

## Redefining Public Transit Benefits for Future Generations “The CEO’s Vision for the Future”



Leadership APTA Class of 2015, Team One

Adam Barth (Fairbanks North Star Borough)

Stephanie Bogerd (New York City Transit)

LaShanda Dawkins (Metropolitan Atlanta Rapid Transit Authority)

Ray Sosa (AECOM)

Lisa Wolterink (Sound Transit)

October 2015

## Contents

Acknowledgements.....	2
Executive Summary.....	3
Methodology and Sources .....	4
Theme 1: Population Growth and Congestion Levels Demand More Transit .....	6
Theme 2: Transit is Vital for a Healthy City.....	12
Theme 3: Technology Impacts Transit .....	15
Theme 4: Transit is for All .....	17
Conclusion.....	20
Appendix A: Project Team.....	21
Appendix B: Interview Questions.....	22

## Acknowledgements

We thank the following individuals and their respective agencies who participated in interviews and contributed to our project:

Name	Title	Agency	Location
Corey Aldridge	General Manager	Missoula Transit Authority	Missoula, Montana
Steve Banta	CEO	Valley Transit Authority	Phoenix, Arizona
Doran Barnes	CEO	Foothill Transit	Los Angeles, California
Marc Bélanger	Director, Planning and Development	Société de transport de Montréal	Montréal, Québec
Craig Cipriano	CEO	New York City Transit	New York City, New York
Joni Earl	CEO	Sound Transit	Seattle, Washington
Jan Henderson	Sr. Planner	MASCO, Inc.	Boston, Massachusetts
Darrell Johnson	CEO	Orange County Transit Authority	Los Angeles, California
Doug Kelsey	President & General Manager BC Rapid Transit Company	TransLink	Vancouver, British Columbia
John Kivlehan	Vice President and Chief of Operations	New York City Transit	New York City, New York
Benjamin Limmer	Transportation Director	Atlanta Beltline	Atlanta, Georgia
Steve Meyer	Chief Development Officer	Utah Transit Authority	Salt Lake City, Utah
Keith Parker	CEO	Metropolitan Atlanta Rapid Transit Authority	Atlanta, Georgia
Joe Smith	Vice President	MV Transportation	New York City
Jim Stanton	Sr. Community Affairs Mgr.	Microsoft Corporation	Redmond, Washington
Milo Victoria	President/CEO	Victoria Gold Partners LLC	West Covina, California
Phil Washington	CEO	LA Metro	Los Angeles, California
Lance Wilbur	Director	Anchorage Alaska Transit System	Anchorage, Alaska

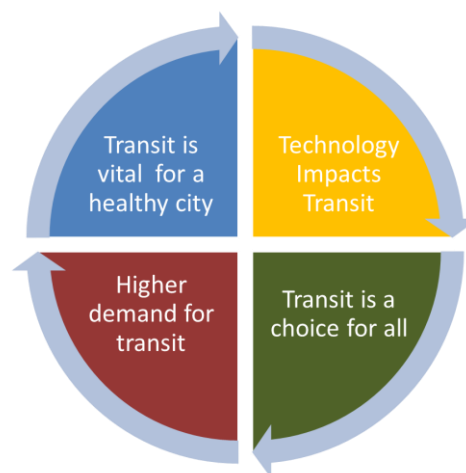
## Executive Summary

What is the transit agency CEO's vision for transit in the future? What do they think are some of the best practices to achieve that vision? By 2035, population growth will greatly increase the number of people who rely on transit; congestion will continue to increase and climate change demands greener transportation choices. Using long-range plans and interviews from CEOs, this project explores strategies and recommendations that can maximize the benefits of transit for future generations. The paper provides some examples of what we can do now to ensure a lasting, positive impact on the next generations of transit riders. It also envisions some scenarios of what life would be like without transit to further illustrate how essential transit is to the economy, environment and quality of life now and in the future.

The population in the United States is projected to grow 25 percent by 2050, with most of the growth happening in already congested urban areas. And as we know, traffic congestion wastes a massive amount of time, fuel and money. We interviewed transit agency CEOs and other transportation leaders from the US and Canada to gain insight about their vision for transit. We talked with leaders representing large urban areas where transit is a main mode of transportation and we also talked with leaders from smaller areas, where transit is mostly a mode used by people who can't or don't drive.

The transportation leaders we interviewed had a lot to say regarding how public transit changes lives, how to maximize the benefits of transit for future generations and how they see the transit industry changing in the next 5 to 15 years. Given the differences in geography, population density and economies of the regions we researched and people we interviewed, we found it interesting that the leader's opinions converged into four consistent themes:

1. Population growth and congestion demand higher levels of transit
2. Transit is vital for a healthy city
3. Technology impacts transit
4. Transit is a choice for all



Our research and interviews found that enhanced transit will help solve some of our nation's biggest challenges: like how to promote thriving economic centers, how to get people to work reliably and how to reduce vehicle emissions. We found that everyone benefits from an effective transit system - whether they ride it or not. We concluded that the CEO's vision for transit defines a future in which public transit maximizes its contribution to the economy, environment and overall quality of life.

## Methodology and Sources

### Interviews with Chief Executive Officers and Other Transportation Leaders

The main source of information in this paper comes from interviews with transit agency Chief Executive Officers (CEOs) and other transportation leaders. We interviewed nearly 20 transit agency executives, leaders from the private sector, non-profit organizations and community groups in the U.S. and Canada to get their views on the vision for transit in the future. We sought a diversity of opinions from both large and small transit agencies. We also sought out private sector perspectives both inside and outside the transit industry. These interviews were incredibly interesting and enlightening. Along with the interviews, we used the following other sources for this paper:

- Population and job growth projections were from [APTA's Transit Vision 2050](#) and [CUTA's Transit Vision 2040](#) Plans and CUTA's "[Setting Course for the Future, Issue Paper 33.](#)"
- Additional population and demographic information in the United States was from the U.S. Census Bureau's publication "[Projections of the Size and Composition of the U.S. Population: 2014 to 2060](#)" issued March 2015.
- Additional population information from Canada was from Statistics Canada publication "[Population Projections for Canada \(2013 to 2063\), Provinces and Territories \(2013 to 2038\)](#)" issued April 26, 2015.
- Congestion levels and projections were from the "[2015 Urban Mobility Scorecard](#)" from Texas A&M Transportation Institute and INRIX (August 2015).
- Information on disruptive technologies was from The McKinsey Global Institute's report "[Disruptive Technologies: Advances that will transform Life, Business, and the Global economy.](#)"
- The estimated number of jobs and other economic impacts from public transit spending were from [APTA's "Economic Impact of Public Transportation Investment," 2014 Update](#)
- Todd Litman and Marc Brenman (2012), "[A New Social Equity Agenda for Sustainable Transportation](#)", Victoria Transport Policy Institute, TRB Paper 12-3916.
- For information on transit and Millennials, we used Noreen C. McDonald's article "[Millennials and our transport future,](#)" from the University of North Carolina at Chapel Hill Department of City & Regional Planning.
- Information on the [Microsoft Connector](#) bus service and financial [contributions to regional transit](#) from Microsoft are from the Seattle Times.
- Information on public transportation for the New York region is from the [Metropolitan Transportation Authority \(MTA\)](#) in New York
- Information on the Boston snowstorms and their impact on transportation is from Boston's [Medical Academic and Scientific Community Organization](#) (MASCO)

Before we get to the transit leaders vision of the future, first, we'll take a step back in time to review some transit history.

### History of Public Transit Benefits Mid-1800s-1990

From the mid-1800s to 1990, transit focused on people getting to different locations conveniently. As cities densified, public transit's purpose evolved to getting people from different locations further away from the city, to the city, and faster. New technologies improved transportation but each improvement came with consequences. With the advent and investment in the auto, we believed in trying to get anywhere you want any time on your own. This led to an unbalanced system. Old technologies and techniques were replaced with new. The primary focus of public transit again evolved to making certain that all people had opportunity for mobility and had reliable service. On-time performance became one of the highest goals while low levels of funding for transit expansion reduced quality.



### History of Public Transit Benefits 1990-2010

In the last 20 years or so, we realized our choices had consequences and addressing these consequences became part of a transit agency's business plan. This included focusing on the environment and sustainability; addressing rising costs and cost effectiveness; understanding the economic benefits of major public transit investments and transit acting as a catalyst for economic development. Also, transit focused on providing for a secure and safe environment, especially after the 9/11 attacks.



For several individual years since the mid-2000s, the average number of vehicle miles traveled in the United States has either increased at a slower pace than in previous decades or declined. Although such shifts in travel behavior are slight, they have captured attention because they represent a disruption in an unequivocal, decades-long pattern of increased automobile travel.



### Common Themes

The issues are daunting and the challenges seem overwhelming. You would expect that transit leaders might respond to the issues unique to the region being served but instead we found four common themes:

- 1) Population growth and congestion demand higher levels of transit
- 2) Transit is vital for a healthy city
- 3) Technology impacts transit
- 4) Transit is a choice for all



## Theme 1: Population Growth and Congestion Levels Demand More Transit

The first theme that emerged from our research and interviews was that population growth and the resulting increasing levels of congestion will demand more transit. The following demographic changes are having significant impacts to transit.

### *The population is increasing.*

- According to the U.S. Census, between 2014 and 2060, the U.S. population is projected to increase from 319 million to 417 million. This corresponds to an average increase of 2.1 million people per year.<sup>1</sup>
- According to the Canadian Urban Transit Association (CUTA) long range plan and Statistics Canada, the Canadian population is projected to grow from 35 million to 40 million people by 2040.<sup>2</sup>



With growing populations in the U.S. and Canada, transit is needed to improve mobility and accessibility.

### *Congestion is increasing.*

Congestion already wastes a massive amount of time, fuel and money and as the population increases, congestion is projected to get worse. According to the 2015 Urban Mobility Scorecard from Texas A&M Transportation Institute:

- The cost of congestion in the U.S. will grow from \$160 billion in 2014 to \$192 billion in 2020 (in 2014 dollars).
- Delay will grow from 6.9 billion hours in 2014 to 8.3 billion hours in 2020.
- Wasted fuel will increase from 3.1 billion gallons of fuel in 2014 to 3.8 billion gallons in 2020.
- The average commuter will waste 47 hours in traffic by 2020. (47 hours spent in traffic is the equivalent of nearly 6 vacation days!)<sup>3</sup>



### *Population and economic growth are focused in urban areas.*

For the first time since the 1920's, U.S. cities are growing faster than the suburbs. This trend is impacting transportation, housing, and home ownership across categories.<sup>4</sup> According to APTA's VISION 2050 plan, by 2050, 70 percent of the population growth in the US and an even higher percentage of its economic growth are concentrated in ten (10) extended metropolitan regions. Left unaddressed, mega-regions will have unimaginable highway congestion, crowded public transit and loss of open space – impeding economic growth and degrading quality of life. Connecting major centers and mega-regions with public transit is key to addressing quality of life and the cost of congestion.<sup>5</sup>

When you have high levels of congestion, the benefits of transit become clear. Transit is the best way, and often the only way, to increase transportation capacity along congested corridors in urban areas. Given limited space and funding, transit can move more people per mile and per dollar than new roadway expansion projects.

- In ideal conditions, an uncongested highway lane can move as many as 1,900 vehicles per hour. A congested highway lane may only see 700 vehicles per hour.

- In comparison, a light rail train running four-car trains every four minutes at maximum capacity can move up to 12,000 riders per hour in each direction, or 24,000 riders per hour in both directions.<sup>6</sup>

#### *The Population is aging.*

Rapid growth in the number of older people in the United States and Canada during the coming decades will lead to greatly increased needs for expanded and enhanced public transportation services.

- In the U.S., the older segment of the population (age 65 and over) is projected to more than double in size from 46 million to 98 million between 2014 and 2060.<sup>7</sup>
- In Canada, the proportion of people aged 65 and over will increase from 15.3 percent in 2013 to between 23.8 and 27.8 percent respectively in 2063.<sup>8</sup>
- In both the U.S. and Canada, the increases in the senior population would be most pronounced through the year 2030, a period during which all members of the baby boom would reach age 65 and over.

The retiring baby boomer generation exhibits more urban-oriented housing choices than past retiring generations. Retirement living choices now consider pedestrian and transit oriented access to cultural activities and lifestyle amenities. In the long-run, if this trend continues, demographics could continue toward demand for higher density housing found in neighborhoods close-in to the urban core and more demand for transit service.

#### *Millennials drive less than previous generations.*

Millennials, or America's youth born between 1982 and 2000, represent more than one quarter of the U.S. population. Their size now exceeds that of the baby boomer generation, according to U.S. Census Bureau estimates. Overall, millennials are more diverse than the generations that preceded them, with 44.2 percent being part of a minority race or ethnic group.<sup>9</sup>

According to Noreen C. McDonald's article "Millennials and our transport future," millennials aged 19 to 30 traveled seven (7) fewer miles per day in cars than members of Gen X had when they were the same ages, marking the first time in our history that car travel, or "automobility," has declined. Why does this matter? Since millennials are now the largest generation in the U.S., their future travel patterns will affect everything from local congestion to national gasoline demand and greenhouse gas emissions.<sup>10</sup>

Both the U.S. and Canadian populations note other demographic trends such as: new mobility patterns, changing urban land-use patterns, new technologies and new transportation services providers that are affecting transit.<sup>11</sup>

Per the U.S. Census, the sharpest declines in rates of driving are associated with workers between the ages of 25 to 29, particularly those living in cities where there are more transportation options and more potential for variation in travel mode.

- Workers aged 25 to 29 showed the highest public transportation increase, from 5.5 percent to 7.1 percent and the largest declines in automobile commuting.
- Driver's licensing rates among young people have also declined or held steady in recent years.
- Younger workers also showed notable increases in bicycle commuting.<sup>12</sup>

In our interviews, the CEOs were well aware of how emerging demographic changes would affect transit in the future. Keith Parker from Metropolitan Atlanta Rapid Transit Authority (MARTA) said "millennials greatly favor mass transit with dense urban environments to live in. If they don't get it, millennials will



leave and/or not come. If Atlanta wants to continue to grow, Atlanta will have to make a major investment in mass transit.”

Steve Banta, CEO from Valley Metro in Phoenix, said that “millennials want to be more mobile. They are not investing in suburban homes. They have less need for a personal automobile and want to live, work and play in the same geographic area. Seniors and empty nesters are also moving back to the urban core.”

Marc Bélanger, Director of Planning and Development at STM in Montréal said “young people are not identified by owning a car now. This generation wants to live in a good area and they do not want to own a car. The STM uses promotions specific to young people to attract them to using transit. We are changing the perception of transit.” Overall, accelerating urban growth, the aging of the population and the continued emergence of the millennials will increase the number of people who rely on transit.

### ***The Vision is expanding public transit to serve growing populations.***

#### ***Transit Provides Access to Jobs.***

As population and congestion levels increase, transit becomes more important for providing access to jobs. In the United States, the daily commute plays an important role in determining peak travel demand. Currently, nearly 85 percent of U.S. workers commute by automobile and public transportation is used by 5.2 percent. Transit is the second most widely used commute mode after driving.

The commute mode share of transit varies widely from metropolitan areas: from 31 percent in the New York metropolitan area; 15 percent in the San Francisco area; 12 percent in Chicago to 2.2 percent in Houston. However, a relatively small percentage of transit commuters can be an important part of addressing a region’s traffic congestion. Even a relatively small transit modal share still means that thousands of people are using public transit and not driving on congested roadways each day to get to work.<sup>13</sup>

<b>Top 15 U.S. Metropolitan Statistical Areas Ranked by Number of Workers Age 16 and Older Who Commuted to Work by Public Transportation: 2009</b>			
Rank	Metropolitan statistical area	Used public transportation	
		Number	Percent
1	New York-Northern New Jersey-Long Island, NY-NJ-PA . .	2,673,447	30.5
2	Chicago-Naperville-Joliet, IL-IN-WI . . . . .	506,221	11.5
3	Washington-Arlington-Alexandria, DC-VA-MD-WV . . . . .	404,829	14.1
4	Los Angeles-Long Beach-Santa Ana, CA . . . . .	360,028	6.2
5	San Francisco-Oakland-Fremont, CA . . . . .	304,111	14.6
6	Boston-Cambridge-Quincy, MA-NH . . . . .	283,582	12.2
7	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD . . . . .	256,987	9.3
8	Seattle-Tacoma-Bellevue, WA . . . . .	147,955	8.7
9	Atlanta-Sandy Springs-Marietta, GA . . . . .	92,326	3.7
10	Miami-Fort Lauderdale-Pompano Beach, FL . . . . .	85,771	3.5
11	Baltimore-Towson, MD . . . . .	82,119	6.2
12	Minneapolis-St. Paul-Bloomington, MN-WI . . . . .	78,837	4.7
13	Portland-Vancouver-Beaverton, OR-WA . . . . .	63,877	6.1
14	Pittsburgh, PA . . . . .	62,928	5.8
15	Houston-Sugar Land-Baytown, TX . . . . .	60,547	2.2

Source: U.S. Census Bureau, American Community Survey, 2009.

Transit plays a very large role in helping people commute to downtown areas. In New York City's central business district, four of every five rush-hour commuters take transit.<sup>14</sup> In Montréal, 70 percent of people working in downtown Montréal take transit to commute each day.<sup>15</sup> In Seattle, 69 percent of commuters to downtown arrive by means other than driving alone (i.e. transit, rideshare, walking and biking).<sup>16</sup> Without transit, those cities would be at a standstill during commute times.



Along with access to downtown business districts, transit provides key connections to regional employment centers, such as airports, hospitals and other major employment sites. Cities with good transit services can significantly improve the jobs-housing balance and reduce the cost of job access, especially to low-income families. According to the Federal Highway Administration, transportation is the second largest expense for most households after housing. Households living in auto-dependent locations spend 25 percent of its income on transportation costs. Compact, connected communities allow residents to use less energy and spend less money to get around - whether by making fewer or shorter car trips, or using other less expensive modes of transportation like bicycling, walking, or transit. With transit providing access to employment, shopping, restaurants and other amenities, household transportation costs can be reduced to 9 percent of household income.<sup>17</sup> Public transportation plays a key role in reducing transportation costs and improving access to job opportunities.

### ***The Vision is aligning transit service with population and job centers.***

#### ***Transit Influences Businesses.***

Public transit can help grow a region's economy. In our interviews, the CEOs frequently mentioned that transit has become a vital link for how companies grow their businesses. In Atlanta, Keith Parker said that, "MARTA is beginning to get credit for some of the things that they have been doing. The relocation of State Farm (10,000 jobs); Kaiser Permanente, and Mercedes Benz were all influenced by proximity to transit. Access to MARTA is one of the #1 attributes to an individual getting out of poverty."

Steve Meyer from Utah Transit Authority said "There has been intensive growth around transportation infrastructure to minimize sprawl. Growth is working around the transit stations and we're seeing lots of condos and apartments being built. Bus rapid transit and rail are major impacts to transit oriented development. Some companies want to be near transit. For example, when Adobe and Goldman Sachs came to Utah, they designed their facilities around light rail stops."

In the Seattle area, Microsoft Corporation employs over 40,000 people. Jim Stanton, Microsoft's Community Affairs Manager, said from a corporate standpoint, transit is important to attract and retain workers. Mobility is one of the main factors that people consider when deciding where to work. Transit provides additional options for mobility. In our interviews, Sound Transit CEO Joni Earl and Jim Stanton both said that transit needs to be seamless - no matter what mode or what transit provider is used. Most millennials are ecologically aware and adaptable to using transit, but the transit system has to work for them. It has to be easy to use.

There have been notable examples of public-private partnerships; working together to provide increased transit access that is easy to use. Jim Stanton said the transit industry should allow private transportation providers (i.e. Microsoft buses, Google buses, Uber, Lyft, etc.) to *complement* public transit. When public

transit and private transportation providers coordinate, services can be complementary and work together.

Microsoft has 19 “Microsoft Connector” routes and a fleet of 53 buses. The white buses shuttle workers to Microsoft’s Redmond campus from stops in various Seattle neighborhoods where public transit to Redmond is indirect and time-consuming. The buses move employees across the region’s clogged roadways in comfort, with secure Wi-Fi service, luggage racks, electrical outlets and cup holders. Microsoft provides an average of 3,000 daily trips.



Compared to public transit services like King County Metro, the number of commuters taking Microsoft’s buses is very small. King County Metro, for example, counts over 400,000 daily boardings per weekday. (Some of those Metro riders are also Microsoft employees, incidentally, because the company offers workers free bus passes.) During the busiest hours of the commute, Metro usually has about 1,100 buses on the street. “We see this as complementary,” said Victor Obeso, Deputy General Manager of King County Metro. Obeso said Metro has worked with Microsoft to make sure the routes between city buses and company buses fit together. Microsoft “is just taking it to the next level in terms of support.”<sup>18</sup>

Another example of public and private sector coordination is Microsoft’s \$33.3 million contribution for enhancements to the Redmond Technology Center light rail station. The contribution will mainly pay for a bike and pedestrian bridge across the 10-lanes of state highway 520. The bridge greatly increases access to the light rail station while also improving connectivity across Microsoft’s 388-acre campus where nearly 40,000 employees work in buildings divided by the 10-lane freeway. “Over time we think it’s probably going to double the amount of ridership on the light-rail line,” said Jim Stanton, Microsoft Senior Community-Affairs Manager.<sup>19</sup>

### *The Vision is building collaborative partnerships.*

#### *Life without Transit*

One of the ways to illustrate the importance of transit is to envision what life would be like without transit. We asked the CEOs what life would be like *without* transit or if transit agencies do not continue to experience growth. From their responses, we found there was a unified voice on the necessity of transit.

Corey Aldridge from the Mountain Line in Missoula said “No way would life be the same. Too many people rely on transit, and not just the transit dependent. The community is active, and concerned about the environment. There are huge issues with traffic. Public transit is vital to the community.”

Steve Banta from Valley Metro said “Phoenix would be congested and smog ridden with bad air quality and economic development would not be as good.”



Joni Earl from Sound Transit jokingly said “without transit, we’ll continue to be stuck in traffic, wasting even more time. There will be more divorces because everybody is in such a bad mood when they get home...”

In our interviews, CEO and transportation leaders unanimously said that without transit, there is no way a city could grow or make progress.

### *2015 Snowstorms in Boston*

Without transit, essential public facilities and major employment sites are severely affected. For example, during the extreme snowstorms that hit the Boston region this past winter, transit service was severely impacted.

Nearly 108,000 people commute to and visit Boston’s Longwood Medical & Academic Area each day, which includes 24 major institutions including medical facilities and hospitals, such as Harvard Medical School, Dana Farber Cancer Institute and Boston Children’s Hospital. 51 percent of the 66,000 employees and students use transit to commute every day.<sup>20</sup>

With snow piled-up to historic levels, hospital administrators struggled to keep their hospital doors open, hobbled by a stranded workforce and patients unable to get home. This “life without transit” example shows that transit provides important access to essential facilities in the community.



### *The Vision is transit playing a vital role in the community.*

#### *Transit Promotes Economic Development*

Throughout the U.S. and Canada, public transportation systems provide jobs with good wages that stay in local communities. According to APTA’s “Economic Impact of Public Transportation Investment” (2014 Update), increased public transportation investment can lead to significant economic growth, as a consequence of both the short-term stimulus impact of public transportation outlays and a longer-term, cumulative impact on economic productivity. APTA estimates:

- The combined capital and operations investments in public transit supports an average of 21,800 jobs for one year, per \$1 billion of annual spending on public transportation.
- Corresponding to the 21,800 jobs is approximately \$3 billion of added business output (sales volume), which provides \$1.7 billion of GDP (gross domestic product or “value added”) – including \$1.3 billion of worker income.
- This additional economic activity generates approximately \$432 million in federal, state and local tax revenues.<sup>21</sup>

One example of how transit can create jobs and economic development comes from Atlanta. The [Atlanta BeltLine](#) project is among the largest, most wide-ranging urban redevelopment programs currently underway in the United States. The Atlanta BeltLine is a sustainable redevelopment project that will provide a network of public parks, multi-use trails and transit along a historic 22-mile railroad corridor circling downtown and connecting many neighborhoods directly to each other. Key elements of the



Atlanta BeltLine project include, the Atlanta Streetcar; 5,600 units of affordable housing; \$10-20 billion in economic development; 30,000 permanent jobs; 48,000 one-year construction jobs.<sup>22</sup>

Ben Limmer, Transportation Director from the Atlanta BeltLine project, said “People need public transit to live, work and play. Public transit is **THE** most critical component of the city’s future. The city can’t really expand the roadway network. Enhancing transit is critical.”



*The Vision is transit supporting economic growth.*

*Non-transit users benefit from public transportation.*

An effective transit system supports the economy and benefits everyone - even those who don’t use it - by freeing up road capacity. Road congestion doesn't just make commutes longer - it delays trucks trying to get produce to port for shipment; prevents imports from reaching store shelves in time; traps traffic deliveries bound for homes and businesses. Doug Kelsey, from TransLink in Vancouver said “TransLink moves both people AND goods. TransLink has one line that serves 400,000 people per day. This is the equivalent of a 10-lane highway. By providing transit service, TransLink moves people as well as opening up roadway capacity for goods movement.”

With transit, motorists, truck operators and trucking companies have a monetary saving, less time spent in traffic making deliveries and fewer accidents. Every time a metro area added about four (4) seats to rails and buses per 1,000 residents, the central city ended up with 320 more employees per square mile — an increase of 19 percent. Adding 85 rail miles delivered a seven (7%) percent increase. A 10 percent expansion in transit service (by adding either rail and bus seats or rail miles) produced a wage increase between \$53 and \$194 per worker per year in the city center. The gross metropolitan product also rose between one (1%) and two (2%) percent.<sup>23</sup> An effective transit system provides significant benefits to the regional economy.

*The Vision is transit helping to move both people and goods.*

## Theme 2: Transit is Vital for a Healthy City

Transit plays a vital and growing role in the quality of life and environmental health of cities. Transit provides choices for the public to get out of their car, and utilize a public resource. As people make the choice to use transit, they will reduce the amount they spend on a personal automobile and potentially reduce the number of personal automobiles owned by the household. Abandoning the personal vehicle is not necessarily the sole choice for every household, as some trips are completed better with a different mode. But making transit a primary mode of transportation in a household will improve the quality of life for the individual and for the community.



Public transit is often one of the most critical components of the city's future and provides mobility to a community. Transit is critical to connect neighborhoods. Cities are focusing less on expanding roads and highways, and focusing more on expanding and improving public transit. Improvements include better frequency, speed and comfort. Transit gives the choice to everyone to travel when and where they need to go, not just those that have a personal vehicle. As public transit become as convenient as a personal vehicle, like on-demand service, more and more people will utilize it for their transportation needs.

People that utilize transit can experience substantial monetary savings as compared to driving a personal vehicle. The annual savings for transit riders is approximately \$9,472, according to APTA's *Transit Savings Report*. Individuals who ride public transportation instead of driving can also save, on average, more than \$789 per month. That savings translates into an improved economy as people potentially use that savings to create discretionary income.<sup>24</sup> Doug Kelsey said, "By developing housing around TransLink stations, people don't need to own a vehicle. It can save them money. Vancouver has the highest per capita real estate cost in the world. With access to transit, many people don't have to buy a car. Transit is a tool for affordability and quality of life."

When people ride transit, it gives them freedom to do other things that you couldn't do while driving a personal vehicle. Activities like reading, catching up on email or interacting with other community members would help people better use their time. People are often asking where the time went, or wish they had time for more things in their life. Transit is one way to fill that gap, and increase the productive hours a person has in their day. In addition, people have a predictable and reliable method to get to work, school, shopping, medical appointments and other recreational activities. Transit timetables give riders a good sense when they will arrive at their destination. That predictability can assist people as they plan their day.

### *The Vision is transit saving people time and money.*

#### *Public Transit Benefits Quality of Life.*

Public transit improves quality of life of the individuals who use it. This aspect was frequently mentioned by the people interviewed for this project. There were four universal ways that transit improves quality of life.

First, transit reduces the stress on people. Driving in traffic can be stressful, especially on high volume roads and highways. Everyone is in a hurry to get to their destination, and would like to be there quicker. Some people develop "road rage" when others are not driving in a manner that pleases them. The stress of driving is eliminated when you let others do the driving.



Second, transit increases safety for those that are traveling. Traffic casualty rates tend to decline as public transit travel increases in an area. The expenses and emotional toll that comes from injuries and fatalities of friends and family associated with personal vehicle travel can be reduced as people come to rely on and use public transit.



Third, transit reduces the social exclusion people experience by staying within their homes and workplaces. With transit, people are more connected to the communities they live in and work. Oftentimes, community organizations will purchase advertising on buses, at bus stops or at transit stations. People can become more informed on the happenings in their community; to become more involved with the activities they are interested. In addition, people will often talk to each other on transit which can also lead to more inclusiveness within the community.



Fourth, transit use provides health benefits. Most notably, walking or riding a bike to and from public transportation stops and stations help people attain the recommended level of daily physical activity. Studies have shown that active commuting was associated with an overall 11 percent reduction in cardiovascular risk.<sup>25</sup> In addition, increased transit use will reduce emissions from vehicles, which will improve the air quality. Cleaner air helps everyone, whether they use or don't use public transportation.

### *The Vision is transit improving quality of life.*

#### *Transit Shapes a Sustainable City*

Transit is becoming a significant player in the development and sustainability of cities. When asked about what life would be like in the future with transit growing, both Doug Kelsey and Joni Earl both mentioned transit's ability to shape the city or region. Doug Kelsey said "good rapid transit helps shape the culture of a city. With older cities that are already formed, transit serves the city. However, with younger cities still developing (like Vancouver and Seattle), transit can help shape the city."



More and more people will be relying on public transit for their transportation needs. APTA's long range plan projects ridership to increase significantly in the next 30 years, with public transit projected to provide 50 percent of the trips in many communities. In CUTA's long range plan, major metropolitan areas are targeting average ridership growth of 50 percent by 2040 with medium and smaller cities having even higher percentages.<sup>26</sup>

As transit becomes the primary mode of transportation around a city, it becomes the backbone of the health and viability of a city. Commercial areas, recreational areas such as parks and trails, and residential areas become part of a bigger whole that provides a positive quality of life, as well as, provides a fun and efficient place to live, work and play. All types of people can enjoy the benefits of an integrated and properly planned city with a healthy environment.



Marc Bélanger expressed that the focus for transit should be on sustainability. Montréal tends to have about 50 “smog days” each year. To improve air quality, the STM will have a fleet of vehicles that is all electric-powered by 2025. Also, STM has started the process of replacing its metro cars with new models that consume less electricity and have 15 percent greater capacity than first-generation cars. Public transportation can be a central strategy in ongoing efforts to curtail and control air pollutants and greenhouse gas emissions.



*The Vision is living in sustainable cities founded upon public transit.*

### Theme 3: Technology Impacts Transit

Technology is changing at an increasing rate and affects all parts of life. In many of our interviews, the CEOs and other transit leaders spoke about how technology is affecting transit. 90 percent of Americans own a mobile phone and 20 percent use their phones for up-to-the minute traffic or transit information.<sup>27</sup> Steve Banta said “everyone is tied to smart phones. We need to have systems where you get options on where you want to go, how to get there in real time, with real time data. Customer Service is providing information to people before they need it.” Joni Earl mentioned that we need to update technology for fare collection, so people can use the same payment system and their smart phones to buy groceries and get on the bus or train. With smart phones, people carry in their pockets the computer power, the global information and the ability to communicate that would have taken rooms of computers to calculate, communicate and represent about 40-50 years ago. Projections on the effects of this continued growth of technology are ambitious and, if true, would result in a dramatic change in the transportation industry.

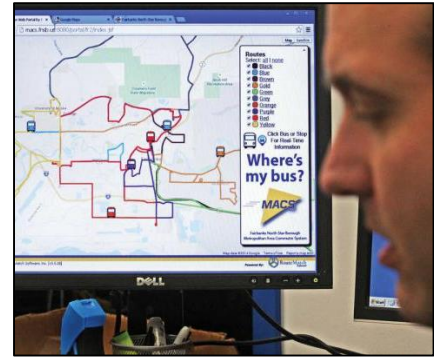
Some technological impacts include: the continued expansion of real time transit information to smart phones, kiosks and iPads; the development and use of autonomous vehicles; advanced collision avoidance systems for buses and trains, and the increased use of electric or hybrid technologies. In his recent book, Tony Seba, lecturer in entrepreneurship at Stanford University with over 20 years of experience in fast-growth high tech and clean technology companies, projects that by the year 2030, all new mass market vehicles will be electric and will be autonomous, the concept of individual car ownership will be obsolete.

For CEOs of transportation agencies, these type of future projections of the impacts of technology on the way we live, work and play, have far-reaching consequences. Imagine a world within the next 20 years where a shared, driverless, electric vehicle is summoned by you using your iWatch to take you to the train or bus stop/station potentially picking up other passengers balancing your schedule with others and arriving at the exact time needed to transfer to that bus or train.



Imagine a world where LED lights in the street change color depending on the time of day or the measured congestion as indicated by vehicles in the street. Subsequently, that would shift capacity of the street by changing the direction of certain lanes in the direction that is required to relieve congestion and collision avoidance systems protecting riders from ever impacting with on-coming traffic. Imagine improved air quality in every major city with a large shift of buses, trucks and autos from gasoline to electric.

The need to invest in transportation infrastructure is and will continue to be great, now and in the future, to improve mobility through the use of proven technologies that is enhanced with new technologies. As we continue to compete for funding resources across the country, the criteria to evaluate projects will need to change and quickly. As indicated by Keith Parker, “In the next five to ten years, we need to be prepared to embrace and challenge new technological advancements.”



CEOs will need to understand these changes and facilitate the understanding of the need to make changes quickly. An example of the rapid change of technology and its impact is the change in behavior by the generation most affected, millennials. Millennials have grown up with on-demand technology that provides information almost immediately and they have a greater understanding of environmental issues. A recent APTA paper on “Millennials and Mobility” reported on what millennials would like to see in the next ten years: 1) more reliable systems, 2) real-time updates, 3) Wi-Fi or 4G wherever they go, 4) a more user-friendly and intuitive travel experience. <sup>28</sup> John Kivlehan, Vice President and Chief of Operations for New York City Transit, said that “fully leveraging technology will allow transit users to be more spontaneous, thus addressing the key competitive advantage of the car.” Technology is integral to the experience of transit.

Improvements in our transportation industry have already been occurring due to technological advancements. There have been major increases in the use of electricity for vehicles and solar technologies for power when achievable. Safety and security improvements in vehicles or on the public roads and highways have occurred through the use or expansion of technologies. For example, Smart LED based headlights used on transit vehicles help bus operators as well as audibly warn pedestrian's near crosswalks. Buses and rail are now using collision avoidance systems and increased use of security cameras improve operator and customer security and safety. With improvements in technologies these types of applications are easier to implement and use.

It is clear that CEOs need to be aware of the trends. When asking CEOs the question of the impacts of technology on the system, their responses were strikingly similar. There was a desire to be a part of and take advantage of the changes in technology and behavior, but at the same time some caution associated with not fully understanding these changes. For example, Doran Barnes, CEO of Foothill Transit, stated that “transit needs to be convenient. To supplement quality transit, we need to think about how to include Uber and how that fills the first/last mile.”

At the same time, Keith Parker stated “There are technological advances that are so sweeping that it changes everything... Our industry could be dramatically impacted by automated vehicles. Uber and Lyft technology may decimate our industry. We need to pay close attention to the industry and be poised to jump in. We need to be a complete transportation provider, not limited to just traditional bus/rail. We need to be prepared to dispatch whatever service is needed in any mode of transportation.”

Per a report conducted by the McKinsey Global Institute, “Disruptive Technologies: Advances that will transform life, business, and the global economy,” technologies were identified that could have a massive economic disruptive impact by the year 2025. McKinsey focused on 12 technologies, three of which have the potential to impact public transit: Mobile Internet, Autonomous and Near Autonomous Vehicles, and the Internet of Things. And CEOs are taking steps to keep their finger on the pulse of new technologies.<sup>29</sup>

While it was clear that CEOs were not suggesting spending public transportation funds, which are predominantly provided by taxpayer dollars, for massive investment in this segment, they do see a role for public transportation agencies in encouraging and inspiring the private industry to become more active in addressing the need for public transportation to take advantage of new technologies.

For instance, Phil Washington, CEO of the Los Angeles County Metropolitan Transportation Authority, in his first 100 days in that position, announced the development of a new, “Office of Extraordinary Innovation.” This new office’s role will be to, “look at the most out-of-the-box and untried ideas the transportation industry has ever seen in this country.” The Office will “consult with some of the best and brightest minds in local, national and international academia, along with those in the nation’s transportation/policy think tanks and senior transportation veterans, to understand both new and old mobility ideas and thought.”



*The Vision is living in a connected world that embraces innovation.*

## Theme 4: Transit is for All

The transit leaders of today envision transit as a choice for all. The CEO’s vision includes all types of people and all types of travel. Transit should be a mode of choice for everybody – not just the transit dependent communities. Lance Wilbur of the Municipality of Anchorage reminds transit leaders that “we need to share the good stories with everyone ... tell them the great things you are doing with the money you have, not about the things you could do with more money. We need to promote how public transportation is part of the community.”

Not only is public transportation a part of the community, public transit has long provided an arena for social change in the United States. Secretary of Transportation Anthony Foxx, among others, has reflected on the role transportation plays in our lives and history. During the observance of the 50<sup>th</sup> Anniversary of the March on Washington, Foxx took us on a reflective review of our country’s history and the role transportation has played in the monumental movements of change.

---

*“I can’t help but think of the historic connection between transportation and the civil rights movement. Literally or figuratively, transportation has played a role throughout the history of our nation’s progress toward civil rights. And it still does. When escaped slaves sought their freedom, they traveled on the Underground Railroad. In the mid-1950s, a young woman who sat down and refused to get up—she did it on a transit bus. And the boycott of the Montgomery, Alabama, bus system resulted in changes that spread across the South. The Civil Rights Movement was about all Americans having access to the same opportunities. And our transportation system connects people to those opportunities.” (Secretary Anthony Foxx)*

---



With our rich history, naturally the CEO's vision is founded in the belief that transit is a choice for all. More importantly, our greatness lies in our ability to use our power to mitigate inequality, to improve the environment, to develop technologically and economically; and improve the overall lives of future generations.

The future relies upon transportation policy and planning to be built upon a platform of equity. We must create environments of equity that connect all groups of people to opportunity and create viable housing, employment, and recreation options, so that all communities share the opportunities and challenges of growth and change. Transportation policy development and planning must also extend to foster public engagement in systems planning and in project development.

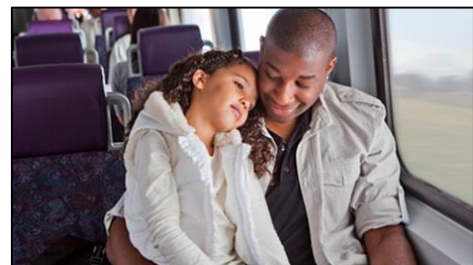


Public engagement planning sets the tone for all engagement activities, and ensures the establishment of shared outcomes and expectations. To make the vision of "Transit for All" a reality it is going to require the development of comprehensive and practical methods for assessing transportation social equity and achieving social equity objectives. A social equity agenda should be incorporated in all aspects of transportation policy development, including but not limited to, the funding allocation, strategic planning, public participation, economic evaluation, project design, operations, evaluation and enforcement. Industry leaders must focus on providing modal options. The demographic and economic trends suggest that there is an increased demand for alternative modes and more accessible, walkable communities. One of the first steps is to recognize the value of transport system diversity by supporting improvements to affordable modes like walking, cycling, ridesharing, traditional public transit, and telework.



While providing alternate modes is important, traditional public transit needs a face lift. Strategic steps must be taken towards supporting and implementing high-quality public transit services that include commuter bus and urban rail. Investment in high-quality transit benefits the user, attracts people out of cars, and helps generate political and financial support for diverse service improvements. Today's millennials provide a roadmap for how transit should be evolving. Basic transit services imply that transit is inherently for the transit dependent, and should be abandoned as soon as the traveler can afford to purchase an automobile. Alternatively, we are preparing for our future, which embraces high-quality transit services for all, and thus we abandon our personal automobiles when it is a sensible option.

Steve Meyer, Utah Transit Authority (UTA), encourages the industry to "reach out to younger folks at colleges and universities. Young people don't want a car or the expense. UTA is training younger people to use transit. All University of Utah students and staff get a transit pass. They have taken parking lots and turned them into buildings, because they didn't need the parking." Transit is the way of the future.



The Snowstorm (Ice) of 2014 in Atlanta provides a graphic illustration of how critical transportation policy, planning, and public transit strength is to our country. Author Rebecca Burns, captured all that is problematic with our unfortunate history of suburban sprawl in the United States, in her article, "The Day

We Lost Atlanta: How 2 lousy inches of snow paralyzed a metro area of 6 million.” On January 28, 2014, snowfall of just over 2 inches shut down metropolitan Atlanta’s roads, schools, churches, government offices and businesses. Thousands of flights were cancelled at Hartsfield-Jackson International Airport. More than 2,000 school children were separated from their parents, and spent the night in buses, police stations, or classrooms. Home Depot and local grocery stores opened up their doors as makeshift shelters. People who didn’t camp out in supermarket aisles and hotel lobbies were trapped in cars for 10, 16, 20 hours. <sup>30</sup> This tragic memory tells us something not just about what is wrong with one city in America today but what can happen when disaster strikes many places across the country. The one viable solution to the foregoing tragic memory that the nation can agree upon is public transit.

The tide is changing, and the industry leaders understand the importance of not only being ready for change, but influencing change. The key to the future is not to make the same mistakes of the past. We cannot afford to continue to let the car and highway system dominate our transportation system. We need transit that serves the entire region.

*The Vision is effective regional transit for everyone.*



**Who Benefits from Public Transportation? Everyone benefits.**

Parents, students, tourists, elderly, shoppers, employers, employees, business owners, other motorists, and anyone who is in either a low or fixed income financial situation benefit from transit. Public transportation is less costly than driving your own car. There are an abundance of other transportation modes and vendors other than public trains and buses, however, traditionally the customer pays more to utilize these services.

Public transportation has become more of a choice for younger commuters, who find public transportation reliable and less costly than Uber and Lyft. With new technology entering into the public transportation market, planning your trips, saving time while spending less money is the way to go. Transit systems, whose operations are well maintained, provide more efficient delivery of service, save time and reduce travel related costs for millions of transit and highway users on a daily basis are now the standard for the global economy.



It seems that almost everyone gets stuck in traffic and the future congestion is projected to increase substantially. However, transit can help solve some of our biggest transportation challenges: how to get people to work reliably, how to move more people and how to reduce vehicle emissions. Transit can offer far greater capacity than a highway lane, bypass traffic jams and reduces pollution from cars. In fact, transit is the best and sometimes only way to dramatically expand capacity in our most congested transportation corridors. Moving more people on buses and trains maximizes the existing transportation system by freeing up road capacity for vehicles and people who cannot use mass transit. Everyone benefits from an effective transit system whether they ride it or not. Transit is an investment in the economy, environment and in the overall quality of life.

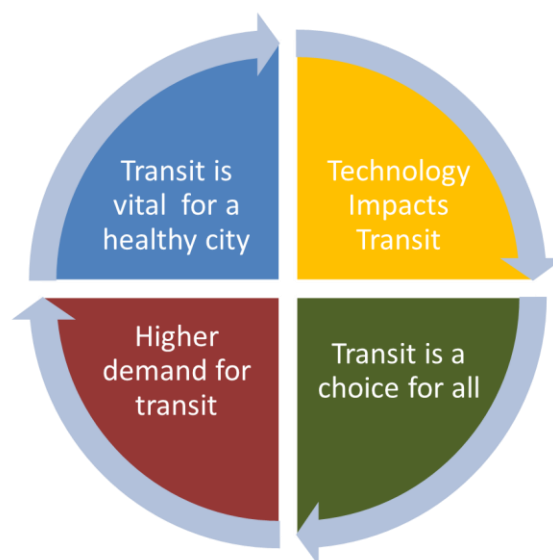


## Conclusion

Vision statements usually describe targets to achieve, competitors to overcome or role models to use for inspiration. It is an idealistic and aspirational planning tool to achieve greatness. It is greatness that is the enormous task that the transit CEOs want to achieve for the agencies, the industry and the nation at-large. After many interviews, we found the CEO's vision for transit includes:

- ✓ Serving growing populations
- ✓ Aligning transit service with population and job centers
- ✓ Building collaborative partnerships
- ✓ Playing a vital role in the community
- ✓ Supporting economic growth
- ✓ Helping to move both people and goods
- ✓ Saving people time and money
- ✓ Improving quality of life
- ✓ Improving sustainability
- ✓ Embracing innovation
- ✓ Providing transit for everyone

Transportation leaders must be prepared to address the growing demand for public transportation. In doing so, it requires the industry to be prepared to meet the individual needs of the various demographic groups that present growth opportunities. Public transit must continue to align with population and job centers, as well as build collaborative partnerships. Of equal importance, is ensuring that effective public transportation exists to sustain the health of our cities. We must capitalize on the technological advancements that positions public transit as a direct inhabitant of a connected world that embraces and advances innovation. Again, our greatness lies in our ability to use our power to mitigate inequality, to improve the environment, to develop technologically and economically and improve the overall lives of future generations. We all play a role in delivering on the future of transit.



## Appendix A: Project Team



Adam Barth  
Transportation Manager  
Fairbanks North Star Borough  
Fairbanks, Alaska



Stephanie Bogerd  
Deputy General Manager  
MTA New York City Transit  
New York, New York



LaShanda Dawkins, Esq.  
Senior Director of Human Resources  
Metropolitan Atlanta Rapid Transit  
Authority, Atlanta, Georgia



Ray Sosa  
Associate Vice President  
AECOM  
Los Angeles, California



Lisa Wolterink  
Grants Division Manager  
Sound Transit  
Seattle, Washington

## Appendix B: Interview Questions

What is your agency doing that demonstrates how “public transit changes lives”?

What can we do now to ensure a lasting impact on the next generations?

How will the transit industry change in the next 5-15 years?

What would life be like in the year 2035 with transit growing?

What would life be like *without* transit in 2035 or if transit agencies do not experience growth?

What is important to the choice riders in your community?

How is providing economic benefits through public transportation improving or not improving?

What are the major benefits of public transportation in your service area (ie quality of life, economic development, environment, etc)? Can you provide some examples?

Does your agency have any specific partnerships or programs that have been successful?

What roles to transit agencies have in providing a Research / Development element of their business in order to provide additional benefits to the transit industry?

## Endnotes

- 
- <sup>1</sup> U.S. Census Bureau, "[Projections of the Size and Composition of the U.S. Population: 2014 to 2060](#)" March 2015
- <sup>2</sup> Statistics Canada, "[Population Projections for Canada \(2013 to 2063\), Provinces and Territories \(2013 to 2038\)](#)" April 2015
- <sup>3</sup> Texas A&M Transportation Institute and INRIX, "[2015 Urban Mobility Scorecard](#)," August 2015
- <sup>4</sup> Nielsen, "[Millennials Prefer Cities to Suburbs, Subways to Driveways](#)," March 2014
- <sup>5</sup> American Public Transportation Association (APTA), "[Transit Vision 2050](#)," October 2008
- <sup>6</sup> Sound Transit, "[Sound Transit 3](#)," 2015
- <sup>7</sup> U.S. Census Bureau, "[Projections of the Size and Composition of the U.S. Population: 2014 to 2060](#)" March 2015
- <sup>8</sup> Statistics Canada, "[Population Projections for Canada \(2013 to 2063\), Provinces and Territories \(2013 to 2038\)](#)" April 2015
- <sup>9</sup> U.S. Census Bureau, "[Projections of the Size and Composition of the U.S. Population: 2014 to 2060](#)" March 2015
- <sup>10</sup> Noreen C. McDonald, "[Millennials and our transport future](#)", University of North Carolina at Chapel Hill
- <sup>11</sup> Canadian Urban Transit Association (CUTA), "[Setting Course for the Future, Issue Paper 33](#)", June 2009
- <sup>12</sup> U.S. Census Bureau, "[Projections of the Size and Composition of the U.S. Population: 2014 to 2060](#)" March 2015
- <sup>13</sup> Brian McKenzie, American Community Survey, "[Who Drives to Work? Commuting by Automobile in the United States: 2013](#)" August 2015
- <sup>14</sup> [Metropolitan Transportation Authority \(MTA\), 2015](#)
- <sup>15</sup> Société de transport de Montréal, [2020 Strategic Plan](#), June 2012
- <sup>16</sup> Mike Lindblom, Seattle Times, "[Downtown Seattle workers steer away from solo driving](#)" 25 February 2015
- <sup>17</sup> U.S. Federal Highway Administration, [Livability Initiative](#), 2015
- <sup>18</sup> Katherine Long, Seattle Times, "[Microsoft Connector: 19 routes, 53 buses later](#)" 12 April 2009
- <sup>19</sup> Keith Ervin, Seattle Times, "[Microsoft pitches in on bridge over Overlake Transit Center](#)" 26 November 2013
- <sup>20</sup> Fact sheet, [Medical Academic and Scientific Community Organization](#) (MASCO), December 2015
- <sup>21</sup> American Public Transportation Association (APTA), "[Economic Impact of Public Transportation Investment](#)," 2014 Update
- <sup>22</sup> Atlanta BeltLine, "[Atlanta BeltLine Overview](#)," 2015
- <sup>23</sup> The Atlantic, [City Lab](#), 2015

---

<sup>24</sup> American Public Transportation Association (APTA), "[Transit Savings Report](#)" August 2015

<sup>25</sup> Société de transport de Montréal, "The benefits of public transport on health" April 2014

<sup>26</sup> Canadian Urban Transit Association (CUTA), [Transit Vision 2040](#) Plan

<sup>27</sup> Transportation Futures Task Force, [Transportation Futures](#), 2015

<sup>28</sup> American Public Transportation Association (APTA), "[Millennials and Mobility](#)" 2015

<sup>29</sup> James Manyika, Michael Chui, Jacques Bughin, Richard Dobbs, Peter Bisson, and Alex Marrs, McKinsey Global Institute, "[Disruptive technologies: Advances that will transform life, business, and the global economy](#)" May 2013

<sup>30</sup> Rebecca Burns, "[The Day We Lost Atlanta: How 2 lousy inches of snow paralyzed a metro area of 6 million](#)" Politico Magazine, 29 January 2014