

February 11, 2021

Dear Boulder City Council and Staff:

Our Martin Acres Neighborhood Association (MANA) steering committee has reviewed CU's CU South traffic prediction study, prepared for them by Fox-Tuttle-Hernandez (FTH). This is the third of three emails to you, each of which deals separately with a particular objection.

We'd like to submit the following comments for the record:

PROBLEM 1 - The curious timing of CU's traffic count:

FTH's South Boulder traffic counting was done on Nov. 17-19, 2020. This timing is extraordinarily curious: It precisely coincided with when both CU and BVSD had just shut down all in-person instruction. Both educational entities had just gone 100% remote online learning. Consider the following:

- Nov. 13, 2020 was the final day of in-person instruction in 2020 for CU Boulder and the 42,061 individuals directly associated with the campus. (35,411 students + 6650 employees). Tens of thousands of CU students, faculty and staff *who would normally be traveling to and from campus had just been removed from South Boulder roads just as FTH started its traffic counting.*
- Nov. 16, 2020 was the final day of in-person instruction in 2020 for 4,016 South Boulder K-12 students and teachers. We researched the student enrollment and faculty for all South Boulder K-12 schools, including Fairview High School, Summit Middle School, Mesa Elementary, etc. We found that *thousands of teachers, and parents of students who would normally be dropping off and picking up students had just been removed from South Boulder roads just as FTH started its traffic counting.*
- Nov. 17, 2020 - FTH began its traffic count in South Boulder. The final day of traffic counting was Nov. 19, 2020. Please refer to pages 94 - 192 of the FTH report, which document the traffic count data collected by FTH. If you look at the top of any and all of those pages, the only three dates you will consistently see are Nov. 17, 18, and 19, 2020.
- FTH's traffic count coincided *precisely* with the removal of **46,077 total individuals who normally travel** to schools located in South Boulder (CU + the named K-12 schools).

- For reference, **46,077** is equivalent to nearly 43% of the total 108,000 person population of Boulder. While we don't assume that every one of these 46,077 individuals drive/are driven to these South Boulder learning institutions, even the most aggressive adjustments for alternate modes would have still placed tens of thousands of education-related commuters on the roadways, the week prior to the traffic count.
- Bottom Line: FTH not only did their traffic count during the general, already underlying, reduced traffic of covid... *their traffic count appears to have been timed to occur amid an additional, extraordinarily acute further reduction in traffic, that went well beyond the generalized covid impact.*
- The problem? This drastic undercount of traffic will be used as the "starting point baseline," onto which CU's further traffic projections will be superimposed. Obviously, the more CU can lower its "starting traffic number," the lower its "ultimate traffic number" will be, once the additional 7,000 vehicle trips per day from CU South* are added. *Source: FTH, in this same report.

For all the reasons stated above, we ask the City of Boulder to reject the Fox-Tuttle-Hernandez CU South traffic study that was commissioned by CU, and instead, hire an independent traffic study to be done by a firm not on CU's payroll.

PROBLEM 2 - FTH's grossly under-stated the traffic "multiplier" that is supposed to a) recognize covid-related diminutions of traffic during their November 17-19, 2020 traffic count and b) add a multiplier that takes into account this Nov., 2020 covid impact, when projecting future traffic for future, non-covid impacted years. Obviously, when the multiplier is grossly understated, the final number of projected traffic counts will be grossly under-stated.

The Problems with FTH's Multiplier:

- FTH timed its traffic counting to occur on three Nov., 2020 days that were among the absolute lightest traffic days of the year. As you saw in our previous email, the traffic count coincided precisely with two massive external events that radically reduced roadway traffic *on the exact dates of FTH's traffic count*. Both CU and all South Boulder K-12 schools had just shifted to 100% remote instruction, when FTH commenced its traffic counting.
- This alone is enough to disqualify this study. Because the initial traffic count is used as the "baseline" starting point of traffic assessment. Any projected increases are projected onto this initial count. So, the lower

your starting number, the lower the eventual traffic prediction will be.

- But in addition, in this email, we will document a second, equally problematic error in the FTH report: For their year-over-year comparison (to understand the "covid impact"), FTH inexplicably failed to use the actual month in which they counted traffic. Why is this important? Because the year-over-year comparison is used to establish the "covid handicap," to use golf terms. (That is, the percentage reduction due to the pandemic.) Obviously, if FTH counted traffic in Nov. 2020, that's the month they should have used for year-over-year comparison to 2019. But FTH appears to have gone out of its way to "cherry pick" a different month for the year-over-year comparison. In fact, as you can see on Page 93 of the FTH report, FTH chose *the least-covid-impacted month of Fall 2020 - (October) - for their "covid impact percentage."*
- Why is this important? Because the covid impact percentage is then used to establish the "multiplier" to predict traffic in future, non-covid years. The multiplier is the inverse of the impact percentage. In other words, given that the Nov. 2020 traffic count was 69% of Nov. 2019, FTH's multiplier **should have been $1/.69 = 1.45$. Based on FTH's own chosen month for traffic counting, 1.45 should be the multiplier**, to predict future traffic in non-covid years. The multiplier essentially recognizes how covid suppressed the data during the traffic count period.
- But for whatever reason, as you can see on Page 93 of the report, FTH used Oct. 2020 - *the least covid impacted month* - as the basis for their multiplier. Oct. 2020's traffic was 75% of Oct. 2019's traffic. **So FTH erroneously used the formula of $1/.75 = 1.33$, to establish a future multiplier of 1.33.**
- **The multiplier should have been 1.45**, according to the actual month FTH chose to count traffic in. FTH is obligated by every statistical imperative to pick a month, and stay with a month. Proper statistical science does not allow the practice of arbitrarily jumping from month to month, to cherry pick the most advantageous excerpts, for the client's case.
- In projecting future traffic totals, the difference between using a multiplier of 1.33 vs. 1.45 is huge. When dealing with thousands - potentially tens of thousands of vehicles - a multiplier error of this magnitude will result in significantly lower (and wildly inaccurate) traffic projections.

- When you combine a low-ball multiplier, with an extraordinarily low-ball baseline starting traffic count, you wind up with a "double-whammy" underestimate, with errors of huge magnitude.
- In essence, FTH got the absolute lowest 2020 traffic count they could find, for an exceptionally low baseline onto which all future traffic increases would be superimposed, and they additionally (and incorrectly) assigned the lowest multiplier they could find (by using the least covid impacted month they could find.)
- As such, this traffic study cannot be viewed as legitimate.

PROBLEM 3 - FTH asserts that absolutely none of the additional 7,000 vehicle trips per day due to CU South will impact Moorhead Ave., the obvious, diagonal shortcut route from CU South to Main Campus, which cuts straight through our neighborhood of Martin Acres.

On Page 17 (Page 20 by Google Chrome's page counter) of its CU South traffic study, FTH assigns "percentage distributions" of the traffic that will be generated by CU South. For example, it assigns 20% of the traffic to South US 36, 25% to North US 36, etc. *But 0% is assigned to Moorhead.*

We cannot fathom how FTH can assume that no motorists traveling between CU South and CU's Main Campus would use the obvious, straight-as-an-arrow 1.5 mile diagonal shortcut of Moorhead Ave., right through Martin Acres. This is now the third element of FTH's traffic study that fails basic logic. Please see the screen shot below, that illustrates why Moorhead Ave., if anything, is likely to receive *more* CU South related traffic than any other roadway.

The fact that Moorhead Ave. is not mentioned anywhere, in trip distribution, is a third reason to reject the CU South traffic study authored by FTH.

For all the reasons stated above, we ask the City of Boulder to reject the Fox Tuttle CU South traffic study by CU, and instead, hire an independent traffic study to be done by a firm not on CU's payroll.

Thank you,

The Martin Acres Neighborhood Association Steering Committee

Jan Trussell, President

Wendy Ferrara, Vice President

Dorothy Cohen, Secretary

Bennett Scharf, Treasurer

Samir Singh, Special events committee chair

Mike Marsh, Zoning committee chair

Ron DePugh, Communications committee chair

Lisa Harris, Martin Acres VOICE newsletter committee chair