

RUNNING EXPRESS

2017 Outlook for the Intercity Bus Industry in the United States

BY BRIAN ANTOLIN & JOSEPH P. SCHWIETERMAN* | JANUARY 13, 2017





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*Intercity bus lines rolled into the new year with an improved short-term outlook due to several factors: a slowly recovering economy, upward movement in the cost of gasoline, and growing customer awareness of new tech-oriented service enhancements. Several potentially disruptive forces, however, loom on the horizon. This report summarizes the intercity bus industry's performance and competitive status. **Part I** provides insights into what can be expected to affect the sector over the next several years based on a review of notable trends. **Part II** explores the evolving competitive landscape of the intercity bus industry, including the prevalence of express bus service in the country's most heavily-traveled markets.*

I. SHORT-TERM OUTLOOK FOR THE INTERCITY BUS INDUSTRY

The following trends are sources of both optimism and uncertainty for scheduled intercity bus travel.

TREND 1:

Years of relatively flat traffic and passenger revenues culminated in targeted cuts by prominent carriers in 2016, but revenues from passenger operations appear on an upward trajectory and are likely to grow around three percent this year. Several factors, including an uptick in the price of fuel, suggest that market forces that have marginalized the growth in bus traffic are subsiding.

The past two calendar years have shown trying times for scheduled intercity operators. Relatively low fuel prices nullified some of the advantages of being a fuel-efficient major mode of intercity ground travel. Automobile competition intensified as a result, with the national average price of gasoline staying below \$2.50 throughout all of 2016.¹ Airline prices remained at their lowest levels in years, with average roundtrip ticket prices falling to \$361.20 in 2016, down almost \$20 from 2015, apparently hurting bus travel on routes in which flying is an option.² Worst-case scenarios about long TSA security lines failed to materialize. Finally, a downturn in rail-freight traffic significantly improved Amtrak's on-time performance, luring some short-hop passengers away from buses.

Nevertheless, recent signals have been encouraging. Most notably, the price of oil has gradually moved upward, rising from around \$31.68 in January 2016, to \$48.76 in June, to more than \$52 in early 2017. The economy is also improving, resulting in a reduced unemployment rate, which fell from 6.1% in February to 4.5% in November. While GDP grew by only about 1.6% last year, the Federal Open Market Committee projects growth at around 2.1% in 2017.³

The lackluster rate of economic growth in recent years surely affected the financial performance of major bus lines. Results published by FirstGroup, converted from pound sterling to U.S. dollars, indicate that its subsidiary, Greyhound Lines, had about a 4% drop in revenues during its 2016 fiscal year (which ended June 30). Our analysis suggests that *passenger* revenues were down closer to 5% (an estimate subject to rounding error).⁴ Meanwhile, conversions to U.S. dollars indicates that megabus.com ("Megabus"), a unit of Scotland-based Stagecoach Group, had about a 9% drop in revenue from North American operations, although the holding company's total revenues in this region were down much less. These estimates may be affected by swings in the exchange rate over the course of the year, which are not taken into account⁵.

Despite falling revenues from these two national providers, the number of passengers and passenger miles of travel on these and other carriers appears to have fallen by a much smaller margin, and in some cases even rose slightly. Some of the revenue drop appears to be attributable to price discounting in a hotly competitive environment rather than declining demand. As noted in previous Chaddick Institute annual intercity bus reviews, accurate estimates of bus traffic remain elusive due to the absence of comprehensive reporting requirements. We estimate that total intercity bus travel stayed relatively constant, at about 62 million passengers annually, making the sector about twice the size of Amtrak. Please refer to last year's report for a summary of methods used to make this earlier estimate.

Only a small number of routes were cut in 2016 despite these difficult conditions. Citing rising automobile competition, **Megabus** discontinued its Cleveland, OH to Atlanta, GA service in February. Launched by Coach USA subsidiary, Lakefront Lines, before being rebranded, this twice-daily service consisted of single level coaches operating via Columbus, Cincinnati, OH, and Knoxville, TN. More significantly, Megabus downsized its Chicago hub, eliminating its route to Omaha—in turn ending service to Iowa City and Des Moines—as well as service to East Lansing, MI, in early 2017. These cuts, as well as selected routes in Florida, mark Megabus' most significant downsizing in recent years.

Citing similar concerns, **Bieber Tourways** discontinued service to Pottsville and Schuylkill Haven, PA, along its Reading to Philadelphia route, while also reducing weekday frequency from five to four trips. **Peter Pan Bus Lines** pointed to soft demand before discontinuing its Sturbridge, MA-area stops along its Springfield to Boston route. Frequency on most other routes across the country maintained firm, while some corridors experienced modest expansion, as noted below. **Greyhound** appears to have adjusted to demand conditions largely by reducing the number of extra sections operated on major routes.

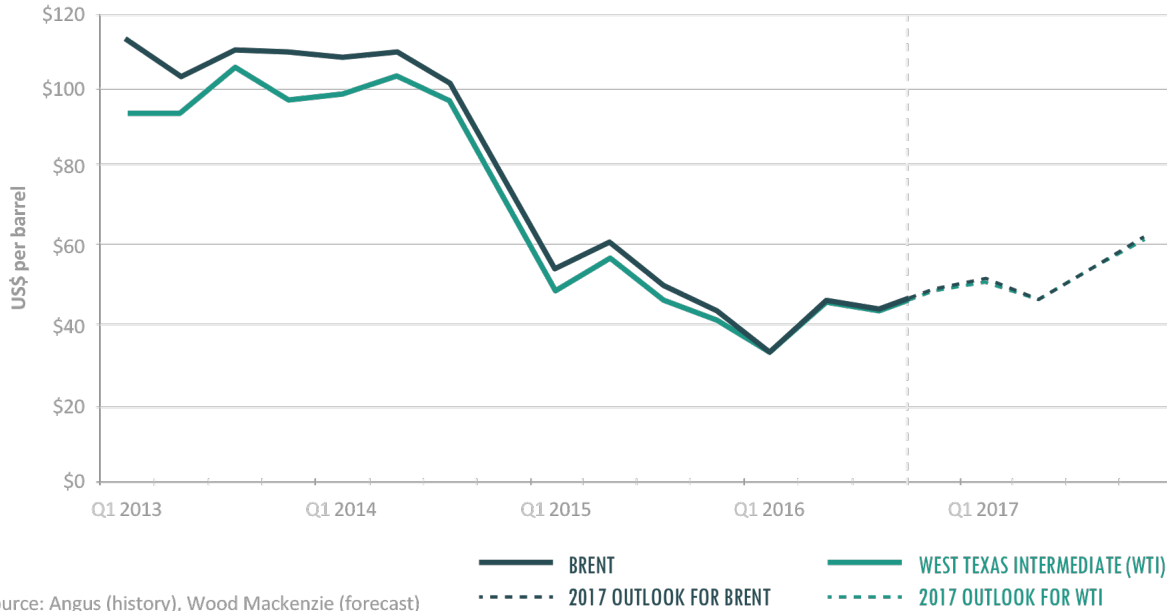
Several factors suggest that revenues have begun rebounding and that this trend will continue through 2017 and 2018:

- **A consensus exists among commodity analysts that fuel prices will move closer to the \$55 range by late 2017.** Prices in this range have spurred many travelers to turn to bus travel due to the higher costs of driving and air travel. A forecast by Wood Mackenzie is shown in Figure 1.⁶
- **London-based investment firm Liberum expects that Greyhound revenues will be on the upswing and is upgrading its overall recommendation to make FirstGroup a “buy”.** The firm projects that Greyhound revenues will rise sharply in 2017, although some of the increase appears to be due to the more favorable exchange rate when converting dollars to pounds sterling following Brexit.
- **The Federal Open Market Committee recently increased its forecast for national GNP to 2.1% this year and expects similar growth in 2018.** Kiplinger projects similar GDP growth, but suggests that it will rise to 2.5 - 3% in 2018.⁷

FIGURE 1

Outlook for Crude Oil Pricing

COMPARING BRENT AND WEST TEXAS INTERMEDIATE (WTI)



These factors certainly brighten the outlook for intercity bus service, making our projection of 3.0% revenue growth (in U.S. dollars) by both Megabus and Greyhound, including its Package Express business, a reasonable middle-ground estimate (Figure 2). Additional revenue growth, measured in pounds, may be attributable to the strengthening value of the U.S. dollar. Overall traffic growth will likely mirror revenue growth, with relatively little change occurring in average fares. For Greyhound, however, it will likely take several more years before total revenue reaches the \$1 billion dollar high achieved in 2012, while Megabus revenue growth may be dampened somewhat by the aforementioned service cuts.

TREND 2:

Scheduled service in the Northeast Corridor continues to be a focal point for expansion and innovation. Last month, Go Buses became the fifth carrier to offer high frequency service along the entire length of the Boston to Washington, DC corridor, heightening the competition facing BoltBus, Greyhound, and Megabus.

Throughout most of the period from the early 1990s through 2008, Greyhound and Peter Pan were the only providers with high-frequency service over the entire Northeast Corridor between Boston and Washington, DC, with the former generally offering hourly service both north and south of New York.⁸ In 2008, **BoltBus** (a unit of Greyhound) and Megabus launched service in the region, once again giving customers a choice between several carriers with frequent service over the entire corridor.

Go Buses is the intercity bus division of Academy Bus, one of the country’s largest bus operators. Its new service between New York, Washington, DC and Northern Virginia launched in December, complementing existing service between New York and Boston/Providence. Academy appears prepared to elbow its way into the crowded Northeast market and perhaps even intends to eventually spread its wings elsewhere.

Other moves by Go Buses further suggest that it is positioned for growth. In March, it extended its New York to Providence, RI route to the Brown University campus, now served by two to three coaches in each direction from Thursday through Sunday. In September, it entered the Providence to Cambridge/Newton, MA market, a distinct operation from its heavily-used Boston to New York route. This route features two to four daily roundtrips, with prices generally undercutting commuter rail fares out of Boston’s South Station.

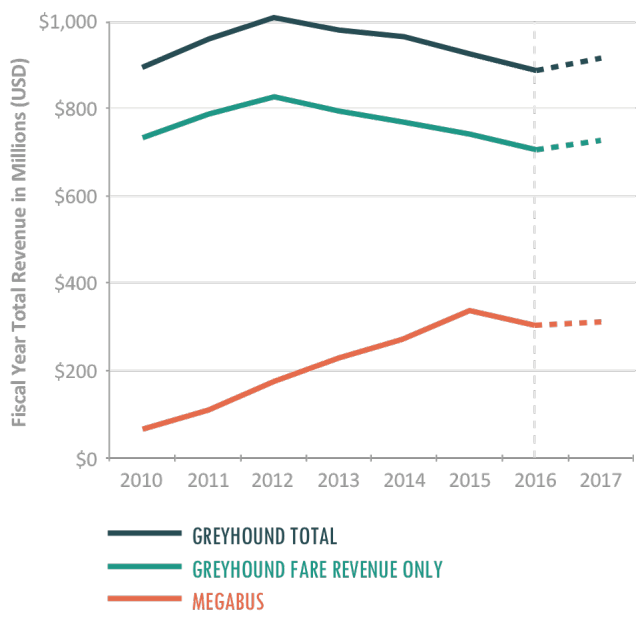
Megabus defended its turf by going head-to-head against Go Buses between Newton and New York, launching twice-daily express trips that are similarly separate from its Boston to New York trips. The carrier also added a Brattleboro, VT stop to its Burlington to New York route, giving that community a new direct service to Manhattan. Furthermore, Megabus added stops in Uncasville, CT, on its New York to Fall River, MA route, targeting leisure travelers visiting the massive Mohegan Sun Casino and making twice-daily stops in each direction on Fridays and Sundays. Both this and the aforementioned Vermont service are operated by Megabus’ operating partner Dattco.

Competition on the route between Boston and Hyannis intensified when Peter Pan launched six daily roundtrips, competing with buses of the Plymouth & Brockton Street Railway Company, a fixture in Massachusetts transportation. Following Route 6, these buses also serve park & ride locations in Barnstable and Sagamore.

Greyhound retains a dominant position in the Northeast Corridor and has a particularly large stake in the unfolding plans for the Port Authority Bus Terminal in Midtown Manhattan, at which Greyhound is a major tenant. The Port Authority of New York and New Jersey began the arduous task of planning for the replacement of this aging facility in 2015, and the planning continues today. Regarded as the world’s busiest bus terminal by traffic volume, the facility operates at or near its designed capacity, often causing significant delays for commuters during rush hour. According to a 2016 study by the Port Authority, the terminal serves 232,000 passengers, 7,800 daily buses and approximately 615 peak hour

FIGURE 2

Trends in Revenue at Greyhound & Megabus
 APPROXIMATIONS W/CONVERSION OF POUND STERLING TO USD



Note: Estimates subject to uncertainty due to fluctuations in exchange rates.

departures during the afternoon/evening rush as of 2011. Restricted capacity and movement has significantly impeded the ability to expand rush hour frequencies or add new services.

Although state governors and the agency's board agree that a new terminal is needed, several problems stand in the way. Chief among them are where exactly it will be located, how it will be built and who will pay for what percentage of the construction project. The latest agency budget, which includes a \$3.5 billion fund allocation for design and environmental studies, was approved in January 2017. Pressure to expand the terminal will likely grow in intensity due to the projected expansion of economic activity in the region and the particular strength of New York City's economy.

TREND 3:

Public agencies that had provided subsidized bus services primarily to link rural communities with nearby population centers are gradually expanding their focus to give these places interlined connections to the national network. The federal "Section 5311" program is enhancing the strength of Greyhound's hub-and-spoke system, restoring some of the connectivity lost decades ago.

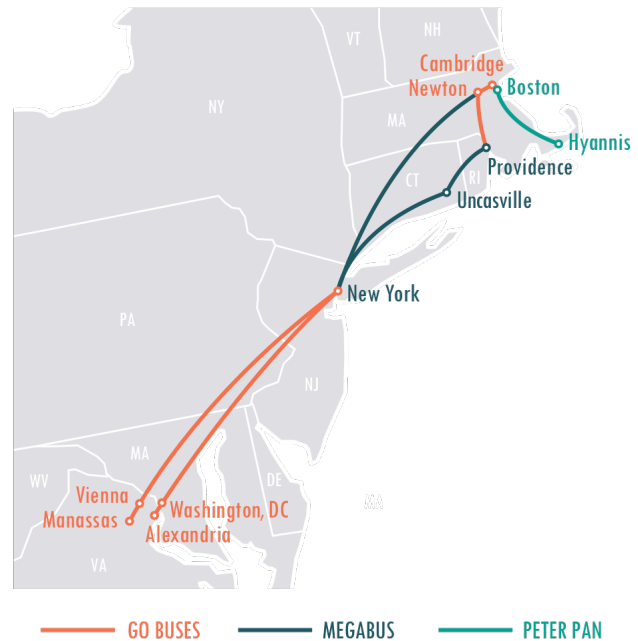
A largely unpublicized trend in intercity bus travel has been the gradual expansion of subsidized service and the integration of this service into the Greyhound national network. The Federal Transit Administration's "Section 5311" program looms large in this arena, providing funding for transportation services to communities outside of urban areas with populations of 50,000 or less. Funds are awarded to state governments, which are free to use the funds with considerable discretion. The requirement that 15% of all funds awarded be allocated for intercity bus services has been a boon for small-town service.

State and local governments are required to match a significant portion of the federal funds provided. In some instances, this is accomplished through in-kind service, such as additional frequencies, provided by bus companies. State and local governments are also making other funds available for new "feeder services" that are not self-supporting. It is not uncommon for bus companies to receive funds equivalent to about \$2.00 per bus mile to provide this service. For example, public agencies may give the equivalent of \$400 in subsidies for each 200 mile one-way bus trip operated.

Previous annual intercity bus reports by the Chaddick Institute have showcased the gradual expansion of the subsidized network. Over the past year, Greyhound has forged arrangements to allow other new carriers to sell both local service and connections to more distant points. This allows small carriers to sell a wider array of destinations to their customers while also strengthening the role of greyhound.com as

FIGURE 3

Notable New Routes in Northeast U.S.



an all-purpose mobility tool, which at present has few rivals in the travel arena. This strategy also generates additional revenue for this prominent legacy carrier.

Greyhound has also been active in expanding its rural network with the help of governmental financial support. In Florida in 2016, the carrier launched three new intra-state services, with state cooperation, that serve smaller communities along corridors that already have Greyhound Express service. A new Miami to Orlando service operates via Fort Lauderdale, West Palm Beach, and Melbourne, while a new Miami to Jacksonville service runs through these same points as well as New Smyrna Beach and Palm Coast, both serving many smaller points. A new Miami to Tampa service follows the Atlantic Coast route to Melbourne before diverging to the west through Winter Haven, Sebring, and Auburndale.

In North Carolina, Greyhound launched a once-daily Wilmington to Charlotte route with state support to makes stops at Rayetteville, Rockingham, Monroe and several rural towns. In Louisiana, Greyhound built on the recent Baton Rouge to New Orleans expansion with a new twice-daily service making stops in Lafayette, Thibodaux, Raceland, and other points. This service also features a new stop at New Orleans' Louis Armstrong International Airport.

Reallocations in funding did lead to the cancellation of a few routes. Peter Pan dropped one of its twice-daily Albany to Springfield (via Route 2) routes in 2016 due to a loss of certain Massachusetts BusPlus program funds, leaving only one midday roundtrip. True North Transportation Group, also known as **MAXBus**, had operated a pair of daily roundtrips in the north and eastern parts of the state with governmental support, but its new BusPlus grant provides it funding for only one Brattleboro to Boston trip, operating via Worcester and Framingham. This resulted in a loss of service to Clinton, Salem, Pelham, Amherst and other points. These exceptions aside, the outlook for new subsidized routes appears bright.

TREND 4:

Business class and luxury service remain on a growth trajectory, with expansion centered on specialty lines rather than national carriers. The largest scheduled bus lines are not expected to make any major moves in the upcoming year.

As noted in our previous annual intercity bus reports, major bus lines have gradually enhanced the quality of their customers' onboard experience through mobile-apps, free onboard WiFi, and "bus tracker" programs (of which Greyhound's Bustracker, launched in 2015, is among the newest). Megabus began offering reserved seats across its entire U.S. system that same year, with reportedly successful results, while Greyhound has been investing in a bring-your-own device entertainment system. Both carriers, as well as BoltBus, **Adirondack Trailways**, and Peter Pan, now sell tickets through Busbud.com and Wanderu.com, helping make these "ticketing aggregator" sites for bus travel the equivalent of Expedia and Travelocity for air travel. Wanderu, in fact, has won a major award from Conde Nast Traveler.

Even so, none of these bus lines have made public any plans to offer business or first class service in North America, despite the growing popularity of premium services by niche carriers such as Europe's Megabus Gold service, which boasts low-configuration seating. Regional carriers, however, continue to

lead the way in the luxury category. **Vonlane**, a first class operator in Texas that aims to attract travelers who previously have used commercial flights, launched an Austin to Houston route last January with one or two roundtrips daily. Vonlane now operates on all sides of the Texas Triangle, having launched Dallas to Austin and Dallas to Houston services, with custom-designed buses replete with an onboard meeting room and meals served by an attendant.

In April, **Concord** expanded its “Plus” service from New York to Portland, ME from one to two daily roundtrips, giving passengers a morning and early afternoon option in each direction. First class-style seating and other amenities, as well the convenience of avoiding the need to transfer in Boston (a rarity for bus travelers and entirely unavailable for train travelers between Manhattan and Maine) are bolstering demand.

In September, Florida’s **RedCoach** launched a premium-level route from the Fort Lauderdale airport to University of South Florida campus in Tampa, a once-a-day with a stop in Naples that significantly expands the carrier’s footprint in the Sunshine State. The carrier also added a second Miami stop, located at Florida International University, to better serve students as well as those traveling to and from Miami Beach and downtown. Previously, RedCoach only served Miami International Airport. One first class bus and one business class bus make the new campus stop in each direction daily.

TREND 5:

The dramatic expansion of Flixbus in Europe—and its acquisition of Megabus’ retail operation on the continent’s mainland—could foreshadow new approaches to branding and contracting bus services in the United States. Interest in more sophisticated pricing strategies is also growing, mirroring those employed by commercial airlines.

The expansion of **Flixbus** in Europe has been one of the biggest stories in intercity bus travel over the past year. This technology-based startup has a business model that is quite different than that which prevails in most of the U.S. Rather than operating buses, the company contracts with existing carriers to rebrand as “Flixbuses” in exchange for taking on all responsibility for marketing, pricing, scheduling and promotion. To be part of Flixbus, carriers need to adhere to a rigid set of quality control guidelines that assure consistency of service.

FlixBus touts itself not just as a bus service but “a combination of tech-startup, e-commerce platform and transportation company”. Beginning as two separate bus carriers, FlixBus and MeinFernbus combined forces in 2015 in response to Germany’s deregulation of the transportation industry. Flixbus quickly morphed into a juggernaut in ground travel throughout Continental Europe, an expansion that has since been enhanced by a European Union law that deregulates cross-border bus travel.

Several network developments in 2016 have kept FlixBus on a rapid growth trajectory. In January, the company launched a new network of routes in Central and Eastern Europe, with headquarters in Budapest and Zagreb. From there, new daily connections to 50 destinations in the Czech Republic, Slovakia, Hungary, Poland and Croatia were added. In March, Spain and the UK were added as new cross border service regions, connecting two of Europe’s largest cities (London and Paris) as well as Spain, France and Italy.

The month of June brought online new locations to the Flixbus network with connections in Croatia, Slovenia and Bucharest in Romania, as well as the acquisition of Megabus' retail business in Continental Europe. With the latter, Stagecoach (parent company of Megabus) became a contractor for select FlixBus services in Belgium, France, Italy, Germany, Spain and the Netherlands—solidifying its status as Europe's largest intercity bus network. This move was soon followed by the acquisition of **Postbus**, the long distance coach service of Deutsche Post (more commonly known as DHL in the US), in August and the announcement that a hub in Denmark would be established in 2017. By one estimate, Flixbus now holds 81% of the internal German intercity bus market.⁹

Flixbus is eyeing expansion elsewhere, possibly the United States, supported by an infusion of fresh venture capital in late 2016. Perhaps the most salient lesson from this carrier is that it is possible for a startup to quickly develop enormous brand awareness for operators that once had only a regional presence, and to give smaller operators the opportunity to gain access to sophisticated pricing and scheduling technologies through new types of contractual arrangements.

A philosophy similar to Flixbus is evident in the Atlanta-based **Shofur**, an innovative transportation management company serving corporate, event and charter groups, which made its first foray into scheduled intercity service in September. Starting with one daily round trip linking Austin, Houston, Dallas and Waco, the company attempted to differentiate itself through tech- and data-focused customer service, with tickets sold both online and through a mobile app. Coaches were operated by its charter bus partners and branded as Shofur before service was suspended for undisclosed reasons in November.

Sophisticated data analysis and technology are also hallmarks of **BusBot**, a Manhattan-based startup that uses artificial intelligence to help intercity bus operations reach revenue goals. Drawing upon the statistical methods used for airline scheduling and pricing, BusBot helps bus companies “leverage [their] own historical data as well as external data to make better demand predictions”—something smaller bus lines have not been able to do.¹⁰ Several carriers are now using BusBot's scheduling and pricing tools with reportedly successful results.

TREND 6:

New technological platforms could transform the way intercity ground transport services are marketed and sold. Innovative app-based services such as Flitways and Skedaddle have emerged as leaders and could become disruptive forces in the years ahead.

The following three technology innovations gained significant momentum in 2016 and could become disruptive forces in intercity bus travel.

Crowd-Sourced Bus Service:

New technological platforms are emerging that allow bus services to set schedules through crowdsourcing. If enough travelers express a willingness to pay, a bus can operate between two points at a set time on a particular day. RallyBus and Skedaddle emerged as market leaders in this category—both allow the individual who launches the bus trip to travel free if enough other riders sign up to join

the ride. The fares rise as the number of reservations increase. If the trip fails to attract enough riders, however, it does not operate and no fares are collected.

Our analysis revealed that Skedaddle advertised 242 routes on June 15, 2016, 56 routes on September, 16, 2016 and 238 routes on January 9, 2017. This suggests wide month-by-month variation in trip availability, and greater demand for trips when a large event is set to occur.¹¹ Although most routes involve travel to festivals, music and sporting events, and other cultural activities, some resemble intercity services, with routes leaving from locations advertised as near the Port Authority Bus Terminal in New York.

At present, this sector should be regarded as an infant industry. As crowd-sourced bus travel grows, it will likely need to confront regulatory challenges associated with curbside pickup and drop-off. In Boston, for example, such regulation requires all intercity bus operators to use the South Station Bus Terminal, which requires paying a usage fee.¹² In New York, curbside operators using advertised schedules must obtain permits to serve a specific location.¹³ If crowdsourced bus service spills into conventional city-to-city routes, however, it could divert traffic from established bus lines.

Pre-arranged Ride Services:

Whereas Lyft and Uber generally do not allow customers to “pre-book” rides, several new apps are making this possible, with flitways.com (Flitways) emerging as a clear leader. Working with taxicab companies, van operators, and others, Flitways quotes travelers a price in advance. This service is, at the moment, acclimated toward small groups and corporate travelers. A recent search showed that one-way prices for a car with driver could be attractive for groups of three or four on numerous routes, such as Cincinnati to Dayton (\$96), Boston to Providence (\$131), and San Francisco to San Jose (\$116). Although more costly than bus travel, these services give travelers unable or unwilling to drive a new option. Interestingly, Flitways added Megabus to its search engine in 2016.

There is speculation that pre-arranged ride apps could grow in sophistication to allow for much more affordable options. For example, if a method is developed to match travelers in different parties with the same driver, or enlist drivers who are already traveling to a desired destination, prices could fall dramatically and possibly compete with bus travel. Similarly, one can envision a time when Lyft and Uber begin offering similarly pre-arranged rides. At present, none of these services appear to be dramatically shifting traffic from scheduled intercity bus lines, but the pace of technological change make the future difficult to predict. Throughout this year, the potential diversion of traffic from ridesplitting and pre-booked ride services seems more acute for airport shuttle operators than downtown-oriented bus operators.

There is also concern that ridesourcing companies such as Lyft and Uber might offer new options for travelers willing to share rides on intercity routes. Although trips over 60 miles are rare on these transportation network companies today, it seems likely that such “TNCs” will one day offer new low cost long distance options to consumers.

II. HOW ARE CITY-TO-CITY EXPRESS BUS LINES CHANGING TRAVEL?

This section evaluates how the expansion of scheduled intercity bus service is affecting the mobility of U.S. travelers. The analysis focuses particularly on the nature of competition between city-to-city express (C2C) carriers, which are defined here as carriers that:

- Specialize in express service between large cities
- Emphasize online ticketing
- Provide guaranteed seating to all ticket buyers
- Utilize curbside dropoff and pickup in most cities rather than conventional terminals

These carriers generally do not offer interline ticketing with other bus lines or provide local service to smaller communities. They also avoid having trips with numerous intermediate stops, which add travel time to journeys.

Bestbus, Go Buses, BoltBus, Vamoose, Tripper Bus, and Megabus are among the carriers in this category. Some bus lines have several but not all of the qualities of C2C carriers, and are thus excluded from our consideration.

The results are based on a data set created by the Chaddick Institute with information on routes served by leading C2C carriers. For each segment, the mileage and schedule frequency was recorded, and information was collected to determine the status of competing Greyhound, Amtrak, and air service. Longer multi-segments journeys were used to evaluate the airline competition, and Amtrak routes were evaluated to assess the bus-rail competitive overlap.

Three findings stand out from this data:

FINDING 1:

Despite being relatively new to the U.S. marketplace, BoltBus and Megabus have grown to operate 247 intercity pairs. Less than a quarter of Megabus' daily bus mileage competes with BoltBus, while most of BoltBus' service competes head-to-head against its larger rival.

The findings show the enormous impact that BoltBus and Megabus have had since they began service on the U.S. mainland in 2006 and 2008, respectively. Analysis of the schedule information described above suggests that Megabus operates about 41 million bus miles year, making it approximately three times larger than Boltbus (14 million bus miles) and about one-third the size of Greyhound (114 million bus miles). Megabus operates slightly more bus miles than Amtrak does train miles (about 38 million), but far fewer seat miles.

Megabus tends to overlap less with other prominent C2C carriers than BoltBus does. Just 24% of Megabus departures compete directly with BoltBus and other prominent C2C carriers. Its entire Atlanta, Chicago, and Texas hubs, for example, lack prominent C2C competition. Conversely, BoltBus, with its focus on high-density corridors, faces competition from Megabus on 65% of its routes. Among the routes served by Boltbus not served by other C2C carriers are Los Angeles to Las Vegas and Portland, OR to Vancouver, BC, via Seattle.

Although it is not considered a C2C carrier, Greyhound has an almost ubiquitous presence for route competition. BoltBus and Megabus face competition from it on more than 90% of their route miles, although only a relatively small share of these carrier's bus miles overlap with the premium *Greyhound Express* service.

FINDING 2:

Amtrak faces competition from BoltBus or Megabus on nearly three quarters of its short- and medium-distance corridor mileage. More than a third of Megabus bus miles, however, are on routes not served by Amtrak.

Competition between express bus and Amtrak service is intense and growing, although relatively little analysis of the nature of this competition has been undertaken. Our analysis shows that 97.6% of Boltbus’ bus miles are on routes that are competitive with Amtrak (all but the Barstow, CA to Las Vegas segment, part of its route from Los Angeles to the Nevada gaming center), while just 68.6% of Megabus’ bus miles compete with Amtrak. Among the most notable routes *not* served by Amtrak are BoltBus’ Los Angeles to Las Vegas route and Megabus’ Dallas to Houston and Chicago to Columbus, OH and Louisville services, as well as its extensive operations to/from Atlanta, eastern Tennessee, and State College, PA.

The analysis in Table 1 suggests that, on Amtrak-competitive routes, 26% of all Megabus departures are less than 0.3 miles away from Amtrak departure points, including those in Boston, Chicago, Pittsburgh, and Washington, which are within or immediately adjacent to train platforms. Another 11% of departures, such as those in Philadelphia, Providence, and Reno are just 0.3 - 0.49 miles away, making them less than 10 minute walk apart. The majority (63%), however, are a half-mile or more away, with Orlando’s Megabus pick-up point being among the farthest away from Amtrak (eight miles).

TABLE 1

**Distance of Megabus Departure Points from Amtrak Stations
ON OVERLAPPING ROUTES**

MILES APART	DEPARTURES	PERCENT OF BUS DEPARTURES	NOTABLE CITIES
0–.29	126	26%	Boston, Chicago, Pittsburgh, Washington
.30–.49	55	11%	Philadelphia, Providence, Reno
.5–.99	31	6%	Buffalo, Indianapolis, Hartford, Montpelier
1–1.99	116	24%	Austin, Buffalo, Columbus, Cleveland, Hartford, New York
2 range	26	5%	Atlanta, Harrisburg, Little Rock
3–4.99	26	5%	Ann Arbor, Syracuse, Toledo, Miami, Jacksonville
>5	110	22%	Orlando
TOTAL	490	100%	

Many cities have pushed bus companies to move out of central business districts or away from train stations because of congestion and crowd control. Thus, it is a mischaracterization to claim that C2C buses invariably choose departure locations immediately adjacent to major train stations.

Across Amtrak's entire 21,822 route-mile network, 9,935 miles (46%) are subject to competition from BoltBus and Megabus. Among the 4,854 miles that comprise its short- and medium-distance corridors, 3,598 miles (74%) are subject to competition. Trains on the Northeast Corridor (NEC), easily Amtrak's busiest route, face competition from both BoltBus and Megabus, while 69% of Amtrak routes outside the NEC face competition from one bus provider.¹⁴

The special pattern of bus-rail competition is depicted in Figure 4, which shows short- and medium-distance Amtrak corridors with multiple daily train frequencies in bold. The most notable routes *without* bus competition (shown in light blue) are Los Angeles to San Diego; Oakland to Sacramento and Bakersfield; and Chicago to Carbondale and West Quincy. The relatively short distance associated with some routes appears to offset some of the advantages of bus service. The two California routes mentioned above, for example, are less than 125 miles long. Competition from buses is also relatively modest on the 90-mile Chicago to Milwaukee corridor, over which Megabus generally operates only a pair of daily roundtrips compared to Amtrak's seven. On most other routes, however, the frequency of bus service is comparable to, or above, that offered by the rail operators.

The severity of the competition on some routes is also lessened by the absence of BoltBus or Megabus service to intermediate stops. Buses often run express from one end of the corridor to the other, bypassing along-the-way cities that are the source of many Amtrak passengers. This is evident on Amtrak's Chicago to St. Louis route, which serves Joliet, Bloomington, Springfield and other cities in the Prairie State that are not served by C2C carriers. The Northeast Corridor is one of the few corridors in which there is competitive C2C bus service at many intermediate stops, and even then these carriers often only operate from the intermediary city to the major cities, without linking smaller stops.

A large number of Megabus routes connect cities in which no Amtrak service is available (Figure 5). A particularly large number emanate from Atlanta, Columbus (OH), Houston, Louisville, State College (PA) and various Tennessee points, including Chattanooga, Memphis and Nashville. These cities are either along only one Amtrak route, or, like Chattanooga, Columbus, Louisville, Nashville, and State College, have no intercity train service at all. This suggests that C2C carriers are making notable contributions to mobility in areas poorly served by Amtrak.

FIGURE 4

Competition from City-to-City Express Bus Lines on Amtrak System

BY CORRIDOR TYPE

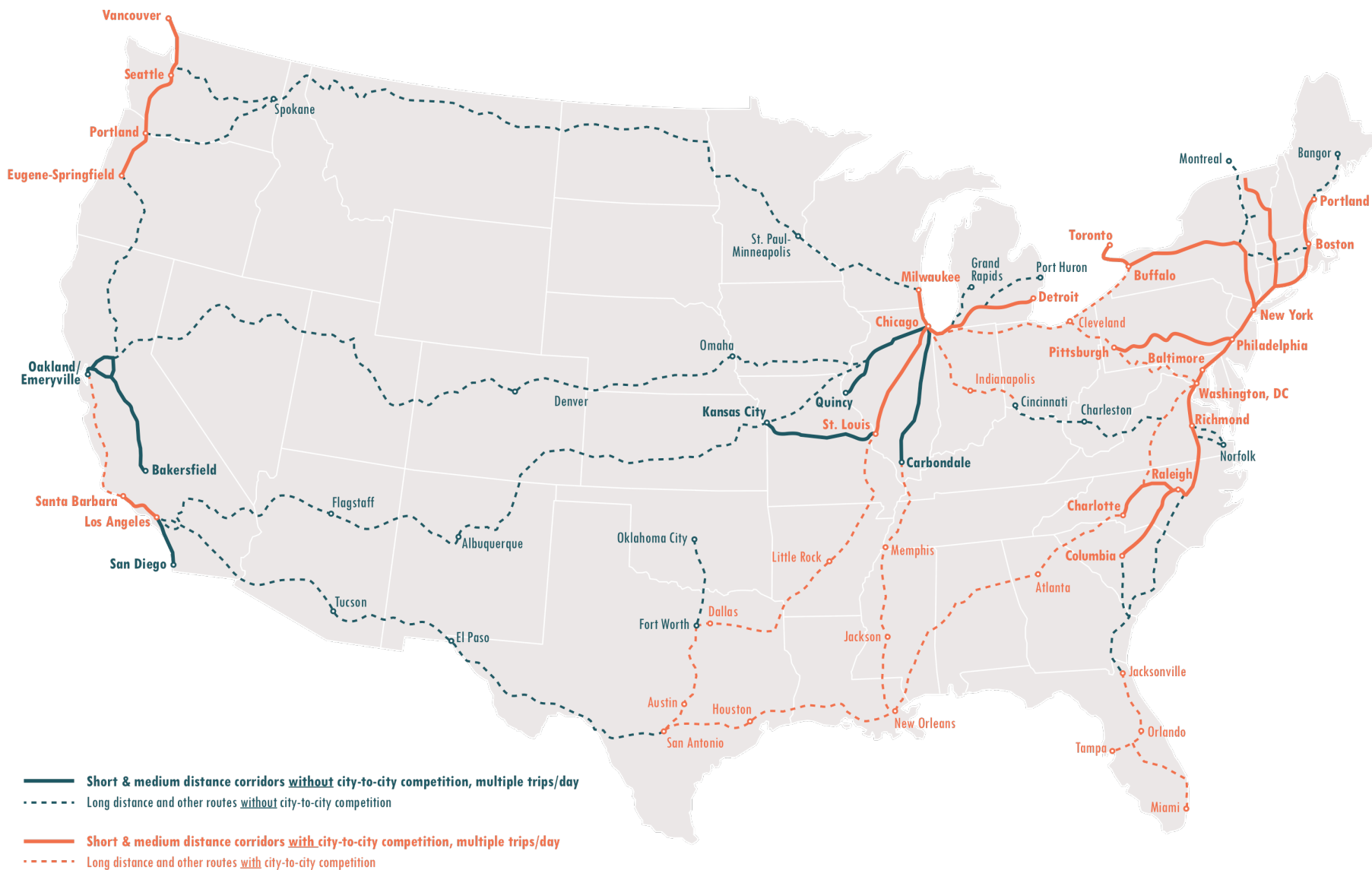
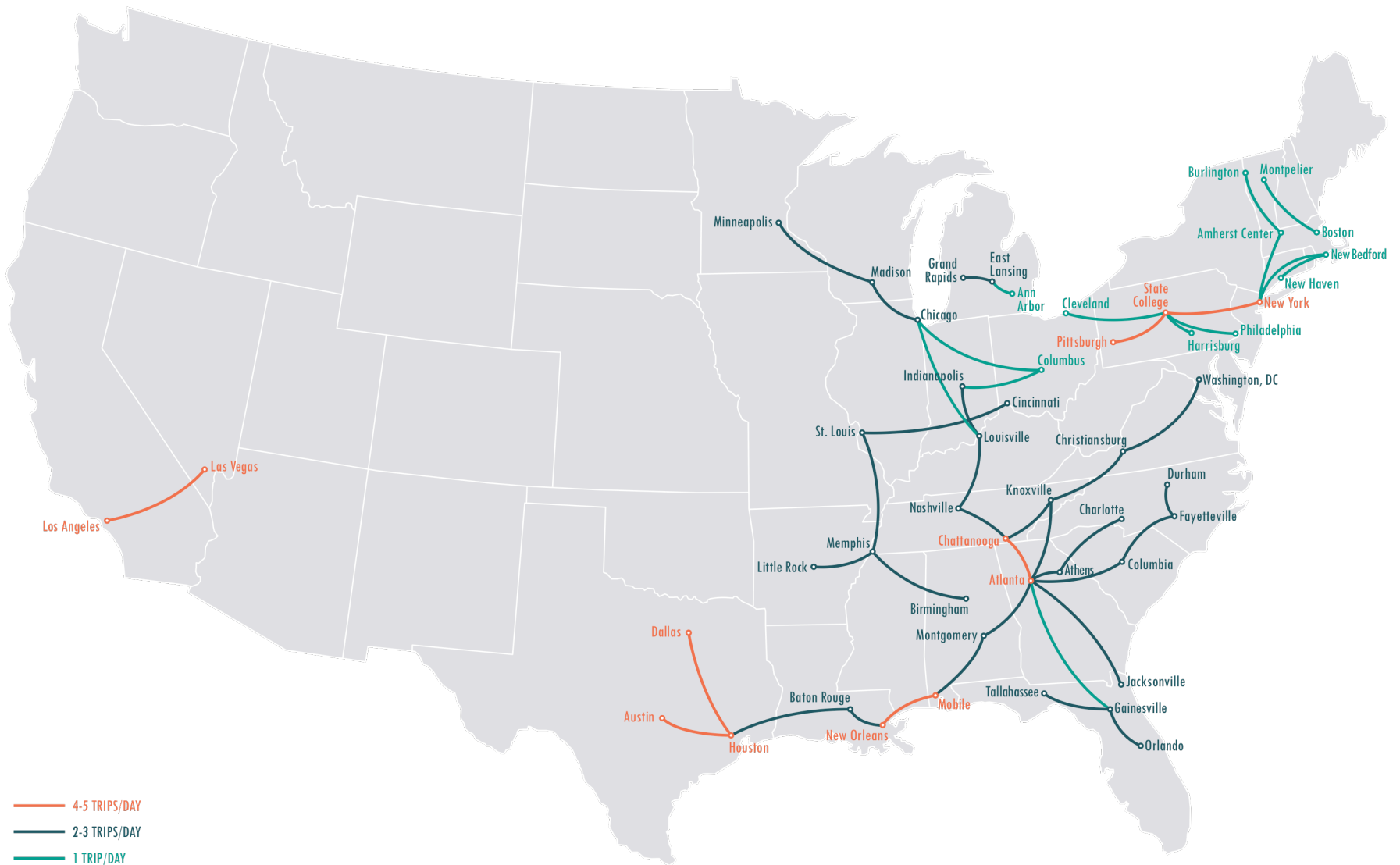


FIGURE 5

Routes with City-to-City Express Bus Service Not Served by Amtrak

BY TRIP FREQUENCY



FINDING 3:

Despite the rapid expansion of city-to-city express service, many markets remain unserved by these popular carriers. Moreover, many corridors can be regarded as “Ground Transportation Gaps”, as they also lack rail-passenger service, making options for ground travel other than private automobiles extremely limited.

City-to-city express bus service is quite pervasive among the country’s most heavily-traveled city pairs (i.e., origin-destination combinations). Consider first the sector’s prevalence in the 200 heavily-traveled city pairs in the United States. The list of these markets was obtained from the federally sponsored Multimodal Interregional Passenger Travel Origin Destination Data project¹⁵. C2C carriers are quite prevalent among the subset of city pairs that are between 100 and 375 miles and link cities with populations of at least 100,000 people—qualities that make them favorable for bus travel. Among the 50 largest cities that meet these criteria, C2C carriers serve 30, or 60% of the total. Among all 128 city pairs that meet these distance and population criteria, the sector serves 63, or slightly less than half.

The most heavily-traveled routes that meet the population criteria mentioned above that are not served by C2C lines are shown in Table 2. The largest city pair *not served* is Los Angeles to San Diego, which ranks second in volume among routes meeting these criteria.

As can be seen on Table 2, many underserved routes involve an endpoint with a metropolitan population of less than half-million. As noted in the right-hand column, Megabus has previously served a significant number of these routes.

Other notable city pairs that are not on the list (some of which involved distances of more than 375 miles) include Columbus, OH to Detroit, MI; Fresno to Los Angeles; Los Angeles to Sacramento; Brownsville, TX to San Antonio; and El Paso to Albuquerque. C2C service is even less common in markets that are more than 400 miles apart, as that distance makes bus travel too time-consuming for most travelers.

Some city pairs could be regarded as “Ground Transportation Gaps” as they lack not only C2C bus service but Amtrak service as well. Convention bus service is generally available on these routes. Some travelers, however, are (rightly or wrongly) unwilling to travel on conventional bus lines, making their options for ground transportation, other than driving quite limited.

TABLE 2

Largest City Pairs Not Served by City-to-City Express Bus Lines

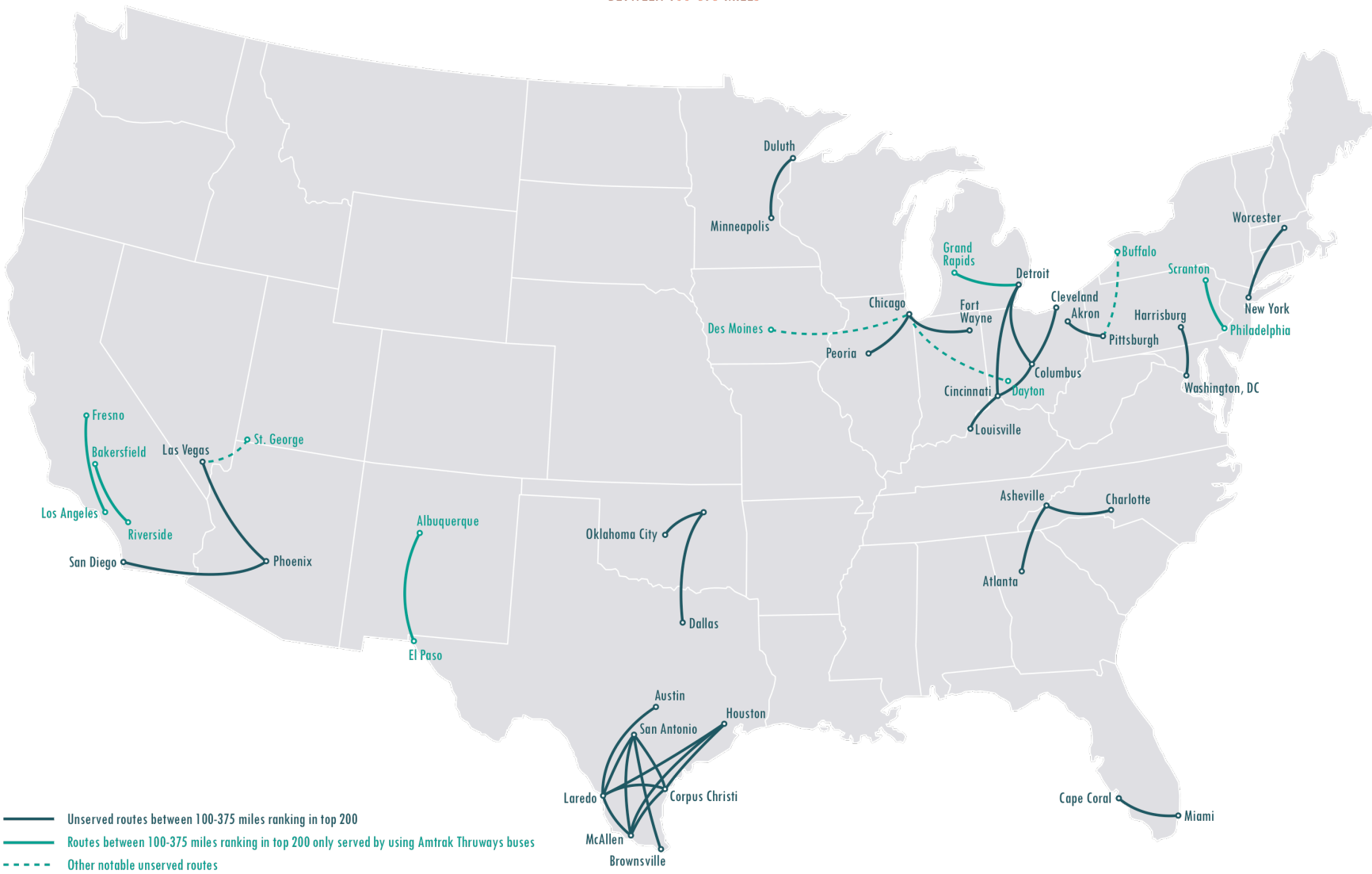
110-375 MILES

RANK	CITY PAIR	MILES	NOTES
2	Los Angeles — San Diego	124	Former Megabus route
14	Bakersfield — Los Angeles	113	Amtrak Thruway Bus Service
20	Phoenix — Tucson	116	
22	Norfolk/Virg.Beach — Washington DC	209	
29	Los Angeles — Phoenix	372	Former Megabus route
30	New York — Scranton	120	
33	Laredo — San Antonio	156	
57	Asheville — Atlanta	199	
58	Detroit — Grand Rapids	158	Former Megabus route
59	Phoenix — San Diego	355	
64	Chicago — Peoria	166	
69	Dallas — Oklahoma City	206	
72	Harrisburg — Washington	120	
73	Cincinnati — Columbus	111	Former Megabus route

FIGURE 6

Ground Transportation Gaps: Intercity Routes without Amtrak or City-to-City Express Bus Service

BETWEEN 100-375 MILES



- Unserved routes between 100-375 miles ranking in top 200
- Routes between 100-375 miles ranking in top 200 only served by using Amtrak Thruways buses
- - - Other notable unserved routes

On some of these routes, bus travelers must also accept the uncertainties of traveling without a guaranteed seat. This often leads to travelers arriving at the bus station very early to assure they are able to board the bus, even though the risk of not getting a seat on a preferred bus is generally minimal due to advances in computer reservations systems. Heavily-traveled Ground Transportation Gaps include Chicago to Peoria, IL and Ft. Wayne, IN; Detroit to Columbus, OH and Cincinnati; Atlanta, GA to Asheville, NC and numerous routes in south Texas centered around San Antonio (Figure 6).

These results illustrate that, while C2C bus service has had transformative effects, many markets remained unserved. While Amtrak's corridors have been affected by this competition, its long distance routes have been largely unaffected. In the short term, expansion by C2C carriers is arguably a more viable way to bring improved service to the aforementioned Ground Transportation Gaps than the expansion of rail service. New rail service generally takes years to launch, while the economics of air service make it difficult for airlines to profit with low fares on routes less than 250 miles.

Future Chaddick Institute reports will seek to conduct additional analysis of the competitive status of bus service and the outlook for expansion into previously unserved markets.

To reach the study team, please email chaddick@depaul.edu or call 312.362.5731. Additional Chaddick Institute publications, including past annual reviews of intercity bus travel, can be found at las.depaul.edu/Chaddick.

¹Estimates for average fuel prices obtained from the U.S. Energy Information Administration.
<http://www.eia.gov/outlooks/steo/>

² These estimated are from the Bureau of Transportation Statistics for schedule domestic air fares. For an easily accessed summary of this information, please refer to https://ycharts.com/indicators/us_average_airfares/BTS

³ GDP estimate from Kiplinger.com are obtained from <http://www.kiplinger.com/article/business/T019-C000-S010-gdp-growth-rate-and-forecast.html>

⁴ FirstGroup reports the share of its revenue from fare revenue, Package Express, food sales, and other category in percentages round to the nearest integer, which prevent precise estimates of trends. These estimates are based on those integrals. However, the share of revenue attributable to passenger operations in 2015 for passenger revenue is assumed to be 79.4% (rather than 70%) due to the fact that this number appears to hover near 80%.

⁵ Exchanges rates were derived by taking the arithmetic average of the U.S. Federal Government's recommend exchange rate conversations for the two years in which each fiscal year straddles. For example, the exchange rate for the 2010 fiscal year is the average for 2009 and 2010. The following GBP to USD rates are used: 2010: .6730, 2011: .6610, 2012: .6525, 2013: .6605, 2014: .6585, 2016: .6755

⁶ Projections for fuel prices obtained from <http://www.eia.gov/outlooks/steo/report/prices.cfm>

⁷ The announcement by the Federal Open Committee can be found at:
<http://www.fedreserve.gov/public/index.cfm/republicans/analysis?ID=DE809839-03D8-4102-9AE1-AF4982C79762>
Please refer to footnote 3 for the Kiplinger link.

⁸ Vamoose briefly operated buses from New York to both the Boston and Washington metropolitan areas in 2007

⁹ For a summary Flixbus' German market share, please refer to <https://global.handelsblatt.com/companies-markets/flixbus-grows-up-603094>

¹⁰ For information about this startup, please refer to www.busbot.us

¹¹ The Last Bus Startup Standing, Tech Crunch, November 29, 2016. Accessed on September 5, 2016 at <https://techcrunch.com/2015/11/29/the-last-bus-startup-standing-chariot/>

¹² "Boston Area Terminal Activity and Capacity," 2013 Massachusetts Region Bus Study, Boston Regional Metropolitan Planning Organization, 2013. Accessed on September 2, 2016 at http://www.ctps.org/data/html/studies/transit/2013_Mass_Regional_Bus_Study/CH4_Regional_Bus_Study.html

¹³ Intercity Bus Permits, New York Department of Transportation. n.d. Accessed on September 2, 2016 at <http://www.nyc.gov/html/dot/html/ferrybus/intercity-bus.shtml>

¹⁴ Amtrak's Coast Starlight competes with BoltBus and Megabus on the Los Angeles – San Francisco route, but this route has only one train in each direction daily and thus is not classified as a corridor.

¹⁵ For a summary of this research initiative, please refer to: <https://www.fhwa.dot.gov/policyinformation/analysisframework/03.cfm>