New reports and research confirm the growing — and transforming — role of community and public transportation in getting Americans to work.

The basic form and function of public transportation in this country was born around the notion of the commuter. Getting Americans to-and-from work has always been the drive-wheel of transit and though commuters have gone from spending the commute with the morning newspapers to staring at their smart phones, transporting people to work and back has always — and will continue to be — a vital function of community and public transportation operators. Yet as with virtually all other facets of American life, the commute is undergoing a fundamental transformation.

The way Americans work — and thus commute to work — is changing across the country. Commute patterns that once seemed permanent fixtures are transforming, too. The availability of real-time data; concepts like first-mile/last-mile; carshare, bikeshare and vanpooling services; and, the increasing urbanization of the American population are all serving to accelerate the transition. The typical commuter today is just as likely to be going from one suburb to another, as opposed to the traditional suburb-to-city pattern. The typical commuter is looking for first-mile and last-mile solutions just as much as lines into a city center and is often exploring alternatives to driving that don’t include traditional bus and rail options.

It is incumbent on community and public transportation to get ahead of these trends and develop the type of flexible, affordable and responsive services that best meet today’s commuters’ needs.

Looking at the Traditional Commute

Although, most estimates place community and public transportation’s share of the daily commute load at about 5 percent. Low — to
be sure — but not at all indicative of transit’s real (and growing) commute market penetration because its availability is not uniform throughout the country.

Last year, Governing Magazine published a map of commuting in the U.S. (using 2011 American Community Survey data) that analyzed the real commuter situation and found far greater commuter market penetration than those 5 percenters have led many to believe. In the New York City metropolitan area — not surprisingly — 38 percent of commuters used transit or bike/ped to get to work. The San Francisco Bay Area saw the same figure at 22 percent. In fact, to the left is a look at a select group of cities along with their percentage of commuters using a combination of transit and bike/ped to get to work.

These figures show that in many parts of the country the combination of community and public transportation, along with the bike/ped mode, is making serious inroads into the commute load share. The increasing urbanization of the American population along with the de-emphasis of driving on the part of younger Americans (which is why the college town figures are so vital) make these trends certain to increase, further escalating transit’s share of the American commuting landscape. This data illustrates that, in fact, transit is doing a good job in many parts of the country of meeting the traditional commuter demand model. Technology can help us evaluate these services even more.
Big Data and a New Generation of Analytical Tool

In the 1960s, a concept took root that, in many ways, was the beginning of the new generation of thinking about commuters and transportation. The concept, known as spatial mismatch, asserted that there exists a direct correlation between where an individual lives, where available jobs are located and the individual’s ability to access those jobs — regardless the mode of transportation used — simply and efficiently.

In the 1990s, technology allowed an improved look at the spatial mismatch concept. Researchers used a city map and then analyzed where pockets of unemployed and underemployed resided, where available jobs were, and then overlaid the local transit system’s routes. Many communities suddenly had a visual tool that showed them exactly how mismatched some of their public transit efforts were with the concept of connecting people to jobs.

Further exacerbating the spatial mismatch issue, studies showed, was the emergence of second- and third-shift work schedules, asking employees to commute away from peak rush hour periods — but often at times few community and public transportation systems could accommodate. Lastly, at roughly the same time, the idea of the reverse commute — commuters going from city to suburb for employment — became a watchword.

It was the confluence of both the spatial mismatch and reverse commute concepts that ushered in the Federal Transit Administration’s Job Access and Reverse Commute (JARC) program — which was introduced in the landmark TEA-21 federal surface transportation law in 1998, targeted largely to serving welfare recipients and low-income individuals. In 2012, JARC was discontinued by Congress with MAP-21’s passage after nearly 14 years.

Yet the challenge remains and the reality of spatial mismatch persists. Earlier this year, a highly scientific and thorough research paper from the U.S. Census, Harvard University and the Comptroller for the Currency, *Job Displacement and the Duration of Joblessness: The Role of Spatial Mismatch*, found accessibility to jobs as the vital ingredient in positive employment outcomes for job seekers. The report’s conclusion notes, “Our results support the spatial mismatch hypothesis. We find that better job accessibility significantly decreases the duration of joblessness among lower-paid displaced workers. In the center of the job accessibility distribution, an increase from the 25th to the 75th percentile of job accessibility is associated with a 4.2 percent reduction in search duration for finding any job, and a 5.6 and 7.0 percent reduction for accessions to a new job with 75 and 90 percent of prior job earnings, respectively.”
In other words, the availability of transportation very much matters when it comes to positive local employment outcomes. *The Economist* summarizes the report thusly: “A better approach would be to help workers either to move to areas with lots of jobs, or at least to commute to them. That would involve scrapping zoning laws that discourage cheaper housing, and improving public transport. The typical American city dweller can reach just 30 percent of jobs in their city within 90 minutes on public transport. That is a recipe for unemployment.”

We’ve come a long way from simply placing lines on a map. The use of what’s come to be known as Big Data allows researchers unprecedented ability to analyze the employment, transportation and commuting environments.

In September, the University of Minnesota’s Department of Civil, Environmental and Geo-Engineering released *Access Across America: Transit 2014* that showed just how far these data tools have come. The report analyzes 46 of the nation’s 50 largest cities (measured by population) on the accessibility to jobs by transit. Integrating transit schedules with employment data, and taking into account such factors as first-mile/last-mile and even pedestrian segments to the commute, the report offers a level of detail heretofore unseen, estimating the number of jobs accessible by transit in a given community in 10-minute, 20-minute, 30-minute, 40-minute, 50-minute and 60-minute increments.

The report’s rankings are determined by a weighted average of accessibility, giving a higher weight to closer jobs. Jobs reachable within 10 minutes are weighted most heavily, and jobs are given decreasing weights as travel time increases up to 60 minutes. Based on this measure, the 10 metro areas with the greatest accessibility to jobs by transit, and for which sufficient data are available, are:

1. New York
2. San Francisco
3. Los Angeles
4. Washington
5. Chicago
6. Boston
7. Philadelphia
8. Seattle
9. Denver
10. San Jose

The report concludes: The cities that make up the top 10 transit accessibility ranks all exhibit a combination of density and fast, frequent transit service. However, there is still significant variation within this group. In New York, San Francisco, Washington, and Chicago, fast heavy rail systems connect both urban and suburban areas with a highly employment-dense core. It is instructive to compare these cities to Atlanta, which has a similar rail system but a much more decentralized job distribution, and lower accessibility. Seattle and Denver both have rapidly expanding light-rail systems, supported by extensive and frequent bus networks. Though Portland is famous for its streetcar service, this covers only a small part of the city. Its urban growth boundary, combined with frequent bus service throughout core areas and light rail connections to suburban areas, likely plays a more important role in providing high accessibility: by encouraging both residents and employers to locate in parts of the city already well served by transit, each new resident enjoys high accessibility but imposes only a marginal burden on the transit system’s resources.

Transportation and land-use systems are both dynamic, and this report presents only a single snapshot in time. In constantly-evolving systems like these, it is also critical to monitor changes over time. A city that adopts a goal of increasing transit accessibility should be evaluated based on how effectively it advances that goal relative to a baseline. Using this data as a starting point, future reports in the Access Across America series will track the way that accessibility in these metropolitan areas evolves in response to transportation investments and land-use decisions.

Brookings summarized their findings thusly:

- Over three-quarters of all jobs in the 100 largest metropolitan areas are in neighborhoods with transit service. Western metro areas like Los Angeles and Seattle exhibit the highest coverage rates, while rates are lowest in Southern metro areas like Atlanta, Ga., and Greenville, N.C. Regardless of region, city jobs across every metro area and industry category have better access to transit than their suburban counterparts.

- The typical job is accessible to only about 27 percent of its metropolitan workforce by transit in 90 minutes or less. Labor access varies considerably from a high of 64 percent in metropolitan Salt Lake City to a low of 6 percent in metropolitan Palm Bay, Fla., reflecting differences in transit provision, job concentration, and land use patterns. City jobs are consistently accessible to larger shares of metropolitan labor pools than suburban jobs, reinforcing cities’ geographic advantage relative to transit routing.

The American Association of State Highway and Transportation Officials (AASHTO) most recently published its *Commuting in America, The National Report on Commuting Patterns and Trends* in 2013. It found that, “Discussions regarding the extent of the use of public transportation need to be informed by an understanding of the availability of transit to carry out trips. As is the case with other non-personal vehicle modes, measures of availability are not readily available for public transportation at an aggregate national level. However, there is some information that can shed light on and provide perspective regarding availability of public transportation.

Much of this data and research is focused on traditional fixed-route transit services. More non-traditional forms of employment transportation, however, are swiftly growing all across the commuting landscape, too.
Vanpooling, Bikesharing and Carsharing

Vanpools (vehicles carrying 7-15 passengers, including the volunteer driver) provide an affordable transportation alternative for employees with a lengthy commute between home and work. Vanpools can be organized through a transit agency, employer, transportation management association, a group of employees, or other sponsoring organization.

The National Transit Database (NTD) reveals that since 2005, vanpooling has grown significantly in the U.S., with vanpool vehicles in service rising from 4,288 in 2005 to 7,557 in 2012. The total number of annual unlinked vanpool trips has doubled — from 17.2 million in 2005 to 35.5 million in 2012 — while the farebox revenues generated by vanpools has grown during the same time frame more than 300 percent.

Vanpool operations are particularly useful because they directly meet customer needs, and are more cost-effective, flexible and responsive than traditional fixed-route transit operations. Further, they often involve local private sectors businesses that can reap tax benefits from helping to establish and support vanpool operations.

In 2012, according to the NTD, vanpooling services nationally averaged $33.50 in operating expenses per vehicle revenue hour — which compares quite favorably to bus service at $128, heavy rail at $219 and commuter rail at $507.

A 2012 National Conference on State Legislatures (NCSL) analysis entitled, State Strategies for 21st Century Transportation Solutions reported: Bicycling and walking also are on the rise as transportation alternatives. From 1990 to 2009, the number of individual walking trips increased from 18 billion to 42.5 billion; bicycling trips increased from 1.7 billion to 4 billion during the same time period. In addition, since 2000, the number of bicycle commuters has increased by 40 percent nationwide. Today, 12 percent of all trips in America are made by foot or by bicycle; minority and low-income groups especially rely on walking for transportation. Alternatives to individual vehicle ownership such as carsharing and bikesharing also have seen impressive growth in the past decade. Nationwide, carsharing programs now have 718,596 members, and public bikesharing systems have more than 170,000 members. Younger Americans especially are choosing to travel less or use emerging modes; compared to 2001, people between the ages of 16 and 34 now take 24 percent more trips by bicycle and 16 percent more trips by foot and have increased their transit miles by 40 percent.

Bikesharing programs have enjoyed a particularly swift growth curve in the past five years and have found an important role as first-mile/last-mile transportation options that often connect to fixed-route transit options. The emerging bikeshare model is one that charges a membership fee plus nominal fees for each usage, and that deploys docking stations strategically located throughout a service area.

According to the Mineta Transportation Institute in its report, Public...
37 bikeshare programs were launched in the U.S. Data from 22 of those programs in 2012 reveals 884,442 bikeshare members and just more than 7,500 bikes in service.

Carsharing is an increasingly popular addition to the urban transit landscape that allows individuals the freedom of the private automobile without incurring the high costs of car ownership. Typically, members of a carsharing arrangement pay membership and usage fees for a car when they need one.

In North America, there are largely two forms of carsharing. In the business-to-consumer approach, which is the most popular, a company owns a fleet of vehicles that it shares amongst members. In the peer-to-peer concept, a marketplace of automobiles is shared among a community.

Like other alternative forms of transportation, carsharing is rapidly growing in popularity. According to the Collaborative Fund, in 2000 there were 2,500 people in North America sharing 153 vehicles through both forms of carsharing. A decade later, those figures had swelled to 516,000 and 10,405, respectively.

Expanding the Role of the Customer

From the development of sophisticated apps to the general empowerment of commuters as trip planners, today's workforce enjoys unprecedented flexibility and customization of the commutes to-and-from work. Community and public transportation, in all of its various modes, is enabling this empowerment. The key to the future is to avoid stagnation.

The traditional downtown commute on the bus or rail line will no doubt survive and remain a staple for urban transit providers. But the transit providers that will thrive — whether urban, rural or suburban — are those that seek to adopt more full-service approaches that encompass a wider collection of transit alternatives that all work together seamlessly in a comprehensive mobility network. Technology will play a key role — both in providing real-time customer information as well as helping transit leaders better understand the ever-changing commutes in the communities they serve.

Your Association Responds

CTAA is responding to the changing nature of commuting and commuter-based transportation by creating RideShareNation — a website dedicated to news, resources, finance and discussion about connecting all forms of ride-sharing into a cohesive network that builds mobility options, reduces congestion and improves the environment. Commuting is a key aspect of all RideShareNation activities.

Further, the Association has recently launched The Vanpool Works, a streamlined set of training, technical assistance, insurance, finance and other tools designed to directly help community and public transit agencies of all sizes to build upon or launch all-new vanpool operations.

For more information on RideShareNation click here
For more information on Vanpool Works click here