

Memorandum

Program:	Major Mobility Investment Program
Project:	PI 0001757 SR 400 Express Lanes
Subject:	Webb+ TDM Report – Summary and Conclusions
From:	Michael Nader
To:	Tim Matthews
Date:	February 27, 2019

AECOM has conducted a high-level traffic study on the roadway network surrounding the proposed Webb+ Express Lane full access point. The purpose of the study is to identify the potential changes to traffic patterns that may occur as a result of the proposed Express Lane access point at Webb+. The proposed Webb+ access point to the SR 400 Express Lanes is situated approximately 2,000 feet north of Webb Bridge Road. The access point would connect Westside Parkway to the west and connect to Tradewinds Parkway to the east.

Methodology

For the traffic study, the approved 2015 ARC Travel Demand Model (TDM) was used to predict the traffic patterns and travel behavior in the study area. Two model networks were developed, and their results were compared. The first model network included the Webb+ access point, complete with ramp access to the Express Lanes along SR 400 and connections to Westside Parkway and Tradewinds Parkway. The second model network was identical to the first, but without the access to Express Lanes nor the connection over GA 400.

Results

Attached study shows the percentage difference in Average Daily Traffic (ADT) for the 2026 and 2046 years respectively along each major road in the study area. The actual change in ADT between the two networks is also shown in the roadway labels. Note that the numbers shown in the figures are only to be used for comparison; design forecast is being developed separately for the project.

Conclusions

The ADT change in both years (2026 and 2046) shows an overall non-significant increase in vehicles being attracted to the study area. Along with this increase, traffic patterns of the baseline trips (trips that were made without the existence of the Webb+ interchange) appear to have shifted as well, causing decreases on some areas of major arterials. The traffic decreases on Windward Parkway, Webb Bridge Road, and SR 120/Old Milton Parkway appear to be due to some traffic shifting away from these routes and onto the new Webb+ interchange as a means to cross SR 400 rather than to utilize this location solely for accessing the Express Lanes. It should also be noted that ramp traffic at SR 120/Old Milton Parkway interchange as well as on the Windward Parkway interchange with SR

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400 also show decreases showing the potential for the Webb+ interchange to reduce traffic congestion at these interchanges.

Due to the changes in traffic pattern in the study area, the following roadways show an increase in traffic by 10% – 25%: Cumming Street, parts of North Point Parkway and segments of Webb Bridge Road on the west side of SR 400. Furthermore, parts of Westside Parkway, showed an increase of over 25%. No other roadways including Webb Bridge Road to the east of SR 400 show an increase in traffic greater than 10%.

Based on this high-level overview and per the increase in traffic relative to the low volume of traffic, we see no adverse impacts to the roadway networks with the inclusion of the proposed Webb+ Express Lane full access point.

Please see the attached study titled, *0001757_Memo_Webb+_TDM-Finaldraft.pdf* for additional information.

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Subject: GA 400 Express Lane Webb+ Interchange TDM Study

Date: February 26, 2019

From: Jeff Wood PE, PTOE, Senior Traffic Engineer, AECOM

To: Kevin McKeen, PE, GA 400 Express Lanes Project Manager, AECOM

Purpose

AECOM has completed a high-level traffic study on the roadway network surrounding the proposed Webb+ express lane full access point. The purpose of the study is to identify the potential changes to traffic patterns that may occur as a result of the proposed Express Lane access point at Webb+.

Location

The proposed Webb+ access point to the SR 400 Express Lanes is situated approximately 2000 feet north of Webb Bridge Road. It would connect Westside Parkway on the west to Tradewinds Parkway on the east. **Figure 1** shows the proposed access point location and the surrounding road network. The proposed roadway would have one lane in each direction which connects Westside Parkway with Morris Road at Tradewinds Parkway with on and off ramps that provide full access to the express lanes along SR 400. The adjacent access point to the north would be at Union Hill road, about 2.5 miles from the Webb+ access point. Access to the express lane south of the Webb+ is through a full direct merge proposed south of Haynes Bridge, also about 2.5 miles from the Webb+ access point.

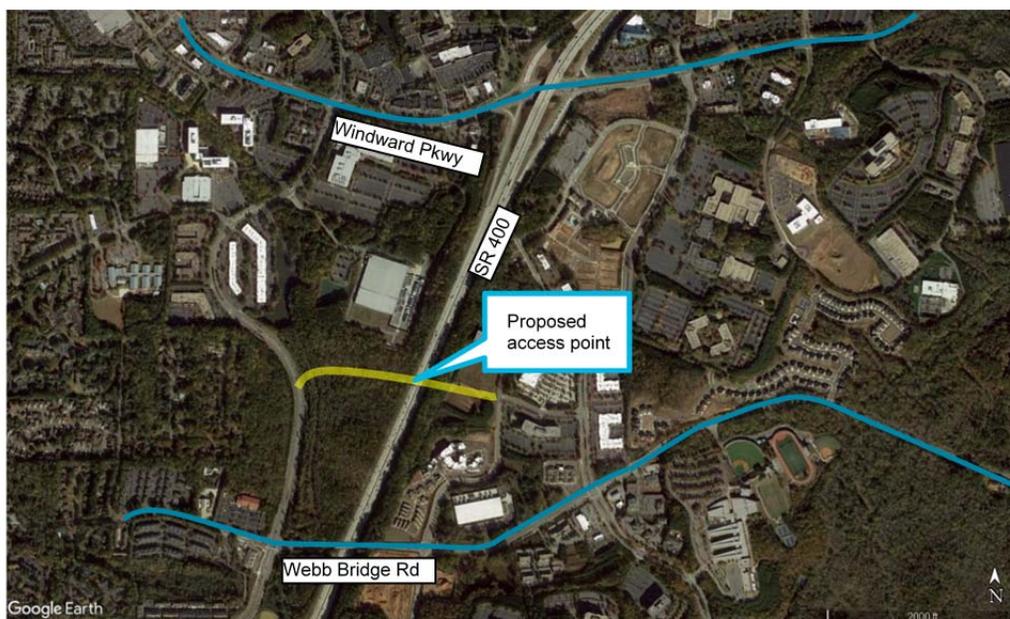


Figure 1 Proposed access point location

Methodology

For the traffic study, the approved 2015 ARC Travel Demand Model (TDM), calibrated and validated by Kimley-Horn for the SR 400 Express Lanes project, was used to predict the traffic patterns and travel behavior in the study area. The specifics related to the validation and calibration of the model can be found in the *Travel Demand Model – Validation and calibration Memorandum* dated April 6, 2018. Two model networks were developed based on this, and their results were compared. The first model network included the Webb+ access point, complete with ramp access to the Express Lanes along SR 400 and connections to Westside Parkway and Tradewinds Parkway. The second model network was identical to the first, but without the access to Express Lanes nor the connection over GA 400.

A travel demand model runs in 4 steps:

1. **Trip Generation** – Estimates the number of trips generated by and attracted to each Trip Attraction Zone (TAZ).
2. **Trip Distribution** – Links generated trips from step 1 to trip attractions from step 1 to develop Origin-Destination (O-D) matrices.
3. **Mode Choice** – Predicts the travel mode by which the trips from step 2 will be made.
4. **Trip Assignment** – Determines the routes by which the trips will occur.

The 4-step TDM utilizes a mix of random sampling from distributions and iterative convergent processes, meaning that each time any of these steps is run it is likely to produce small variances in the outputs. Therefore, to limit the effect of random variability on the outcome of the study, the first three steps were run only once and the results from that one run were fed into the Trip Assignment step for both model networks. Therefore both the model networks were subject to the same Origin Destination matrix and Mode Choice data.

Results

Figure 2 and 3 below shows the percentage difference in Average Daily Traffic (ADT) for the 2026 and 2046 years respectively along each major road in the study area. A negative percent change is shown in black, a change between 0% - 10% is shown in green, 10% - 25% is shown in Yellow, and a percent change over 25% is shown in red. The actual change in ADT between the two networks is also shown in the roadway labels. Note that the numbers shown in the figures are only to be used for comparison; design forecast is being developed separately for the project.

Conclusions

The ADT change in both years (2026 and 2046) does show an overall increase in vehicles being attracted to the study area. Along with this increase, traffic patterns of the baseline trips (trips that were made without the existence of the Webb+ interchange) appear to have shifted as well, causing decreases on some areas of major arterials. The traffic decreases on Windward Parkway, Webb Bridge Road, and SR 120/Old Milton Parkway appear to be due to some traffic shifting away from these routes and onto the new Webb+ interchange as a means to cross SR 400 rather than to utilize this location solely for accessing the express lanes. It should also be noted that ramp traffic at SR 120/Old Milton Parkway interchange as well as on



the Windward Parkway interchange with SR 400 have also decreased showing the potential for the Webb+ interchange to reduce traffic congestion at these interchanges.

Due to the changes in traffic pattern in the study area, the following roadways show an increase in traffic by 10% – 25%: Cumming Street, parts of North Point Pkwy and segments of Webb Bridge Road on the west side of SR 400. Furthermore, parts of Westside Parkway, showed an increase of over 25%. All other roadways including Webb Bridge Road to the east of SR 400 show an increase in traffic that is less than 10%.

