PEACHTREE SHARED SPACE

Demonstration Project Traffic Data Analysis and Methodology| December 2021

Department of CITY PLANNING

Peachtree Street Demonstration Project: Traffic Data Analysis & Methodology

December 2021 | City of Atlanta Department of City Planning

Introduction

The Peachtree Street Demonstration Project emerged in 2021 from the Peachtree Shared Street Design Concept produced by the City of Atlanta's Department of City Planning. The purpose of the project was to take Atlanta's main street and re-imagine it to enhance public life and improve private development for a new era. From this, the demonstration converted existing lanes along Peachtree Street to a pedestrian-accommodating shared space.

This whitepaper outlines the traffic analysis methodology used for the Peachtree Street Shared Space Demonstration Project. The intent of this analysis is to compare traffic patterns and volumes before the Shared Street demonstration project installation with the patterns and volumes following the installation of the demonstration project. The analysis extends from Peachtree Street and Baker Street to the north and Peachtree Street and Ellis Street as the southern extent.

In addition to the traffic impact analysis, a VISUM subarea model was developed to estimate the traffic impacts within the downtown Atlanta area based on modifications of a shared space on Peachtree Street. VISUM is a travel and traffic modeling software that offers a detailed traffic impact analysis on a small scale, which can predict detailed impacts along Peachtree Street itself, but also impacts to the entire downtown Atlanta road network. The model was used to estimate congestion and travel time impacts to Peachtree Street and the surrounding road network due to the project. The model predicted impacts in the year 2030 after the completion of the shared space project. The model predicts that the shared space project will have negligible impacts on congestion and travel time within downtown Atlanta.

Traffic Impact Analysis

Three separate periods of data were collected and counted for the Peachtree Street corridor: Before the demonstration (June 6 — June 20, 2021), 30 Days After Analysis (June 21 — July 22, 2021), and 60 Days After Analysis (August 8 — September 7, 2021). The Before period had no improvements made, with two road lanes in each direction on Peachtree Street open to traffic. Both 30 Days After and 60 Days After periods featured the demonstration project which includes temporary removal of one lane in each direction on Peachtree Street to be used as shared space, flex posts to narrow vehicle turning radii, and a mid-block crosswalk at Peachtree Center. No changes were made to traffic signal timings.

Staff from City of Atlanta and Central Atlanta Progress (CAP) installed traffic count cameras at the following four (4) intersections to collect vehicle, pedestrian, bicycle, and scooter traffic data:

1. Baker Street NW / Peachtree Street
2. John Portman Boulevard NW / Peachtree Street
3. Andrew Young International Blvd / Peachtree Street
4. Ellis Street NE / Peachtree Street

Traffic count data was collected on Sunday, Monday, and Tuesday between June 6, 2021 and September 7, 2021. The data collection cameras collected data on consecutive days. These days were chosen to ensure a

weekend date was included along with a weekday date, providing insight into how Peachtree Street traffic reacts on workdays and non-workdays. These days were believed to provide the most accurate reflection of weekly traffic. Traffic count data included all modes of traffic along the corridor, including:

1. All Vehicles including specific turning movements
2. Bicycles on the Road
3. Bicycles in the Crosswalk
4. Pedestrians in the Crosswalk

Staff manually collected the camera SIM cards after each Tuesday and uploaded the data into an online traffic processing system called Miovision. Miovision then analyzed the video data to provide 95%+ accurate traffic volume data. Traffic engineers reviewed the data and made corrections if necessary based on the video recording.

Average Daily Traffic volumes for each period of analysis (Before, 30 Days After, 60 Days After) for each intersection is displayed in Table 1. The percent increase or decrease for the Average Daily Traffic volumes for each period of analysis (30 Days After, 60 Days After) compared to the 30 Days Before analysis period is also displayed in Table 1.

Table 1 Total Average Traffic Volumes By Day and Time of Day (Includes All Intersections Aggregated, Excludes Dragon Con on Sunday)

Intersection	30 Days Before		30 Days After		60 Days After	
	AM	PM	AM*	PM*	AM*	PM*
Sunday						
Total Pedestrians	770	1,422	725 (-6%)	1,747 (23%)	1,200 (55%)	1,366 (-4%)
Total Bikes (In Crosswalk)	98	227	46 (-53%)	247 (9%)	46 (-53%)	154 (-32%)
Total Bikes (On Street)	48	81	37 (-23%)	42 (-48%)	49 (2%)	38 (-53%)
Total Vehicles	1,464	3,450	1,406 (-4%)	3,242 (-6%)	1,378 (-6%)	2,926 (-15%)
Monday						
Total Pedestrians	823	1,164	1,360 (65%)	1,608 (38%)	1,227 (49%)	1,902 (63%)
Total Bikes (In Crosswalk)	20	38	111 (455%)	175 (360%)	29 (45%)	166 (336%)
Total Bikes (On Street)	19	28	46 (142%)	56 (100%)	15 (-21%)	50 (107%)
Total Vehicles	3,177	2,685	3,811 (20%)	3,735 (39%)	2,456 (-27%)	3,516 (28%)
Tuesday						
Total Pedestrians	1,032	1,549	1,430 (39%)	1,995 (29%)	1,356 (31%)	1,633 (5%)
Total Bikes (In Crosswalk)	45	31	138 (206%)	125 (303%)	28 (-37%)	107 (245%)
Total Bikes (On Street)	30	14	66 (120%)	44 (214%)	8 (-73%)	29 (107%)
Total Vehicles	2,785	2,927	4,180 (50%)	3,824 (31%)	2,862 (3%)	3,734 (28%)

**Percent change compared to "30 Days Before" Period*

Overall, there was a general increase in pedestrians along the corridor, with the 30 Days After and 60 Days After periods seeing a total increase of 31% and 28% pedestrians in the AM and PM peak hours, respectively. Additionally, the 30 Days After and 60 Days After periods saw a increase of 23% and 2% vehicles in the AM and PM peak hours, respectively.

It is difficult to determine if the increases or decreases on any given day in vehicles, pedestrians, or bicyclists are directly related to the shared space demonstration. Due to the COVID-19 pandemic, additional uncertainty in traffic volumes can be expressed due to work from home policies, reduced seating capacity at restaurants, reduced capacity or reservation requirements for museums and attractions.

It should be noted that data from the Dragon Con event on September 5, 2021 was removed from these averages as to not unnecessarily skew the averages. Due to the high level of pedestrian volumes due to the Dragon Con event on that Sunday, Table 2 illustrates the volumes with Dragon Con included.

Table 2 Dragon Con Traffic Compared to All Intersections Aggregated 30 Days Before

Intersection	30 Days Before		Dragon Con Only	
	AM	PM	AM*	PM*
Sunday				
Total Pedestrians	770	1,422	4,679 (507%)	12,858 (804%)
Total Bikes (In Crosswalk)	98	227	52 (-47%)	127 (-44%)
Total Bikes (On Street)	48	81	47 (-2%)	50 (-38%)
Total Vehicles	1,464	3,450	1,758 (20%)	3,405 (-1%)

**Percent change compared to "30 Days Before" Period*

Synchro Traffic Analysis

Traffic analyses were conducted utilizing the Synchro 10.0 software, a standard simulation software for traffic engineers. Signal timings and lane configurations were obtained from the Georgia Department of Transportation Regional Traffic Operations Program and the Atlanta Downtown Improvement District. The morning and afternoon peak hours, meaning the hour of the day when the highest traffic volumes occur, for each intersection was identified. Vehicular, pedestrian, and bicyclist volumes for each of the three time periods (refer to Table 1) were added to the Synchro file to determine Level of Service (LOS) at each intersection. LOS is a qualitative measure used to relate the quality of motor vehicle traffic service. The Synchro software uses lane configurations, signal timings, and vehicle demand to determine how much delay each vehicle is expected to experience waiting at an intersection. LOS ranges from LOS A to LOS F, with LOS A indicating free flow traffic at or above posted speed limits with minimal delay. LOS B and C indicate reasonable to stable traffic flow, with adequate ability to maneuver between lanes and comfortable driving experiences. LOS C is the highest delay condition achieved during this study. The seconds of delay relating to each LOS measurement is displayed in Table 3.

Table 3 LOS Delay Thresholds

LOS Score	LOS Delay Threshold	Description
A	<10 Seconds	This is the highest driver comfort; free-flowing traffic
B	10 – 20 Seconds	This is a high degree of driver comfort; little delay
C	20 – 35 Seconds	This is an acceptable level of comfort; some delay
D	35 – 55 Seconds	This will include some driving concerns; moderate delay
E	55 – 80 Seconds	This will be high levels of driving concern; high delay
F	> 80 Seconds	This is the highest level of driver frustration; excessive delay

The LOS and seconds of delay results are displayed in Table 4. The 60 Days After results contain the Dragon Con event to model the worst-case scenario and see with the impacts of a large-scale event in the downtown area. As can be seen in the 30 Days Before columns, all of intersection operated at LOS B or better before the Demonstration Project was installed. In the 30 and 60 days after the installation of the demonstration project, John Portman Boulevard NW/Peachtree Street and Ellis Street NE/Peachtree Street operated at LOS C during the AM peak hour on several days, with Ellis Street NE also operating at LOS C during the PM peak hour on Tuesday. While congestion did increase slightly during these time periods, they are still operating efficiently with no need for additional improvements.

John Portman Boulevard NW/Peachtree Street experienced minimal increases in delay (four to six seconds) after the demonstration. Ellis Street NE/Peachtree Street experienced a little more delay (three to 11 seconds). Referencing Table 3 above, the highest average delay anticipated after the installation of the Demonstration Project during any day or time period is 24.9 seconds, which equates to LOS C, and can be described as reasonable to stable traffic flow with adequate ability to maneuver between lanes and experience comfortable driving experiences.

Table 4 Synchro Results Per Period Per Intersection Per Day

Intersection	30 Days Before				30 Days After				60 Days After			
	AM		PM		AM		PM		AM		PM	
	LOS	Delay[1]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Sunday												
Baker Street NW	A	8.4	A	8.4	B	11.7	A	9.4	B	12	A	9.8
John Portman Blvd NW	B	17.8	B	15	B	19.6	B	15.4	B	19.3	B	15.3
Andrew Young Intl Blvd	B	10.4	B	16.6	B	10.5	B	19.8	B	10.3	B	18.1
Ellis Street NE	B	15.3	B	19.6	C	24.4	C	21.5	C	23.7	B	19.5
Monday												
Baker Street NW	B	10.8	A	9	B	14.1	B	10.5	B	13.6	B	10.5
John Portman Blvd NW	B	16.1	B	10.7	C	21.3	B	12.2	C	20.6	B	11.4
Andrew Young Intl Blvd	B	11.5	B	14.5	B	11.5	B	16.6	B	11.3	B	16.8
Ellis Street NE	B	13.6	B	17.8	C	24.9	C	20.1	C	24.7	B	19.6
Tuesday												
Baker Street NW	A	10	B	9	B	13.8	B	10.5	B	13.9	B	10.1
John Portman Blvd NW	B	17.2	B	12.4	C	21.9	B	13	C	21.5	B	11.5
Andrew Young Intl Blvd	B	11.7	B	15	B	12.4	B	17	B	12.2	B	16.8
Ellis Street NE	B	14.6	B	17.6	C	24.9	C	21	C	24.7	C	21.1

[1] Delay is in seconds

As aforementioned, no upgrades to signal timings were performed in this analysis. The City of Atlanta performed additional Synchro analysis to understand if adjusting the signal times to account for a reduction in the number of lanes would help improve the congestion at any of the intersections. Table 5 displays the LOS and seconds of delay results achieved by optimizing signal timings along the corridor. After optimization, John Portman Boulevard NW would only have LOS C during the PM peak hour on Sunday, and Ellis Street NE would have LOS C during the AM peak hour on Tuesday.

Table 5 Synchro Results with Optimized Signal Timings

Intersection	30 Days Before				Optimized Signal Timings: 30 – 60 Days After			
	AM		PM		AM		PM	
	LOS	Delay[2]	LOS	Delay	LOS	Delay	LOS	Delay
Sunday								
Baker Street NW	A	8.4	A	8.4	B	11.3	B	14
John Portman Blvd NW	B	17.8	B	15	B	17	C	22.1
Andrew Young Intl Blvd	B	10.4	B	16.6	A	9.1	B	19.7
Ellis Street NE	B	15.3	B	19.6	B	19.4	B	15.9
Monday								
Baker Street NW	B	10.8	A	9	B	12.6	B	10.1
John Portman Blvd NW	B	16.1	B	10.7	B	19.7	B	11.9
Andrew Young Intl Blvd	B	11.5	B	14.5	B	11.5	B	17.9
Ellis Street NE	B	13.6	B	17.8	B	19.3	B	19.2
Tuesday								
Baker Street NW	A	10	B	9	B	12.7	B	12
John Portman Blvd NW	B	17.2	B	12.4	B	16.8	B	15.3
Andrew Young Intl Blvd	B	11.7	B	15	B	16	B	18.5
Ellis Street NE	B	14.6	B	17.6	C	20.3	B	19.8

Traffic Methodology Findings

Given the reduction in capacity along Peachtree Street, and the overall increase in pedestrians crossing at intersections along the project corridor, the LOS and delay results in Tables 6 and 7demonstrate that the congestion did not substantially increase after the installation of the Demonstration Project. Additionally, the data collected for the Dragon Con event with constrained conditions substantially increasing the number of pedestrians along the corridor to over 12,000, the LOS and seconds of delay did not experience significant changes, indicating that the downtown road network can continue to handle traffic during major events. These findings indicate that a Shared Space design that would permanently reduce the number of vehicular

[2] Delay is in seconds

lanes on Peachtree Street is unlikely to have major impacts on traffic, especially when Atlanta Department of Transportation includes other improvements such as signal timing optimization.

Downtown Street Network Analysis

The Peachtree Street Shared Space Demonstration Project repurposed 3 travel lanes along Peachtree Street between Baker Street and Ellis Street in Downtown Atlanta. The demonstration project offers a unique opportunity to observe the impact of reduced vehicle capacity in ways that traditional traffic models cannot. One such way to measure the impact of a demonstration project is to monitor travel speeds and travel times of vehicles in the area. Because the demonstration project lies within an extensive street grid providing redundant paths of travel through the area, a comprehensive analysis of the system should be observed and not solely focus on the 3 impacted blocks along Peachtree Street. Displaced trips are likely to diffuse through the grid and alter operations along parallel corridors (Centennial Olympic Park Drive, Williams Street, Ted Turner Drive, Peachtree Center Avenue, Courtland Street, and Piedmont Avenue). It's for this reason that a system-wide observation of Downtown streets offers a comprehensive insight as to how motorists are impacted by the demonstration project (or would be impacted by a permanent shared space) along Peachtree Street.

RITIS (Regional Integrated Transportation Information System) is crowd-sourced "Big Data" aggregated to provide up-to-date and historical transportation-related information, such as travel time and speed. It has been used to observe the impacts of the Peachtree Shared Street Shared Space Demonstration Project on the downtown street network during a period immediately preceding the installation of the demonstration project (May 1 – May 23) and after the installation (August 1 – August 22). These dates were selected to remove influences of holiday weekends (Memorial Day, July 4th, Labor Day Weekend) and large downtown events (AmericasMart and DragonCon). The corridors included in the analysis are shown in Figure 1.

To account for outside impacts during these time periods (pandemic-related fluctuations in traffic, events at Downtown's entertainment venues, etc.), Marietta Street (an east-west corridor traversing downtown south of the demonstrations project) was selected as a "control corridor." This corridor was selected for several reasons listed below:

1. It intersects Peachtree Street several blocks south of the demonstration project and therefore unlikely to absorb displaced trips
2. It runs perpendicular to Peachtree Street rather than parallel, rendering it an unfeasible or unacceptable alternate path for vehicles circumventing the demonstration project
3. Use of the Downtown Atlanta VISUM model confirmed traffic would not be impacted by the demonstration project.

Marietta Street experienced an increase in travel time of approximately 20 seconds over the course of the day indicating that other factors are impacting travel time when comparing the before and after comparison periods. During certain periods of the day, average travel time is adversely impacted, at most, by upwards of 1.4 minutes in the northwestbound direction and 1 minute in the southeastbound direction; 75th percentile travel time is adversely impacted, at most, by 1.4 minutes in the northwestbound and 2 minutes in the southeastbound direction (75th percentile travel time indicates that 25 percent of motorists will experience a greater travel time than what is indicated).

To gage the impacts to the downtown street network, the corridors of Centennial Olympic Park Drive, Williams Street, Ted Turner Drive, Peachtree Center Avenue, Courtland Street, and Piedmont Avenue, between Ivan Allen Jr Boulevard / Ralph McGill Boulevard and Marietta Street / Edgewood Avenue, were also analyzed. Each of these streets provide viable and alternative north-south access, parallel to the Peachtree Street Shared Space Demonstration Project, for residents, commuters, and visitors to Downtown Atlanta. The results of this analysis showed an increase in average travel time of approximately 30 seconds in the northbound direction and 55 seconds in the southbound direction, throughout the day. During certain periods of the day, average travel time is adversely impacted, at most, by upwards of 2.5 minutes in both

the northbound and southbound direction; 75th percentile travel time is adversely impacted, at most, by 3 minutes in both the northbound and southbound direction. Given that the control corridor (Marietta Street) also experienced increases in travel time by 20 seconds, it can be inferred that the increase in north-south travel time in the downtown street network is not wholly attributed to the demonstration project and is subject to the same fluctuations in traffic as the rest of Downtown Atlanta. Therefore, north-south travel time in the downtown street network has been marginally impacted by the Demonstration Project. A summary of all travel time and speed changes in Downtown Atlanta are summarized in Table 6.

Table 6: Summary of Travel Time and Speed Data

		Travel Time (min)			Speed (mph)		
		Before	After	Change	Before	After	Change
Marietta Street	WB	3.5	3.8	+ 0.3	11.4	10.5	- 0.9
	EB	3.6	3.9	+ 0.3	11.4	10.5	- 0.9
Peachtree St	NB	3.7	4.4	+ 0.7	12.3	10.3	- 1.9
	SB	3.6	4.8	+ 1.2	12.5	9.5	- 3.0
Network	NB	11.7	12.2	+ 0.5	12.2	11.7	- 0.5
	SB	6.9	7.8	+ 0.9	13.4	12.0	- 1.5

To gage the demonstration project's impact on safety along Peachtree Street, speeds along Peachtree Street, and through the Demonstration Project, between Ivan Allen Jr Boulevard and Edgewood Avenue were also analyzed. Given the high number of pedestrians and cyclists that use this corridor, slowing vehicle speeds yield safer conditions for more vulnerable road users. RITIS provides average speed data which is the aggregate speed of all motorists along a specified segment of the street. Average speeds were reduced by approximately 2 mph in the northbound direction and 3 mph in the southbound direction; 95th percentile speeds were reduced by approximately 1 mph the northbound direction and 2 mph in the southbound direction (95th percentile speeds indicate that 5 percent of motorists will experience slower speeds than what is indicated). Any reduction in average speed is significant when considering it is the aggregate of a large number of vehicles, which means the demonstration project is having an impact on motorist behavior and making the streets safer.

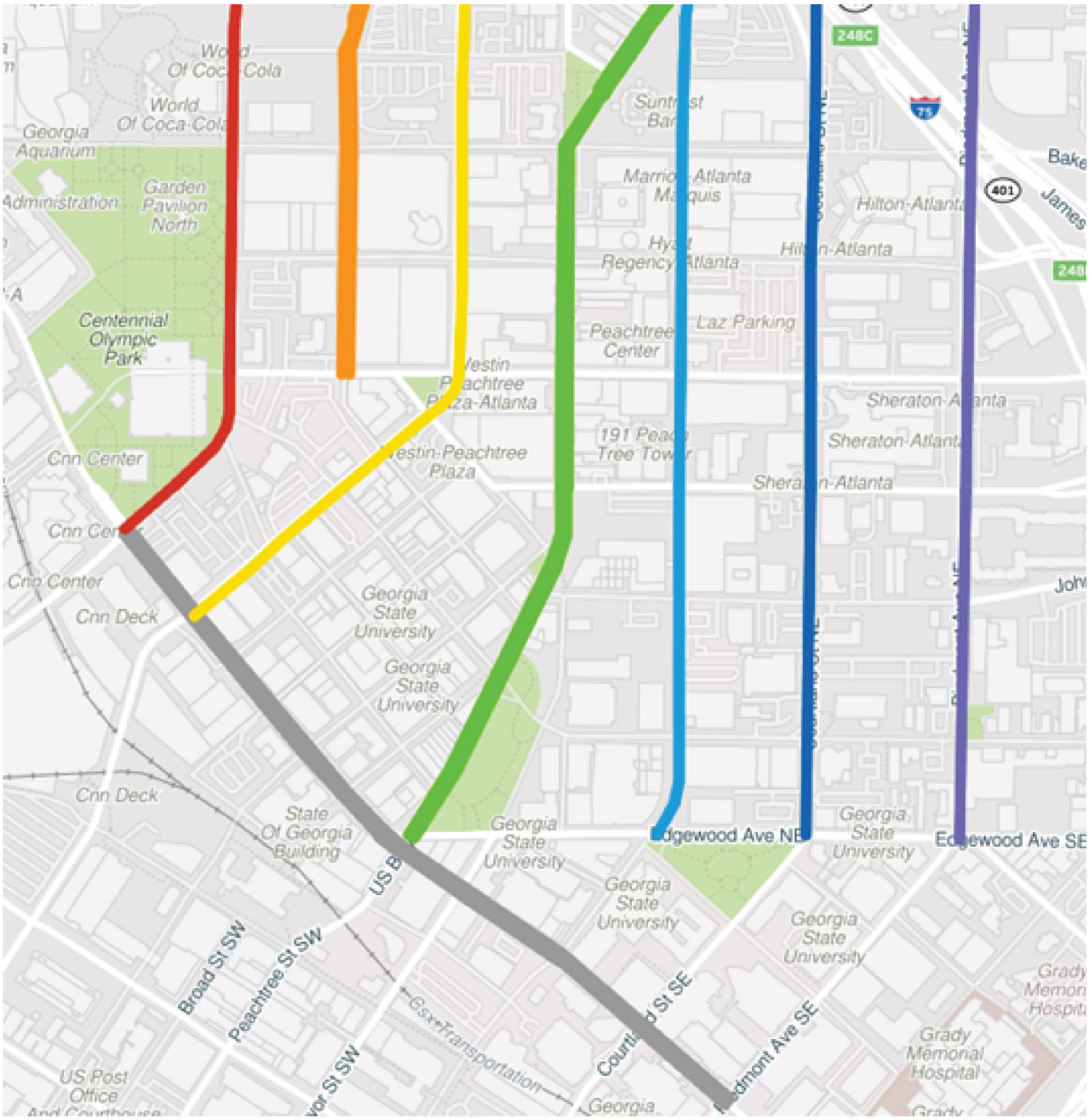
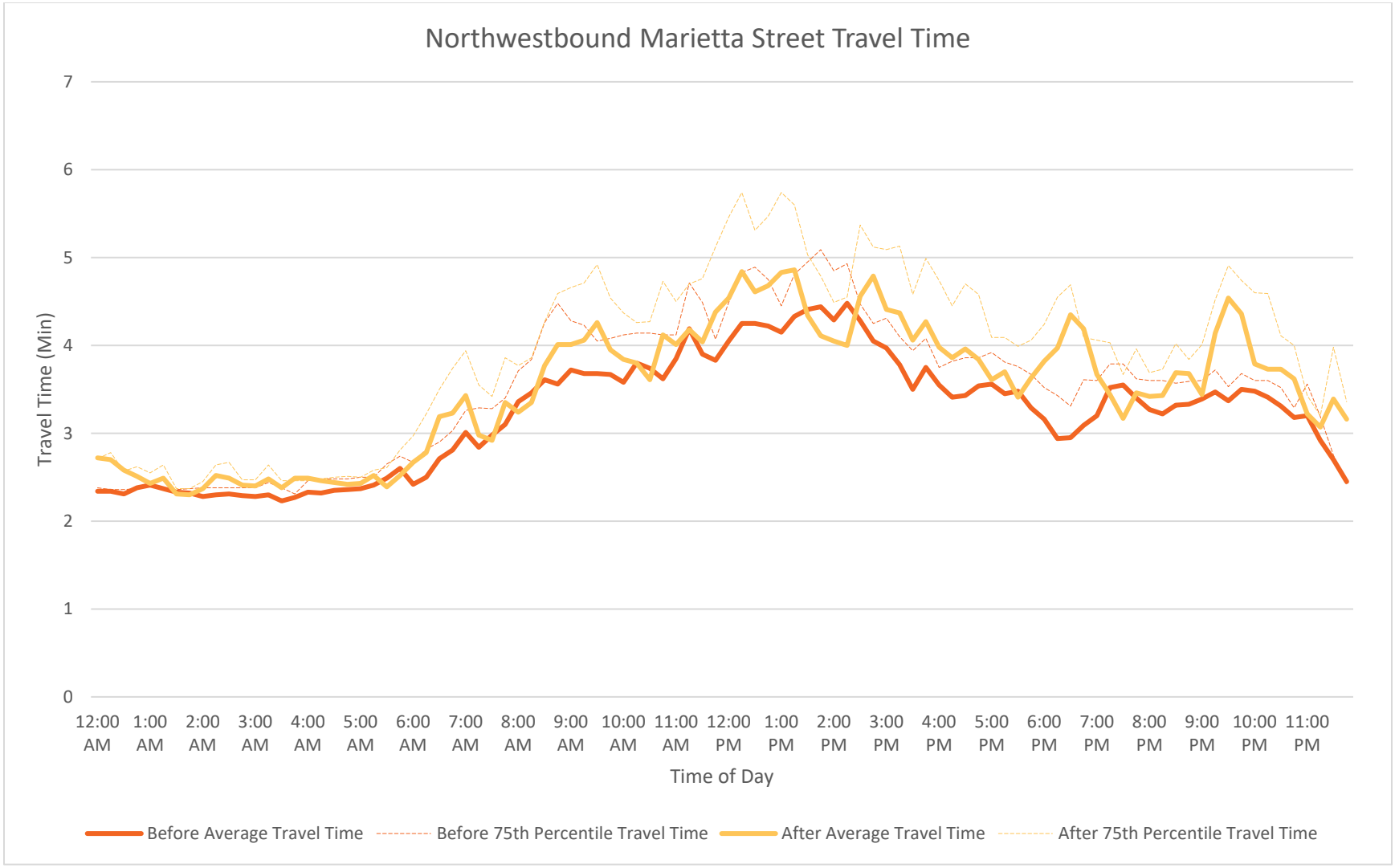


Figure 1: Corridors included in Network-Wide Analysis


Northwestbound Marietta Street Travel Time
Travel Time (Min)
0
1
2
3
4
5
6
7
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
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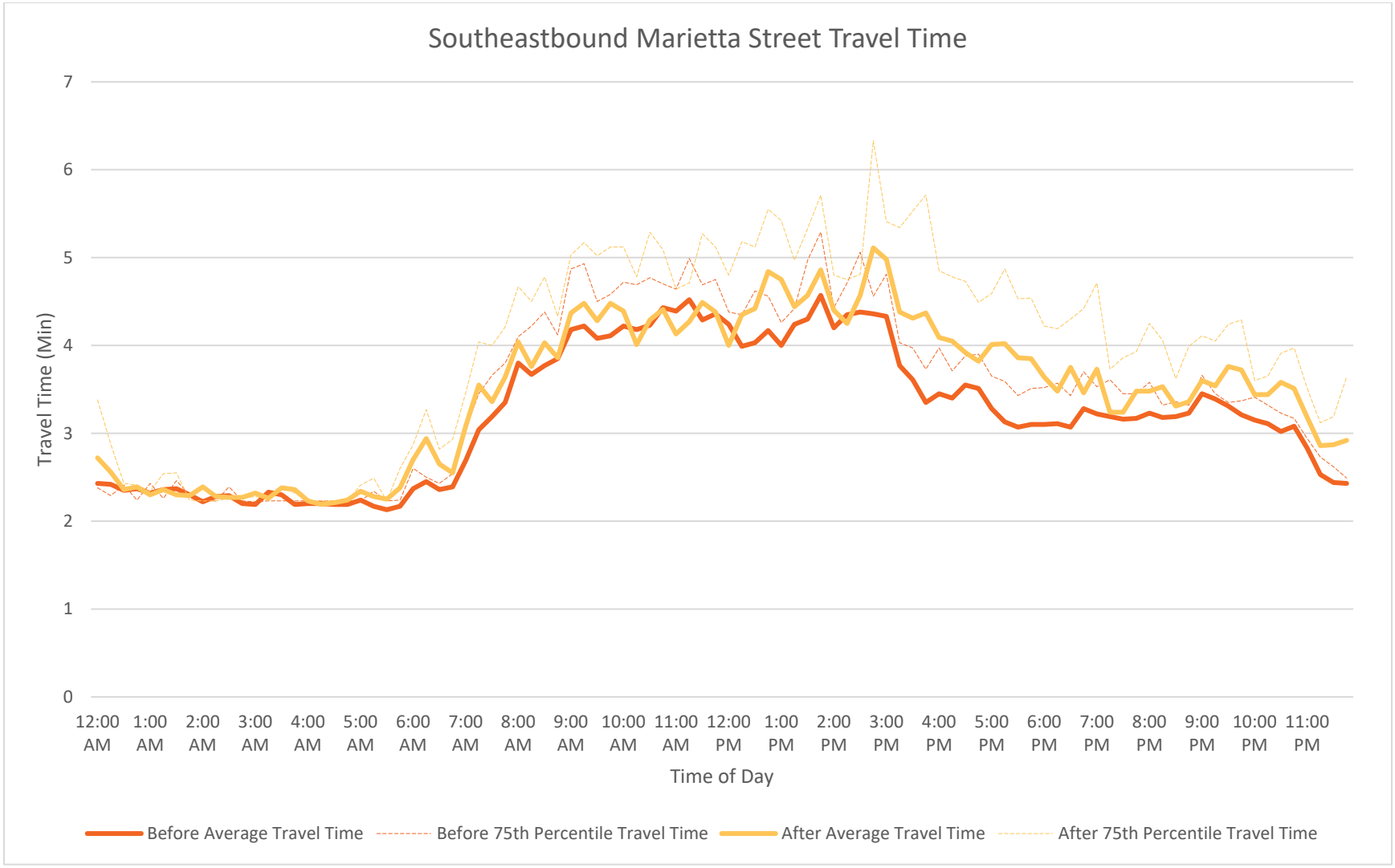
10:00 PM
11:00 PM
Time of Day
Before Average Travel Time
Before 75th Percentile Travel Time
After Average Travel Time
After 75th Percentile Travel Time


Southeastbound Marietta Street Travel Time
Travel Time (Min)
0
1
2
3
4
5
6
7
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
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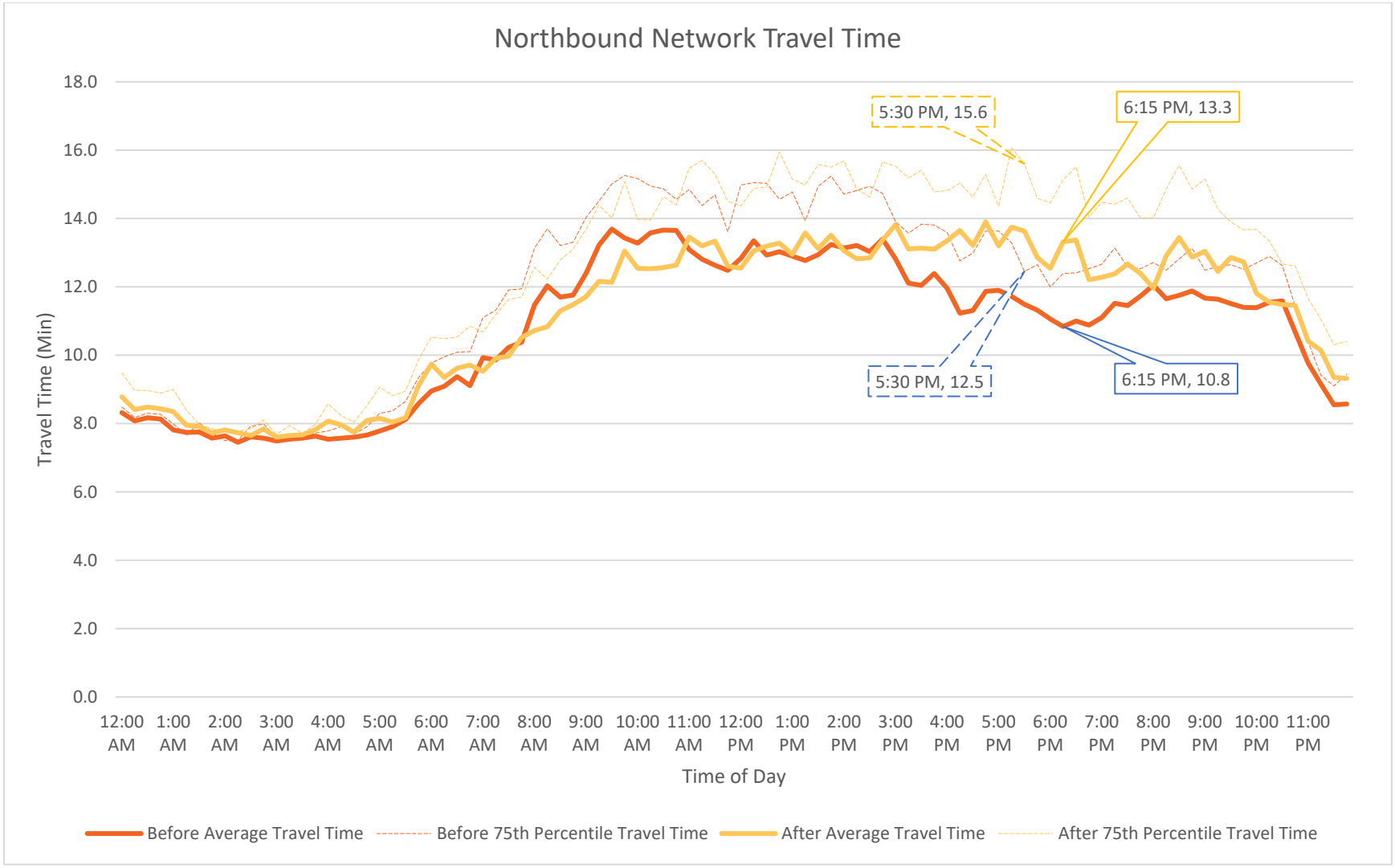
Time of Day
Before Average Travel Time
Before 75th Percentile Travel Time
After Average Travel Time
After 75th Percentile Travel Time


Northbound Network Travel Time
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
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5:30 PM, 12.5
6:15 PM, 10.8
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
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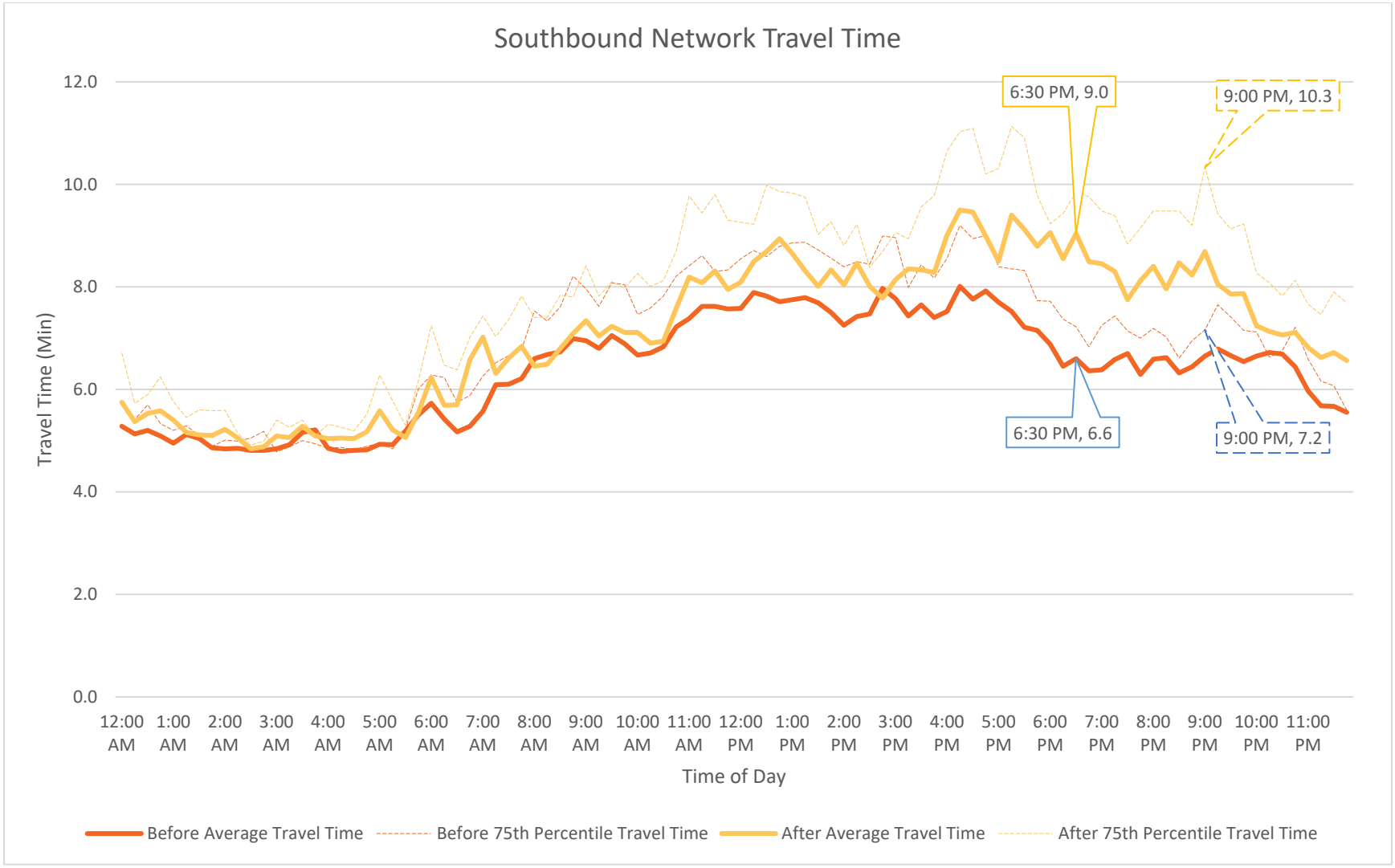
Time of Day
Before Average Travel Time
Before 75th Percentile Travel Time
After Average Travel Time
After 75th Percentile Travel Time


Southbound Network Travel Time
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10.0
8.0
6.0
4.0
2.0
0.0
Travel Time (Min)
6:30 PM, 9.0
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9:00 PM, 7.2
12:00 AM
1:00 AM
2:00 AM
3:00 AM
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5:00 AM
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7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
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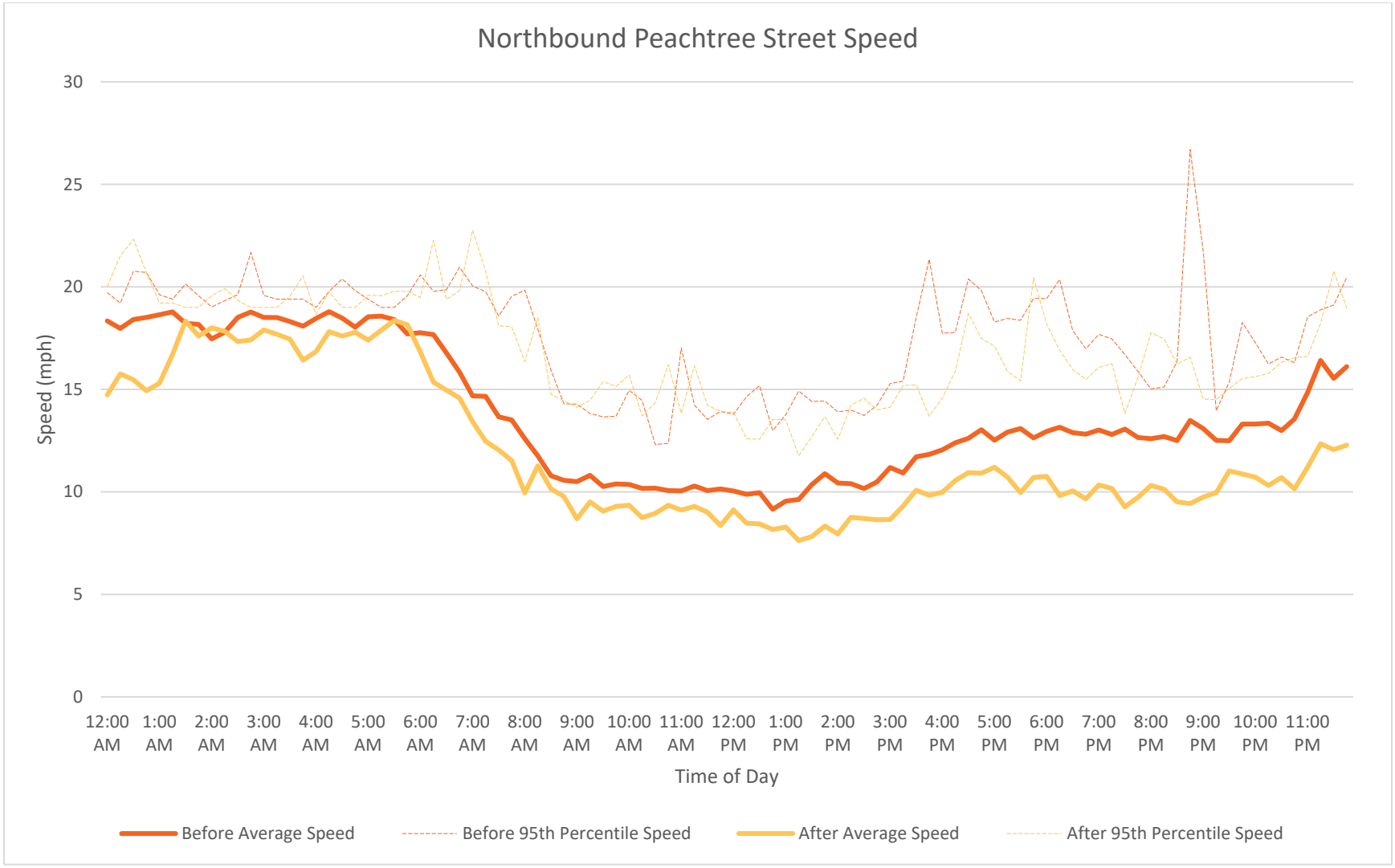
Time of Day
Before Average Travel Time
Before 75th Percentile Travel Time
After Average Travel Time
After 75th Percentile Travel Time


Northbound Peachtree Street Speed
30
25
20
15
10
5
0
Speed (mph)
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
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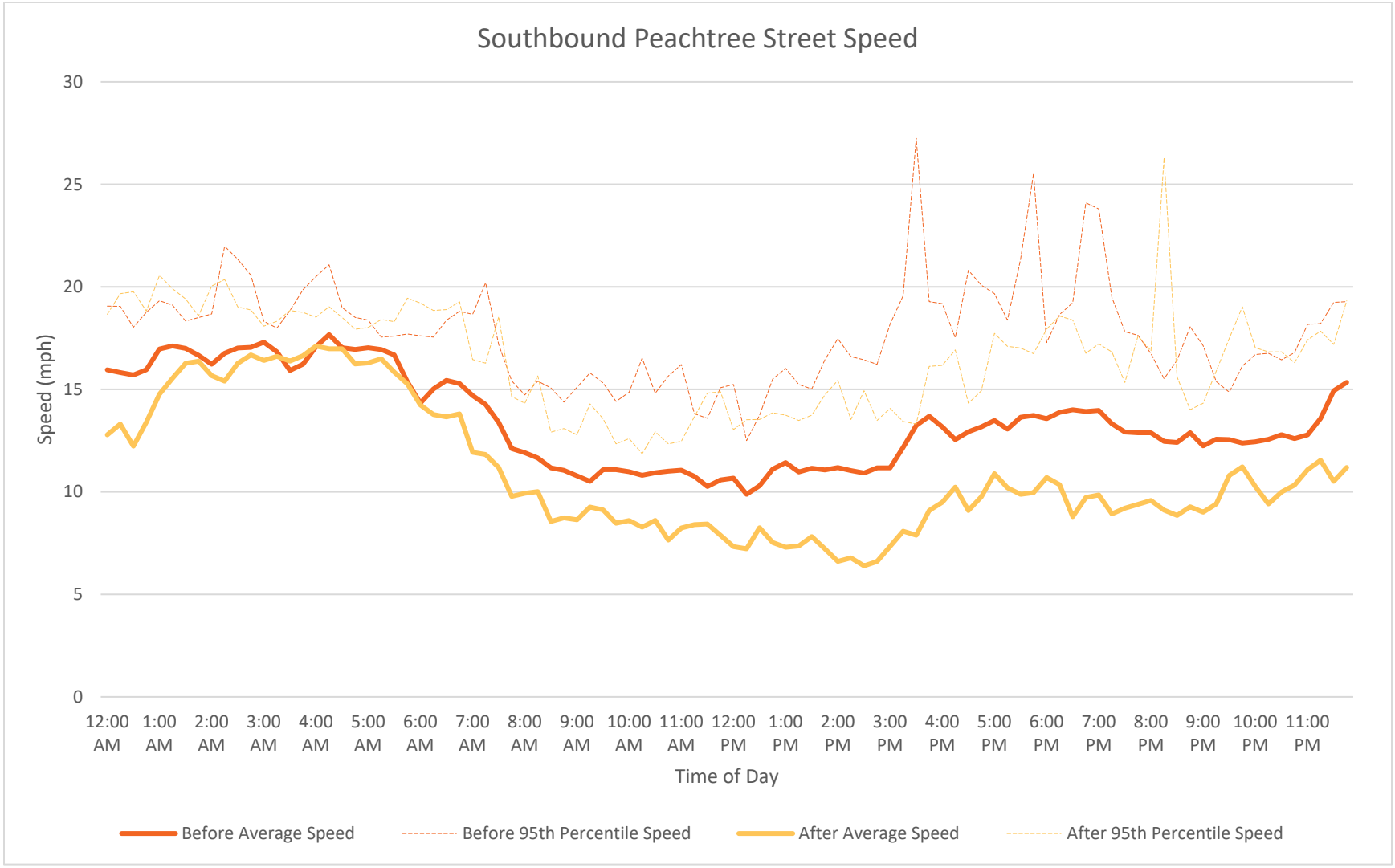
11:00 PM
Time of Day
Before Average Speed
Before 95th Percentile Speed
After Average Speed
After 95th Percentile Speed


Southbound Peachtree Street Speed
30
25
20
15
10
5
0
Speed (mph)
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Time of Day
Before Average Speed
Before 95th Percentile Speed
After Average Speed
After 95th Percentile Speed

Analysis of Impacts on Emergency Response Times

The Peachtree Shared Space study team analyzed data from the Atlanta Fire and Rescue Department (AFRD) for response calls along and around the demonstration project corridor. The dataset that AFRD provided spans from the beginning of March through the end of October 2021, and thus includes responses that occurred before and after the Demonstration Project was implemented (beginning June 26). AFRD also classified response data by whether or not calls were along the corridor itself, using a precise definition of addresses directly along Peachtree Street in the three-block demonstration area. The response dataset includes all responses recorded citywide, allowing the team to look more broadly at analysis areas.

The study team analyzed this information based on a series of indicators documented in each response, focusing on the following:

- **Total travel time for a response call.** This factored in only the travel time and not processing time to dispatch the response team, as the physical changes to Peachtree should have no impact on that.
- **The specific fire station serving the call.** All service calls within the broader 'Portman District' of downtown were made from Station 4 (on Edgewood Avenue directly east of I-75/85) or Station 1 (on Peters Street in Castleberry Hill).
- **How the call resulted in service.** This latter factor reflects the broader first-response nature of AFRD's responsibilities and service calls beyond just fire-related emergencies: many of these calls were to provide emergency medical assistance, and numerous calls were also served in some manner by Grady Memorial Hospital EMS staff.

As response data included geographic (latitude-longitude) coordinates of the response location, the study team was able to compare different geographic areas beyond the core demonstration project by geocoding data into ESRI ArcGIS software. This resulted in the creation of a shapefile dataset, discussed at the end of this summary report.

Analysis of the Demonstration Project

The study team's overall analysis sorted the response data by the outcome of service provided and if service calls were actually completed (and not cancelled while the response team was en route); the analysis further compared minimum and maximum travel times, average (mean) travel times, and a total number of calls occurring in each type of service outcome. The findings of this analysis suggest that the Demonstration Project has not had a significant effect on overall response times. Corresponding data can be seen in Table 7.

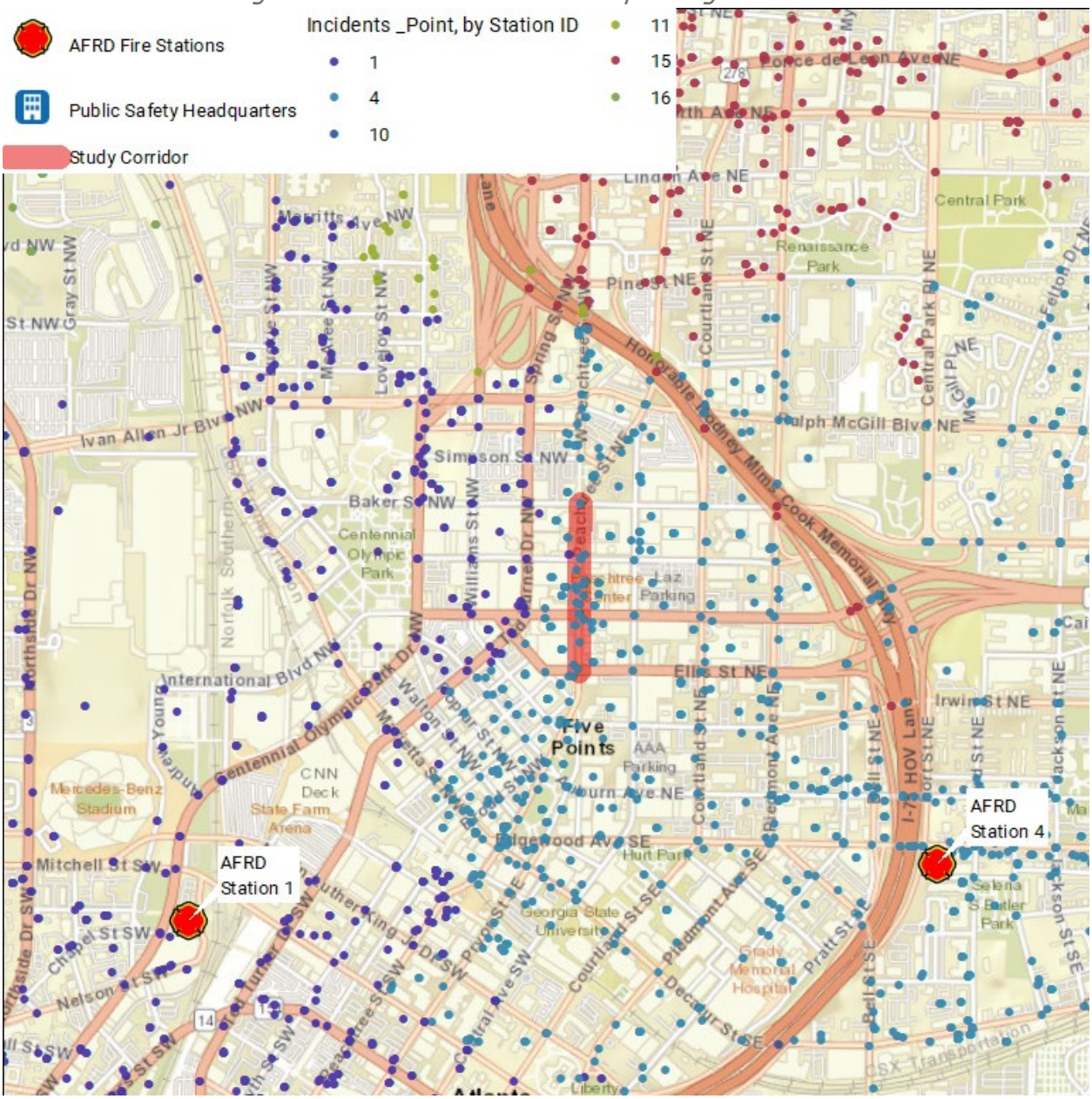
Table 7 Outcome of Service Provided

	Before Project				After Project			
Response Type	**Count**	**Min Time**	**Max Time**	**Mean Time**	**Count**	**Min Time**	**Max Time**	**Mean Time**
AFRD served the call/request	112	0:00:00	0:12:51	0:05:17	36	0:01:00	0:09:00	0:05:05
Grady intercept before arrival	2	0:02:56	0:04:03	0:03:30	0	NA	NA	NA
Grady already on scene	14	0:03:26	0:11:00	0:05:22	10	0:04:00	0:11:00	0:05:42
Grady arrived after	9	0:01:22	0:08:00	0:05:22	12	0:03:00	0:08:00	0:05:15
Cancelled enroute	1	0:07:02	0:07:02	0:07:02	0	NA	NA	NA
No Comments	10	0:05:00	0:12:00	0:06:30	14	0:01:00	0:08:00	0:04:56
Total	148	0:00:00	0:12:51	0:05:22	72	0:01:00	0:11:00	0:05:10

Overall, the Demonstration Project does not seem to be having a negative impact on response times overall. The average travel time is actually lower after the project, and the general spreads between minimum and maximum also seem to be the same, if not less after the project. There is a smaller post project sample size, but the data does not show a negative effect.

Although not reflected specifically in the data, it is worth noting that Peachtree Street appears to be a boundary between Station 1 and Station 4 service areas, with most calls directly on Peachtree (in the area of interest) served from Station 1 but anything immediately to the west (such as along Ted Turner Drive) served from Station 4 (refer to the map below). This suggests that most actual travel to service calls in the Demonstration Project area occurs prior to reaching Peachtree Street, and the Demonstration Project would not have a significant effect, especially with multiple potential routes to the Demonstration Project area itself. What is less clear in the data is how Peachtree Street is being used as a route to other destinations away from the Demonstration Project. Figure 1 displays the incident locations and responding fire stations.

Figure 2 Incident Locations and Responding Fire Stations



Additional Analysis: Considering beyond the specific demonstration project

The study team also considered responses beyond the core demonstration project, looking two blocks in all directions from the four Peachtree Street intersections studied. This larger area reflects a more even balance between Stations 1 and 4, as more of the west of Downtown Atlanta is served by Station 1. Table 8 displays the comparison of calls before and after the project.

Table 8 Comparison of Calls Before and After Project Within 2 Blocks of Project

	Before Project				After Project			
Response Type	**Count**	**Min Time**	**Max Time**	**Mean Time**	**Count**	**Min Time**	**Max Time**	**Mean Time**
All	729	0:00:00	0:37:05	0:05:08	318	0:00:00	0:21:00	0:05:19

In addition, the study team considered responses in which travel might occur through the Demonstration Project but not reach an incident there. Without specific data on routing of service responses, it is not possible to determine these impacts precisely, although the study team also considered response calls near the Demonstration Project that could conceivably use Peachtree as a route and thus be impacted by the demonstration's lane reductions. With all responses in this immediate area also served by Stations 1 and 4, the team assumed that service call locations to the north of the Demonstration Project — thus requiring a response vehicle from either station to travel through the entire three blocks — would be among the most impacted. This included a selection of responses north of Baker Street and south of Pine Street, and east of Williams Street and west of Piedmont Avenue. Comparison of these calls is as follows:

Table 9 Comparison of Calls Travelling Through Peachtree Demonstration

	Count	**Min Time**	**Max Time**	**Mean Time**
Before Project	254	0:00:00	0:37:05	0:05:19
After Project	200	0:00:00	0:21:00	0:05:50
All Incidents	454	0:00:00	0:37:05	0:05:32

There is a more notable change in the mean response time after the project when compared to the response data for locations more immediately in and around it, although this increase is 30 seconds, and the overall range of response times is less than before the project's installation.

GIS Data created from AFRD Responses

The study team performed analysis with a combination of basic descriptive statistics on travel time to responses but also with regard to geographic areas of interest. The ESRI shapefile dataset resulting from the team's geocoding of response records by their destination location includes the following specific fields that provide additional information to the City and its partners:

1. ResponseTy: this field indicates if the incident was served by Grady, Atlanta Fire & Rescue, cancelled enroute, or other similar categories. It is only populated for Area of Impact (AOI) incidents, as the team did not focus on the same level of classification in larger study areas but simply compared overall differences in travel times.
2. Larger_AOI: Values in this field are set to 1 if incident was included in analysis of incidents in a larger AOI around to project site, and null for all other records.
3. N_Of_AOI: Values in this field are set to 1 if incident was included in analysis of incidents north of the AOI, and null for all other records.

Findings

The demonstration project took Atlanta's main street and re-imagined it to enhance public life and improve private development for a new era. The demonstration converted one existing lane in each direction along Peachtree Street to a pedestrian-accommodating shared space. From this, before and after data was compiled to evaluate the impacts the demonstration would have on traffic congestion, travel time, and emergency response times.

Congestion Impacts

Overall, the LOS and delay caused by the demonstration did not substantially increase after the demonstration's installation. This was found to be true during regular weekdays and weekends, as well as during holiday events such as Labor Day weekend's Dragon Con event.

Travel Time Impacts

Aggregate speeds were reduced by approximately two (2) mph in the northbound direction and three (3) mph in the southbound direction. Given the high number of pedestrians and cyclists that use this corridor, this slowing of vehicle speeds yields safer conditions for more vulnerable road users. From the reduction in speeds, it can also be shown that the demonstration project is having an impact on motorist behavior and making the street safer.

Congestion Impacts

Overall, the demonstration project does not seem to have a negative impact on response times overall. The average travel time is lower after the demonstration's installation, and the general spreads between minimum and maximum response times also seem to remain unchanged.