

located in the study area. The historical traffic volumes were projected out to existing year (2022) volumes using a growth rate of 1.1% as calculated earlier. Projected traffic volumes were compared to the traffic volumes collected to determine a traffic adjustment factor for the collected data. The volume comparison is summarized in **Table 6**.

| Table 6: Traffic Volume Comparison | | | |
|--|-------------------------|-------------------------------|---------------------------|
| Location (TADA Station ID) | Historical 24-Hr Volume | Projected 24-Hr Volume (2022) | 24-Hr Field Volume (2022) |
| | 2018 | | |
| SR 7/US 41/ N Valdosta Rd s/o Hyta Mederer Dr (185-0075) | 30,100 | 31,478 | 30,846 |

An average COVID-19 factor of 1.02 was calculated based on the projected versus field collected volumes. Due to the low COVID-19 factor, no traffic adjustment factor was applied to the field collected data.

Trip Generation

The anticipated residential development north of the study intersection along Val Del Road is estimated to consist of 1000 homes over the next 10-20 years. The number of trips expected to be generated from the development were estimated based on the method defined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. Due to land use of the development, it was assumed that there will be no internal trips. Trips expected to be generated from the development are summarized in **Table 7**. The trip generation report is attached in **Appendix D**.

| Table 7: Proposed Site Trip Generation | | | | | | | | | | |
|--|------------|---------------|------|-------|--------------|------|-------|--------------|------|-------|
| Land Use (ITE Code) | Units | Daily Traffic | | | AM Peak Hour | | | PM Peak Hour | | |
| | | Enter | Exit | Total | Enter | Exit | Total | Enter | Exit | Total |
| SF House 1 (210) | 1000 Units | 4720 | 4720 | 9440 | 185 | 555 | 740 | 624 | 366 | 990 |

Trip Distribution and Assignment

Trip distribution and assignment for the development was done based on the land use and existing traffic patterns in the area. Trip distribution and assignment at the study intersection is shown in **Appendix E**.

Left-turn Phasing Volume Justification

A left-turn volume evaluation was conducted, in accordance with GDOT Policy 6785-2. The policy and evaluation are summarized below. The traffic volumes used for the evaluation are the existing year (2022) volumes.

1. The cross-product is greater than 50,000 for a leading left-turn phase or greater than 30,000 for a lagging left-turn phase.

$$Cross\ Product = left\ turn\ volume \left(\frac{opposing\ through\ volume}{number\ of\ opposing\ through\ lanes} \right)$$

2. The left turn volume is 125 vehicles or greater per hour for a leading left-turn phase or is 75 vehicles or greater per hour for a lagging left-turn phase.
3. The number of left-turn crashes under permissive operation is 4 or more in a 12-month period; or 6 or more in a 24-month period