Studies

There are a variety of other reports that tackle the question of economic benefits of public transit. One earlier effort that stands out is the Transit Cooperative Research Program (TCRP) Report 20, *Measuring and Valuing Transit Benefits and Disbenefits*,<sup>9</sup> published in 1996. It is an in-depth presentation on the complexity and linkage of issues involved in trying to capture the economic value of transit. Areas of impact are defined as mobility and access, the economy, the environment and energy, safety and security, social equity, and effects that are commonly considered intangibles (see Figure 2 on the following page).

The measurement of these wide-ranging impacts, the report points out, is elusive under traditional methods:

The most pronounced shortcoming in traditional analysis is the inability to quantify the full range of transit benefits that are referenced in policy and goal statements and intuitively sensed by citizens, as well as by many planners and decision makers. **As a result, transit benefits are traditionally understated when the merits of investment alternatives are weighed, resulting in understated estimates of transit cost-benefit and cost-effectiveness** (p.4, emphasis added).

---

<sup>8</sup> APTA, p. 20. According to the report, the methods used to assess public transportation impacts on agglomeration economies center on statistical analysis, using regression techniques. These techniques relate measures of the effective labor or customer market size to measures of business concentration, output level or productivity measures.

<sup>9</sup> Prepared by Cambridge Systematics, Inc. and Apogee Research, Inc.

<b>Figure 2: Major Transit Impacts</b>	
<u>Mobility and Access Impacts</u>	
Transit Use	Service reliability
Travel time	Service quality
Availability of transit services	Highway system impacts
<u>Economic and Financial Impacts</u>	
Public finance	Affordability
Cost-effectiveness of service	Economic growth
Cost avoidance	Development and Land Use
<u>Environmental and Energy Impacts</u>	
Energy consumption	Ecology
Emissions	Land consumption/
Noise	Land conservation
<u>Safety and Security Impacts</u>	
Rider safety and health	Rider security
Transit employee safety	Neighborhood integrity
Nonrider safety and health	Barrier effects
<u>Social Equity Impacts</u>	
Levels of service	Service availability
Utilization	Access to opportunities
Cost incidence	Access to destination
<u>Intangible Impacts and Factors</u>	
Value to the community	
Value to the individual	
Other mechanisms and methodologies	

Source: TCRP Report 20

The TCRP Report 20 covers the possible bases for analysis of all of the impacts shown in Figure 2. For economic outcomes it measures standard of living and the level of regional economic activity, the two generally agreed impacts that transit investment has. The report stresses the interrelationships among a number of variables and that important indirect impacts — environmental, government finance and fiscal conditions, productivity of private sector competitiveness, and safety and security — all should be considered in measuring the economic impact of transit.

TCRP Report 20 called for a more “integrated investment analysis” of increased transit investment and use: “the ability to measure the broader, long-term economic benefits and disbenefits to both the metropolitan region and the state of alternative levels of

transit investment has advanced the debate over transit's importance beyond the simple review of ridership statistics, access to central cities, and transit's social service function."<sup>10</sup> The report cites two analyses done in Philadelphia (SEPTA) and Chicago (RTA) that expanded the analytical approach and demonstrated that transit investment and use provide substantial and lasting economic returns. A schematic of the recommended integrated investment analysis is shown in Figure 3 on the following page.

The report makes the following conclusion:

The use of more sophisticated integrated transportation and economic modeling procedures is best suited for larger communities and regions with mature multimodal transit networks where transit plays a significant role in serving regional travel needs, particularly during the peak hours when increasingly severe congestion occurs across major portions of the highway system (p.29).

The MTA fits this profile perfectly. There should be a serious effort made to capture the full impact of capital investment using a more inclusive analysis rather than just the effect of construction related jobs.

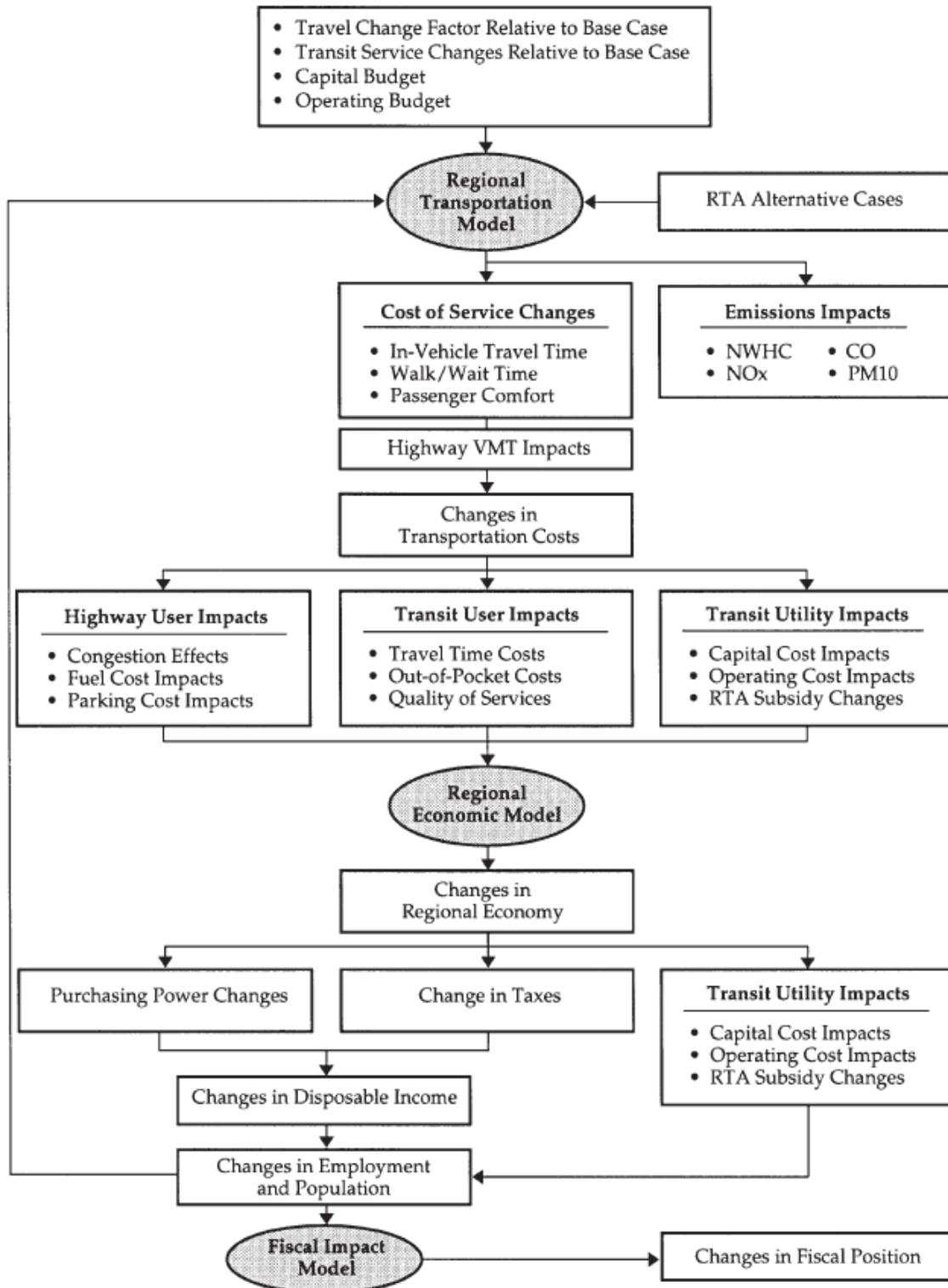
TCRP Report 20 was followed in 1998 by TCRP Report 35, *Economic Impact Analysis of Transit Investments: Guidebook for Practitioners*. The primary objective of this effort was to identify and describe a broad array of predictive and evaluative methods used to conduct economic impact analysis of public transportation investments. The report focuses on 12 methods traditionally used to analyze three categories of transit-related economic impacts:

- *Generative Impacts* produce net economic growth and benefits in a region such as travel time savings, increased regional employment and income, improved environmental quality, and increased job accessibility. This is the only type of impact that results in a net economic gain to society at large.
- *Redistributive Impacts* account for locational shifts in economic activity within a region such that land development, employment, and, therefore, income occur in a transit corridor or around a transit stop, rather than being dispersed throughout a region.
- *Transfer Impacts* involve the conveyance or transfer of moneys from one entity to another, such as the employment stimulated by the construction and operation of a transit system financed through public funds, [and] joint development income,

---

<sup>10</sup> p. 25.

**Figure 3: Integrated modeling and analysis approach**



Source: TCRP Report 20

and property tax income from development, redistributed to a transit corridor.

The report presents a brief description of each method; when each should be used; the impacts that each measures; its advantages and disadvantages; the data sources; an example; complementary methods; and a score card on the performance of each method. The report provides guidance for selecting methods and discusses critical issues that affect the selection of evaluation methods. The report goes on to suggest criteria for evaluating and presenting the results of an economic impact analysis after the analysis is completed.<sup>11</sup>

Since the publication of TCRP Report 20 and Report 35 there have been significant strides in economic modeling. According to a recently released report out of the Texas Transportation Institute<sup>12</sup>:

Today, economic modeling software has been built specifically to evaluate transportation improvement projects at the federal, state, regional, and local level. More comprehensive software models, such as the Transportation Economic Development Impact System (TREDIS), are applicable for all modes, including highway, bus, rail, aviation, and marine projects, as well as multimodal projects. This enables transportation planners and consultants to conduct economic development impact evaluations and cost-benefit analyses for transportation investments for all modes of transportation, allowing for a more holistic assessment of public and private investment funds (p. 11).

### Conclusion: The Need to Show the Full Economic Benefits

In the New York City metropolitan area the link between economics and public transportation is undeniable.<sup>13</sup> Investment in the maintenance, upgrading and expansion of the MTA system is essential and ongoing. *Indeed, the MTA has spent, in 2011 dollars, \$116.7 billion<sup>14</sup> since the first modern capital program in 1982; and the full benefits of those investments should be quantified and promoted by the MTA.*

It is recognized, however, that MTA does not have the capability to engage in a comprehensive economic analysis of the system's value to the region. Rather, MTA

---

<sup>11</sup> See Forward to the report.

<sup>12</sup> University Transportation Center for Mobility, *Refining a Methodology for Determining the Economic Impacts of Transportation Improvements*, July 2012. Unfortunately, this report primarily focuses on highway issues; however, it provides a strong incentive to use similar analytic tools for public transportation investments.

<sup>13</sup> The recent devastation by Hurricane Sandy to the New York area public transportation system brought home this point with harsh reality.

<sup>14</sup> PCAC, *The Road Back*, p. i.

needs to partner with academic or research institutions for expertise in this area.<sup>15</sup> With the advancements in computer capabilities and modeling, a better portrayal of MTA's capital program contribution to the economic vitality of the New York metropolitan region can be generated. **The PCAC urges the MTA to call on outside resources to help it tell a more complete story of the value of investment in this incredible transit system.**

### **Selected Bibliography**

American Public Transportation Association (APTA). *Economic Impact of Public Transportation Investment*. October 2009.

Cambridge Systematics with R. Cervero and D.S. Aschauer. *Economic Impact Analysis of Transit Investments: Guidebook for Practitioners*. TCRP Report 35, Transportation Research Board, Washington DC, 1998.

Cambridge Systematics and Apogee Research, Inc. *Measuring and Valuing Transit Benefits and Disbenefits*. TCRP Report 20, Transportation Research Board, Washington DC, 1996.

University Transportation Center for Mobility, Texas Transportation Institute, Texas A&M University System. *Refining a Methodology for Determining the Economic Impacts of Transportation Improvements*. July 2012.

Note: These references contain copious bibliographies that direct the reader to many other studies and discussions about the economic impact of public transportation.

---

<sup>15</sup> PCAC has repeatedly called for MTA to seek alignments with the academic community. See *Minutes Matter*, p. 26, <http://www.pcac.org/wp-content/uploads/2009/06/the-road-back.pdf>