

2015 Memorial Day Holiday Travel Overview

U.S. Intercity Bus Industry

Chaddick Institute for Metropolitan Development, DePaul University
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This Intercity Bus Briefing summarizes the Chaddick Institute for Metropolitan Development's estimates of travel on scheduled intercity bus lines in the United States over the 2015 Memorial Day holiday period. The report seeks to help fill the void created by the absence of a publically-available dataset on holiday travel via bus by providing data-informed estimates described in Section 2 below. Preparing these estimate required drawing upon a variety of data sources, including proprietary reservation information on Wanderu.com and the Chaddick Institute's Intercity Bus Data Set.

Results are presented to show both the anticipated travel volumes over the six-day holiday period from Wednesday, March 21 – Monday, March 26, and the shorter five-day period from Thursday, March 21 – Monday, March 26. The latter interval excludes Wednesday, a peak-demand day, but allows for comparisons with air and automobile travel estimates, such as those by the American Automobile Association (AAA), which are typically reported over the five-day interval for this holiday.

HOLIDAY TRAVEL PROJECTIONS

Our estimates for the holiday bus travel volumes are as follows:

- **Passenger travel on scheduled bus lines is expected to be at its highest level in 25 years** surpassing all previous Memorial Day holidays since at least 1990. This trend reflects a continuing revival in the intercity bus industry. This estimate is based on a comprehensive review by DePaul University of the amount of service that was made available to the public in past decades.
- **An estimated 1,747,902 passengers will make trips of 50 miles or more by bus** between Wednesday, May 20 and Monday, May 25. This represents an increase of about 5 percent compared to the same period in 2014.
- **The increase in traffic will result in ~ 8% of bus departures operating during peak hours** on Thursday and Friday consisting of "extra sections," or additional buses that operators add to existing departures to meet passenger demand.

The following factors will affect the demand for travel:

- Demand is bolstered by the growing availability of discount city-to-city express services by BoltBus, Greyhound Express, Megabus, Peter Pan Express, and many other lines. These carriers, in some cases, offer guaranteed seating. Free Wi-Fi and power outlets are now standard on most motorcoaches.
- This Memorial Day also marks the first major holiday in which travelers may have the option to reserve specific bus seats. In late March 2015, Megabus.com introduced this service to travelers within its U.S. system.
- The number of daily scheduled operations by intercity conventional and discount city-to-city bus lines together grew by 2.1% during normal travel periods between 2014 and 2015.
- The derailment of Amtrak Train 188 near Philadelphia occurred after the estimates were made and thus was not taken into account. However, this suggests that the travel growth estimates are likely conservative, as travelers on affected routes shift to competing bus services during the investigation and recovery period.
- A strengthening economy is fueling growth in bus travel. Declining fuel prices have had only modest effects on the demand for travel by bus.

Table 1:
Memorial Day Travel Estimates
Projected Ridership

All Distance Ranges	Wednesday - Monday Traffic	1,879,465
	Thursday - Monday Traffic	1,538,257
> 50 miles	Wednesday - Monday Traffic	1,747,902
	Thursday - Monday Traffic	1,430,579
City-to-City Express Services	Wednesday - Monday Traffic	435,384
	Thursday - Monday Traffic	362,820
Growth vs. 2014	Wednesday - Monday Traffic	83,899
	Thursday - Monday Traffic	68,668
Growth vs. 2014 > 50 miles	Wednesday - Monday Traffic	78,026
	Thursday - Monday Traffic	63,861
Total Unique Travelers Taking Trips 50 miles or more	Wednesday - Monday Traffic	1,048,741
	Thursday - Monday Traffic	715,289

This table shows the estimated number of passengers traveling on scheduled intercity bus lines for both the six-day period (Wednesday, March 21 – Monday, March 26) and five-day estimates for Thursday, March 21 through Memorial Day. The latter interval is provide to allow comparisons with air and automobile travel, such as those by AAA. These do not include passengers using charter, tour, and airport-shuttle operations.

Table 2: Greyhound, New York - Boston

	Thursday, May 21	Friday, May 22	Wednesday, June 24 <i>Normal Midweek Day</i>	Friday, June 26 <i>Normal Friday</i>
12:15 AM				
4:00 AM				
7:00 AM				
8:00 AM				
8:15 AM				
8:30 AM				
8:30 AM				
9:15 AM				
10:00 AM				
10:15 AM				
10:30 AM				
11:00 AM				
11:15 AM				
12:01 PM				
12:15 PM				
12:30 PM				
12:45 PM				
1:00 PM				
1:15 PM				
1:30 PM				
2:00 PM				
2:15 PM				
2:15 PM				
3:15 PM				
3:30 PM				
4:00 PM				
4:15 PM				
4:45 PM				
5:00 PM				
5:15 PM				
5:30 PM				
5:30 PM				
6:00 PM				
6:15 PM				
6:30 PM				
7:00 PM				
7:15 PM				
7:30 PM				
9:30 PM				
10:30 PM				
Buses	22	36	15	20

This figure shows the extent to which Greyhound Lines has added extra-sections buses in the New York to Boston market during the holiday period, as of Thursday, May 14, 2015. The normal (baseline) Friday schedule is that shown for Friday, June 24, during which 20 buses are schedule, a number substantially higher than Wednesday, May 20. On Thursday, May 22 and Friday, May 23, however, 22 and 36 buses are scheduled, respectively.

METHODOLOGY

The estimates presented above are supply-driven, derived by looking at the amount of service provided over the holiday and then estimating ridership based on those services provided. Service estimates are made separately for the four different types of bus companies, including: i) conventional bus lines, ii) city-to-city express lines, iii) Chinatown bus lines, iv) Hispanic carriers, and v) casino operators. These estimates do not include charter bus operations, local transit operations, and airport-shuttle operators. Similarly, they exclude public transit and commuter-bus operations on routes less than 50 miles. The estimates are based on data from four primary sources:

- **The Chaddick Institute’s Intercity Bus Data Set**, which includes estimates of *the amount of bus service* that is provided nationwide by conventional and discount city-to-city carriers. Presently, the Chaddick Institute monitors 105 intercity carriers offerings scheduled service as part of the Data Set.
- **Chaddick Institute estimates** on daily operations of “Chinatown” and Hispanic oriented bus lines that are not included in the Data Set, as noted below.
- **Wanderu.com bookings data**. Estimates of travel behavior over the holiday relative to other parts of the year are determined by reviewing all reservations made on this prominent travel aggregator website.
- **Chaddick Institute analysis of extra sections**. In May 2015, the Chaddick Institute collected data on the number of extra sections added by the largest carriers to meet demand.

Estimates are made using a three-step process: Step 1 involves estimating the amount of service and how many passengers travel by bus on the typical day throughout the year. Step 2 involves making an estimate of the extent to which traffic over the holiday will deviate, percentage terms, from the typical day throughout the year. Step 3 applies factors, such as an estimate of share of trips that are 50 miles or more and the results of the first two steps, to make a comprehensive travel estimate. These steps are described with additional detail below.

Step 1: Estimate the amount of service provided by bus lines on the typical day during the year.

Estimates for the four types of bus operators are made as follows:

Conventional services: These carriers operate traditional services, over fixed routes that primarily use traditional terminals in larger cities. This category includes luxury operators, regional operators, and rural transit companies that operate with public subsidies. Examples of carriers in this category include Greyhound, Peter Pan, Trailways, and Coach USA services operating to and from New York’s Port Authority Bus Terminal. Express service by these carriers, such as Greyhound and Peter Pan Express services, are included in these estimates.

The amount of service provided by these carriers was determined using the Intercity Bus Data Set, which has information on daily bus operations for “branded” intercity bus providers in the United States. (The data set excludes, for example, Chinatown and Latino operators). The Chaddick Institute has gradually expanded this record from only bus lines publishing schedules in traditional ways to *all* intercity bus providers throughout the country that we have been able to identify. Since its inception in 2008, the database has grown to include data on 20,000 bus departures, organized by carrier, since 1960.

We estimate that conventional carriers operated slightly more than 3,330 daily schedules throughout the United States.

Discount city-to-city operators: These are bus lines focused on express downtown-to-downtown service between major cities, rely on internet ticketing, and often use a mix of terminal and curbside drop-off and pickup locations. Discount operators do not participate in “interline” arrangements with Greyhound or other bus companies. Unlike many conventional bus companies, the carriers offer guaranteed seating and are not oriented toward serving airports. Examples include BestBus, Boltbus, Megabus, and DC2NY bus.

We estimate that conventional carriers operated 1,066 daily schedules throughout the United States.

Latino-oriented and Chinatown operators: A dearth of published data exists on the amount of service provided by “Chinatown” (typically Asian owned lines operating from Chinatown districts in major cities) and Latino carriers, which often do not invest in clearly identifiable brand names, do not published printed timetables, and do not interline with major bus companies. The Chaddick Institute conducted an audit of the number of Latino and Chinatown carriers to support research for the Federal Highway Administration in early 2015. This review was used as the basis to estimate the number of schedules operated daily in each of these categories. This number should be regarded as an approximation. The estimates for the “Latino” category excludes transborder trips.

Our estimates show that the Latino and Chinatown carriers together operate approximately 1,600 daily buses. Although these numbers should be understood as estimates, they are based on an audit using prominent publically accessible sources. Moreover, these operators account for only a small share of intercity operations in the U.S., making measure error of relatively small consequence in the aggregate estimate of bus travel.

Casino operations over long-distance routes: In addition our analysis for FHWA suggests that there are approximately 225 daily schedules operated by casino-oriented lines with routes of 50 miles or more.

Step 2. Determining ridership levels on a typical day.

The number of passengers that moves on intercity buses on a typical day is determined by multiplying the number of daily bus operations (scheduled) identified in Step 1 above with an estimate of the average number of passengers per trip.

Between 2009 and 2015, the Chaddick Institute has employed data-counters that rode more than 250 intercity bus trips to support our analysis of traffic patterns and traveler use of technology. We estimate that, on average, 40 passengers travel on a bus between each major origin and destination on conventional bus lines, while an average of 44 passengers travel on city-to-city express operators (and on express oriented services by conventional operators, such as Greyhound and Peter Pan Express). For buses making multiple stops, many of these passengers are onboard for only a small part of the trip.

Furthermore, our estimates also suggest that the average scheduled bus operation serves about 1.10 major origin-destination (O&D) combinations. For example, a New York – Washington bus may serve two major O&Ds: New York – Philadelphia – Washington, with some passengers traveling the entire distance between New York and Washington. Therefore, the estimated number of passengers is multiplied by 1.1 to account for the fact that about 10% of buses serve more than one major O&D combination.

As a result, the study projects that the typical bus operation (scheduled) not including extra sections includes 44 passengers on conventional bus lines and 49 passengers on express bus lines. As previous noted, the number of passengers on buses may be considerably less than this due to fact that many use the bus for only

a small portion of its trip.

Step 3: Estimate how traffic will change during the upcoming holiday from the normal baseline period.

To develop a forecast for the 2015 Memorial Day holiday, the amount of traffic over this period relative to the typical period of the same length was evaluated by reviewing historic reservations data provided by Wanderu.com, a major travel aggregator site based in Boston, MA, which sells tickets on most of the largest U.S. carriers. Analysis was undertaken of travel patterns over a 14-month period that encompassed the 2014 Memorial Day holiday. In addition to evaluating travel patterns in the U.S. market as a whole, the analysis considered bookings data for the Boston – New York route, which is one of the country’s largest bus markets. Statistical techniques were used to account for the gradual expansion of travel on Wanderu due to its rising market share.

A separate analysis was undertaken to assess the number of extra sections that have been scheduled. Our discussions with major bus lines, including one major line that provided detailed data, shows that about 1.08 buses are operated per one scheduled departure. In other words, 8% of buses are “second sections” or “third sections” (or even fourth or fifth sections) to meet the demands. It should be noted that the preponderance of extra sections appears to be operated primarily within the Northeastern U.S. and on major hubs by BoltBus, Greyhound, Megabus, and other high-volume carriers. As noted in *Chart 1*, on some routes, such as Boston – New York, more than 33% of all Greyhound buses operated at the peak of the holiday travel period are extra sections.

Making traffic projections also required us to estimate the share of passengers traveling 50 miles or less, which is the typical standard used to measure holiday travel. However, estimates for the FHWA suggest that only about 25% of trips are less than 100 miles on intercity buses. Our analysis of major origins and destinations served by national bus lines suggests that only about 6% of trips are less than 50 miles. (Virtually all traffic on discount city-to-city carriers moves more than 50 miles, and the elimination of small-town stops on many routes has substantially reduced the number of short-hop trips).

CONCLUSION

As mentioned above in the introductory section, this report fills the void on bus traveler projections for the upcoming Memorial Day Holiday. It estimates that 1.7 million passengers will make trips of 50 miles or more by bus between Wednesday, May 20 and Monday, May 25, illustrating the national trend that more and more people are going by motorcoach.

The rise in bus travel has several favorable implications. Buses are generally more fuel efficient than other major modes of intercity travel, creating environmental benefits. They also lessen congestion on roads by reducing private vehicular traffic, which is particularly important during high-traffic holiday travel periods. The expansion of bus travel also fosters economic development in the downtowns of major cities, which are primarily the originating points and termini on most major routes. Our analysis also indicates that bus travel saves travelers money, as it is generally priced less than air and rail travel. Bus fares are generally below the variable costs of driving (predominately fuel and tolls, and ignoring the costs of vehicle ownership) among those traveling alone.

Researchers who seek additional information on our data analysis should email chaddick@depaul.edu. We would be happy to provide more detail about our computations.

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