



ALDRIDGE TRANSPORTATION CONSULTANTS, LLC

Advanced Transportation Planning and Traffic Engineering

John M.W. Aldridge, P.E.
Colorado Licensed Professional Engineer

January 25, 2023

Ted Swan
Were Malcomb
900 S. Broadway, #320
Denver, CO 80209

6.8.23:
Needed updates to
queue length analysis
table/section for
consistency.

1082 Chimney Rock Road
Highlands Ranch, CO 80126
303-703-9112

Storage Lengths Revised

RE: Transportation Impact Study - Revised
SEC Smith Road and Picadilly Road., Aurora, CO

Dear Mr. Swan:

Aldridge Transportation Consultants (ATC) is pleased to present this traffic impact study for the proposed Prologis on the southeast corner of Smith Road and Picadilly Road in Aurora.

ATC is professional service firm specializing in traffic engineering and transportation planning. ATC's principal, John M.W. Aldridge is a Colorado licensed professional engineer. In the past 20 years, ATC has prepared over 1,000 traffic impact studies, designed over 100 traffic signals, and has provided expert witness testimony on engineering design and access issues on multi-million-dollar interchange and highway projects in Kansas and Colorado.

We acknowledge that City of Aurora's review of this study is only for general performance with submittal requirements, current design criteria, and standard engineering principles and practice.

ATC appreciates the opportunity to be of service. Please call if you have any questions. We can be reached at 303-703-9112.



Respectfully submitted,
Aldridge Transportation Consultants, LLC

John M.W. Aldridge, P.E.
Principal



| Warrant Evaluation Summary | Warrant Met: |
|--|--------------|
| Warrant 1: Eight - Hour Vehicular Volume | No |
| Condition A: Minimum Vehicular Volume | No |
| Condition B: Interruption of Continuous Traffic | No |
| Condition C: Combination: 80% of A and B | No |
| Warrant 2: Four-Hour Volume | No |
| Warrant 3: Peak Hour Volume | No |
| Warrant 4: Pedestrian Volume | N/A |
| Criterion A: Four-Hour | |
| Criterion B: Peak-Hour | |
| Warrant 5: School Crossing | N/A |
| Warrant 6: Coordinated Signal System | N/A |
| Warrant 7: Crash Experience | N/A |
| Warrant 8: Roadway Network | Yes |
| Warrant 9: Intersection Near a Grade Crossing | N/A |

QUEUING ANALYSIS

A review of the 95th percentile queue length at each of the unsignalized intersections and access locations reveals no queue length measured in vehicles exceeds one vehicle length. At the signalized intersections no queues exceed capacity at the Picadilly Road/19th Ave. intersection. The Synchro Queuing and Blocking reports are attached for reference. The table below presents a summary of the turn bay storage and 95th percentile queue length.

| Picadilly/Smith 95th%ile Queuing Summary | | | | | | |
|--|------------------|----------------|-----|------|-----|-----|
| Intersection | Analysis Period | Length in Feet | EBL | WBL | NBL | SBL |
| Picadilly/Smith | | Storage | 500 | 500 | 500 | 200 |
| | 20-year AM BKG | 95th%ile Queue | 160 | 196 | 170 | 284 |
| | | 95th%ile Queue | 128 | 158 | 170 | 226 |
| | | 95th%ile Queue | 160 | 196 | 170 | 284 |
| | 20-year PM TOTAL | 95th%ile Queue | 126 | 169 | 180 | 243 |
| Intersection | Analysis Period | Length in Feet | | WBL | NBR | SBL |
| Picadilly/19th Ave. | | Storage | | 1000 | 150 | 150 |
| | 20-year AM BKG | 95th%ile Queue | | 176 | 41 | 78 |
| | 20-year PM BKG | 95th%ile Queue | | 176 | 41 | 70 |
| | 20-year AM TOTAL | 95th%ile Queue | | 176 | 41 | 78 |
| | 20-year PM TOTAL | 95th%ile Queue | | 184 | 42 | 73 |

These numbers do not match the text on the following page.

Inadequate storage for projected queue

Storage Lengths Revised

Update table.

These numbers do not match the text on the following page.