

Memorandum

Subject: Response to E-mail Comments on Webb+ Interchange Study

Date: April 21, 2019

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

To: Michael Nader, PE, PMC Project Manager
Kevin McKeen, PE, GEC Project Manager

Reason for Response

AECOM received questions/comments from the City of Alpharetta Director of Public Works relating to the Webb+ Interchange TDM Study that was completed by AECOM on February 26, 2018. The comments/questions are shown below as well as AECOM's responses to the inquiries.

Question/Comment 1

I hope all is well. I received an inquiry from elected officials that I need your assistance on. Individuals appreciate the traffic study, there is a question concerning the 25% and greater allocation regarding traffic. There is one thing to have an increase at 30% for a stretch, however there are concerns that we could be seeing a 130% increase. Can you provide the accurate increases in the 25% or greater areas? Additionally, can your team answer the question concerning why minimal to do increase in traffic on certain corridors?

Response to Question 1

AECOM has created an additional set of maps (one for 2026 and one for 2046), shown below, for the City of Alpharetta to review that shows the exact percent increases on each link instead of the change in ADT between the two scenarios. The reason for showing the change in ADT in the memo was to give a better indication of the magnitude of the volume change that is corresponding with the approximate percent change (i.e. an increase of vehicles from 1 to 2 yields a 100% increase but an increase from 1000 to 1200 yields only a 20% increase).

Corridors that show very minimal increases in traffic may do so for different reasons. One reason may be that these roads may already be over capacity and the TDM is not assigning very many new trips to these corridors because the delay incurred on heavily congested corridors are higher than if the vehicles take a longer but less congested routes. Another reason some corridors may show very minimal increases in traffic is because they are too far away from the subject interchange (Webb+ interchange) for the interchange to cause any significant shifts in peoples' typical travel patterns. Another reason for the small increases is described in the response to the second question from the e-mail below.

Figure 2: Webb+ EL Interchange ADT Percent Change

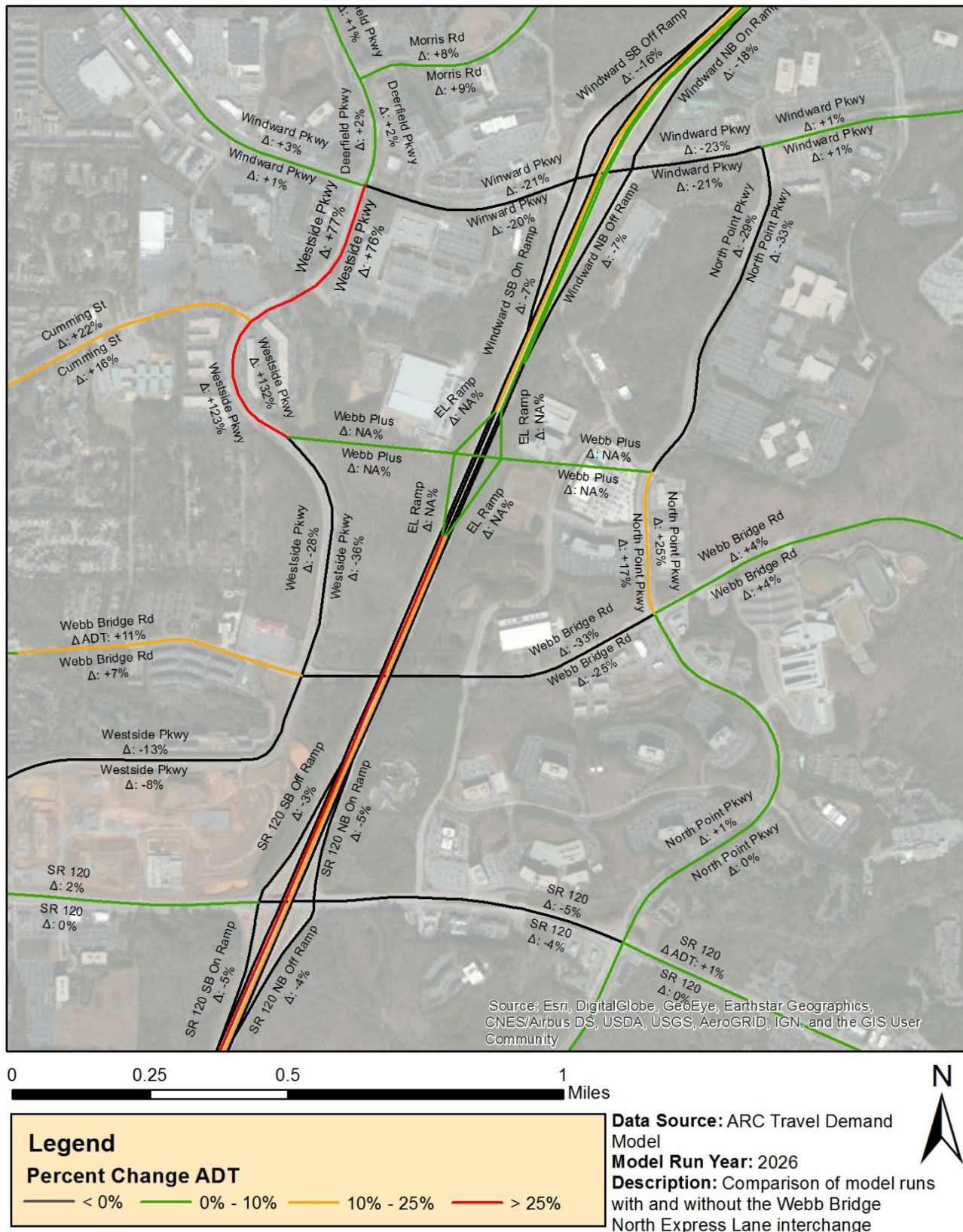
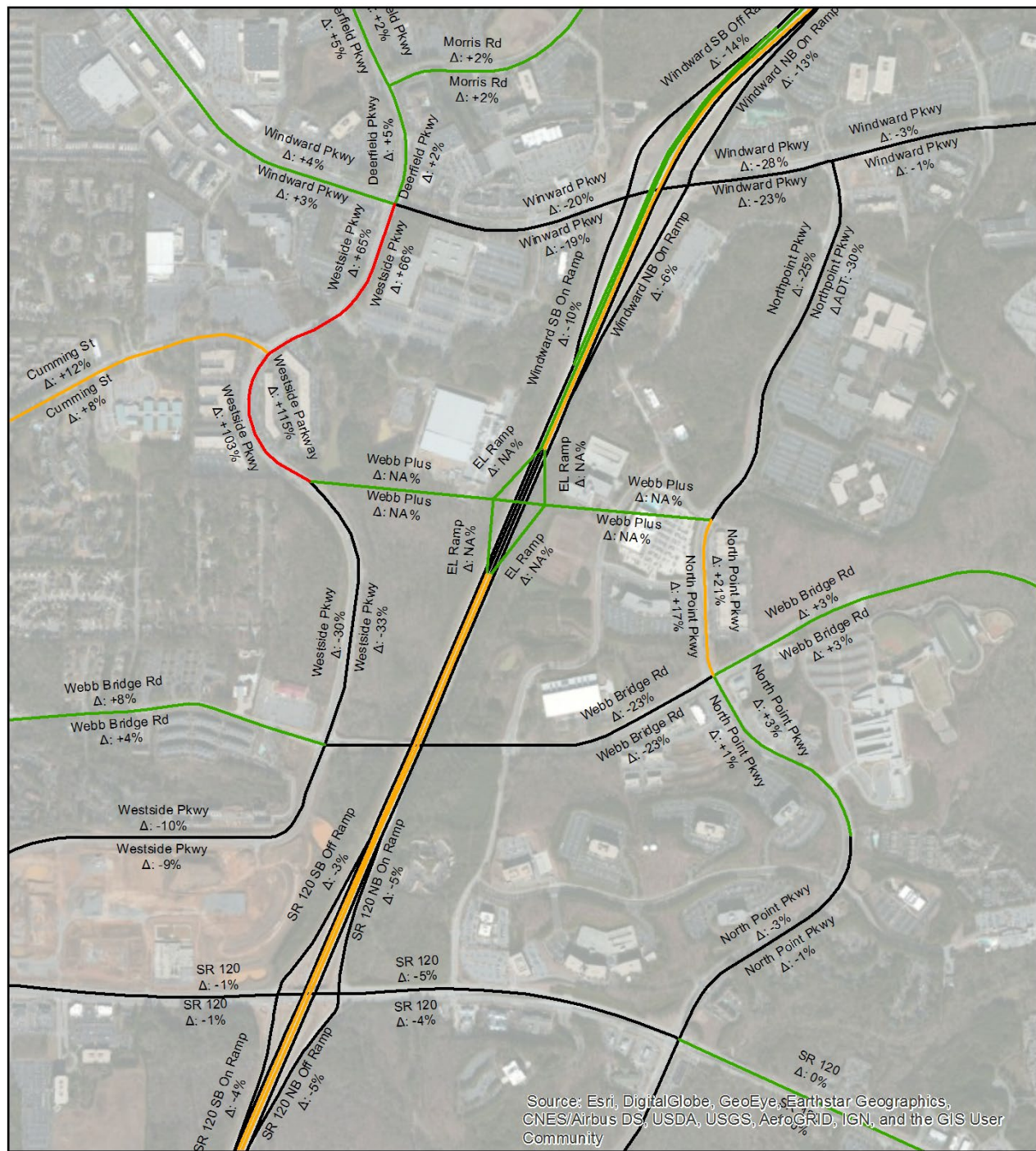


Figure 3: Webb+ EL Interchange ADT Percent Change



0 0.25 0.5 1 Miles

Legend

Percent Change ADT

— < 0% — 0% - 10% — 10% - 25% — > 25%

Data Source: ARC Travel Demand Model

Model Run Year: 2046

Description: Comparison of model runs with and without the Webb Bridge North Express Lane interchange

Question/Comment 2

Below is an excerpt of the e-mail I received, and I would appreciate any additional input your team can provide us. The more information the team can provide our elected officials the better off we are going to be when an IGA is discussed. These types of questions will come back upon a public forum and the ability of our Council to answer them accurately will be beneficial to all. Thanks

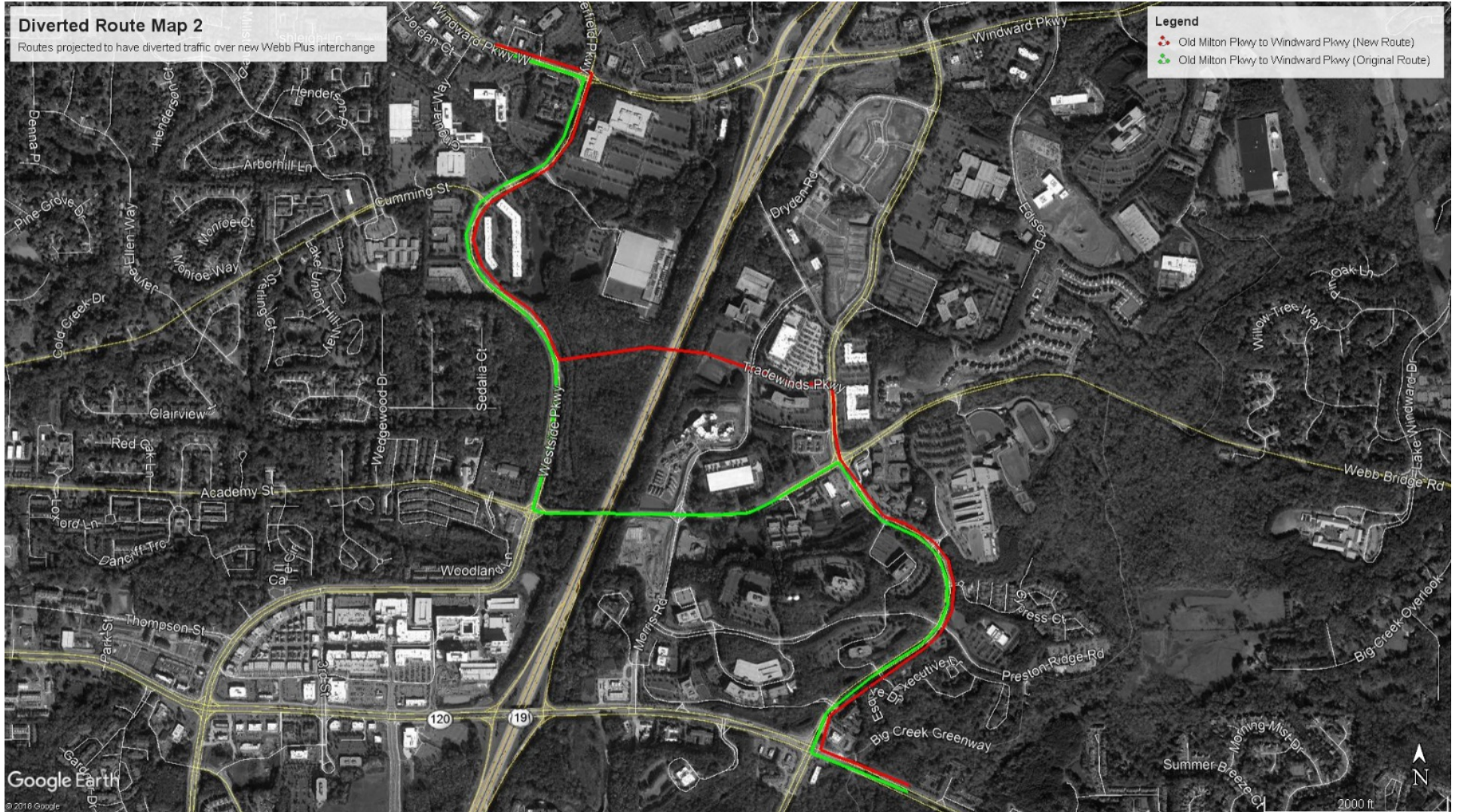
Pete, just following up on our conversation earlier this week about getting further details for the section of Westside Parkway reflecting a 25%+ increase in traffic. I would like to see the 25%+ range broken down into more detail. The other question I have that we didn't talk about is regarding the eastside of Windward Parkway and North Point Parkway. The study reflects a 0 - 10% increase for the eastern most section of Windward up to North Point Parkway then it reflects a zero or less percent increase when it crosses North Point Parkway to 400 Interchange and it also reflects zero or less percent increase from North Point Parkway to Webb + interchange. It doesn't seem logical to me that both sections of those roadways reflect no increase in traffic.

Response 2

For these sections of roadway mentioned in the e-mail excerpt there are a few reasons the TDM model is showing these results. First, I would expect that the major East-West routes, such as Windward Parkway and SR 120/Old Milton Parkway won't be affected very much east of North Point Parkway and west of Westside Parkway. The TDM is estimating in the Trip Assignment stage that for most drivers these routes will still be the most convenient way to reach this area (either for a local trip or for accessing SR 400) meaning most people's routes are unchanged outside of the area between North Point Parkway and Westside Parkway. Once drivers reach the area in the vicinity of the Webb Plus interchange this is where the model is estimating that the new overpass over SR 400 and Express Lane access point would likely change vehicle routes.

Within this area the TDM trip assignment is finding the new overpass and EL interchange is very attractive for people making trips from the southeast of Webb+ or from the northwest of the Webb+ interchange. More specifically what appears to be happening is that two types of local trips have been diverted from their normal path and some of the ramp traffic at Windward Parkway and SR 120/Old Milton Parkway have diverted from their normal path. The two local trip paths that were diverted across the new Webb Plus interchange are shown in the two maps below.





Reductions in ramp traffic at Windward Parkway and SR 120/Old Milton Parkway partially account for shifts in traffic from these roadways onto the Webb+ interchange but do not completely account for the expected daily volume on the ramps at Webb+, meaning this connection is attracting some additional new trips into the area that were likely not using the SR 400 corridor before. This phenomenon explains the small increases observed on the major roadways (Windward Parkway and SR 120/Old Milton Parkway) between the two model runs.

As was mentioned in the memo, these model runs are using the same set of Origin-Destination matrices for each model run, meaning drivers in the model aren't changing the destinations they want to travel to based on the changes in the road network. By using the same Origin-Destination matrix and only running the Trip Assignment step individually for each scenario we can better approximate how the network is directly affecting drivers' route choice. Finally, it is important to note these comparisons are looking at the same model years between comparisons, so growth in traffic coming into the area should only be due to trips who were using other routes to get to their destinations before but have now shifted to the SR 400 corridor due to the existence of the Webb+ access point.