CBRE

VIEWPOINT

Atlanta Infrastructure

Lessons Learned After Seven Weeks Without Interstate 85

On the evening commute on March 30, 2017, a major interstate artery collapsed in the heart of Atlanta. Despite a prolonged expectation of repair and negative impacts, the Georgia Department of Transportation nimbly managed a repair process of just seven weeks. Surprisingly, the region fared relatively well in spite of the looming challenges. To help understand why, a survey of CBRE employees was distributed.

This Viewpoint investigates the results of that survey and the lessons learned.

Kudos to the Georgia Department of Transportation. In Atlanta, a market infamous for its traffic congestion, experienced a catastrophic failure resulting in a loss of a primary interstate artery connecting Midtown and Buckhead. By blending anecdotal evidence with commercial real estate and internal survey data about the incident, CBRE Research came to the following conclusions regarding the Atlanta market:

- Residents have been battle-hardened by years of traffic congestion, demonstrating a willingness to leverage both technology and endurance when encountering unpredictable traffic patterns.
- There is a great deal of potential for alternative transportation.
- For large-scale distribution users, this portion of interstate is one of the least valuable sections of highway infrastructure in the Atlanta market.
- Despite avoiding a worst-case scenario, the important role of infrastructure cannot be ignored.

The rapid response by the GDOT means the incident itself, while inconvenient, is likely to be relegated as a footnote in the annals of Atlanta traffic lore, not unlike the ice storm of January 2014 or 1996 Olympics. Perhaps the end result is a newfound appreciation for the role infrastructure plays in one of the fastest growing markets in the country.

To help unpack some of these lessons, CBRE Research distributed an internal survey to assess the impacts of the situation. A survey limited to CBRE employees is far from scientific, but considering the unique traits of the company, location and industry, there is still value.

WHY IS THIS SURVEY OF CBRE ATLANTA EMPLOYEES RELEVANT?

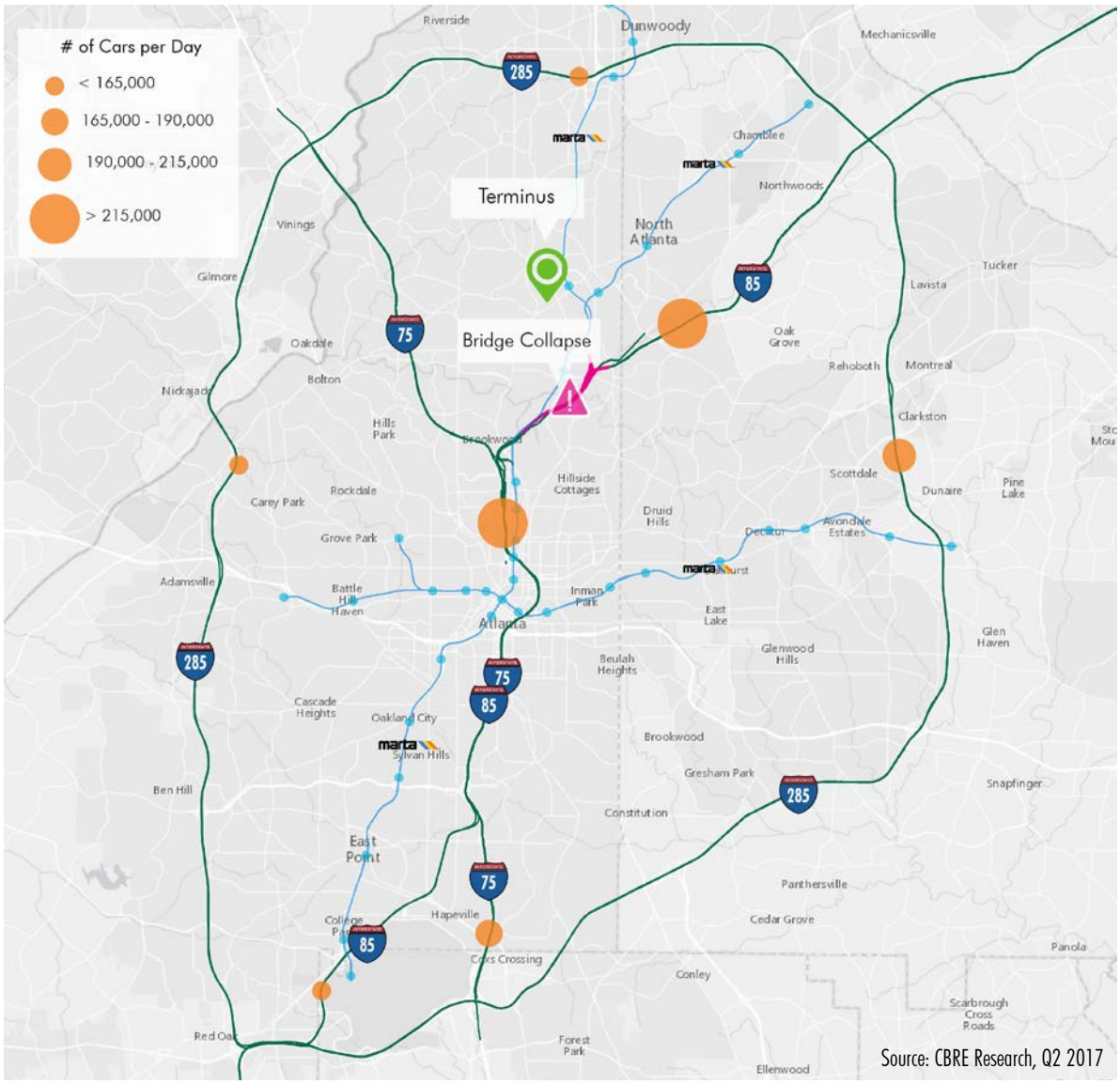
First, CBRE's presence in Atlanta is very large. There are over 1,400 employees in the region. A company with that size is going to have enough diversity to appreciate the wide variety of outcomes that such a disruption can bring. There are employees that work within walking distance of their homes and there are employees that often commute more than two hours each way in Atlanta traffic. The two extremes will have wildly different experiences related to the collapse.

As a commercial real estate company, the collapse of the interstate presents a unique operational challenge. A staple of commercial real estate is the property tour. Time is money. When traffic is significantly worse than expected, this makes the touring of sites more expensive. Fortunately this is somewhat mitigated by modern technology and CBRE's investment in it.

Because of CBRE's massive scale, the company is able to make significant investments in technology that help facilitate tele-commuting and the evaluation of properties remotely. It is not uncommon to leverage technology like Floored, Dimension and Hightower to help eliminate potential locations from consideration, reducing tours that would have involved eight properties five years ago to just three today. The point here is the ability to minimize the negative consequences of such an event has never been easier than it is right now.

It is possible that the trends uncovered in this internal survey have application beyond just CBRE to other companies in the Atlanta market.

Figure 1. Atlanta Transportation Network and I-85 Collapse



WHAT HAPPENED?

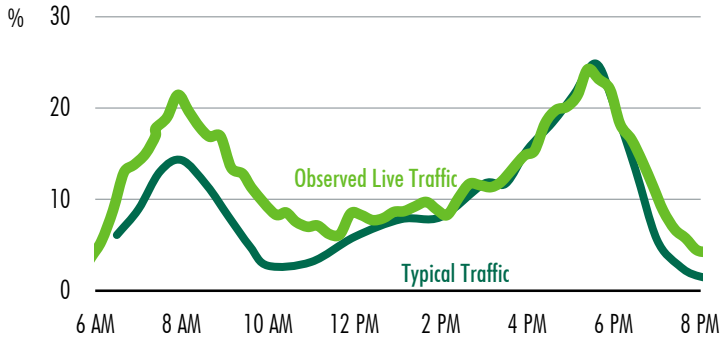
During the evening commute on March 30, the northbound lane of Interstate 85 in Atlanta experienced a catastrophic failure due to a fire that started under an interstate bridge. The fire ultimately resulted in the collapse of a section of interstate that averages over 250,000 vehicles per day, wedged between two clusters of urban development in the Atlanta market, Midtown and Buckhead. Fortunately, there were no injuries, but the potential impacts were anticipated to be overwhelming for both residents and the business community.

In addition to being located in the heart of the market, the collapse was less than one mile from the on-ramp of Georgia 400, a major local transportation artery. Compounding the problem is the site's proximity to "spaghetti junction," the interchange of I-285 and I-85. Last month the American Transportation and Research Institute listed the intersection as the worst trucking bottleneck in the United States for the second consecutive year. Six other locations in the Atlanta market ranked in the top 100. Atlanta's infamous gridlock undoubtedly got worse.

One of the benefits in times of crisis is the opportunity for responsible entities to demonstrate leadership. Due to the critical nature of the interstate's loss, tremendous pressure was applied to repair the interstate quickly. Initial estimates of a fix for the collapse were measured in months. The Georgia Department of Transportation demonstrated a level of nimbleness not often associated with governmental agencies by managing a repair process of just seven weeks. Despite the condensed timeframe, there are still lessons to be learned.

To help understand these lessons, CBRE Research conducted a series of internal interviews and surveys. The lessons are associated with impacts to three different groups: commuters, logistics companies and corporate real estate practitioners.

Figure 2. Percentage of Road Network Negatively Impacted by Traffic Congestion in Atlanta



Source: CBRE Research, Q2 2017

An observation of typical and live traffic congestion reported via internet mapping revealed that negative consequences of congestions impacted the morning commute more significantly than the commute home.

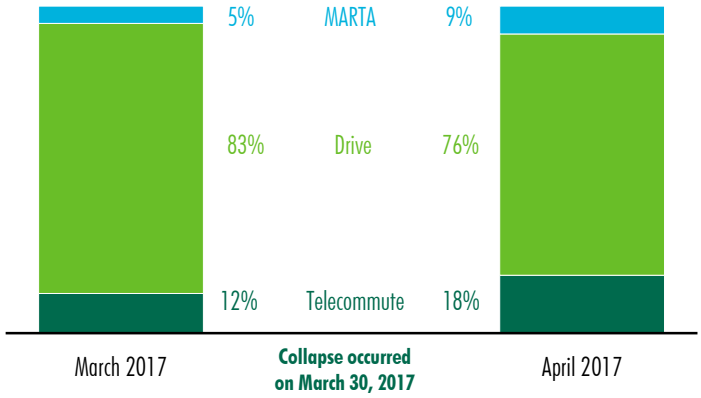
COMMUTER IMPACTS

One of the most anticipated impacts of the collapse was the disruption of traffic patterns, particularly during the morning and evening commutes. According to observed data on an internet mapping system that reports live traffic, peak rush hour periods were generally more congested and lasted longer. The most significant negative impacts were felt during the morning commute. According to the survey of CBRE employees, commute times increased by 38% to an average of over 52 minutes.

It is difficult to understate the role of technology in minimizing the impacts of this event. The ubiquitous presence of smartphones and traffic navigation apps like Waze and Google Maps were cited frequently in our survey as strategies used to navigate unpredictable traffic patterns. More importantly though, the use of telecommuting has, in extreme cases, eliminated commutes and in other cases, limited the number of times the commute has to be endured. Both telecommuting and smartphone apps are technological solutions that were not as prevalent just ten years ago.

In the survey, 27% of respondents were able to increase the frequency of telecommuting. Among those who were able to telecommute with greater frequency, the amount of time spent on commuting actually decreased after the collapse decreased by almost four minutes per trip. This does not sound like much but it accounts for a decrease in total commuting time of 10%. On the other hand, for professionals who perform roles that do not allow for telecommuting, their commutes increased by 46%, with an average commute time of 71.6 minutes.

Figure 3. Method of Commuting in the Month Before and After the Collapse



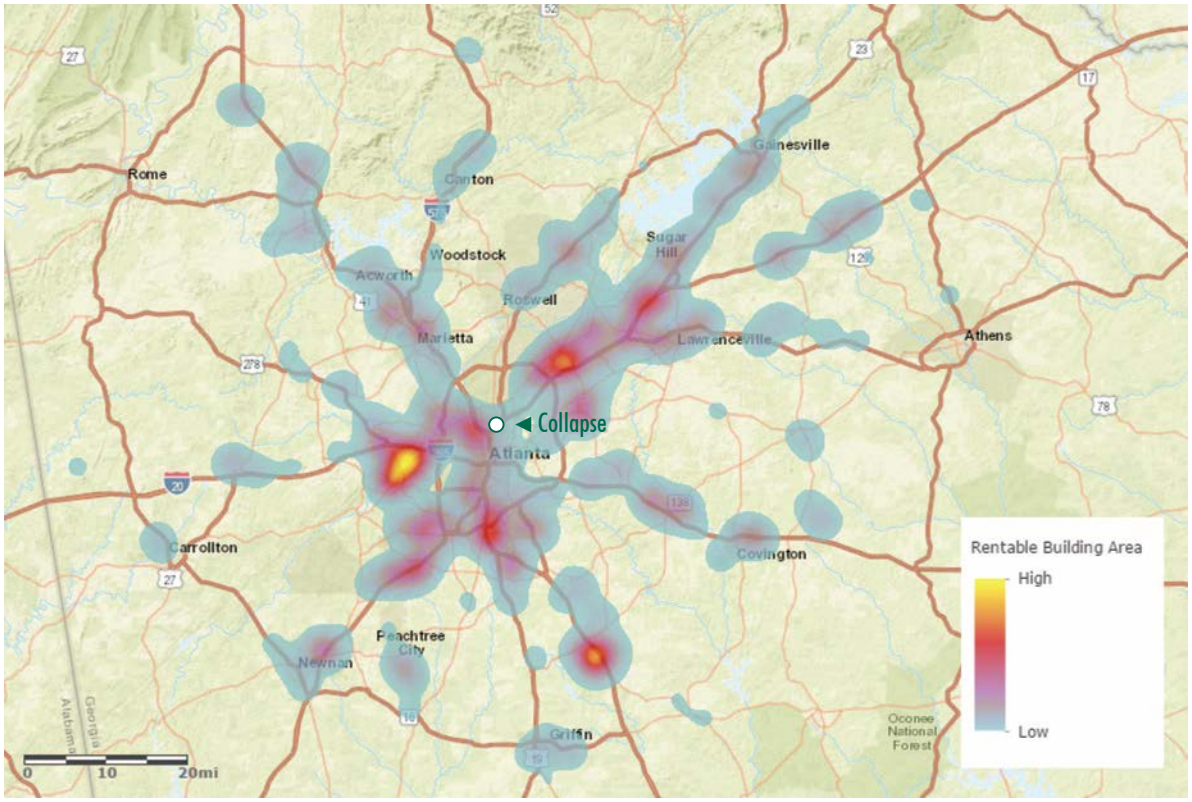
Source: CBRE Research, Q2 2017

Commuting patterns of CBRE employees were impacted by the collapse of I-85. The use of telecommuting and MARTA increased.

When the results of all employees were combined, the average commute increased by 38% after the collapse, but total commuting time only increased by 28% as CBRE employees were able to offset the impact by telecommuting with greater frequency. If the assumption is made that the CBRE survey is representative of the working population of Atlanta, which has a per capita income of $30,041 according to ESRI and an average commute time of 30.7 minutes according to the US Census, the collapse had an economic impact of $11.7 million in terms of hours of productivity lost to traffic. Alternatively, the argument could be made the ability to telecommute during this time period provided an economic benefit of $4.2 million using the same logic.

Of the survey respondents, use of the Metropolitan Atlanta Rapid Transit Authority (MARTA) almost doubled as a result of the collapse. However, highlighting a concern in the Atlanta market, an equal number of respondents lamented that they did not have good access to mass transit where they lived. An analysis of web search history for the Atlanta region indicated that searches for "MARTA" doubled in the first two weeks following the collapse. There is an appetite for additional mass transit use in Atlanta.

Figure 4. Concentrations of Warehouse Activity



The impact of the collapse to commercial trucking was mitigated by the fact that the largest concentrations of warehouses were outside the Perimeter (I-285).

LOGISTICS IMPACTS

From a commercial real estate perspective, the collapse of I-85 did not have a significant impact on any specific sector, although the collapse of a different section of interstate in the Atlanta region could have been much worse. Atlanta is a critical distribution hub for the entire country with over 400 million sq. ft. of warehouse space occupied by users that rely heavily on the existing road network. While many commuters can offset the impairment of infrastructure through telecommuting, few remedies exist for industries that rely on local and/or long-haul trucking.

When given a choice, trucking companies typically elect to route around the stretch of I-85 that traverses the heart of Atlanta. This means the bulk of logistics traffic typically does not use this artery. While they will endure increases in traffic congestion, the location of I-85's failure is not as crippling to the sector as a failure of part of The Perimeter (I-285).

In today's connected world, a disruption of service can be costly. The negative consequences of the failure of a single section of interstate is something companies must consider when choosing one market versus another. Having redundant infrastructure is expensive, but helps soften the negative consequences of unplanned disruptions.

CORPORATE REAL ESTATE IMPACTS

There are salient talking points for practitioners of corporate real estate related to the I-85 collapse. They pertain to risk aversion and quality of life.

Modern business moves incredibly quickly and the failure to execute can have dire consequences for a company's bottom line. This is compounded by the global nature of trade, where colleagues and clients may be disconnected from local infrastructure challenges. As a result, the collapse of I-85 could serve as an impetus for corporations to strengthen their capacity for telecommuting. In exchange for telecommuting, companies can provide a greater level of consistency when presented with infrastructure challenges.

While it is difficult to measure, one of the most important components of a region's success is its ability to support a high quality of life. With Atlanta's reputation for challenging traffic, which is ranked as the fourth worst in the country by INRIX, the collapse did result in even more time lost to traffic congestion, diminishing the quality of life for the region's 5.8 million people.

SUMMARY

All of this suggests that the short-term impacts are largely one of inconvenience, as opposed to a large disruption in services. Due to the speed of rectification, the long-term impacts may be limited to a newfound appreciation for the importance of infrastructure, as well as a renewed focus on incorporating telecommuting as a workplace strategy as well as a marginal increase in the use of MARTA.

For more information regarding this ViewPoint, please contact:

Dan Wagner
Director, Research and Analysis
+1 404 923 1238
dan.wagner@cbre.com

Brian Reed
Research Operations Manager
+1 864 527 6073
brian.reed@cbre.com

McCall King
Senior Research Analyst
+1 404 812 5096
mccall.king@cbre.com

Toby Jorgensen
Senior Research Analyst
+1 404 504 7926
toby.jorgensen@cbre.com

Joey Viola
Research Analyst
+1 615 493 9321
joey.viola@cbre.com

Alston Lanier
Researcher
+1 404 923 1256
alston.lanier@cbre.com

CBRE Atlanta Office
3280 Peachtree Road, Suite 1400
Atlanta, Georgia 30305
+1 404 504 7900

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