THE CURBSIDE BUS INDUSTRY: A NEW ERA OF BUS TRAVEL

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EXECUTIVE SUMMARY

Intercity travel has experienced a transformative shift as a new form of bus travel demonstrates explosive growth that far outpaces any other mode. As funding and innovative strategies for transportation falter in Congress, the private sector has leapt in to provide low-cost express bus service to a growing number of cities. This paper seeks understand the industry, examine advantages and disadvantages of the curbside model and offer recommendations for city officials for the future of the industry. Before the late 2000s, bus travel between cities had been on a steep decline and largely served only those with few other options. New companies emerged after Chinatown buses proved popular in the Northeast and are reversing the trends on brightly-colored buses with wireless internet aboard, online ticket sales, and departures from a curbside near you. Curbside buses have taken off since Megabus launched in 2006 and BoltBus in 2008 and now offer over 1000 departures daily from a combined total of approximately 140 cities (Schwieterman, Antolin, Laurent, & Schulz, 2013). Greater levels of service and access to flexible and adaptable service through technology likely have attracted the primarily young riders. While these new modes provide more affordable travel options for Americans and Canadians, the curbside model, which eliminates overhead costs by not using ticket counters or having waiting areas has caused tension with increased curb crowding and a perception that companies are literally loading on the curb for free. A number of high-profile crashes have caught the attention of the news media, and the Federal Motor Carrier Safety Administration (FMCSA) has increased enforcement of safe operations, but regulation of these interstate commercial companies is disjointed at best. As this new industry grows, transportation officials should incorporate these new modes into their long-range plans. Several cities have integrated them into intermodal facilities, but smaller cities have different needs. Regardless of how cities choose to proceed, the curbside bus industry continues to grow and expand and is changing transportation nationwide. Cities are the ideal actor to capture the success of this new or improved mode to increase options

for residents and intra-city mobility, but also to decrease vehicle miles traveled (VMT), encourage tourism, alleviate congestion, or promote economic development in cities. Additional research on a number of issues is vital, but the opportunity for partnerships between these private companies and city officials cannot be discounted and is evident now. Curbside buses are transforming the entire sector and cannot be ignored.

INTRODUCTION

Curbside intercity buses are a new generation of bus operations experiencing massive growth across the United States. While bus travel between cities has been around since the early twentieth century, since the mid-2000s this industry has exploded—primarily from two major players, BoltBus and Megabus. The industry has a richer story however, and picks up in the late 1990s with bus operators affectionately and now collectively referred to as Chinatown bus carriers. The evolution of this new industry has profound implications for transportation in the United States because for decades, intercity bus travel has suffered from a pronounced "bus stigma" where only those lacking personal transportation or those with few resources rode buses and often to and from small cities.

Intercity bus services grew from the 1930s until the Second World War when car and air travel began to outpace bus travel. In the 1980s, the industry was deregulated and while bus companies continued exclusively to serve many small towns across the United States, the level and frequency of service declined. In the 1990s, Chinese immigrants began offering routes between the Chinatown section in Manhattan and that in Boston, and the low fares attracted savvy, mostly young travelers. In response, intercity bus companies have expanded and popped up to provide service to a growing number of Americans. These curbside buses differ from conventional intercity bus service in that they often depart from curbside locations rather than terminals and offer steep discounts by eliminating the overhead costs of extra employees and terminal facilities. Companies offering these routes are able to adapt easily to changes in demand and swiftly add or eliminate routes that are not profitable and easily sell tickets for new bus routes online. Several traditional bus companies and other new companies have joined the industry to offer greater levels of service at low prices across the country. Larger bus companies, seeking to capitalize on this new demand, launched companies to compete including

Megabus.com, a subsidiary of Coach USA itself part of Stagecoach UK, and BoltBus, a joint venture between Peter Pan Bus lines, and Greyhound.

These new bus companies offer clean, quick, short- and medium-haul bus trips between major cities for record-low fares, and have expanded to serving smaller cities including college towns. This new low cost mode of transport has been growing steadily since its inception and does not appear to be waning.

The new operators offer more amenities, which lends credence to their reputation as more "upscale" than traditional carriers. Modern marketing has attracted new customers, and shifted perception from the bus stigma that has plagued the bus industry for decades. Greyhound has long dominated the intercity bus industry, but riders of Greyhound may not recognize the bus travel of the new industry. Newer companies are changing the demographics completely.

While the industry has increased travel options, some cities are experiencing tension with crowd congestion, as well as safety concerns. Some Chinatown bus companies continue to flout federal laws which have resulted in some widely-reported fatal crashes and much negative publicity. While bus travel is generally very safe, these and other accidents involving curbside buses have resulted in increased scrutiny from federal, state and local officials.

Although much research has been conducted on Greyhound and traditional intercity bus travel, there has been a distinct lack of comprehensive research on the impact and potential of these new private companies on transportation networks nationally. There has not been an examination into ways cities can capture the success of this industry while minimalizing the challenges. City officials must understand how the industry works so they can capture the success and make it safe and convenient without limited access or discouraging innovation.

The rapid growth of these private sector bus companies has changed the transportation industry largely using technology and appealing to those who increasingly rely on and expect technology in transportation. Curbside buses must be examined because in a short timeframe they are reversing the decades-long trend of a once largely unappealing mode of travel to consumers.

This paper seeks to understand the nature of the new resurgent industry's success, obstacles facing and stemming from the industry, as well as what the potential of this industry is for riders, cities, and the country as a whole.

METHODOLOGY

As the intercity bus industry has been around since the early part of the twentieth century, a fair amount of literature has been written on the industry and growth and regulations into the 1980s when the industry was deregulated. One can find much information about Greyhound and other dominant traditional carriers. Chinatown carriers have less documentation. Information about all these companies can mostly be gleaned from specific government reports, research reports, federal data, as well as local news reports. Very few comprehensive numbers are available about the sector which has no one organization representing it. The remaining corporate carriers are private companies and release information as they wish. A number of research institutions are working to document the new industry, especially DePaul University's Chaddick Institute for Metropolitan Development. From these and some government reports also trying to get a handle on the influx of buses, more information can be assembled. These groups have had to do survey research and data gathering in the field. Information regarding the economic impact is largely confined to industry advocate reports and collaborations between business school students and private companies as in the case of a report by Drexel University's LeBow School of Business students who consulted with BoltBus in Philadelphia (Antolin, Chen, Pandya, Sharma, Yu, & Long, 2012).

This paper garners information from these varied sources, but also from two years' worth of personal observation, personal interviews, and presentations. A June 2012 University of Delaware policy forum invited stakeholders from cities along the Northeast Corridor to discuss the implications of the industry and afforded a wealth of information. This paper seeks to provide an overview of the new industry, a background with which to understand its transformative nature, and examine why the industry has been so successful. It also acknowledges the challenges and seeks to conclude what potential this industry has for the nation as a whole.

BACKGROUND AND HISTORY

The origins of intercity buses are significant to examine in order to understand where it may be going and why this new industry is transformative. Buses surged while rail faltered for a few reasons. While large cities had bus terminals, smaller cities sold tickets at retail outlets such as gas stations which limited overhead for the scores of small towns served by Greyhound, and in contrast to railroads, buses saved costs by using public infrastructure—the ever-increasing network of highways in the United States (Thoms, 1984). Without the cost of stations in many towns, the bus network extended nearly everywhere and bus travel benefitted from the need for the single employee: the all-in-one driver, ticket taker and baggage handler as opposed to the large crews needed for trains and airplanes (Thoms, 1984). Thoms explains, however, that the bus companies never catered to a more affluent travel market, which he contrasts with European coaches that offered more comfortable, up-market rides (1984). As rail passenger travel was consolidated into Amtrak in 1971, passengers did not turn to bus travel (Thoms, 1984).

However, a surge in demand for private automobiles provided intense competition for the industry. In the decade following World War II, the number of registered automobiles rose from 25.7 million vehicles in 1945 to 52.2 million vehicles in 1955 (*Highway Statistics: 1945*; *Highway Statistics: 1955*). Government investment strategies, land-use development trends, and American consumerism all promoted an increase in travel by car, at the expense of other modes of travel. The passage of the Federal-Aid Highway Act of 1956 gave birth to and financed America's Interstate Highway system, which promoted ease of long distance highway travel in automobiles (Weingroff, 1996). Sprawling land-use patterns encouraged by Federal Housing Administration-financed new home development spurred suburban development and suburbanization, required travel by car and fostered greater dependence on automobiles. The post-World War II boom in car ownership, and desire to "see the USA in your Chevrolet," helped

cast the car as a symbol of the American dream of greater prosperity. These new patterns in transportation favored car ownership and an automobile-based culture.

In the late 1950s, a major alternative to intercity ground travel, the domestic aviation industry, grew with a new generation of commercial jets that offered more convenient travel, greater passenger capacity, and competitive airfares. Air travel began a steady increase in the proportion of intercity travel—increasing its share from 7.8 billion passenger miles in 1949 to 30.5 billion passenger miles in 1959 and 111.5 billion passenger miles by 1969 (Siddiqi, 2008). In 1978, Congress deregulated the airline industry and new discount fares appealed to less affluent customers. While automotive and airline travel showed strong growth following World War II, intercity bus transportation experienced very little growth. Trailways and Greyhound dominated the intercity bus industry by 1980 and though the bus industry was in decline, the bus system was national and still comprehensive. The motorcoach industry was deregulated in 1982 to place it on a level playing field with other modes; however, now free of service requirements and fare restrictions, deregulation allowed Greyhound to discontinue unprofitable routes and raise rates (Thoms, 1984).

Between 1960 and 1980, intercity bus travel suffered a steep decline of nearly a third across the country and Schwieterman estimated that between 1980 and 2002, another fifty percent reduction in bus service occurred (2007). The discontinued service routes predominantly affected rural, low population density areas, but large and small cities alike nationwide also suffered substantial reduction in daily departures (Schwieterman , 2007).

Traditional intercity bus operators generally operate as part of a hub-and-spoke system. This system can be described as a series of scheduled routes, often with multiple stops along the way that originate from a central urban hub. Most bus carriers use bus terminals as the hub of operations and service rural areas. Bus terminals are often located in central business districts and provide basic sheltered waiting areas and facilities for passengers purchasing tickets, waiting to board buses, or transferring to another bus route. Bus terminals suffered as central

cities' population declined leaving primarily lower income residents using terminals which further added to the negative association many hold about bus terminals (Schwieterman, 2007). In the last quarter of the twentieth century, bus travel came to be primarily the means of travel for those low-income passengers without other options.

The bus industry continued to decline, and fell victim to the stigma Americans associate with public transportation, particularly buses. However, Austen calls what Megabus has accomplished "gentrification" of the bus industry (2011). In using this term, Austen correctly identifies that this new industry has not evolved from the previous industry, but is entirely new in whom they are attracting, where they are going, and other factors.

NATURE OF THE NEW CURBSIDE BUS INDUSTRY

Curbside buses have reversed the trend of declining bus services in the United States and are chipping away at the negative perceptions often associated with buses. These curbside carriers often have little staff other than the bus driver who may also serve as ticket collector. Curbside locations lack formal facilities, so companies pass on these savings to customers. Ticket sales take place primarily online and "tickets" often are not tickets, but codes an employee can read from a smart phone, paper print-out, and a hand-written scrap of paper or other method. Operators often locate curbside stops near transit which allows bus passengers to utilize existing infrastructure without cost to bus companies. In doing so, these companies attract a different demographic that is interested in the amenities provided, less willing to wait in dirty terminals, and travels between large cities. Bus terminals have long been associated with unpleasantness which is eliminated in curbside operations (Schwieterman, 2007). By bringing people into downtowns, these curbside carriers may be participating in the revitalization of cities.

The operators in this new industry can be broken down into two main categories, corporate carriers and Chinatown buses. Each industry is important in the resurgence of bus travel. The perception of, as well as loyalty, and popularity of Chinatown buses is significant as part of the industry, though difficult to measure; the reaction of corporate carriers to these pioneers has been significant. As the FMCSA continues to increase enforcement of safety practices, Chinatown bus companies have been the subject of much attention in several high-profile accidents and consequent shutdowns.

CHINATOWN CARRIERS

Though representing a small segment of the industry, Chinatown buses began the bus renaissance and expanded from their original New York to Boston route and have become widely known in the Northeast. At the same time they have also been plagued by government

shutdowns stemming from unsafe operations. “Chinatown bus” is the de facto term for mostly Asian-owned bus companies that transport passengers usually between Chinatown districts of major cities. The Chinatown bus industry began by seeking to capitalize on a perceived demand of a specific immigrant group (Klein, 2011). The Fung Wah Transportation Company was the first company to begin offering regular van rides to Chinese immigrants from New York to Boston as a way for parents to visit their children attending Boston’s many colleges, then rapidly expanded as demand increased (Klein, 2009, p. 85) (Klein, 2011). The success of these routes prompted a handful of other companies to offer point-to-point, express routes primarily between New York City’s Chinatown and Chinatown sections of other Northeast cities (Klein, 2011, p. 3) including New Century Travel who began to offer rides between Philadelphia and New York (Klein, 2009, p. 85). Initially, mostly Chinese passengers traveled on Chinatown lines, but low fares attracted young adults, college students, and other cost-conscious riders (Klein 2011 p. 3). A survey conducted in 2003 by one such bus operator, Dragon Coach, found that one-third of its weekday passengers were not Asian, and that half of those who traveled during weekends were also non-Asian (Klein, 2009, p. 85).

Chinatown companies typically offer one route several times a day with minimal amenities using older bus fleets. For example, Fung Wah operated 24 daily trips on its only route between New York and Boston (Austen, 2011). Tickets could be purchased curbside or at a storefront. In 2002, many bus companies began selling tickets online through GotoBus.com, a privately held company formerly known as IvyMedia Corporation (Chen, n.d.). This online ticket-broker service made the Chinatown buses more accessible to mainstream passengers. Chinatown companies often use employees to collect ticket, but also to drive if necessary and the business model depends on buses being full which means the buses might idle until enough passengers are onboard (NYC Department of City Planning Transportation Division, 2009). One major factor was the frequency of service and walk-up, flat fares offered to anyone that ventured into Chinatown without any need for advance purchase or planning.

These Chinatown buses now refer to a number of companies that continue to operate intercity buses and often use Chinatown districts in major U.S. cities as travel hubs though many offer routes to smaller cities now (Klein, 2011, p. 3). Most Chinatown bus companies are still private Asian-owned companies.

Figure 1: Chinatown Bus Departures Frequency and Scope in 2009 (Klein & Zitcer, 2012)

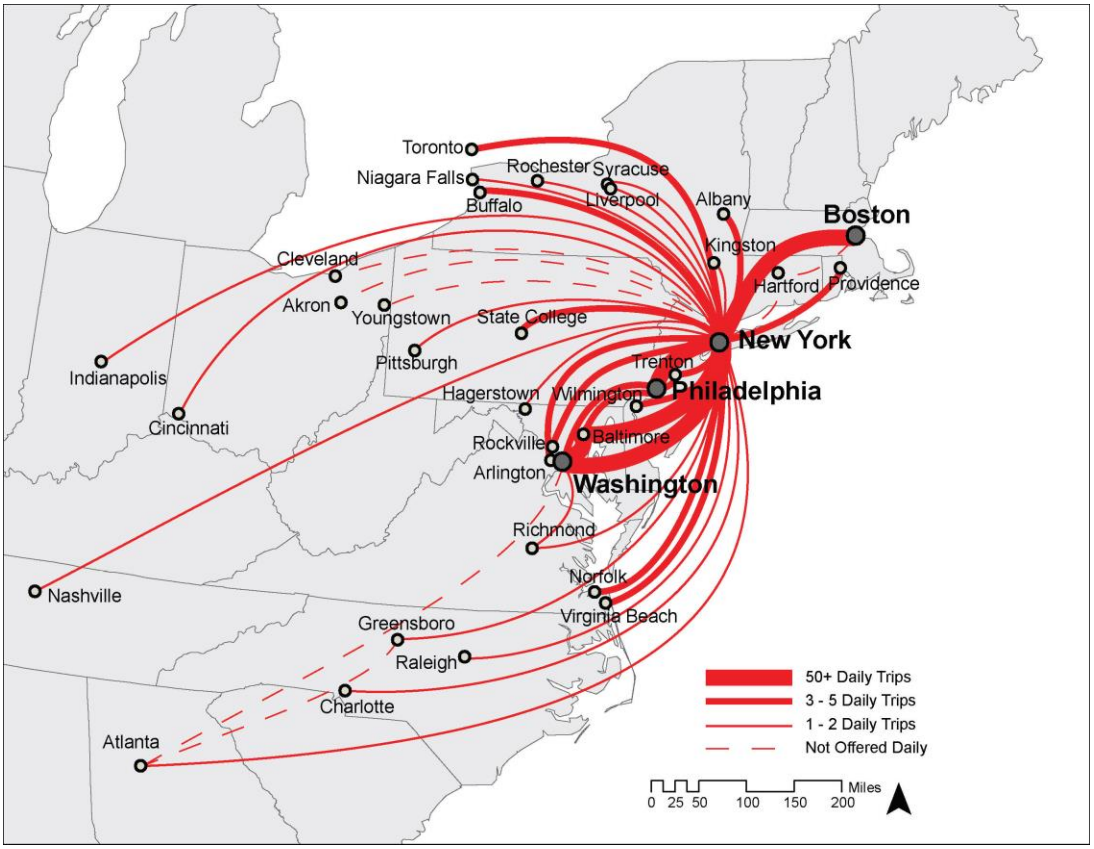


Figure 1 depicts Chinatown routes in 2009 by frequency of daily trips—and also before a number of them were shut down by the federal government (Klein & Zitcer, 2012).

The success of these companies has encouraged other operators to enter the business, and the deregulated atmosphere has allowed easy entry to curbside service. Increased competition among these Chinatown buses resulted in significant fare reductions in the early 2000s (Klein, 2009). With the arrival of corporate carriers into the curbside intercity bus market, the industry continues to offer competitive fares. However, many prominent companies have been shut down

by the FMCSA in the past year for safety violations including the first company Fung Wah, as well as more than two dozen others.

In 2012, Greyhound began an express service called Yo! Bus between Philadelphia and New York as a way to appeal to those accustomed to riding Chinatown buses and take advantage of this market even using the name which their website states is both a form of the Chinese word meaning "protect" and a reference to a saying they attribute to Philadelphians (About Yo!, 2012). The Chaddick Institute reports that this service is meant to take the place of shuttered Philadelphia-based Chinatown carrier, New Century Travel, Inc. (Schwieterman et al., 2013).

CORPORATE CARRIERS

Corporate carriers emerged in the early 2000s as a competitor to Chinatown buses and attempted to offer a higher quality service with an emphasis on respectability and safety. Curbside intercity bus operators began capitalizing on the successes of Chinatown bus operators rather than operations of struggling conventional carriers (Schwieterman & Fischer, 2011). However, they are serving different demographics. Megabus president Dale Moser notes passengers coming from Chinatown bus companies comprise less than two percent of Megabus's growth and that seventy-three percent come from automobile and air travel (Plungis, 2013). These large corporate bus companies are the major driver of this industry.

This new industry offers competitive rates on express routes between major cities by reducing overhead costs that are typically incurred by traditional bus carriers operating out of terminals with ticket counters. For example, a bus slip at the Port Authority Bus Terminal in New York costs $40 per departure, $6,500 for platform use each year and an additional $13,000 to $19,000 for use of the station gate (Beck, 2010). Ticket prices are based on a yield-management model similar to airlines which base prices on demand. For Megabus, with ninety percent of bookings online, staff needs are reduced (Krekel, 2013).

The two major corporate companies, Megabus and BoltBus, are subsidiaries of large international, publicly traded companies. These bus companies are doing well focusing on medium-haul business—city-to-city trips under 300 miles between large cities, rather than in rural areas (Austen, 2011). Rural areas remain the purview of Greyhound, but Megabus is moving into more regional operations that include smaller towns—the effect of which remains to be seen. Greyhound is still reliable in that it continues service to small towns. It serves over 3800 locations in North America (Greyhound—About Us, 2013).

A number of route-specific carriers have also emerged such as DC2NY, operated by charter and tour bus company, Academy (Academy, 2012). This carrier which runs routes between Washington, D.C. and New York as its name implies, as well as to vacation destinations from Washington, D.C. (Rehoboth Beach and Dewey Beach, Del.) during summer months (DC2NY, n.d.). Other notable companies that operate within the Northeast I-95 corridor include Vamoose Bus, and Washington Deluxe. Vamoose runs routes from Virginia and Maryland suburbs of Washington, D.C., to New York, and the others run routes from the capital and its suburbs to New York including from curbside locations such as DuPont Circle and intermodal facilities such as Union Station (DC2NY, n.d.) (Washington Deluxe—Express bus services, n.d.) (Vamoose, n.d.). A number of regional bus companies have entered the market including Red Coach in Florida. They service Fort Pierce, Fort Lauderdale, Gainesville, Miami, Naples, Ocala, Orlando, Tallahassee, Tampa and West Palm Beach and offer a more upscale experience (Destinations—Stations and stops, 2012). These carriers offer onboard amenities, easy booking, convenient locations, clean interiors and guaranteed seats and are each on average more expensive and more often flat rates than BoltBus or Megabus.

Vamoose also offers Vamoose Gold—an upscale version of its offerings— which has fewer seats and more electrical outlets and costs twice as much ($60 versus $30 each way) (Vamoose, n.d.). This option serves suburban Maryland and Virginia with more niche routes to New York City intended to appeal to a more affluent customer who might otherwise take Amtrak and perhaps

is on an expense account. Vamoose and its luxury options continue to distinguish themselves from the traditional bus and its associated stigma (Vamoose, n.d.). DC2NY's branding logo calls itself "the upscale bus" (DC2NY, n.d.).

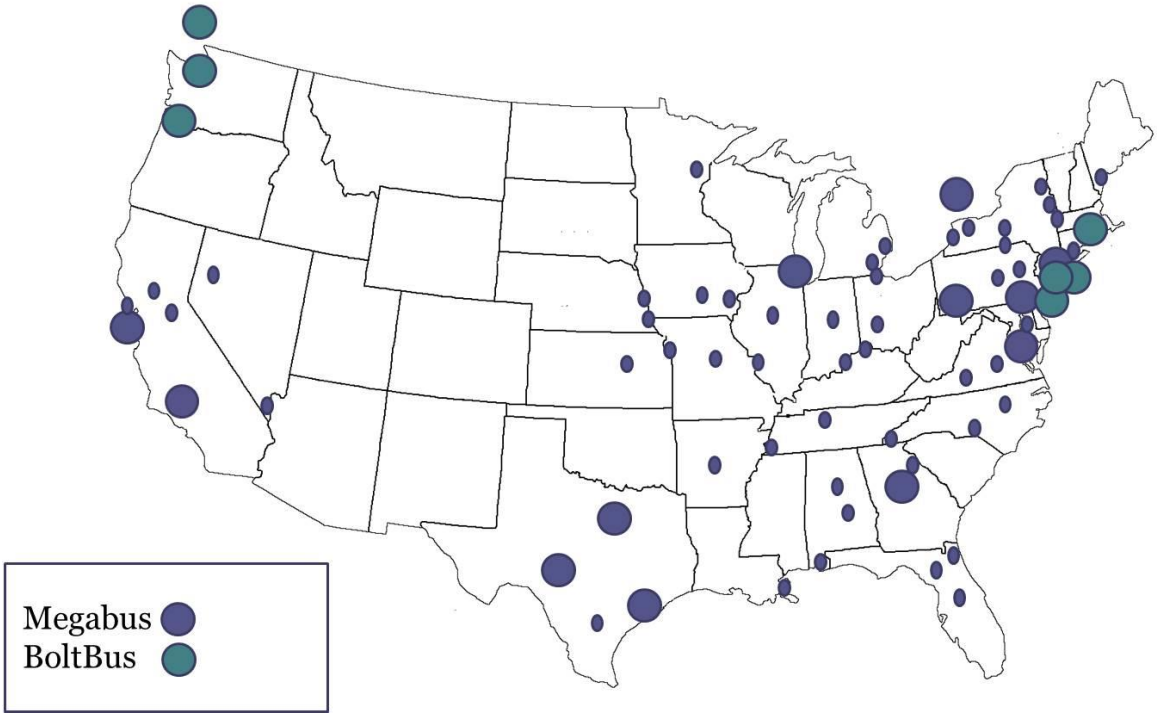
One notable characteristic of Megabus is that customers need a credit card to book a ticket even if you book in person, or over the phone—both of which account for fewer than five percent of bookings overall (Colm Lynch, personal communication, March 27, 2013). This effectively acts as a filter for those without bank accounts—a major difference from Greyhound and a way for Megabus to maintain a reputation that does not resemble that of Greyhound (B. Chamberlain, personal communication, March 27, 2013). Most other carriers such as DC2NY, Red Coach, BoltBus and Vamoose do allow walk-up fares to be paid in cash though schedules are primarily listed online. Greyhound offers a variety of ways to pay even including online purchases that can be paid in cash at a station (Greyhound-Home, n.d.). Onboard surveys of Greyhound and BoltBus reveal that outside the Northeast, listed separately because of different demographics and increased transit options, fifty-seven percent of riders use cash to purchase tickets compared to only three percent of BoltBus passengers (David Hall, 2013). This emphasis on cash purchases stems from the fact that only 65 percent of Greyhound riders in the Northeast and 46 percent outside the Northeast have credit cards compared to 88 percent of BoltBus riders (David Hall, 2013). No credit card means no online purchases. This accounts for one major difference between these types of bus companies and will be discussed at length in the demographics section to come. The rapid growth of this industry merits further documentation to examine its success in an industry that had been declining for decades.

GROWTH

Stagecoach Group began operating with Coach USA in 2006 rolled out Megabus intercity bus lines in the Midwest using Chicago as its first hub, then expanded to the Northeast in 2008 (Megabus, n.d.) (Klein, 2009). It began running lines from Chicago to Cincinnati, Cleveland, Columbus, Detroit, Indianapolis, Milwaukee, Minneapolis and St. Louis as well as routes between Indianapolis and Cincinnati, and Indianapolis and Columbus (Express, non-stop bus service begins in Chicago, 2006). The company advertised express routes between major cities with fares as low as one dollar. Since its founding, Megabus has served 25 million passengers (B. Chamberlain, personal communication, March 27, 2013). In 2010, Megabus operated 135 buses each day (Austen, 2011) and added 20 new routes. As of early 2013 Megabus serves over 130 cities and operates from six hubs in the United States and continues to expand (Megabus, n.d.). Megabus has also expanded service to college towns, and the southeast United States, as well as reentering the California and Nevada market (Megabus, n.d.).

The other major carrier BoltBus operates separately than the Greyhound brand (Klein, 2009). In 2012, BoltBus expanded to the Pacific Northwest running routes between Seattle, Portland, and Vancouver. BoltBus reported that after only three months of service, the curbside business was profitable (Austen, 2011).

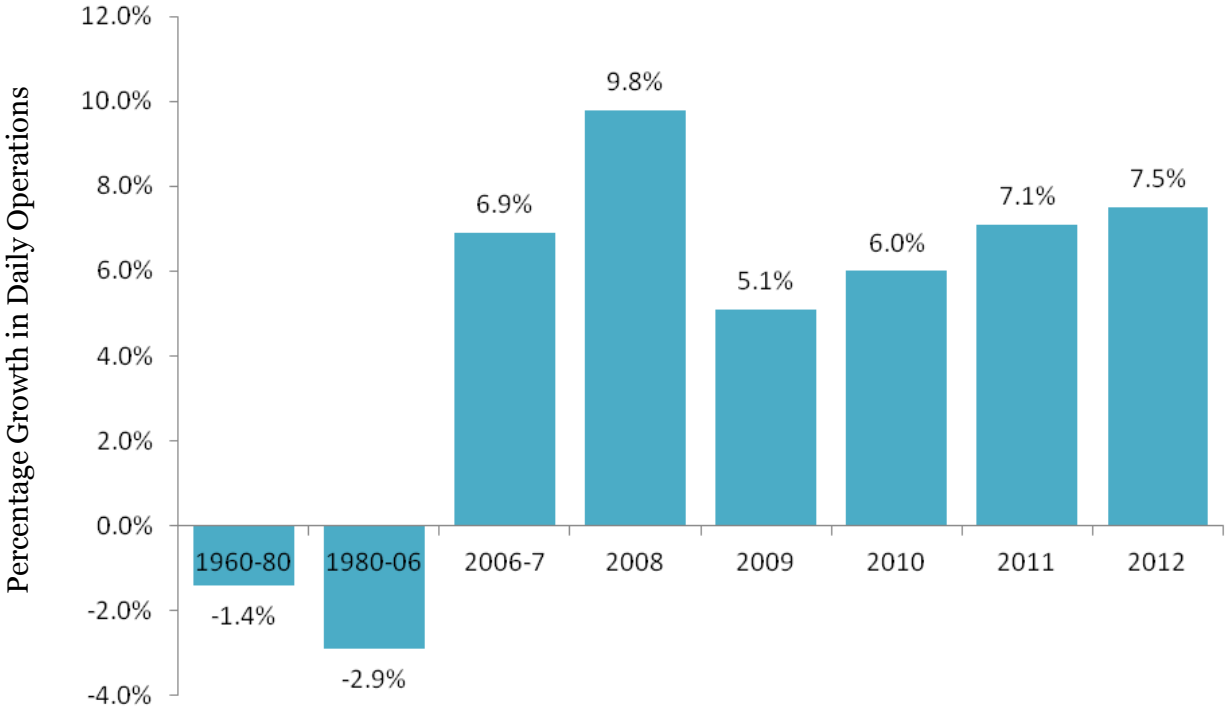
Figure 2: Growth of Two Major Intercity Bus Carriers with Approximate Locations, 2013, personal approximation. Large Circles represent hubs, while smaller ovals represent other cities served and are not comprehensive.



The corporate carriers lead the growth of this industry with greater geographic expansion and ridership numbers than their counterparts as seen in Figure 2. Unfortunately being private companies, data regarding comprehensive ridership and profitability is not readily available. Small studies and industry reports can help fill in some of the gaps. The analysis provided comes from available data drawn from news reports, company reports, trade associations and other stakeholders, and allows a more accurate picture of the industry to be observed.

The Chaddick Institute counted over 1000 bus departures daily in 2012 (Schwieterman et al., 2013). As Figure 3 documents, the industry has grown every year since 2006, the year Megabus began operations in the United States.

Figure 3: Percentage Annual Growth and Decline of Bus Arrivals and Departures (Schwieterman et al., 2013)



The Chaddick Institute's latest report estimates that the two major carriers represent 86 percent of the new industry and 23 percent of intercity motorcoach companies overall (Schwieterman et al., 2013) . Reports of ridership and routes do not include Chinatown companies because little public information is available and most of these companies are small and offer one or two routes each.

Other companies such as DC2NY and Vamoose have not expanded outside the Washington, DC to New York corridor thus far. Red Coach has not expanded outside Florida (Destinations—Stations and stops, 2012). Much of the substantial growth in this industry in 2012 stems from geographic expansion and additional routes from existing hubs. Both BoltBus and Megabus have acquired or partnered with traditional bus companies to expand services (Schwieterman et al., 2013). In 2012, Megabus used acquisitions to begin shorter distance routes focusing on service to college towns, and smaller cities, as well as areas without significant public

transportation alternatives, such as Texas and the Southeast (Schwieterman et al., 2013). BoltBus has also moved into typical commuter routes on Long Island with stops from Manhattan out to Ronkonkoma and Riverhead (both stops on the Long Island Railroad) as an operation with Hampton Luxury Liner. The stops are located in park and rides as well as hotels where the lobby is open for waiting (BoltBus, n.d.). This represents a departure from their usual business, but it still new and little data is available to analyze.

Table 1: Megabus Company Statistics, (U.S. DOT FMCSA, 2013)

Division	Power units or buses	Drivers	Miles per year
Megabus Northeast, LLC	116	282	18,382,062 (2012)
Megabus USA LLC	50	150	9,291,829 (2012)
Kerrville Bus Company, Inc.	114	220	1,307,400 (2012)

Megabus now serves more than 130 cities in the U.S. and Canada as of early 2013 (B. Chamberlain, personal communication, March 27, 2013). In 2008, they began offering double decker buses that hold up to 81 (Schwieterman & Fischer, 2010). In 2009, Megabus acquired a Chinatown bus company called Eastern Travel in an attempt to make them "respectable", but quickly sold the company after realizing the extent to which operations procedures on safety, maintenance and driver education would have to be raised to meet Megabus standards (B. Chamberlain, personal communication, March 27, 2013). The company bought and sold Eastern Travel within the year. Discussion with Megabus officials revealed that Eastern Travel's maintenance policy handbook mentioned only needing to change oil every 5000 miles with no other details listed regarding bus maintenance (B. Chamberlain, personal communication, March 27, 2013). Safety is a high priority for a high profile company with stockholders.

FINANCIAL DETAILS

Specific profit and financial information is generally private, but a few reports allow an examination as in the case study developed by Drexel University LeBow College of Business

students that attempts to determine what impact BoltBus is having on the city of Philadelphia after the company received complaints that they were not paying for the space they used (Antolin et al., 2012).

BoltBus shares 120 feet of space with Megabus on the 3100 block of John F. Kennedy Boulevard in Philadelphia located behind the 30th Street Station home to Southeastern Pennsylvania Transportation Authority (SEPTA) and Amtrak services (Antolin et al., 2012) (BoltBus economic impact analysis final presentation, 2012). This economic impact report by Drexel Business School students sheds light on the company's business model and seeks to understand how these companies operate, make profits, and determine important business decisions. The report focuses on the primary route between Philadelphia and New York City which Drexel reports is the second most utilized in terms of ridership of any in the Greyhound family in the continent and is estimated to have served 700,000 passengers in 2011 (Antolin et al., 2012) (BoltBus economic impact analysis final presentation, 2012).

Buses running from the Philadelphia stop operate at 85 to 90 percent capacity; cost $12 on average which translates to a profit margin of 20 percent (BoltBus economic impact analysis final presentation, 2012) which is twice what Greyhound operates on (Antolin et al., 2012). This analysis also demonstrated that ridership changes and adjusts after service is introduced. Weekend ridership is higher for this route and demonstrates that most are traveling for pleasure; BoltBus increased weekend service after recognizing this and reduced less profitable mid-week travel (Antolin et al., 2012). A 2011 study by the Chaddick Institute also indicated that riders are primarily traveling for pleasure and on weekends (Schwieterman & Fischer). In addition, data indicates that those riding these new buses are indeed a different segment of the country than traditional riders of Greyhound.

DEMOGRAPHICS OF CURBSIDE INTERCITY BUS RIDERS

A significant characteristic of the new industry is the demographics of the ridership because it differs greatly from that of conventional bus carriers**.** These characteristics have implications in understanding and planning for the future of the industry. Drexel University found that 76 percent of riders were traveling solo (BoltBus economic impact analysis final presentation, 2012). In addition, more riders are single women who used to be the bread and butter of Greyhound travel (Schwieterman, 2007) (BoltBus economic impact analysis final presentation, 2012). In fact, Greyhound reports that 65 percent of riders surveyed are young women which is more than Greyhound in the Northeast or outside the Northeast (David Hall, 2013).

Table 2: Survey Data on Demographics of Bus Riders (Klein, 2012)

Type	Number Surveyed	Details
Corporate Carriers	325	Average Household Income: $63,944 Black 12%, Asian Pacific Islander, 14%, Hispanic Latino 8%, White/ Caucasian 60%, Other 7%
Chinatown carriers	231	Average Household Income: $50,105 Black, 25%, Asian Pacific Islander 26%, Hispanic Latino 8%, White 37%, Other 5%
Traditional carriers	214	Average Household Income: $54,333 Black 31%, Asian Pacific Islander 8%, Hispanic Latino 11%, White 43%,Other 7%

As Table 2 demonstrates, passengers taking corporate carriers are more affluent than typical Greyhound riders, as well as those taking Chinatown carriers. One reason is that most tickets are purchased in advance and online which excludes those with limited access to the internet. A 2011 survey by Chaddick Institute reveals that 48 percent of all adult passengers are between 18 and 25 years old, and 73 percent of all passengers are between the ages of 18 and 35 (Schwieterman & Fischer). Industry data supports researchers' collected survey data. About fifty percent of Megabus's ridership and seventy-five percent of BoltBus's ridership are between the ages of 18 and 34 (Austen, 2011). Survey research affirms that more females ride curbside

carriers than males and women account for a greater share (54.7 percent) of curbside bus passengers over the age of 35 (Schwieterman & Fischer, 2011). BoltBus and Greyhound believe that young women are more attracted to BoltBus (64 percent of riders are women, compared to 55 percent and 49 percent of Greyhound riders in the Northeast and outside the Northeast respectively) because they do not feel safe using bus terminals (David Hall, 2013). Curbside bus riders are also well-educated. College students or graduates comprise 82 percent of passengers riding BoltBus (Austen, 2011). In contrast, only 20 percent of Greyhound riders outside the Northeast and 41 percent of riders in the Northeast have a college degree or advanced degree (David Hall, 2013). What is causing this shift in demographics?

FACTORS CONTRIBUTING TO INDUSTRY GROWTH

The massive growth of the industry cannot be attributed to any one factor, but there are many factors that may have contributed. In addition, the recession and changing demographics of our country cannot be discounted. This section will examine what may be driving the still evolving phenomena of shifting patterns of use in transportation.

APPEAL TO MILLENIAL GENERATION

A 2012 report, *Transportation and the New Generation*, reveals new travel trends for Americans and changing travel preferences for the millennial generation (children of baby boomers) (Davis & Dutzik, 2012). For the first time since World War II in 2011, Americans of all ages drove fewer miles (Davis & Dutzik, 2012). Young Americans in particular are relying less on cars and turning to alternate forms of transportation. (Davis & Dutzik, 2012). The report reveals that 16- to 34-year-olds experienced a 40 percent increase in the number of miles traveled on public transit such as trains and buses between 2001 and 2009 (Davis & Dutzik, 2012). In addition, the percentage of 14- to 34- year-olds without driver's licenses increased between 2000 and 2010 from 21 to 26 percent (Davis & Dutzik, 2012). The combination of inexpensive online fares, convenience, and availability of onboard technology likely attract millennial passengers.

COMPETITIVE INEXPENSIVE FARES

Compared to new intercity curbside bus fares, Greyhound's fares are often significantly more expensive than curbside carriers are. Keeping bus fares low allows carriers to market to key demographic groups that may be unable or rather, unwilling to pay for other modes of transportation between major urban areas. Operators such as Megabus and BoltBus offer an airline-style, yield-management pricing scheme that offers at least one ticket for a dollar per trip, with a nominal booking fee (Klein, 2011, p. 5). Prices initially start very low—mostly one-

dollar fares until the market adjusts. Some markets, such as Atlanta, are presumably less accustomed to this type of travel and the Megabus has had to keep more one-dollar fares until people grow familiar with the service (B. Chamberlain, personal communication, March 27, 2013).

Ticket prices fluctuate based on demand, time of week, peak travel times, and travel reservation period. For example, it is cheaper to book mid-week travel in advance than to purchase a last minute ticket for weekend travel or during a holiday. Chinatown buses typically offer low, flat rates which customers most often purchase onboard, curbside, or at storefront locations although increasingly online as well (Klein, 2011, p. 5). This pricing model with one-dollar fares also provides an advertising benefit to these bus companies (Austen, 2011). This price is plastered on both Megabus and BoltBus's distinctive brightly painted buses as seen in Figure 4. While most passengers do not receive the $1 fare, it does create interest and offers an incentive to book travel early. In addition, a paper ticket can be printed, but only the code that is emailed to passengers after booking is necessary and may be presented on a smart phone or on a scrap of paper. BoltBus offers the first booking the one-dollar fare, but adds more one dollar fares if there is not high demand (Parekh, 2009). However, because schedules and stop locations are only available online, access to the internet is often necessary. Indeed, advanced purchase tickets from Greyhound.com cost significantly less than walk-up, refundable or other type fares offered—for a trip from New Orleans to Houston, advance purchase was $18 versus $67 (Greyhound—Fare Finder, 2013). Greyhound customers within the Northeast and outside the northeast often have access to the internet, but often lack a

Figure 4: A bright orange BoltBus on the highway

credit card to purchase a ticket online (David Hall, 2013). Ninety-nine percent of BoltBus customers surveyed had access to the internet (David Hall, 2013).

CONVENIENT ONLINE TICKETING

While traditional bus companies now offer online ticket booking, there may be an additional surcharge to guarantee a seat on a specific bus. For example, with Greyhound a reserved seat that guaranteed a spot on a bus for a specific time and date of departure costs more than a standard ticket; they also offer varying prices for refundable tickets, and online-only prices. Boston businessman Jimmy Chen developed Ivy Media now called Gotobus.com as an "Expedia-like" travel service to coordinate bus travel with Chinatown companies (Chen, n.d.). However, as a ticket-broker, the site does not verify the safety or legitimacy of the companies whose tickets they contract to sell. A new website launched in 2012 aims to be the Kayak or Expedia of bus and train travel, www.wanderu.com (Schwieterman et al., 2013). This site though in beta now seeks to help coordinate intercity travel across the United States. Reaching out to students, Vamoose now accepts college dollar points from a few universities including Georgetown University, George Mason University and American University in Washington, D.C. (Vamoose, n.d.).

Figure 5: Signs for a Chinatown Bus Company in Manhattan's Chinatown at 133 E. Broadway St.

MODERN MARKETING

Curbside bus companies are using modern marketing to advertise. Chinatown buses typically rely on word-of-mouth and signage like that in New York City's Chinatown seen in Figure 5. Corporate carriers have embarked on a

different path, part of their divergence from their more traditional predecessors. Megabus, BoltBus, as well as many other corporate carriers use their own buses as advertising with brightly colored paint hawking low fares. In contrast, many Chinatown carriers' buses do not carry any such branding except the U.S. DOT number required by federal law, and sometimes not even that.

Megabus employed marketing firm, Hanser and Associates in 2005, which used a marketing strategy to promote the company (as Coach USA) (Hanser, 2012). Megabus uses Twitter, Tumblr, Facebook, and other social media sites to direct customers to its website, which Hanser reports gets on average 2 million users per month. The company also regularly works with media and the company believes the resulting news media coverage would have cost over 100 million dollars if they had purchased it directly (Hanser, 2012).

Both companies rely less on traditional advertising such as magazines, radio, television spots, and billboards. In a departure though, Megabus debuted its first television commercial in Texas in June 2012, and they currently sponsor NASCAR driver, Jason Bowles (Schwieterman et al., 2013). This may be an attempt to appeal directly to this new market and to diversify their customer market. Megabus uses targeted internet ads primarily and press coverage. DC2NY and Vamoose rely primarily on word-of-mouth traffic and signage at stops though both employ media or PR staff (DC2NY, n.d.) (Vamoose, n.d.).

Greyhound chose Butler, Shine, Stern and Partners as their public relations and advertising agency to introduce BoltBus as a separate entity. BoltBus does not have the household recognition that Greyhound does, and as such, does not have the associated baggage of negative perceptions. (Parekh, 2009).

BoltBus uses the slogan "bolt for a buck" and lightning bolt logo and bright orange design on their buses and in advertising (Parekh, 2009). BoltBus used on-the-ground promoters in their

public relations campaign, but both major companies have not needed to use traditional advertising. Both companies use social media extensively. Megabus has an application for smart phones to sell tickets and track buses in real time. Additionally, because users often elect to receive an email when they book a ticket online, Megabus can alert customers about promotions including free tickets. Megabus even sent a poem and advertisement for St. Valentine's Day in 2013 encouraging travel to see loved ones.

In December 2007, Megabus gave away 100,000 free tickets as a promotion (Schwieterman, 2008), and since then it has often done the same when it begins new hubs or routes to new cities and uses press to encourage ridership. Company officials are often quoted in press releases stating they hope to stimulate travel that "there's no reason to stay home" and that their bus service can "stimulate the economy" (Megabus.com offers 100,000 free seats to stimulate travel in 2010, 2009).

BoltBus, DC2NY, Vamoose, as well as other companies have rewards programs. BoltBus's is simply that your ninth ride is free; and unlike most airlines, the number of miles one travels does not factor into it (BoltBus, n.d.). BoltBus and Megabus, as well as some of the smaller carriers appear to want to create loyal customer bases that will spread the word by mouth as well. Members of BoltBus's loyalty program get to board first (Kugiya, 2012). With the yield-management pricing scheme, loyalty is important especially as dollar prices become less frequent and prices rise and fluctuate and these buses attract customers with others choices of mode of travel.

INNOVATIVE BUS TRACKING TECHNOLOGY

Megabus.com recently launched a new bus tracking application (app) that enables passengers and customers to track bus departure or arrivals from a smartphone. The company is able to provide this by utilizing state-of-the-art tracking technology not available with any other

curbside bus company, but increasingly common on public transit in many cities. In Elizabeth, New Jersey, operations managers watch individual buses on large monitors that list the current speed of each bus, driver information and have the ability to communicate through a screen directly and quickly (B. Chamberlain, personal communication, March 27, 2013). The company says this helps with safety, and traffic delays as well as other company issues.

RISING GAS AND TOLL PRICES

The average price for a gallon of regular gas in the U.S. in 2001 was $1.53 (Bureau of Labor Statistics, 2012). In June 2012, the national average for a gallon of gas averaged $3.50 (Bureau of Labor Statistics, 2012). Gas prices remain volatile and unpredictable. In 2008, the national average reached $3.38 per gallon of gas and spiked as high as $4.14 per gallon during the summer (Bureau of Labor Statistics, 2012). As gas prices rise, studies have shown that driving habits change (Congressional Budget Office, 2008), and dropping prices also affect driving habits.

Highway, bridge and tunnel tolls on interstates such as I-95 in the Northeast also add to costs of travel by automobiles. For example, one-way travel on I-95 north from Baltimore to Manhattan via toll roads, bridges, and tunnels can cost as much as $37.85 (I-95 Tolls, n.d.). Rising automobile travel costs may be prompting drivers to consider other travel modes, including curbside intercity buses.

ATTRACTIVENESS OF ONBOARD AMENITIES

Most corporate carriers operate fleets of new buses equipped with Wi-Fi and electrical outlets (Klein, 2009). The carrier DC2NY first offered Wi-Fi in 2007 and it quickly became an industry standard (Schwieterman, Fischer, & Smith, 2008). BoltBus advertises extra legroom, leather seats, free under-carriage storage of one bag or even a bike, and boarding groups to avoid crowding (BoltBus, n.d.).These amenities set the new curbside industry apart from the old-line

traditional companies. To better compete with new curbside intercity bus carriers, Greyhound and Peter Pan have begun to offer Wi-Fi, and increased legroom, and guaranteed seating with a new, elite service operating in a limited geographical area called Greyhound Express (Greyhound-Home, n.d.).

Curbside bus travel has become more attractive as airline travel after September 11, 2001 became much more complicated (NYC Department of City Planning Transportation Division, 2009). Due to concerns of terrorism after the 9/11 attacks, the Transportation Security Administration (TSA) initiated more extensive and time-consuming screenings to enhance security of passengers boarding airplanes (What we do, n.d.). After 9/11, more travelers turned to alternative modes, including rail and bus (Schwieterman & Fischer, 2010). The post-9/11 downturn in tourism encouraged Chinatown carriers to focus on intercity travel rather than charter buses (Chen, n.d.). Reports indicate that airline travel has returned to normal pre-9/11 levels (Milmo, 2011). However, hassles remain with advanced airport check-ins and increased TSA security screenings.

Buses also run between central cities rather than outskirts like many airport facilities which is advantageous to those without cars, but choosing curbside locations has proven contentious as they compete with the many other activities taking place. Many of the new riders are attracted to the curbside departures rather than discouraged because of the negative perceptions many have with traditional Greyhound terminals. In the 2011 Chaddick Institute study, thirty-six percent expressed a preference for curbside arrivals and departures or no opinion on whether curbside or terminal use was better (Schwieterman & Fischer). However this leaves nearly two thirds who prefer a bus terminal; but the study did not delve into other factors including the characteristics of a bus terminal such as quality, location and amenities (Schwieterman & Fischer, 2011).

This is significant because this appears to be one of the most important differences from traditional companies—no terminals. However, riders often use other facilities which causes

tension because bus companies do not compensate Amtrak for Pennsylvania Station usage in New York for example. However, Megabus officials are moving toward less curbside use, but not necessarily to terminals (B. Chamberlain, personal communication, March 27, 2013).

Many features of this new industry clearly stand out from the traditional bus industry of the twentieth century. The industry offers more attractive options and appeals to a new demographic that has other choices for mode of travel with competitive prices. The nature of the transportation industry may be shifting due to this rapidly expanding industry that few predicted buses could transform. Curbside buses' expansion across the country represents a new era of intercity travel that is happening at a critical time for this nation. With little money appropriated for public transit facilities, the private market has stepped in to fill a gap, and even to encourage more travel in what could be a generational shift. The industry will be analyzed for its potential and the challenges and obstacles to interested parties.

POSTIVE IMPACTS OF INDUSTRY GROWTH

Growth of the curbside bus industry should be examined for opportunities and positive externalities.

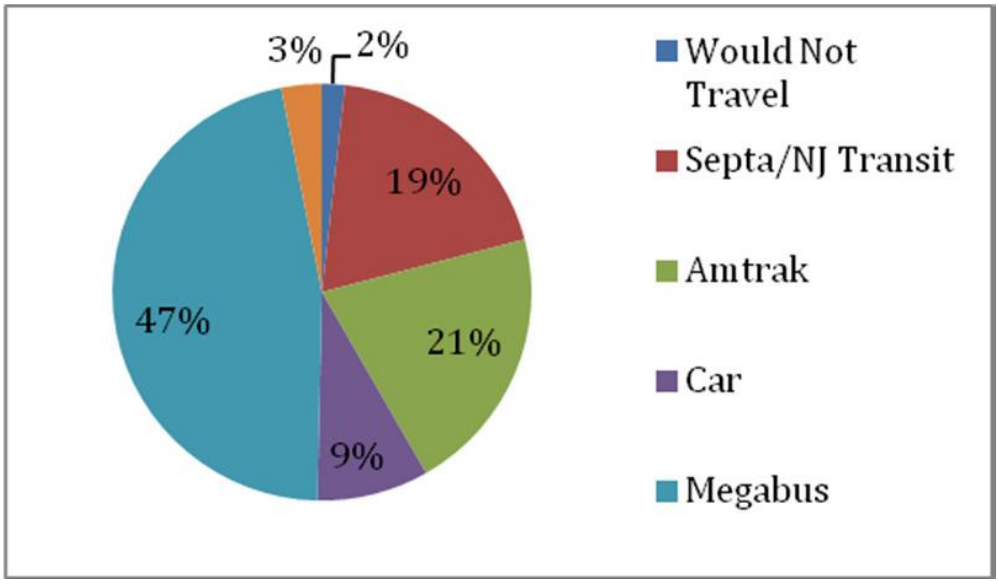
ENVIRONMENTAL BENEFITS OF BUS TRAVEL

The Motorcoach Council, an industry advocate, notes that taking a motorcoach over long distances potentially takes 55 cars off the roads and yields the lowest emissions of all public transit methods (Motorcoach Council, 2010). In addition to lowering harmful emissions, these buses, as well as public transit vehicles, are lauded for their ability to reduce overall fuel consumption and reduce vehicle miles traveled (VMT) by car. Little research has been conducted regarding the curbside intercity bus industry's impact on VMT reductions, but studies by DePaul University's Chaddick Institute indicate that this fledgling industry is already reducing 11 million gallons of fuel each year (Fischer & Schwieterman, 2011) In addition, carbon emissions are being reduced by 242 million pounds per year (Fischer & Schwieterman, 2011). If growth continues, buses could have a significant impact on modal shift.

According to JetStream, an industry analyst, nine percent of Megabus riders shifted from air travel and the majority of Megabus's ridership is diverted from car travel (Strategic Partners & Associates, 2012). An estimated 65.2 percent of travel on air, rail or bus between Washington, D.C. and New York, New York was curbside intercity bus in 2011 (Strategic Partners & Associates, 2012).

This is obviously just for a short distance (97 miles) from Philadelphia to New York City so air travel is not a very viable alternative. The Chaddick Institute's passenger survey in 2011 reveals that 22 percent of riders on curbside buses would not have traveled if the service were not available and 34 percent of those on the east coast would have taken the train (Schwieterman & Fischer, 2011). Passengers, they conclude, are not shifting from traditional companies, but from air, personal car, and train which contributes to the point that this industry is not merely a resurgence of the long history of intercity bus travel, but a new era that has profound implications. The results from a BoltBus survey are shown above in Figure 6 and demonstrate mode shift in an East Coast city where transit is more available than in places like Texas, California or the Southeast and mode shift would be expected to differ.

Figure 6: What mode would you have taken if BoltBus were not available? The 3% is for "other". (BoltBus economic impact analysis final presentation, 2012)



The Chaddick Institute specifically examined whether curbside buses are reducing car travel. When analyzing this, it was difficult for researchers to determine whether bus riders are encouraged to travel more by the low fare availability, which the Chaddick Institute calls a "stimulating effect" or whether travel by bus is replacing transportation by car or other modes of transportation (Schwieterman & Fischer, 2010, pp. 7-8). Chaddick Institute conducted a survey of curbside bus passengers in order to determine whether consumers would have taken another

mode or not traveled had the curbside bus route they were riding were not available; eighty percent would have taken another mode, and the remaining twenty percent would have forgone travel (Schwieterman & Fischer, 2010, p. 10). Of this eighty percent, seventeen reported they would have flown with a commercial airline to their destination, twenty-seven percent would have driven a personal car, twenty-two percent would have ridden an intercity rail line, and fourteen percent would have taken a traditional bus line (Schwieterman & Fischer, 2010, p. 10). Schwieterman and Fischer determined that the decrease in fuel consumed and carbon emitted caused by the emerging curbside industry is equal to 23,818 cars taken off the road (2010, p. 7). Curbside buses average 196 passenger-miles per gallon versus traditional intercity buses which average 136 miles (Schwieterman & Fischer, 2010, p. 10). This accounts for an average passenger total per bus trip on conventional buses (25.1) which is fewer than curbside carriers (36.6) (Schwieterman & Fischer, 2010, p. 10).

In addition, curbside bus routes' emphasis on point-to-point travel encourages what Schwieterman and Fischer calls a "transit lifestyle"—one that does not rely on car travel (2010). He notes that no other mode of transportation has accomplished this in more than half a century (Schwieterman & Fischer, 2010, p. 8). This is a role many advocates of high-speed rail likely had hoped rail would fill. If curbside intercity buses are indeed reducing VMT, then certainly it will have an impact on lowering emissions, fuel consumption, and global warming. Impacts of higher fuel costs on demand for surface transportation in the U.S. can impact future transportation policy choices.

TOURISM AND ECONOMIC BENEFITS

Tourism represents a significant part of the economy for the United States as well as a source of substantial revenue for many cities. Just from 2010 to 2011, departures of curbside buses grew 32 percent (American Bus Assocation, 2012). The intercity bus industry is recognized as a low-cost means of travel, but also as an economic engine for metropolitan areas and tourism

destinations when buses bring in dozens of tourists with each bus arrival. According to Peter Pantuso, CEO and president of the American Bus Association (ABA), intercity bus riders usually purchase roundtrip tickets, stay approximately four to five days and spend about $92 per day (Pantuso, 2012). In addition, the intercity bus industry has an economic impact on approximately 3,000 tour operators, destinations, attractions, convention and visitors' bureaus, hotels and restaurants, as well as companies that manufacture motorcoaches and those that provide equipment and services to bus companies (American Bus Assocation, 2012).

Indeed, in Philadelphia, BoltBus employs 23 people and Drexel's survey found that BoltBus riders were about half Philadelphia residents, and half visitors. Seventy-seven percent of visitors spent money in restaurants or bars, and fifty-five percent spent money at retail places; additionally, forty-four percent of residents visited restaurants or bars and thirty-nine percent of residents went shopping (Antolin et al., 2012).

OPPORTUNITIES RELATED TO RESPONSE TO DEMAND

One of the greatest assets of the intercity bus industry is its rapid responsiveness to customer needs. Intercity buses offer low-cost, affordable fares with limited overhead, guaranteed seating, close proximity to intermodal connections, and onboard amenities. Unlike high-speed, regional, and commuter rail systems that use fixed rail infrastructure, the intercity bus industry has greater operating flexibility and new routes can be planned and implemented to respond to customer demands with short notice.

The expediency in recognizing a need, and creating a route to fill that need, as well as removing a route when demand is no longer sufficient is the most significant characteristic of the industry. Ticket sales are conducted primarily online, and changing text on the website to announce a new route requires minimal effort and little expense. Because a curbside is used, buses that operate with limited state or local restrictions need only to be advertised and show up for waiting customers. Even in cities where intermodal facilities are used, buses need only advertise their

destination and no changes are necessary in these existing facilities. Changes in signage may be needed, but this too is insignificant. Cities that regulate intercity buses via curbside permits or other mandates may prove to be challenging, but not prohibitive, to intercity buses that are seeking new route opportunities.

CHALLENGES OF THE CURBSIDE INDUSTRY

Many challenges stem from the most significant difference in the curbside industry—the nature of arrivals and departures. Sometimes curbside loading areas are poorly marked with signage or unmarked. Each city has different requirements however. Curbside operators may change their route pick-ups and drop-offs without much notice although technology may help offset these types of changes. While bus companies may reduce overhead costs significantly by foregoing terminal space, users of the street or curb in question are affected. In addition, while buses may not pay for terminal space, if they are located near other transit facilities that passengers may use, that is a cost that is not being assessed by anyone.

Buses are not without complications: *New York Times* reporter Susan Stellin quoted several curbside bus users describing late buses and disorganized loading processes (2012). In several cities, curbside operators have often tangled with city officials over locations for curbside operations and as a result have had to move locations more than once. Buses often do not depart from the same location as they arrive which may confuse some users. In New York City, the current departure location for all outgoing Megabus motorcoaches is the relatively (for Manhattan) remote 34th street between 11th and 12th Avenues as opposed to a 28th St and 7th Avenue departure point (Katz, 2012b). BoltBus has similar issues with curbside location shifts.

Curbside locations in New York City's Chinatown were estimated to host more than 2,000 departures a day in 2008 (Frassinelli, 2011). It is not known but very likely that the shutdowns of many of these companies has reduced these numbers; new companies may have replaced some of these shuttered ones. These, the buses in Midtown Manhattan and elsewhere create traffic congestion while idling, loading passengers, or parked for layovers. Sidewalk congestion is caused by conflicts between pedestrians and bus passengers boarding, disembarking, or loading luggage (NYC Department of City Planning Transportation Division, 2009). Curbside

issues are handled by each city individually, which may complicate companies' compliance. While many passengers favorably view intercity curbside bus operations, transportation officials are attempting to respond to issues associated with picking up and dropping off passengers on city street corners. As the popularity of intercity bus transportation grows, so do problems and complaints associated with curbside operations such as traffic congestion, parking, crowding of sidewalks in busy pedestrian areas, litter, pollution from exhaust fumes, noise, lack of on-site passenger conveniences as well as ADA compliance.

In many cities, there has been pushback from surrounding areas in many cities over trash problems, payment, use of existing infrastructure, as well as conflicts with city transit vehicles. In Philadelphia, BoltBus and Megabus pay no taxes or fees to the city for the use of the curb (BoltBus economic impact analysis final presentation, 2012). Some cities have found ways to alleviate tension.

New York City regulates curbside industries indirectly through various agencies such as the New York Police Department, the Department of Environmental Protection, and the Department of Consumer Affairs. These agencies enforce existing ordinances that govern parking, idling, and loading and unloading (NYC Department of City Planning Transportation Division, 2009). In New York City, BoltBus has moved some departures to the New York Port Authority from its busy midtown curbside locations at the recommendation of the NYC DOT (BoltBus Moving Select Schedules to the New York Port Authority Bus Terminal, Effective Oct. 13, 2011).

However, the Port Authority Bus Terminal is at capacity and cannot accommodate Megabus's double decker buses. Most of the curbside buses in New York utilize curbside pickups and departures which must be approved by community boards and others. A bill signed by the governor of the state in 2012 will give the city much more power to regulate bus stop locations. The NYC DOT is currently developing this system (Katz, 2013). The bill will allow cities of more than one million people (such as New York City) to regulate curbside usage to control for

congestion, litter, and other problems associated with curbside drop-offs. This bill establishes a city agency responsible for reviewing, approving, and disbursing permits to designate locations for curbside drop-off. It will also require operators to submit information about their operations for approval. The permitting system is expected to help alleviate curbside and traffic congestion as well as ensure greater intercity bus industry accountability. (New York State Assembly).

In Washington, D.C. in June 2011, the District amended Title 24, "Public Space and Safety" of the District Code of Municipal Regulations (DCMR) to add a new chapter 35, "Intercity Buses." The new regulation requires intercity bus operators to apply for and obtain a public space permit, pay an annual permit fee, display the permit when occupying a passenger loading zone, and cease operations if traffic there is normally required during rush hour (Title 24, Chaper 35, 2011)

In addition, the District Department of Transportation and the Union Station Redevelopment Corporation agreed to centralize intercity bus operations at Union Station beginning fall 2011 (DDOT Proposes new regulations for intercity, commuter, sightseeing and shuttle buses, 2011). Initially, they will be charged a $30,000 fee and bus riders will be charged seventy-five cents per trip (Thomson, 2011). However, usage of Union Station is not mandatory. Benefits to drivers and residents near curbside pickups are obvious, but benefits to intercity bus companies of utilizing Union Station include reduced nuisance in dealing with fines and penalties associated with curb usage. The U.S. DOT reports that seventy percent of intercity bus travel in the District will be in Union Station (U.S. DOT Press Release, 2011). There are no Chinatown bus companies in Union Station.

The city of Boston determined that curbside carriers were not abiding by city ordinances that regulated bus operations. To address this problem, the city of Boston passed an ordinance in 2004 to eliminate curbside boarding of intercity bus passengers and consolidate all bus operations at the South Station Terminal. Administered by the Massachusetts Bay

Transportation Authority, the terminal serves as an intermodal facility for buses, regional rail, subway, and commuter rail to facilitate transit connectivity (Bailey, 2004) (Surviving the motorcoach rate-cutting war, 2005). In 2005, Fung Wah Transportation Company, the original Chinatown carrier, reported that they had had to raise their ticket prices fifty percent to New York from Boston—from ten dollars to fifteen (Gross, 2005). However, despite the need to cover the added cost of the station slip, Fung Wah was still producing a profit (Gross, 2005). In addition, Greyhound and Peter Pan had to lower their price to compete. Fung Wah operates one bus per hour down from one each half hour prior to the move to South Station (Gross, 2005) (Fung Wah Transportation, Inc., n.d.). This company has since been shut down over safety violations.

Fung Wah and many other Chinatown companies have been shut down in enforcement sweeps by the FMCSA. In the majority of these cases, violations result from disregard for maintenance requirements, driver hours of service restrictions, as well as for mandatory employee alcohol and drug screening and other serious offenses. Drivers and operators of motor carriers are subject to regulations similar, but not as stringent as those in the trucking industry (Pantuso, 2012).

Because buses are interstate carriers in most cases, they are regulated primarily on safety issues on the federal level, but licenses and other things are done on the state level. Cities wishing to work with companies, especially smaller ones, must deal with out-of-state carriers who are not necessarily subject to their jurisdiction.

POLICY IMPLICATIONS

One key policy question is how municipalities should approach this private industry. Transportation officials must strike a balance. Initially, they must decide what their goal is. One might be to correct negative spillover effects of the industry. Next, they will want to capture the

growth and capitalize on its success. These are private companies. Can cities ask companies to pay for use or compel them to use intermodal facilities? What is the future of intermodal transit facilities in terms of funding support from the federal level? Megabus for example is not opposed to intermodal centers. In fact, they are interested in the planning process. They believe that berths or slips are not being utilized efficiently and are underutilized in stations such as South Station in Boston and at the Port Authority Bus Terminal in New York City (B. Chamberlain, personal communication, March 27, 2013). Changes in this system could increase travel options and benefit all stakeholders.

If these companies begin to use terminals, will they succumb to the negative association many have with traditional bus terminals? How will these choices affect small towns served by curbside buses? There is not one solution for each city—nor is there one central authority to answer these questions.

Several options are advanced here for municipal officials. They are not mutually exclusive. Each city faces a different set of issues and must plan accordingly. If cities recognize the potential for this industry, they may want to plan for accommodation of this mode by including it in a master plan and thereby allowing zoning and code and permitting to incentivize growth rather than discourage these companies' compliance. Cities must weigh the benefits and costs of accommodating these buses against other goals. However, cities may find it beneficial that these buses are bringing in young educated people into downtowns who spend money there. Capturing the success of these new buses may be part of an economic development or tourism strategy. In pursuit of this goal, cities may choose to partner with companies or universities in order to encourage growth in order to most fully take advantage of the growth.

The cities must take note in order to take advantage on their own terms. There are possibilities for congestion mitigation by taking cars off the road and from city streets although an increase in buses on city streets can create more congestion. Intermodal centers that include private bus

companies must be explored in order to provide increased options for residents and for intra-city mobility. In addition, the more affluent ridership offers possibilities for more tourism spending and can contribute to many cities' efforts to attract people and businesses to downtown areas.

Will placing regulations on curbside usage stifle the industry? At first it seems like the curbside model is the most salient feature—but perhaps it is not. Wherever there is demand, curbside companies are likely to be interested and working with them allows a city to be a part of the process and likely accommodate these buses on its own terms that work best for the city. Cost is key in the business model of these bus companies, and currently the curbside model is working. This factor will determine the future of this industry in the greater scheme of the transportation industry in the United States.

CONCLUSION

Curbside buses have emerged from years of declining bus travel in the United States to breathe new life into bus travel. When Chinatown buses popped up to fill a demand in the late 1990s, their success in the Northeast attracted larger companies who have revolutionized bus travel across America using new fleets of buses, and online access to appeal to riders. Traditional carriers like Greyhound still dominate the market, but newer carriers are attracting a new segment of the market from other modes of transportation and bringing a new demographic into the fold. The rapid growth of this sector looks unlikely to cease in the short-term. Indeed, it without advances in technology, this curbside industry may not have been able to so rapidly attract riders to buses which are changing the face of transportation. The industry is attracting more affluent, young Millennials with choices which represents the beginning of a generational shift. Curbside buses offer riders adaptability and flexibility and do not tie them to set schedules and physical terminals. The curbside model also offers flexibility to companies who can easily change routes offered to meet demand.

In addition to bringing more people, the buses are reaching more cities. Though Megabus and BoltBus will never reach complete comprehensive networks because they focus on high-demand locations, increased bus travel may have implications that encourage greater expansion. That is more bus travel begets more bus service. Since 2006, curbside bus travel has expanded dramatically each year and demonstrates no signs of stopping. The shifts to bus travel indicate greater shifts in patterns of transportation use and a decrease in the negative perceptions of bus travel that have plagued the industry for decades. If low one-dollar fares are not available, it is logical to ask whether loyalty, ease, and popularity will sustain these companies' business model. If trends continue with younger Americans driving less and continued interest in urban living, one can ask what will the growth of the curbside industry be for other modes especially car travel? In addition, will curbside bus travel attract riders outside its mostly young affluent

demographics? The growth reflects a shifting of patterns of use, but excluding those riders from Greyhound who have few resources, and few or no alternative options for travel, and yet Greyhound prices remain higher on average than that of this new industry. Lack of internet access may preclude those that are the neediest; however, one selling point on these new buses is the demographic characteristics—that they are not like that of Greyhound.

In terms of transportation policy, curbside buses are still subject to traffic as are ground modes except for rail. What is significant is that transportation may be returning to the same conditions which allowed buses to be successful initially. Intercity buses in the early part of the twentieth century appealed to passengers because of their ease, frequency and network comprehensiveness. They were cheaper to operate than rail and air and this fact still remains. As rail declined however, bus travel continued to decline because of increasing negative perceptions. New bus companies have emerged to fill a gap left by evaporating rail service and diminished bus service too. Driving is expensive; Inexpensive bus travel to major cities on new and clean buses without needing to wait in a bus station, and a plug onboard for your smartphone appeals to young people and college educated people. These are passengers by choice; that is, they have other options unlike many riders of Greyhound. Greyhound is changing too, but rural travel for those with few resources remains Greyhound's primary role. Curbside buses are not taking riders from Greyhound, but from other modes like air and automobiles. The new industry is growing and will impact cities and is participating in urban revivals nationwide. Federal policy has not adjusted to the changes occurring in cities, but they must. Younger people are increasingly more attracted to vibrant walkable communities with transit and cultural events. This industry is erasing bus stigma for its fleets, but it remains to be seen how this will impact the transportation network as a whole.

AREAS FOR FURTHER RESEARCH

From this report, it is evident that research on this rapidly growing industry must continue. If curbside buses continue to expand and grow nationwide as they seem likely to do, policy makers in cities as well as on the federal level must take notice.

Additionally, it remains to be seen how the new companies will impact the regions with the fewest choices such as the southeastern U.S. and arguably the most to gain. Do these companies replace Greyhound? Unlikely. These companies will only serve those routes that are profitable. What impact will this have on Greyhound or the small cities it serves? Greyhound has already reacted by improving its own service, but it does recognize that BoltBus and Greyhound serve different groups. These new young affluent riders may be vital to cities and municipal officials may want to work to attract them. Universities may want to retain curbside service and appeal to students from larger areas.

Are curbside buses filling a gap left by a lack of rail? What is the role of the private industry in the transportation sector as a whole—to supplement transit or to supplant high-speed rail? In the short-term, other new modes such as car –sharing with the growth of Zip Car might be worth examining to understand shifting transportation views among younger Americans. It appears that these affluent young Americans are indeed the type that high-speed rail would attract, and perhaps in a number of years, if high-speed rail becomes a reality in the U.S., policy makers can expect to capture some of these riders as they age.

In addition more research is needed to determine whether this new mode is stimulating travel. Reports indicate that it is, but research is needed to understand what the impact will be whether it be on reduction of VMT or in Amtrak ridership. Will business travelers consider it over more expensive, but more high-brow modes in the northeast like Amtrak? Or over flying in other parts of the country? Is this new segment returning buses to their heyday? This new segment is

still small compared to Greyhound, but will they work alongside each other and continue to attract different segments of society? If curbside use does not remain the model are the amenities and the perception enough to sustain this industry? Is this private market solution the answer to transportation woes and decades of focusing on surface transportation?

The industry offers an exciting new era of bus travel in the United States and Canada and must be further studied for its impact on transportation networks as a whole, and its success as a reflection of greater generational and cultural shifts across the country. As policymakers decide whether to fund new highways or rail, or mass transit, the curbside bus industry must now be considered in this conversation. There is great potential for passengers, and cities to capture the success of this barebones, but vibrant new travel option bringing people from city to city by bus.

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