CONNECT

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Case Studies

Connecting Low-Income People to Opportunity with Shared Mobility

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ITDP
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To read the full report, visit: https://www.livingcities.org/resources/284-can-shared-mobility-help-low-income-people-access-opportunity.

To read the Executive Summary that accompanies the report and case studies, visit https://www.livingcities.org/resources/275-executive-summary-can-shared-mobility-help-low-income-people-access-opportunity. .

Appendix A:
Bike Share Case Studies

Boston, Massachusetts: Hubway

Image source: Flickr user Derek Bruff

Image Source: Flickr user Madeline Ball

City Demographics

City Population	645,966
City Area (sq mi)	48
City Pop. Density (people per sq mi)	13,380
Metro Population	4,684,299
Metro Area (sq mi)	4,674
Metro Pop. Density (people per sq mi)	1,002
Median income	$53,136

Source: US Census Bureau

Background

The New Balance Hubway bike-share system in Boston was initiated under Mayor Thomas Menino as part of Boston Bikes, which seeks to make Boston a world-class bicycling city by creating safe and inviting conditions for all residents and visitors. The Hubway system launched in July 2011 with 600 bicycles at 61 stations. By March 2014, the system grew to 1,100 bikes at 138 stations across Boston as well as the surrounding municipalities of Cambridge, Somerville and Brookline.

Operations

The City of Boston was the implementing agency for Hubway and owns all the hardware and software assets. Operation of the system is handled by the for-profit management firm Alta Bicycle Share which purchased bikes and docking stations from PBSC Urban Solutions, a Montreal-based public bike share system that offers a 5-year guarantee on bike equipment.

Funding

Boston's Hubway launched with $5.4 million fundraised. $3.1 million was put towards capital, with the remainder available for operations in year 1-3. Capital funding sources included: the Federal Transit Authority ($1.8 million went to Boston of $3.1 million total dispersed to all participating cities), the Boston Public Health Commission ($450,000 of which $50,000 was reserved for non-capital expenses such as subsidized memberships), Barr Foundation ($150,000 initially with an additional $300,000 subsequent investment) and the Congestion Mitigation and Air Quality (CMAQ) grant program of the Federal Highway Administration ($250,000 initially for bike share with subsequent grants in 2012 and 2013 of $675,000 for capital projects and operations). CMAQ funds were funneled through the local Metropolitan Planning Organization and in the first year included $75,000 for the city's overall bike program. The Boston Public Health Commission and Barr funds paid for stations in low-income neighborhoods.

Additional funding used for capital investment and/or operations included ($600,000) from New Balance, the American footwear manufacturer based in the Brighton neighborhood of Boston, $1.35 million total from 18 local private institutions which sponsored 27 stations, and $510,000 through an advertising partnership with Van Wagner. Van Wagner, New Balance and the majority of station sponsors have since renewed their partnerships. New station sponsors have since been added.

System Basics

- Credit card required for system use
- Usage Fees
    - Day Use pass: $6 for 24 hours, $12 for 3-day access
    - Monthly membership: $20
    - Annual membership: $85
    - Corporate Memberhips: $50 with corporate contribution
    - After usage fee (either annual/monthly membership or day-use pass), every trip under 30 minutes is free

    - After 30 minutes of usage, prices rapidly increase for every additional 30 minute interval,[1] but many separate 30-minute trips can be taken
- See the full pricing scale at the Hubway website

Low-income Program

Boston's Hubway offers subsidized membership to low-income individuals. The subsidy reduces the fee to $5 per year (as opposed to $85) and provides a free helmet. To be eligible, an individual must be 17 or older, a Boston resident, and either low-income (based on family size), receive a type of public assistance, or live in low-income housing. The program is administered entirely by the City of Boston's Boston Bikes office. Boston Bikes representatives reached out to social service agencies in low-income neighborhoods to raise awareness around subsidized memberships. Most of the outreach was via phone and email, with some in-person meetings. They key to success was having many partners promoting to their communities.

Hubway's low-income program was designed to meet user needs and be administratively streamlined. Subsidized users are allowed one free hour without usage charges. Eligibility for this program is on the honor roll system. Most subsidized members register themselves online using a discount code, although an option to come into the Boston Bikes office exists.

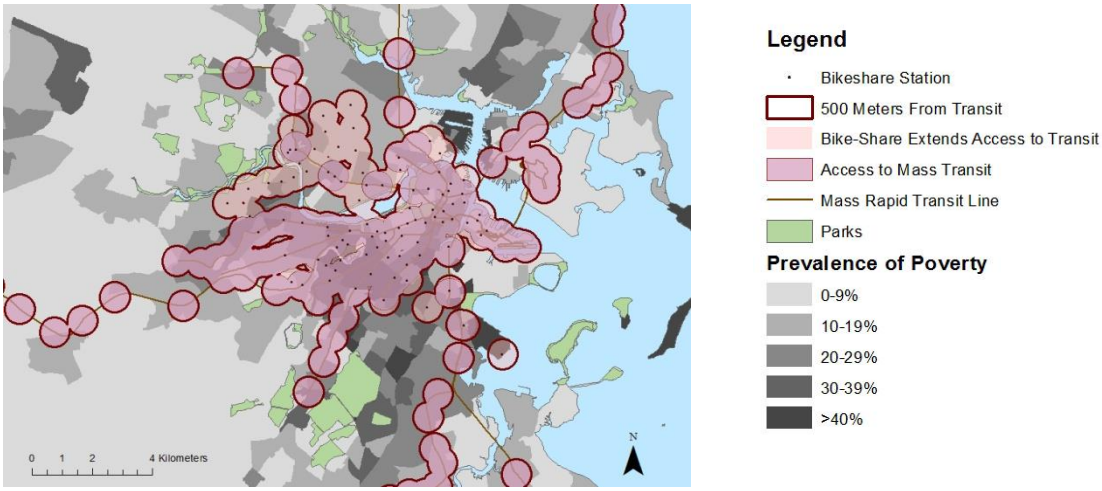
As of July 2014, the program sold over 1300 subsidized memberships, comprising more than 11% of Boston Hubway's riders. The majority of subsidized users are minorities and women, and 48% are on public assistance. This low-income resident usage rate is a considerable accomplishment compared to most other American bike share systems.

The city of Boston has also made efforts to address the lack of station siting in low-income neighborhoods. From the start, with grant funding from the Boston Public Health Commission and Barr Foundation, the city launched with numerous stations in low-income neighborhoods. Based on the success of the program, the Barr Foundation extended its support paying for the purchase of 6 more stations in low-income neighborhoods, particularly in Roxbury and Dorchester. Boston currently has 13 of 90 stations in very low-income neighborhoods with many of the remaining stations in mixed-income districts with many low-income households. Subsidized members come from all neighborhoods in Boston. The city would like to further expand into more low-income neighborhoods including Roxbury, Dorchester, East Boston and eventually Mattapan.

[1] For example: for bike rides between 30 and 60 minutes, a $2 usage fee is charged for day use passes and a $1.50 usage fee is charged for membership passes. For bike rides between 60 and 90 minutes, a $6 usage fee is charged for day use passes and a $4.50 usage fee is charged for membership passes.

Lastly, local efforts have also connected public health initiatives to Hubway bike-share. Doctors can prescribe a subsidized membership to low-income residents struggling with obesity through an innovative partnership program known as Prescribe-a-Bike. The program is administered by Boston Medical Center in partnership with the City of Boston, making it the most significant national effort to connect bike-share infrastructure access with health outcomes for low-income populations (Schmitt, 2014).

Outreach and Accessibility



Map Source: Gabriel Lewenstein, ITDP

The above map illustrates how Hubway's system coverage relates to mass transit access for low-income communities. A station, either bike-share or the T (the heavy rail transit system) is considered accessible for those within a 10-minute walk, defined here as 500 meters based on the international TOD Standard.

While the Hubway system succeeds in siting stations in some areas with higher prevalence of poverty (indicated by darker grey), such as parts of Jamaica Plains, Roxbury Crossing and near Dudley Square, these areas are already well served by the T. Many communities farther south with significant low-income populations, such as Roxbury, Dorchester, and Mattapan, are underserved by both mass transit and bike-share services. Boston is eager to raise money to expand further out to more communities. In the communities where bike-share expanded access the most, including Cambridge and Somerville (separate municipalities in the greater Boston area), residents are wealthier and poverty is less prevalent.

New York City, New York: CitiBike

Image source: Flickr user Dr. Pavloff

Image source: Flickr user Several Seconds

City Demographics

City Population	8,405,837
City Area (sq mi)	303
City Pop. Density (people per sq mi)	27,775
Metro Population	19,949,502
Metro Area (sq mi)	13,318
Metro Pop. Density (people per sq mi)	1,498
Median income	$51,865

Source: US Census Bureau

Background

First launched in July 2013, CitiBike is New York City's bike sharing system and the largest bike sharing program in North America. The system opened with 300 stations in high-density, mixed-use neighborhoods. Prior to implementation, extensive research was conducted which indicated value to residents in establishing a bike-share system. For example, the NYC Department of Transportation's research on local automobile trips found that that 10% are under one-half mile, 22% are less than 1 mile, and 56% are less than 3 miles – all distances that could readily be served by bicycle. The City was also considered to be physically ready for a bike-share system after the successful roll-out of over 260 miles of cycling infrastructure since 2006 as part of former Mayor Michael Bloomberg's long-term sustainability plan called PlaNYC.

Operations

CitiBike is operated by NYC Bike Share LLC, a wholly owned subsidiary of the Portland-based private for-profit firm Alta Bicycle Share. System equipment is provided by PBSC Urban Solutions, the Montreal-based company that also provides custom bikes and

other services in a total of 16 cities. CitiBike operates without any subsidy from the City of New York as of March 2014.

Funding

Citigroup invested $41 million in the bike-share system for naming rights and will be Citibike's lead sponsor for five years. MasterCard contributed $6.5 million and is outfitting the stations with advanced, contactless PayPass payment points. Both of these contributions were grants. Goldman Sachs's Urban Investment Group on the other hand provided an upfront $42 million loan at 9% interest to be paid back over five years. These funds were used to purchase system equipment (such as the 10,000 bikes and 600 stations) and to cover initial startup costs. The $42 million loan is expected to be paid off with Citigroup's contribution for naming rights and eventual usage revenue.

System Basics

- Credit card required for use
- Usage fees:
    - Annual Membership: $95 (with first 45 minutes free)
    - 7-Day Membership: $25 (first 30 minutes free)
    - 24-Hour Membership: $9.95 (first 30 minutes free)
    - Overtime fees are charged for every 30 minute interval beyond time included in original usage fee
- See the full pricing scale at the CitiBike website

Low-income Program

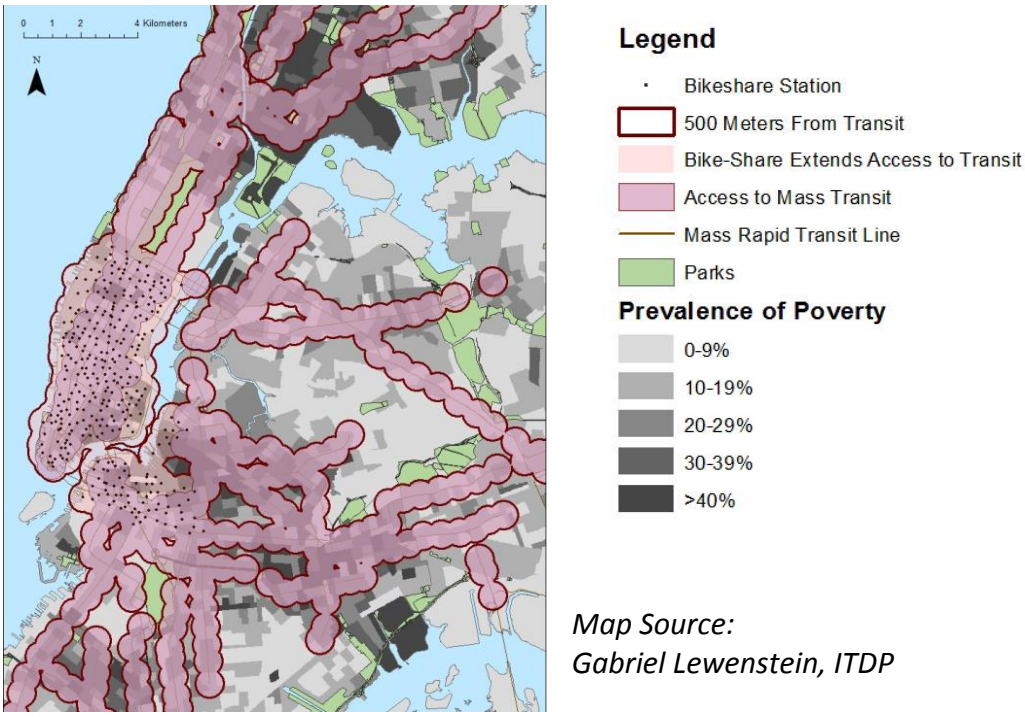
New York City's efforts to provide bike-share services to low-income communities have largely consisted of subsidizing membership. Residents of public housing and other low-income New Yorkers receive a subsidized annual membership of $60 as opposed to $95. For public housing residents to receive the subsidized price, interested users must supply their New York City Housing Authority number to the operator. To address the credit card requirement, residents without a credit card or debit card can setup an account with a local credit union.

CitiBike has made a few attempts to address the lack of bike-share stations in low-income communities. As a part of the city's outreach effort, NYC's Department of Transportation held more than two dozen public meetings aimed at introducing CitiBike to low-income New Yorkers, and gave away more than 100,000 free helmets. The transportation department also fitted residents of Housing Authority properties for free bike helmets. Low-income residents are also eligible for a membership discount. However, bike-share stations have not located in many low-income neighborhoods or near places of employment for low-income workers (Palmer, 2013).

As of January 2014, 285 people have signed up for subsidized memberships. With over 100,000 total annual subscribers to CitiBike, subsidized memberships comprise less than 1 percent of users.

Accessibility

Despite the above outreach and subsidy efforts, CitiBike stations have to-date only been located in lower Manhattan and in the more expensive sections of Brooklyn. The stations on the Lower East Side of Manhattan and the Bedford-Stuyvesant section of Brooklyn with many public assistance and low-income residents have seen the highest number of subsidized users.



Map Source:
Gabriel Lewenstein, ITDP

The above map shows CitiBike's system coverage, compared with subway access for low-income communities. A station, either bike-share or subway is considered accessible for those within a short walk, defined here as 500 meters. As has been documented, CitiBike stations are located primarily in downtown Manhattan and western parts of Brooklyn, areas with largely high incomes. As a result of the excellent, dense subway and bus network coverage in these areas, CitiBike provides relatively little extension to transit. The concentration of bikes in downtown neighborhoods fails to reach many of the low-income communities that have poor access to transit, such as parts of lower Brooklyn and much of the Bronx. Within the coverage zone, CitiBike provides increased direct access where subways may require transfers and waits, such as crosstown trips.

Washington, DC: Capital Bikeshare

Image source: Flickr user DDOT DC

Image source: Flickr user DDOT DC

City Demographics

City Population	646,449
City Area (sq mi)	61
City Pop. Density (people per sq mi)	10,589
Metro Population	5,949,859
Metro Area (sq mi)	5,565
Metro Pop. Density (people per sq mi)	1,069
Median income	$64,267

Source: US Census Bureau

Background

Capital Bikeshare launched in September 2010 with 400 bicycles at 49 stations using equipment from PBSC Urban Solutions. By February 2011, Capital Bikeshare had expanded to 100 stations in DC and 14 stations in the Pentagon City, Potomac Yard, and Crystal City neighborhoods. As of a 2012 report, there have been 19,200 system-wide cumulative annual members with 105,644 casual members since 2010.

Operations

The Capital Bikeshare system equipment is owned by the various governments serving the region, including: Washington, D.C.; Arlington County, VA; Alexandria, VA; and Montgomery County, MD. Alta Bike Share, the same service provider in New York, Boston and 14 other cities, in turn operates the system and covers insurance. Transportation agencies in each jurisdiction decide on the locations of the rental stations, as well as the number of bike docks, which depends on planners' estimates of local demand.

Funding

The District's share of planning, implementing, and first year operating costs was partially funded by a $6.4 million CMAQ grant from the Federal Highways Fund. Each region also contributes to the operating costs of the system. For example, Arlington County's operating share of the plan was $835,000 for the first year, funded by public grants and subsidies from the Virginia Department of Rail and Public Transportation, Arlington County Transportation, the Crystal City Business Improvement District, and the Potomac Yard Transportation Management Association.

System Basics

- Credit Card required for use
- Usage fees:
    - Annual Membership: $75
    - Annual Membership with Monthly Payments: $85 total at $7 each month
    - 30-Day Pass: $25
    - Day Key: $10 with $7 renewal (see below for details)
    - After usage fee (either annual membership or day-use pass), every trip under 30 minutes is free
    - After 30 minutes of usage, prices rapidly increase for every additional 30 minute interval
- See the full pricing scale at Capital BikeShare's website

Low-income Program

In partnership with Bank On DC, a local non-profit, Capital BikeShare developed a specialized membership for occasional users. The 'Daily Key membership' gives occasional riders the ability to purchase a key for quicker, on-the-go access to bikes throughout the system. It costs $10 and will provide the user with the same key used by annual and monthly members. Daily Key membership can be purchased online. The online option opens up the possibility for intermediary brokers to help sign up low income users at a computer.

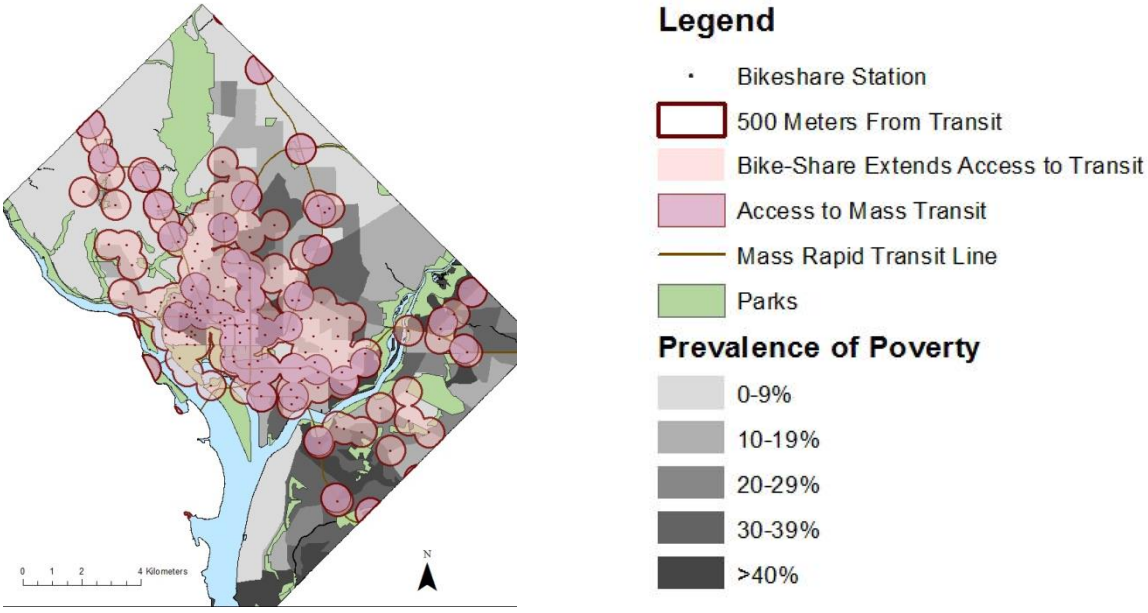
Capital BikeShare has also partnered with Bank On DC to help reach the region's unbanked population. The partnership offers low-income residents access to a free checking account in addition to reduced membership rates. Capital BikeShare also has an agreement with Bank On DC to forego the credit or debit card requirement, which removes one of the principal access barriers faced by unbanked individuals.

Local efforts have also included targeted outreach in low-income neighborhoods organized by the region's bike advocacy organization, the Washington Area Bicyclist Association (WABA). WABA developed an initiative focused entirely on encouraging cycling East of the Anacostia, which is an area known for entrenched poverty and unemployment. They aimed to connect with residents who already bike, inspire more to

bike, and spur the demand for improved bike infrastructure, including more bike-share stations. Over a three year period WABA hosted bike rides, bike classes, organized advocacy summits, attended local planning meetings and worked with The Bike House, a local bike co-op, to host 20 mobile bike shops. Additionally, they awarded 30 Capital BikeShare memberships to residents.

Accessibility

Most of the system's users live in or near the city center; stations in the poorer eastern portion of the city are comparatively underused. The seven stations in the two wards east of the Anacostia River have only 38 members and have been used a total of 946 times since the systems launch. This is in contrast to 1,317 members in wealthier zip codes near the busiest station, DuPont Circle, which had 24,271 trips (as of April 11th 2011).



Map Source: Gabriel Lewenstein, ITDP

The above map shows Capital BikeShare's system coverage, compared with Metro access for low-income communities. A station, either bike-share or metro is considered accessible for those within a short walk, defined here as 500 meters. In several areas across a range of poverty rates (indicated by darker grey), Capital BikeShare does extend the reach of public transit. In the lowest income areas of the city, Ward 7 and 8 east of the Anacostia River, the stations in place are insufficient to address neighborhood needs. Though there are several stations in these neighborhoods, they are largely placed near existing Metro stations. With no other stations throughout the community, these stations fail to address last-mile issues. This likely contributes to underuse of the Capital BikeShare in these neighborhoods.

Appendix B:
Car Share Case Studies

These case studies on car-share programs focus on examples of smaller non-profit model. While national companies like Zipcar or Enterprise CarShare have grown to capture a significant market share, the models chosen to study here offer specific examples of how car-share services have attempted to reach low-income communities.

Buffalo, New York: Buffalo CarShare

City Demographics

City Population	258,959
City Area (sq mi)	40
City Pop. Density (people per sq mi)	6,413
Metro Population	1,134,115
Metro Area (sq mi)	1,567
Metro Pop. Density (people per sq mi)	724
Median income	$30,502

Source: US Census Bureau

Background & Operations

Buffalo CarShare (BCS) began operations in June 2009 with 4 vehicles and 30 pioneering members. The idea of a car-share service in Buffalo started in early 2007 when four Engineering and MBA students at the University of Buffalo developed a business plan as part of an entrepreneurship competition. Although they did not win, several students and community members implemented their concept as a non-profit car-share service organization. BCS reports that they have achieved significant environmental accomplishments through private car and gas use reduction, while serving a diverse membership base in terms of age, race, and income.

Buffalo CarShare is both the asset owner and operator of the system.

Funding

BCS was awarded $149,000 in grant funding through a partnership between the New York State Energy Research and Development Agency (NYSERDA) and the New York

State Department of Transportation (NYSDOT). They also received grant funding from the Federal Transit Administration and a grant from the Community Foundation for Greater Buffalo, which allowed purchase of an additional vehicle. An additional $100,000 came from the Oishei Foundation, which was matched with additional funds through local partnerships, such as one with Buffalo State College that supported two vehicles on its campus.

Low-income Program

BCS's mission includes serving low-income residents. Income levels of BCS members are far lower than those of car sharing customers in other cities. Nearly two-thirds of BCS members represent households earning $35,000 or less, and half report incomes of less than $25,000. Only 10% of BCS members are students. While the median household income in New York State is $57,683, the median income for Buffalo is $30,502. To target low-income users, BCS located cars on affordable housing property.

For many of these low-income residents, BCS membership is much more manageable than paying for all the expenses of owning a car. Only 10 percent of BCS members live in households with more than one car. BCS members have reported saving substantially on bus fares, as well as being able to replace $30 per hour taxi rides with $8 per hour Car Share rentals. Overall, BCS estimates that it has saved its 504 members as of 2013 over $377,000 on transportation expenses, a huge benefit for its heavily low-income membership.

Denver, Colorado: eGo CarShare

Image source: Carshare.org

Image source: Carshare.org

City Demographics

City Population	649,495
City Area (sq mi)	153
City Pop. Density (people per sq mi)	4,245
Metro Population	2,697,476
Metro Area (sq mi)	8,401
Metro Pop. Density (people per sq mi)	321
Median income	$49,091

Source: US Census Bureau

Background

When the original Denver eGO CarShare program began in 1997 it was called the "Little Red Car Co-op". In 1998, momentum grew and the Boulder CarShare was founded. Boulder CarShare rebranded in January 2009 as eGo CarShare in order to bring its service to the city of Denver. In March 2009, eGo placed its first three cars in Denver.

Operations

eGo is operated as a non-profit organization with a mission of providing and promoting alternatives to individual car ownership, thereby reducing the environmental and social impacts associated with motor vehicle use. It is a partnership between local governments, nonprofits, and businesses. eGo owns all the car-share system assets and is the program operator.

Funding

The eGo system started in 2001 as a volunteer run enterprise with private citizens

donating or lending their cars. By the fall of 2009 eGo CarShare received its first significant outside funding from a federal CMAQ (Congestion Mitigation and Air Quality) grant to aid in its expansion to core Denver Neighborhoods. Since the initial funding, eGo has been awarded two additional rounds of money. The second round of CMAQ grants allowed for eGo to place vehicles near local bike-share stations in Denver and Boulder creating Shared Hubs Integrated for Transportation (SHIFT). Their third round of grants allowed eGo to bring a multi-modal transport tool kit, including transit passes, bicycle access and car-share, to affordable housing developments in Denver and Boulder. The organization explored options for a Joint Access Card, which would allow members to use both B-cycle and eGO services with one card, but it was determined that system integration would prove too costly.

Additional sponsorship of the car-share program comes from Downtown Boulder, Line28 LOHI, Namaste Solar, Rudi's Organic Bakery, and W.W. Reynolds Companies.

Low-income Program

eGo offers opportunities for car owners, including low-income car owners, to generate additional income. Under its Loanation Program, the organization allows community members to add their personal vehicles to the car-share fleet as a peer-to-peer alternative rental option. In exchange, eGo takes care of the maintenance and insurance for the vehicle, and gives participating members car-share credits that can be used for any car in the fleet. These vehicles then become available to eGo members. While this program is not specifically targeted to low-income individuals, it does offer members an opportunity to generate an income from existing assets, which could potentially be a significant benefit to low-income households that already own a vehicle or two.

The City of Denver has also put regulations in place to incentivize the siting of car-share vehicles in low-income neighborhoods. According to Denver Public Works regulations, car-share companies granted spots throughout certain parts of the city, such as dedicated spots in downtown Denver, must also place at least two vehicles in an “opportunity area” or low-income neighborhood. These areas are defined as those where 30% or more of the population lives below the poverty line, which is calculated off of the most recent census figures. On street reserved parking spaces also have three different levels of annual fees: $750 for downtown area, $500 for a spot in an unmetered area, and $250 for spots in an opportunity area. Although these regulations signal that local authorities are aware of siting issues in low-income communities and taking steps to address them, these steps are generally considered minimal, since system usage by low-income people remains low.

San Francisco, California: City CarShare

Image source: Lacy Atkins, SFGate.com

Image source: Carlos Avila Gonzalez, SFGate.com

City Demographics

City Population	837,442
City Area (sq mi)	47
City Pop. Density (people per sq mi)	17,867
Metro Population	4,516,276
Metro Area (sq mi)	2,474
Metro Pop. Density (people per sq mi)	1,825
Median income	$73,802

Source: US Census Bureau

Background & Operations

City CarShare is the only nonprofit car-share service in the Bay Area. They are a local organization with a mission to improve the environment and quality of life in communities by promoting innovative mobility options. Launched in 2001, City CarShare is an organization with tens of thousands of members, hundreds of fuel efficient cars, and programs that give back to communities.

Funding

Startup support for City CarShare came from Federal Highway Administration and private foundation funds. In 2003, the Metropolitan Transportation Commission agreed to provide City CarShare with up to $420,770 in grants from the national JARC program to support LIFT/CalWorks.

Low-income Program

City CarShare is an active participant in regional efforts to extend car-share services to low-income people through subsidized memberships. In 2000, the regional Metropolitan Transportation Commission (MTC) partnered with local transit and social services agencies to respond to low-income mobility challenges by initiating the Low-income Flexible Transportation Program (LIFT) Program. LIFT was initially funded by the

MTC, CMAQ funds, and state matching dollars, and later received federal Job Access and Reverse Commute (JARC) funding.

Through LIFT, City CarShare works with CalWorks, a welfare program in California, to make certain car sharing memberships available to welfare assisted working families. Up to 300 subsidized memberships were available to qualifying CalWorks participants from 2003 through2006. Since 2006, City CarShare has been subsidizing the current costs itself, since outside funds are no longer available, in a program dubbed "CommunityShare." Under this program, CalWorks members pay no application fee, no deposit, and no monthly fee and receive half off of usage rates. Eligible applicants must be receiving a CalWorks grant and/or services through San Francisco County or be the guardian of a CalWorks participant receiving benefits through San Francisco County.

As part of its outreach efforts, City CarShare also offers subsidies to people referred by partner organizations. These organizations include Glide Economic Development Corporation, Mercy Housing, Armstrong Place Senior Housing, Working Families Credit and Bridge Housing in San Francisco, as well as Resources for Community Development in Berkeley. City CarShare also asks for any organizations serving low/moderate income residents who want to partner with their program to reach out to them.

Appendix C:
Ride Share Case Studies

Pittsburgh, Pennsylvania: Heritage Community Transportation Microbus

City Demographics

City Population	305,841
City Area (sq mi)	55
City Pop. Density (people per sq mi)	5,524
Metro Population	2,360,867
Metro Area (sq mi)	5,706
Metro Pop. Density (people per sq mi)	414
Median income	$38,029

Source: US Census Bureau

Background & Operations

Heritage Community Transportation (HCT) is a community based non-profit organization in the Pittsburgh area designed to connect communities and residents to employment, retail centers and a transportation network by filling critical Port Authority transportation gaps.

When several bus routes in Mon Valley were discontinued due to funding issues at the Port Authority, Heritage Community Initiatives, the local human services agency, established the WorkLink microbus program as one of their core programs. More specifically, WorkLink is a free microbus connecting area residents to the nearest bus stop, and offers access to employers such as University of Pittsburgh Medical Campus East, Forbes Regional, and the Community College of Allegheny County.

Eventually, WorkLink was rebranded as HCT which contracts operations to ACCESS Transportation Systems Inc, a subsidiary in Allegheny County of the multi-national transport operator Veolia. ACCESS Transportation Systems acts as a broker between HCT and private vehicle owners, and accepts all insurance fees for the program.

HCT also ensures connectivity with local bus routes at major transfer points. The system aims to be flexible and responsive to community needs. For example, in July 2011 there

were service changes as a result of high weekday ridership and occasional overcrowding between certain stops. Frequency was increased to ensure that the highest ridership portion of the route had additional frequency while operating within the same budget.

Funding

HCT was federally funded by JARC grants until 2013 when the program was repealed. In 2014, state funding from Pennsylvania Department of Transportation helped to resume the program.

Low-income Program

The HCT program is free, and explicitly runs routes to connect low-income area residents to their employment centers. According to internal surveys, approximately 97% of riders would have no other way to get to work. These users of the service have an average annual income of $23,466 according to a July 2013 survey.

Seattle, Washington: King County Vanpool

City Demographics

City Population	652,405
City Area (sq mi)	84
City Pop. Density (people per sq mi)	7,772
Metro Population	3,610,105
Metro Area (sq mi)	5,872
Metro Pop. Density (people per sq mi)	615
Median income	$63,470

Source: US Census Bureau

Background & Operations

The King County Vanpool program which operates in the greater Seattle area was established in 1979 and is the largest and oldest public vanpool program in the country (Higgins, 2002). The program is operated by the King County Department of Transportation, which also owns all vehicles, accepts all liability, and pays for all operational costs (gas, maintenance). Riders sign up online at www.rideshareonline.com, which enters them into a database that matches commuters from around Washington. There are more than 1,300 vans, transporting roughly 3.5 million passengers annually and making it the largest vanpool program in the US.

Funding

Costs to the municipality are minimal, as vanpool ordinance requires that fares cover 100% of all direct operating costs and capital costs, as well as 25% of all indirect expenses. Users pay the full cost for the seat in their vanpool. For this reason, there is full cost-recovery. State funding in turn helps transit agencies pay for the vans and then the cost trickles down to users.

Low-income Program

Although without a specific program targets low-income individuals, King County Vanpool offers several solutions to common barriers these communities face. One such example is the requirement that at least two rideshare members have a valid driver's license. Rideshare members without driver's licenses can still benefit from the service as a passenger. Program operators have also made efforts to work with communities where providing information on vehicle usage in Spanish helps overcome potential usage barriers.

Los Angeles, California: Vanpool

City Demographics

City Population	3,884,307
City Area (sq mi)	469
City Pop. Density (people per sq mi)	8,288
Metro Population	13,131,431
Metro Area (sq mi)	4,850
Metro Pop. Density (people per sq mi)	2,707
Median income	$49,745

Source: US Census Bureau

Background & Operations

Los Angeles County Metropolitan Transportation Authority (LA Metro) administers a vanpool program to provide alternative transportation choices to commuters, improve air quality, and reduce traffic congestion in LA County. The vanpool program offers groups of 7-15 passengers the opportunity to share costs for their daily commutes. Vans must have a destination in LA County for which a completed program application and agreement has been submitted and approved by Metro.

The program was implemented by LA Metro. LA Metro's authorized van suppliers, which include the California Vanpool Authority (CalVans), Enterprise Rideshare and vRide, are also the van owners. Vans are driven by individual members of the program who have been vetted by LA Metro through an application process.

The Vanpool program offers users significant cost savings. LA Metro estimates that compared to solo driving commuting, the program can save individuals over $500 a month. Vanpool commuters also immediately gain access to the county's extensive network of carpool lanes.

Funding

Vanpools are funded entirely by each user who pays the full cost of a seat. The pooled money covers operations. The program itself gets a combination of federal and local grant money, including 5307 money from the Federal Transit Administration's Urbanized Area Formula Program.

Low-income Program

The Vanpool program offers up to a $400 monthly lease subsidy, not to exceed 50% of the lease costs, for low-income commuters. Some employers will also contribute to

vanpool program subsidies. These two funding sources are not mutually exclusive, leading to extremely low costs for some low-income users.

Appendix D: Transportation Network Companies

Transportation Network Companies (TNCs) are new types of businesses that provide pre-arranged transportation services for compensation using an online platform (such as smart phone apps) to connect drivers using their personal vehicles with passengers. TNCs offer streamlined payment systems, background checks and rating systems with profiles that have helped increase trust between suppliers of services and users.

The Major Players

At the moment, there are three main players in the TNC indsutry: Uber, Lyft and Sidecar. In all cases, drivers use their own cars to chauffer customers. In the case of Uber and Lyft, the pricing varies somewhat due to peak demand, or "surge pricing" when the demand for cars outpaces the supply of drivers. Unlike regular taxi industry jobs, drivers who use these TNC apps can decide however long they wish to drive. In most cases, they define their work shifts.

These 3 companies are summarized briefly below:

Uber

Uber has reached global markets in over 70+ cities, disrupting traditional taxi services. The extent of the service varies city-by-city depending on local regulations and taxation issues. The company offers several tiers of service that are constantly expanding, such as Uber Black, Uber X and Uber Taxi. In the first two cases, a credit card is kept on file for the passenger and is charged at the conclusion of a trip.

For Uber Black, the driver must have a black sedan, town car or SUV with at least 4 seats. In the case of Uber Taxi, a taxi driver certified and licensed by the city can be pinged to pick up a customer at a destination as opposed to waiting for street hails. UberX is available in several major US cities and requires that drivers be 23 years old and have a personal license and personal insurance, however drivers can have any mid-sized or full-sized four door vehicle. In New York, all UberX drivers must have a commercial

license and commercial insurance. While UberX is a cheaper version of the service, it still charges surge prices during holidays and other high demand times.

Lyft

Lyft's online platform uses Facebook profiles to help connect drivers to customers. As with Uber, drives must supply a 4-door model from the year 2000 or newer. Drivers must be at least 23 years old and pass a DMV and background check as well as have valid personal auto insurance that meets state guidelines. Lyft has a $1 million per occurrence excess liability insurance, which provides additional liability protection in the event of a crash incident.

Sidecar

Unlike Uber and Lyft, Sidecar allows for those who are 21 years of age to provide taxi-service. The driver's car must be a registered and insured 4-door vehicle from the year 2000 or newer. As with Lyft, the drivers are covered for $1M excess liability per occurrence. The liability insurance is only valid once they have accepted a request to pick up a passenger and until the passenger is dropped at their destination.

Growing Pains of an Emerging Market

The service offerings of these TNCs are constantly shifting in response to customer feedback and regulatory changes. As these companies' presence has grown, they have been getting push back in cities across the country due to concerns with safety and fairness as well as the perceived and real competition they pose for traditional taxis. No data is yet available to show whether these services shift travel trips away from public transit.

Insurance policies have also evolved to fit the use of TNCs. Given the mix of personal and commercial uses of TNC vehicles, there has been some ambiguity as to whether personal insurance policies cover drivers when they are offering a commercial service. Prior to recent reform, drivers were only covered by company insurance policies when transporting a passenger or on the way to pick one up. Yet the insurance market has evolved to meet the needs of TNCs. In San Francisco, a female was struck by an Uber driver on New Year's Eve while not en route to pick up a passenger. Following this incident, Uber claimed zero liability. To fill this gap, contingent liability insurance has been set up for instances when a driver's personal insurance will not cover the accident. (Hockensen, 2014) The illustration below from Uber's blog shows when a driver is covered by Uber's insurance.

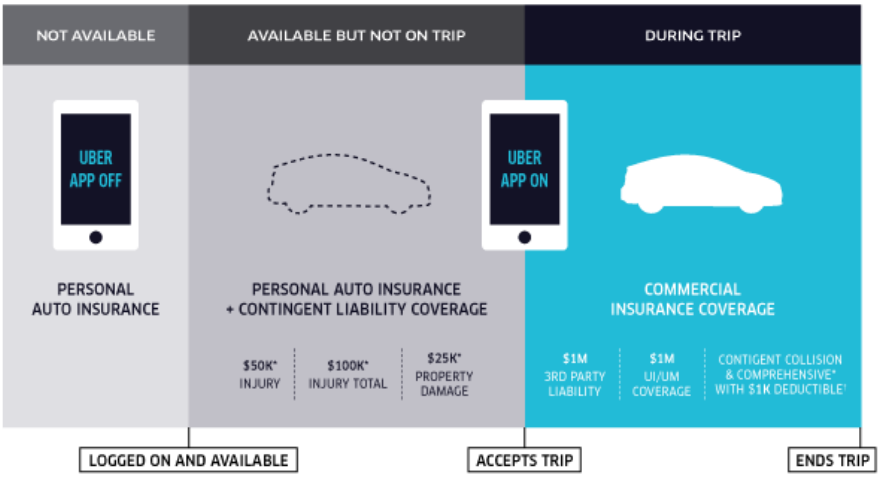


Image source: http://blog.uber.com/uberXridesharinginsurance

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