

Tucker Station

Traffic Impact Study

Prepared for:

ARCHVIEW PROPERTIES, LLC

Prepared by:

PARSONS BRINCKERHOFF

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Revision History:

| Revision | Date | Description | Submitted by |
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Table 1: AM Peak Hour Trip Generation

| AM PEAK HOUR TRIP GENERATION | | | | | | | | |
|-------------------------------------|-----------------------------|----------------------|------------------------|--------------------------|------------------------|-----------------------|----------------------|----------------------|
| <i>ITE Land Use Code</i> | <i>Land Use Description</i> | <i>Ind. Var. (X)</i> | <i>Ind. Var. Units</i> | <i>Entering/ Exiting</i> | <i>Trips Generated</i> | <i>Internal Trips</i> | <i>Pass-by Trips</i> | <i>Primary Trips</i> |
| TOTAL | ALL | -- | -- | Total entering | 59 | 0 | 0 | 59 |
| | | -- | -- | Total exiting | 144 | 0 | 0 | 144 |
| 220 | Apartment | 370 | Dwelling Units | entering | 59 | 0 | 0 | 59 |
| | | | | exiting | 144 | 0 | 0 | 144 |

Table 2: PM Peak Hour Trip Generation

| PM PEAK HOUR TRIP GENERATION | | | | | | | | |
|-------------------------------------|-----------------------------|----------------------|------------------------|--------------------------|------------------------|-----------------------|----------------------|----------------------|
| <i>ITE Land Use Code</i> | <i>Land Use Description</i> | <i>Ind. Var. (X)</i> | <i>Ind. Var. Units</i> | <i>Entering/ Exiting</i> | <i>Trips Generated</i> | <i>Internal Trips</i> | <i>Pass-by Trips</i> | <i>Primary Trips</i> |
| TOTAL | ALL | -- | -- | Total entering | 151 | 29 | 0 | 122 |
| | | -- | -- | Total exiting | 97 | 22 | 0 | 75 |
| 220 | Apartment | 370 | Dwelling Units | entering | 151 | 29 | 0 | 122 |
| | | | | exiting | 97 | 22 | 0 | 75 |

Table 5: LOS Results for 2018 with and without Development

| Signalized Intersections | 2018 No-Build | | | | | | | | 2018 Build | | | | | | | |
|--|--|------|------|------|-------------|-------|-------|------|-------------|------|------|------|-------------|-------|-------|-------|
| | AM | | | | PM | | | | AM | | | | PM | | | |
| | Overall LOS | | | | Overall LOS | | | | Overall LOS | | | | Overall LOS | | | |
| | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB |
| Blankenbaker Pkwy at Ellingsworth Ln | 40/D | | | | 47/D | | | | 45/D | | | | 50/D | | | |
| | 37/D | 67/E | 42/D | 31/C | 58/E | 98/F | 50/D | 35/C | 35/D | 70/E | 49/D | 33/C | 58/E | 105/F | 54/D | 36/D |
| Blankenbaker Pkwy at Bluegrass Pkwy | 94/F | | | | 132/F | | | | 97/F | | | | 135/F | | | |
| | 175/F | 78/E | 97/F | 81/F | 170/F | 155/F | 148/F | 97/F | 175/F | 90/F | 98/F | 84/F | 171/F | 161/F | 147/F | 103/F |
| | | | | | | | | | | | | | | | | |
| Unsignalized Intersections | 2018 No-Build | | | | | | | | 2018 Build | | | | | | | |
| | AM | | | | PM | | | | AM | | | | PM | | | |
| | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB |
| | | | | | | | | | | | | | | | | |
| Tucker Station Rd & S Pope Lick Rd | 10/A | 15/B | NA | 10/A | 39/E | 10/A | NA | 12/B | 10/B | 19/C | NA | 12/B | 72/F | 10/A | NA | 14/B |
| Tucker Station Rd at Sycamore Station PI South | 3 | 0 | 9/A | 14/B | 2 | 0 | 0/A | 12/B | 3 | 0 | 9/A | 15/C | 2 | 0 | 0/A | 13/B |
| Tucker Station Rd/Lakefront PI at Bluegrass Pkwy/Tucker Station Rd | 4 | 2 | 39/E | 23/C | 0 | 4 | 32/D | 31/D | 4 | 2 | 52/F | 27/D | 0 | 4 | 38/E | 46/E |
| Tucker Station Rd at Sycamore Station PI North | 11/B | NA | 0 | 0 | 16/C | NA | 0 | 0 | 12/B | NA | 0 | 0 | 19/C | NA | 0 | 0 |
| Tucker Station Rd at Ellingsworth Ln | 10/B | NA | 12/B | 12/B | 42/E | NA | 40/E | 23/C | 11/B | NA | 14/B | 13/B | 69/F | NA | 69/F | 32/D |
| Tucker Station Rd at Main Entrance | | | | | | | | | NA | 13/B | 0 | 1 | NA | 15/B | 0 | 2 |
| Tucker Station Rd at North Entrance | NA - This entrance was assumed to be gated for emergency use only. | | | | | | | | | | | | | | | |

The results shown in **Table 5** reveal that there are multiple intersections and intersection approaches that have failing LOS in the No-Build scenario. The addition of development induced traffic does result in slight increases in delays and occasionally in LOS, however the majority of these increases are minor.

Table 6: LOS Results for 2028 with and without Development

| Signalized Intersections | 2028 No-Build | | | | | | | | 2028 Build | | | | | | | |
|--|--|-------|-------|-------|-------------|-------|-------|-------|-------------|-------|-------|-------|-------------|-------|-------|-------|
| | AM | | | | PM | | | | AM | | | | PM | | | |
| | Overall LOS | | | | Overall LOS | | | | Overall LOS | | | | Overall LOS | | | |
| | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB |
| Blankenbaker Pkwy at Ellingsworth Ln | 91/F | | | | 128/F | | | | 95/F | | | | 131/F | | | |
| | 39/D | 122/F | 120/F | 51/D | 62/E | 158/F | 171/F | 82/F | 39/D | 147/F | 122/F | 51/D | 62/E | 158/F | 176/F | 85/F |
| Blankenbaker Pkwy at Bluegrass Pkwy | 197/F | | | | 245/F | | | | 200/F | | | | 248/F | | | |
| | 207/F | 120/F | 195/F | 208/F | 286/F | 250/F | 297/F | 192/F | 207/F | 142/F | 195/F | 210/F | 287/F | 257/F | 296/F | 197/F |
| | | | | | | | | | | | | | | | | |
| Unsignalized Intersections | 2028 No-Build | | | | | | | | 2028 Build | | | | | | | |
| | AM | | | | PM | | | | AM | | | | PM | | | |
| | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB | EB | WB | NB | SB |
| Tucker Station Rd & S Pope Lick Rd | 10/B | 22/C | NA | 11/B | 88/F | 10/B | NA | 15/B | 11/B | 29/D | NA | 13/B | 141/F | 11/B | NA | 17/C |
| Tucker Station Rd at Sycamore Station PI South | 4 | 0 | 9/A | 16/C | 2 | 0 | 0/A | 13/B | 4 | 0 | 9/A | 17/C | 2 | 0 | 0/A | 15/B |
| Tucker Station Rd/Lakefront PI at Bluegrass Pkwy/Tucker Station Rd | 4 | 2 | 99/F | 30/D | 0 | 4 | 95/F | 88/F | 4 | 2 | 138/F | 39/E | 0 | 4 | 124/F | 161/F |
| Tucker Station Rd at Sycamore Station PI North | 12/B | NA | 0 | 0 | 20/C | NA | 0 | 0 | 13/B | NA | 0 | 0 | 25/C | NA | 0 | 0 |
| Tucker Station Rd at Ellingsworth Ln | 12/B | NA | 14/B | 15/B | 89/F | NA | 88/F | 37/E | 13/B | NA | 18/C | 18/C | 113/F | NA | 128/F | 46/E |
| Tucker Station Rd at Main Entrance | | | | | | | | | NA | 14/B | 0 | 1 | NA | 17/C | 0 | 1 |
| Tucker Station Rd at North Entrance | NA - This entrance was assumed to be gated for emergency use only. | | | | | | | | | | | | | | | |

The results in **Table 6** show increased delays and LOS for both the No-Build and Build conditions over the 2018 results. However, when comparing the 2028 Build and No-Build to one another, the increases between these two are again mostly minor.

4.3. Turn Lane Analysis

As required in the KYTC policy, an analysis was performed to determine whether right and/or left turn lanes were required. This a chart based analysis that is included in **Appendix D**. The results of the analysis show that neither a right nor left turn lane are needed at the main entrance. It was assumed that all traffic enters and exits through the main entrance and the northern (secondary) entrance is gated for emergency use only. This would be the worst case scenario.