4. Operational Analysis

For this analysis, several different scenarios were reviewed for 2020 and 2040 estimated conditions. The analyzed scenarios are:

- No-build option: Existing lane use and traffic control
- Option 1: Intersection improvements to include turn-lane modifications and addition of through lanes.
- Option 2A: Multi-lane roundabout (two-lane)
- Option 2B: Multi-lane roundabout (two-lane and three-lane hybrid)
- Option 3: Median u-turn – prohibit selected left-turn movements at intersection, accomplished by performing a right-turn and a U-turn
- Optional roundabout at Ridgewood Avenue and Pinebrook Road (with any above option)

This section discusses the operational characteristics of the analyzed scenarios; the physical layout is discussed in Section 5.

It should be noted that Pinebrook Road at Ridgewood Avenue was included in this analysis. However, the analysis is largely informational. The volumes along Ridgewood Avenue are low, and improvements are not anticipated to improve the level of service (LOS), as any delay is largely a function of mainline (Pinebrook Road) volume and lack of gaps. During the peak hour, vehicles are likely to find alternate circulation patterns through the neighborhood grid or use Venice Avenue.

No-Build Option & Intersection Improvements

The no-build scenario was analyzed to serve as a comparison baseline for other alternatives. This scenario assumes that the existing condition remains as traffic volumes grow based on previously discussed projections. The results of the 2020 and 2040 no-build alternatives are shown in **Tables 1** and **2**.

As mentioned above, more detailed plans, showing right of way impacts and further extents of the improvements are provided in **Appendix H through L.** Discussion of constructability review and design considerations are provided in **Appendix O.**

6. Cost Estimates

Construction cost estimates were prepared for the three analysis scenarios using FDOT's Long Range Estimating System (LRE) and are in 2018 dollars. Additionally, using parcel cost information provided by the County, ROW costs were estimated for each of the options. The cost estimates are presented in **Table 11.**

Table 11: Cost Estimate Summary

Alternative	Construction Cost	ROW Cost	Total
Option 1A	$ 7,094,416.62	$ 119,495.45	$ 7,213,912.07
Option 1B	$ 6,991,530.44	$ 132,198.06	$ 7,123,728.50
Option 2A	$ 2,237,002.00	$ 40,944.63	$ 2,277,946.63
Option 2B	$ 3,752,164.72	$ 151,327.22	$ 3,903,491.94
Option 3	$ 2,556,087.67	$ 32,852.33	$ 2,588,940.00
Roundabout at Ridgewood Avenue and Pinebrook Road	$ 2,556,087.67	$ 49,513.36	$ 2,605,601.03

Worksheets documenting the cost estimates are provided in **Appendix M.** Details of right-of-way impact assessment are included in **Appendix N.**

7. Improvement Comparison

The following matrix table were developed to summarize the results of the analysis above. This table compare each of the alternatives in terms of operation, construction impacts, construction costs, and other subjective measures.

Table 12: Improvement Comparison Matrix

Alternative	Operational	Construction Complexity	Right-of-Way Impacts	Cost (Excludes ROW and utility relocation)*
No-Build	Failing Operations in 2040	N/A	N/A	$ -
Intersection Improvements	Acceptable Operations in 2040	High due to widening and will require a closed drainage system	High	$ 7,100,000.00
Multi-lane Roundabouts	Failing Operations in 2040 (high left-turn volumes)	Medium, improvements limited to intersection vicinity	Medium-High	$ 2,240,000.00
Median u-turn	Best Operations in 2040	Lowest, largely within ROW except side streets. Anticipate parcel impacts at the median u-turn locations to accommodate trucks	Medium	$ 2,560,000.00

** Does not include optional roundabout at Ridgewood Avenue and Pinebrook Road*