



Village of Pinecrest

Transportation Master Plan

December 2018
Final Report



Kimley»»Horn

EXECUTIVE SUMMARY

The development of the Village of Pinecrest Transportation Master Plan was a yearlong process that included public outreach, data collection, analysis, conceptual design, and preliminary cost estimating. The Master Plan recommendations are divided into three (3) improvement areas: pedestrian/bicycle facility improvements, traffic operations improvements, and traffic calming improvements based upon input from stakeholders, the Village's Transportation Advisory Committee (TAC), and Village residents. Note that these recommendations also account for the comments received during the Village Council workshop on September 27, 2018. Refer to Figures ES-1 through ES-3 for graphical summaries of the Master Plan.

PEDESTRIAN/BICYCLE NETWORK IMPROVEMENTS

Pedestrian/bicycle network improvements are targeted at improving mobility, connectivity, and safety of cyclists and pedestrians throughout the Village. Improvements include bicycle lanes, shared-use paths, sidewalk extensions, enhanced crossing treatments, and shared lane pavement markings. The preliminary prioritization for these improvements was developed in coordination with the TAC.

TRAFFIC OPERATIONS RECOMMENDATIONS IMPROVEMENTS

Operations improvements were targeted at locations specifically identified by stakeholders, the TAC, and Village residents during the initial community meetings for the Plan to improve traffic operations and safety for motorists along roadways and intersections. Improvements include roundabouts, turn lanes, signal modifications/retiming, median modifications, and minor widening of roadways. The preliminary prioritization was based upon the results of the operational analyses, resident comments, and TAC input.

TRAFFIC CALMING IMPROVEMENTS

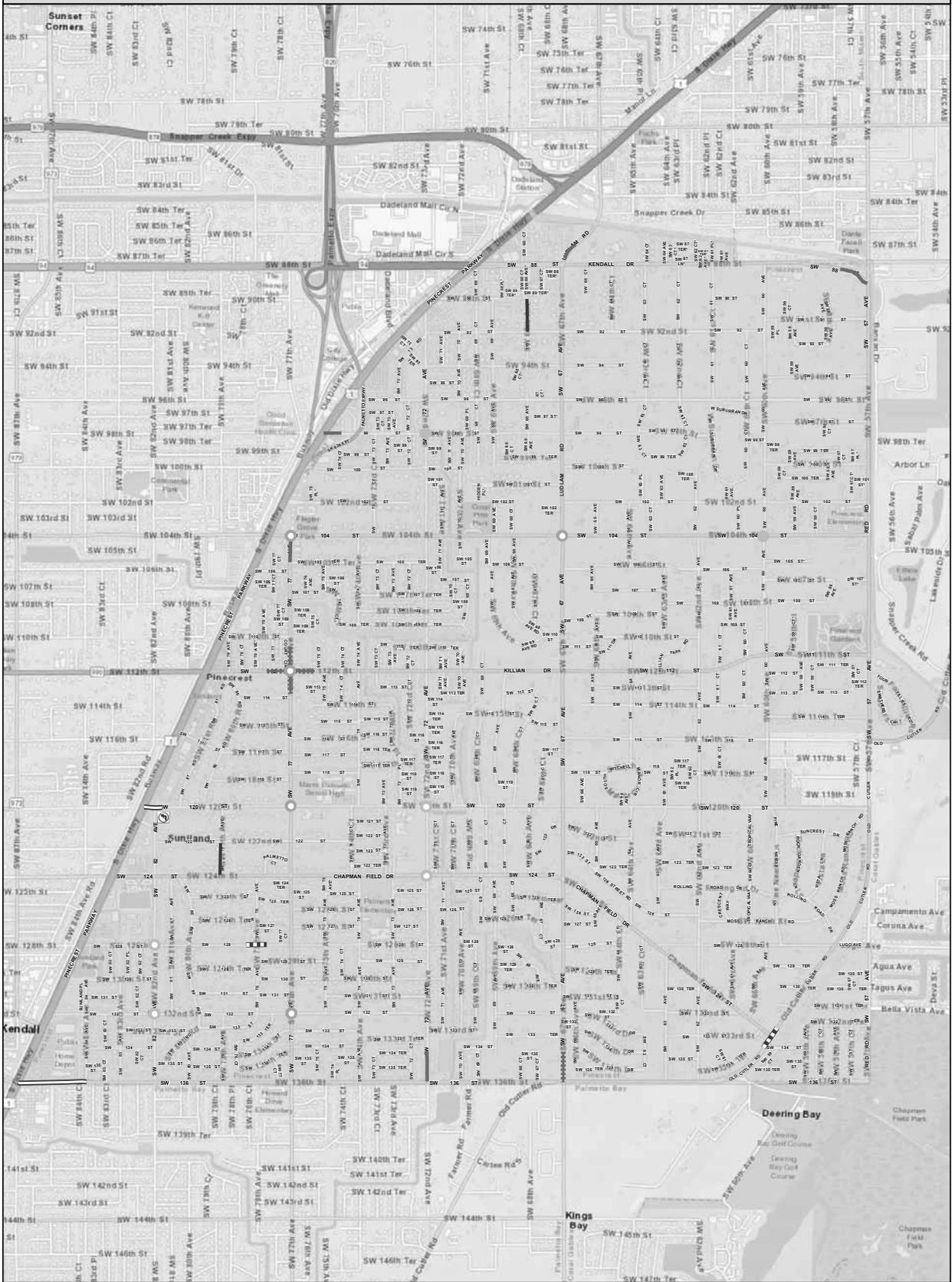
Numerous roadway segments identified by stakeholders, the TAC, and Village residents were studied for potential traffic calming improvements as part of the Master Plan. Traffic volume and speed data were collected and compared to the traffic calming criteria outlined by Miami-Dade County. Refer to Figure ES-3 for mapping of the calming study roadway segments. At the request of the Council, specific traffic calming elements, cost estimates, and prioritization are not included in the final recommendations. Implementation and design may be considered in the future by Village staff and Council.

ADDITIONAL RECOMMENDATIONS

In addition to the improvements areas, two (2) additional recommendations are included as part of the Master Plan: (1) further study of the Village's People Mover transit service and (2) analysis of Villagewide speed limit reductions. It is recommended that the People Mover be examined to determine if potential expansion is warranted and feasible. If expansion is warranted, the analysis would include route expansion/additions and operational planning. Utilizing the data collected as part of the Master Plan, it is recommended that an analysis be performed to determine if Villagewide speed limit reductions are feasible and meet appropriate Miami-Dade County requirements. If the data is determined supportive, the analysis would then be submitted to Miami-Dade County for consideration and approval.



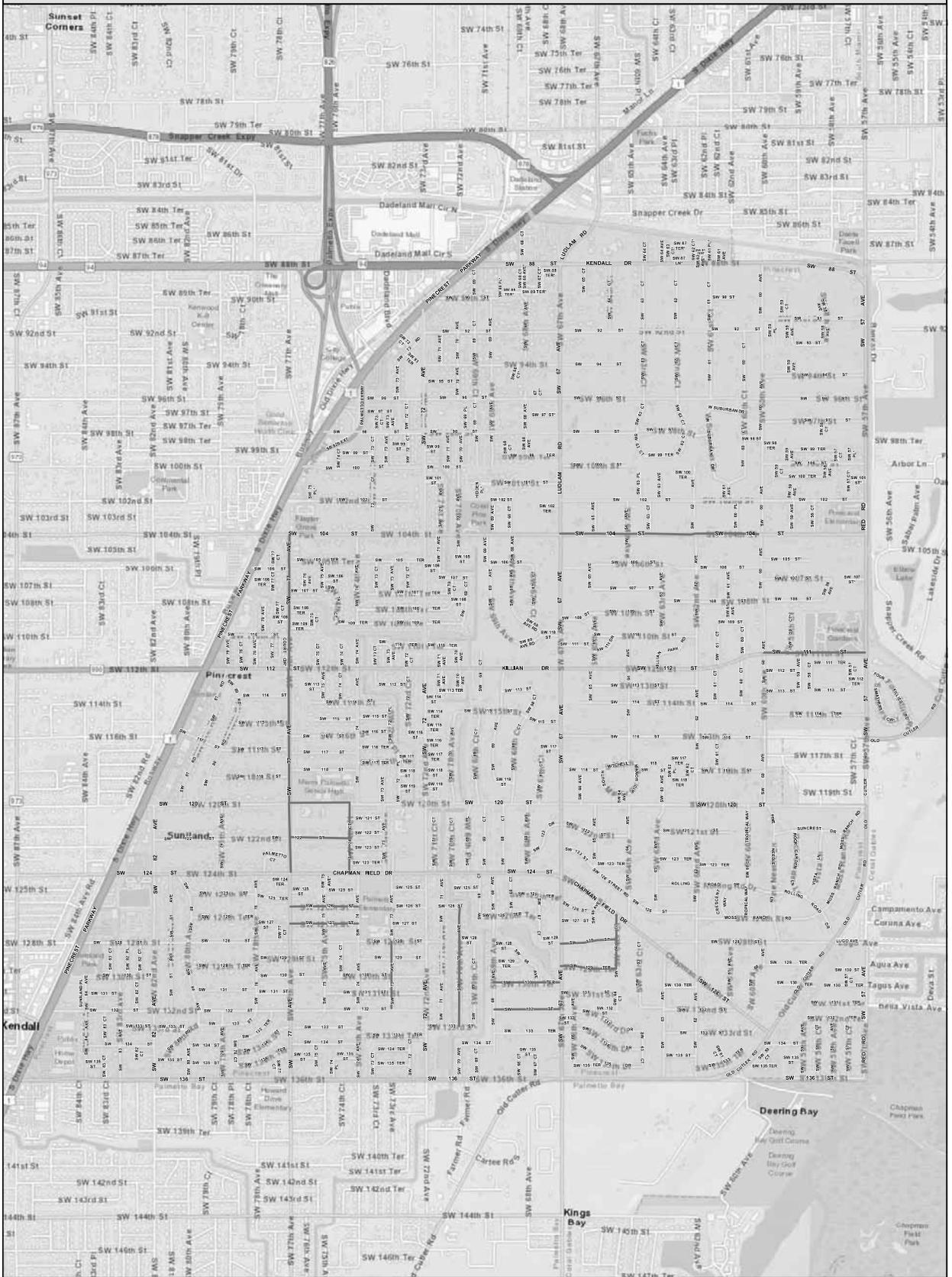
Figure ES-1: Traffic Operations Improvement Plan



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	══ Median Installation
○ Planned Roundabout	□ Geometry Modifications	--- New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬▬▬ Planned Lengthen Turn Lane
		▬▬▬ Widening



Figure ES-2: Traffic Calming Summary



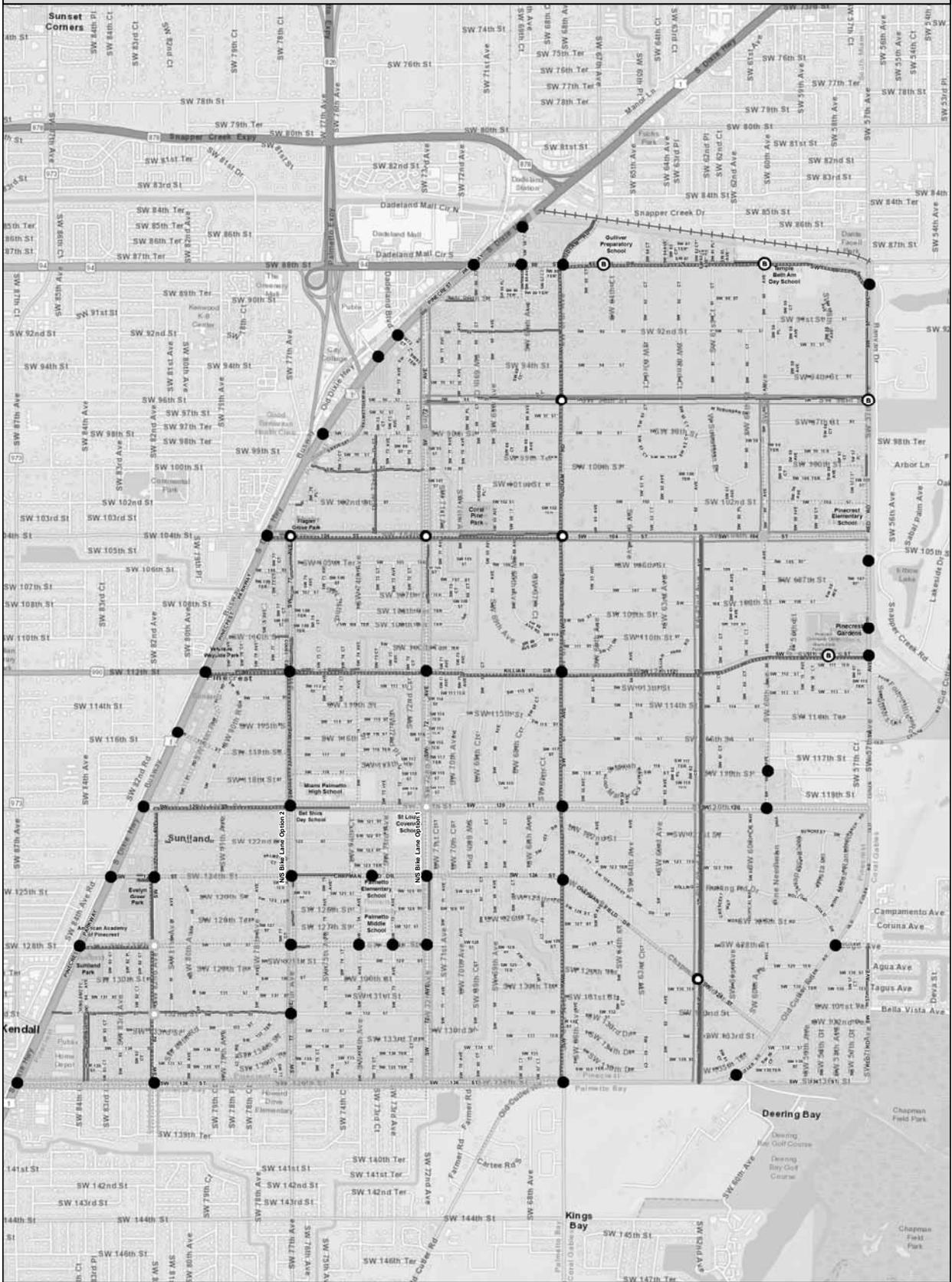
Traffic Calming Roadway Segments

- Segment Eligible for Traffic Calming
- Segment Not Eligible for Traffic Calming

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Figure ES-3: Bicycle/Pedestrian Network Improvement Plan



<p>Pedestrian Facilities</p> <ul style="list-style-type: none"> Existing Sidewalk Proposed Sidewalk 	<p>Bicycle Facilities</p> <ul style="list-style-type: none"> Planned Bicycle Lane Proposed Bicycle Lane Proposed Sharrows 	<p>Shared Use Paths</p> <ul style="list-style-type: none"> Existing Shared Use Path Planned Shared Use Path Proposed Shared Use Path 	<p>Crossing Locations (Signalized/Four-way Stop)</p> <ul style="list-style-type: none"> Existing (Signalized/Four-way Stop) Proposed (New Crosswalks) New Flashing Beacon Crossing Existing Roundabout Planned Roundabout Proposed Roundabout
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0 0.25 0.5 0.75 1 Miles

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* Denotes Table/Figure was removed from report per direction from Village Council on December 11, 2018.



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1 INTRODUCTION

1.1 PROJECT BACKGROUND

The Village of Pinecrest occupies a 7.5 square mile area in southeastern Miami-Dade County bordered by the City of South Miami and unincorporated Miami-Dade County to the north, the City of Coral Gables to the east, the Village of Palmetto Bay to the south, and US 1/Pinecrest Parkway and unincorporated Miami-Dade County to the west. Refer to Figure 1 for a location map of the Village. The Village has a 108-mile roadway network with a 28-mile sidewalk network. The Village also benefits from access to shared use paths including Old Cutler Trail along SW 57th Avenue and the South Dade Trail along the South Dade Transitway within Miami-Dade County maintained right-of-ways. The Village is substantially developed and has not been expanded in size through annexations since its incorporation in 1996. The Village's population is currently over 18,000 and is projected to increase slightly through the 5-, 10-, 15- and 20-year planning horizons.

The Village currently operates a transit circulator system that provides a dedicated route for the primary benefit of public schools. One of the primary goals of the Village's Strategic Plan is to develop a more bicycle and pedestrian friendly community and to improve safety related to mobility for all modes of transportation within the Village and its connections with the surrounding areas.

1.2 PLAN PURPOSE

The purpose of the Villagewide transportation master plan is identifying the transportation issues, concerns, and desires of the community; perform the necessary data collection and analysis to determine the appropriate solutions or enhancements; and prioritize those improvements for future implementation. Areas of focus consist of traffic operations/congestion, traffic calming/neighborhood protection, and the enhancement of alternative transportation modes.

1.3 PLAN PROCESS

The transportation master plan was conducted in two (2) distinct phases. Initial public involvement activities and data collection were performed as part of Phase 1. The purpose of Phase 1 was to identify the specific transportation issues that stakeholders and the community considered most important and identify/review background information that would be useful in the development of the Transportation Master Plan. Once Phase 1 was complete, a comprehensive list of issues were identified for further analysis.

Phase 2 consisted of a comprehensive analysis of the issues identified in Phase 1. The analysis included data collection, field reviews, operational analysis, conceptual design, cost estimating, and additional public involvement. Once the preliminary Plan was completed, an implementation plan was developed that prioritized improvements based on factors such as level of community support, operational need, and cost.

Figure 1: Location Map



Legend

- Village of Pinecrest

2 PHASE 1 – INITIAL PUBLIC INVOLVMENT/DATA COLLECTION

2.1 INITIAL STAKEHOLDER MEETINGS

Initial stakeholder meetings were held with the following groups to identify areas of focus for the Transportation Master Plan:

- Village Mayor and Council
- Village Manager's Office
- Village Public Works Department
- Village Police Department

These meetings were held in August and September 2017. Each group identified key issues and provided recommended areas of further study for the Master Plan. Some key elements noted were:

- The Master Plan should be issue-driven, practical, and provide specific improvements that can be reasonably implemented over time.
- The Public Works Department has been tracking feedback/comments provided by the community over several years and has maintained a list of these items.
- Specific issues identified by the stakeholders were generally categorized into three (3) areas: traffic congestion/operations, neighborhood protection/traffic calming, and alternative modes including bicycle, pedestrian, and transit modes.
- The community will focus on the look and feel of the recommendations and many residents may have little desire for change within the Village.

A summary of these meetings is included in Appendix A.

2.2 INITIAL FIELD REVIEWS

Kimley-Horn staff performed initial field reviews within the Village to preliminarily evaluate the specific issues identified during the stakeholder meetings. The field reviews were conducted during the A.M. and P.M. peak periods during weekdays in October 2017. Field reviews examined existing conditions of several transportation issues including overall traffic congestion, cut-through traffic patterns, pedestrian/bicycle activity and connectivity, and transit usage/stop amenities. A summary of these field reviews is included in Appendix B.

2.3 LITERATURE REVIEW

As part of the initial data collection for the Master Plan, Village staff identified several pertinent plans, studies, and documents for review. Kimley-Horn staff obtained and reviewed these documents as part of the initial phase of the master plan. The following documents were reviewed:

- Village of Pinecrest US 1/Pinecrest Parkway Bicycle Pedestrian Mobility Plan, 2015
- US 1/Pinecrest Parkway Intersection Improvement Study – Village of Pinecrest, April 2008
- US 1/Pinecrest Parkway Vision Plan, October 2012
- SW 60th Avenue Traffic Calming Study, February 2012
- Village of Pinecrest Safe Routes to School Study, April 2012
- Village of Pinecrest Transit Circulator System General Feasibility Study, February 2010

- Miami-Dade 2040 Bicycle/Pedestrian Plan
- Miami-Dade Local Municipal Transit Circulator Policy Study, June 2002
- Florida House Bills dedicating local Historic Highways
- South Miami Intermodal Plan, January 2015
- Village of Palmetto Bay Transportation Plan, 2004
- Miami-Dade County Transit Development Plan, 2016
- Village of Palmetto Bay Bicycle and Pedestrian Master Plan, August 2009

Each document was reviewed to determine elements that will directly correlate the proposed improvements in the Master Plan and to identify issues/areas that have been previously examined. A summary of this literature review is provided in Appendix C.

2.4 TRANSPORTATION ADVISORY COMMITTEE MEETING #1

An introduction to the proposed master plan process was presented to the Village's five (5) member Transportation Advisory Committee (TAC) on October 18, 2017. Village staff provided background information to the TAC members on the purpose and the rationale for the development of an overall master plan. The presentation outlined the project scope/schedule and summarized the work performed to date including the stakeholder meetings, field reviews, and literature reviews. TAC members identified several site-specific and Villagewide issues during the discussion period. A summary of this meeting and the presentation document are included in Appendix D.

2.5 COMMUNITY MEETING #1

A community meeting was held on November 15, 2017 at Evelyn Greer Park. A total twelve (12) attendees were present including Village staff. The purpose of the meeting was to introduce the master plan process to the general public. The meeting format consisted of a presentation, discussion period, and breakout session. Key points of the presentation included the following:

- This was the first of three community meetings with others to be held during Phase 2.
- General observations from field reviews include cut-through patterns, school zone congestion, one lane roads, and multimodal facilities.
- Traffic calming involves speed reduction and volume reduction. Speed reduction includes solutions such as speed tables. Volume reductions may include creating one-way streets.
- Possible better transit connections to the South Miami-Dade Transitway should be evaluated.
- Upholding the aesthetic of the Village of Pinecrest can be incorporated into proposed solutions.

After the presentation, questions and comments on the overall scope of the Master Plan were provided. Some of the key comments were as follows:

- Concerns on whether other communities and corridors will be considered (i.e. US 1/Pinecrest Parkway, Palmetto Bay, South Miami). City staff indicated the Master Plan would be reviewing plans for adjacent municipalities and ensuring the solutions connect to nearby communities.
- A comment was made that resident would be more supportive if objectives such as carbon dioxide reduction and improved recreation were focuses. It was also expressed by the same resident that he hopes traffic patterns through the Village will be observed.



- It was questioned whether residents use the People Mover and whether that money could be better used elsewhere. Village staff explained that the People Mover is part of the Miami Dade county half-cent sales tax and must be used for transit.

The meeting concluded with a breakout session where residents could identify specific issues/locations to be examined in the master plan using aerial maps and color-coded stickers that identified issues related to traffic operations issues, potential multimodal improvements, and areas where traffic calming improvements should be considered. If residents had additional comments, comment cards were provided. A summary of this meeting, sign-in sheet and the presentation documents are included in Appendix E.

2.6 TRANSPORTATION ADVISORY COMMITTEE MEETING #2

A follow up TAC meeting was held on December 14, 2017 to summarize the results of the first community meeting and outline the scope of work for Phase 2 of the Master Plan. The presentation consisted of discussion of the preliminary traffic operations, traffic calming, site-specific pedestrian facility, pedestrian/bicycle facility network improvements plans, and transit study recommendations. TAC members noted the following during the group discussion:

- All traffic data collected previously by the Village should be utilized where possible in the Plan. Many of the locations identified by the community have been studied previously.
- Traffic calming improvements/issues should be examined from an areawide perspective.
- The area near the Wayside Fruit & Vegetable Market was added as an area of further study for pedestrian/bicycle improvements.
- Old Cutler Trail provides pedestrian/bicycle mobility on the east side of the Village, but little is available on the west side of the Village.
- A previous pedestrian/bicycle plan was developed by the Village TAC and adopted by the Village. It should be the basis of any new plan.
- Village wide speed limit reductions should be examined as part of the plan.

The TAC agreed to review the issues summary provided at the meeting and provide any additional input prior to the holiday season. A summary of this meeting and the presentation documents are included in Appendix F.

2.7 PHASE 1 SUMMARY

Through the collective input of stakeholders, the Village TAC, and the community, Phase 1 of the master plan identified specific issues to be analyzed in detail in Phase 2. The following sections summarize the approach for further study of each facet of the master plan.

Traffic Operations

Thirty-one (31) traffic operations issues were identified within the Village as part of Phase 1. Issues identified included traffic signal timing/phasing problems, the need for additional turn lanes, potential roundabout locations, intersection safety, signage deficiencies, and narrow streets. Table 1 and Figure 2 summarize the traffic operations issues identified in Phase 1.

Table 1: Phase 1 Traffic Operations Issues Summary

Traffic Operations Issues		
Issue #	Location	Study Objective & Concerns
1	SW 88 th Street at SW 57 th Avenue	Operations review: eastbound right-turn lane too short, left-turn lane too long.
2	SW 96 th Street at SW 60 th Avenue	Roundabout feasibility.
3	SW 104 th Street at SW 67 th Avenue/Ludlam Road	Examine operations, review detection, and timing. Evaluate need for turn lanes/phases for turning movements.
4	SW 104 th Street at SW 77 th Avenue/Flagler Grove Park	Operations review: examine potential of signalization at US 1/Pinecrest Parkway/SW 110 th Street to provide alternative route to US 1/Pinecrest Parkway south of this location.
5	SW 108 th Terrace at SW 77 th Avenue	Operations review: difficulty getting out of neighborhood during peak periods.
6	SW 112 th Street/Killian Drive at SW 60 th Avenue	Roundabout feasibility.
7	SW 112 th Street/Killian Drive at SW 62 nd Avenue	Roundabout feasibility.
8	SW 112 th Street/Killian Drive/SW 110 th Terrace at SW 72 nd Avenue	Operations/signal timings review and roundabout feasibility.
9	SW 112 th Street/Killian Drive at SW 77 th Avenue	Operations/signal timings review.
10	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Operations/signal timings review.
11	SW 120 th Street at SW 57 th Avenue	Operations review.
12	SW 120 th Street at SW 62 nd Avenue	Roundabout feasibility.
13	SW 120 th Street at SW 72 nd Avenue	Roundabout feasibility.
14	SW 120 th Street at SW 77 th Avenue	Operations review: review southbound operations during P.M. peak.
15	SW 120 th Street at SW 82 nd Avenue	Operations review/possible median/turning restrictions.
16	SW 124 th Street/Chapman Field Drive at SW 62 nd Avenue	Roundabout feasibility.
17	SW 124 th Street/Chapman Field Drive at Old Cutler Road	Safety/operations review. Examine signage enhancements.
18	SW 128 th Street at SW 82 nd Avenue	Roundabout/full signal feasibility.
19	SW 132 nd Street at SW 82 nd Avenue	Roundabout/full signal feasibility.
20	SW 132 nd Street at SW 77 th Avenue	Examine operations, review detection, and timing.
21	SW 136 th Street at SW 72 nd Avenue	Operations review and review southbound operations during P.M. peak.
22	SW 136 th Street at SW 86 th Court/US 1/Pinecrest Parkway	Operations review, median construction, and signal timing.
23	SW 124 th Street/Chapman Field Drive at US 1/Pinecrest Parkway	Operations/signal timings review.
24	SW 128 th Street at US 1/Pinecrest Parkway	Operations/signal timings review.
25	SW 67 th Avenue/Ludlam Road at Villas of Pinecrest Entry	Operations review, median construction, and examine alignment of complex driveway access.
26	SW 79 th Avenue from SW 122 nd Street to SW 124 th Street/Chapman Field Drive	One lane road evaluation.
27	SW 78 th Avenue from SW 128 th Street to SW 129 th Street	One lane road evaluation.
28	SW 72 nd Avenue and SW 104 th Street	Roundabout feasibility.
29	SW 72 nd Avenue and SW 124 th Street/ Chapman Field Drive	Roundabout feasibility.
30	US 1/Pinecrest Parkway at SW 98 th Street	Evaluate potential turn lane lengthening.
31	Village-wide	Improve signal operations/vehicle detection.

Figure 2: Phase 1 Traffic Operations Issues Map



Legend

- Traffic Operations Issues
- Village of Pinecrest

31 *Villagewide



Traffic Calming

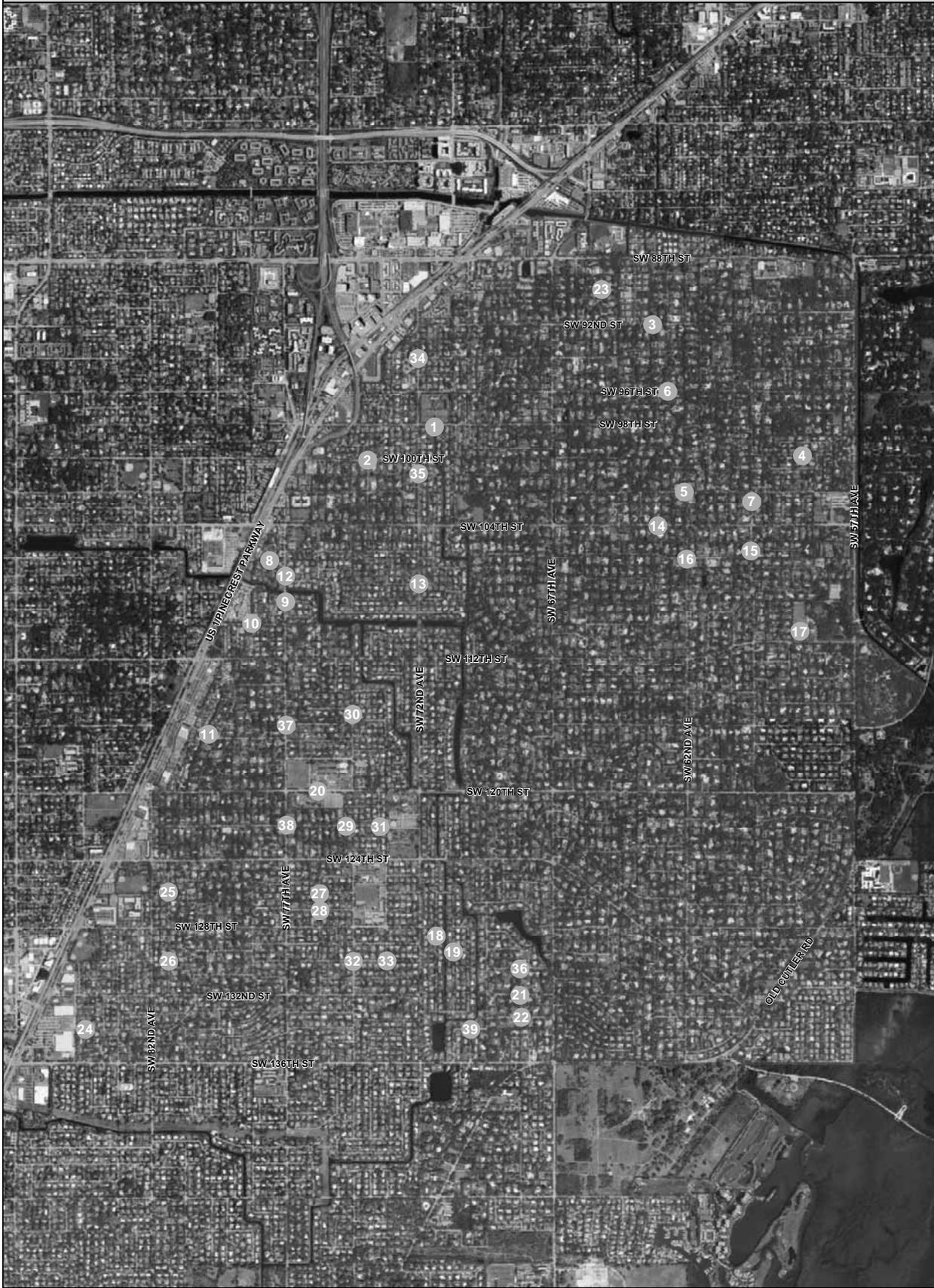
Thirty-six (36) locations were identified in Phase 1 for potential traffic calming improvements where speeding and cut-through traffic/volume were the main concern of residents. Note that corridors immediately adjacent and parallel to corridors identified in Phase 1 were also included as traffic calming is typically implemented on a network basis rather than on one (1) street to avoid shifting traffic volumes from one street with calming features to another without calming features. Table 2 and Figure 3 summarize the traffic calming issues identified during Phase 1.



Table 2: Phase 1 Traffic Calming Issues Summary

Traffic Calming Issues		
Issue #	Location	Study Objective & Concerns
1	SW 98 th Street from US 1/ Pinecrest Parkway to SW 67 th Avenue/Ludlam Road	Cut-through/speeding.
2	SW 100 th Street/SW 73 rd Court from US 1/Pinecrest Parkway to SW 104 th Street	Cut-through/speeding.
3	SW 92 nd Street from SW 67 th Avenue/Ludlam Road to SW 57 th Avenue	Cut-through/speeding.
4	SW 100 th Street from SW 60 th Avenue to SW 57 th Avenue	Cut-through/speeding.
5	SW 102 nd Street from SW 67 th Avenue/ Ludlam Road to SW 57 th Avenue	Speeding.
6	SW 106 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	Cut-through/speeding.
7	SW 77 th Avenue at SW 108 th Terrace	Volume reduction.
8	SW 110 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	Cut-through/speeding.
9	SW 81 st / SW 80 th Road from SW 120 th Street to SW 112 th Street/Killian Drive	Cut-through/speeding.
10	SW 77 th Avenue from SW 104 th Street to SW 112 th Street/Killian Drive	Cut-through
11	SW 72 nd Avenue from SW 104 th Street to 112 th Street/Killian Drive	Volumes/speeding.
12	SW 104 th Street from SW 60 th Avenue to SW 67 th Avenue/Ludlam Road	Speeding.
13	SW 60 th Avenue south of SW 104 th Street	Speeding.
14	SW 111 th Street at Pinecrest Gardens/Village Green	Speeding.
15	SW 71 st Avenue from SW 133 rd Street to SW 124 th Street/Chapman Field Drive	Cut-through/speeding.
16	SW 70 th Avenue from SW 133 rd Street to SW 126 th Street	Cut-through/speeding.
17	SW 120 th /SW 122 nd Street	Cut-Through/enforcement.
18	SW 132 nd Street from SW 69 th Avenue to SW 67 th Avenue/Ludlam Road	Cut-through/speeding.
19	SW 133 rd Terrace from SW 69 th Avenue to SW 67 th Avenue/Ludlam Road	Cut-through/speeding.
20	SW 64 th Court	Speeding.
21	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Cut-through/speeding.
22	SW 81 st Avenue from SW 124 th Street/Chapman Field Drive to SW 128 th Street	Speeding.
23	SW 81 st Avenue from SW 128 th Street to SW 132 nd Street	Resident traffic calming concern.
24	SW 126 th Street from SW 77 th Avenue to SW 74 th Avenue	Resident traffic calming concern.
25	SW 127 th Street from SW 77 th Avenue to SW 74 th Avenue	Resident traffic calming concern.
26	SW 74 th Court from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Resident traffic calming concern.
27	SW 74 th Avenue from 112 th Street/Killian Drive to SW 120 th Street	Resident traffic calming concern.
28	SW 73 rd Avenue from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Resident traffic calming concern.
29	SW 74 th Avenue from SW 128 th Street to SW 132 nd Street	Resident traffic calming concern.
30	SW 73 rd Avenue from SW 128 th Street to SW 132 nd Street	Resident traffic calming concern.
31	SW 72 nd Avenue from US 1/Pinecrest Parkway to SW 98 th Street	Resident traffic calming concern.
32	SW 72 nd Avenue from SW 98 th Street to SW 104 th Street	Resident traffic calming concern.
33	SW 130 th Terrace from SW 69 th Avenue to 67 th Avenue/Ludlam Road	Resident traffic calming concern.
34	SW 77 th Avenue from 112 th Street/Killian Drive to SW 120 th Street	Resident traffic calming concern.
35	SW 77 th Avenue from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Resident traffic calming concern.
36	SW 134 th Street from SW 70 th Avenue to SW 69 th Avenue	Resident traffic calming concern.

Figure 3: Phase 1 Traffic Calming Issues Map



Legend

- Traffic Calming Issues
- Village of Pinecrest

Alternative Modes

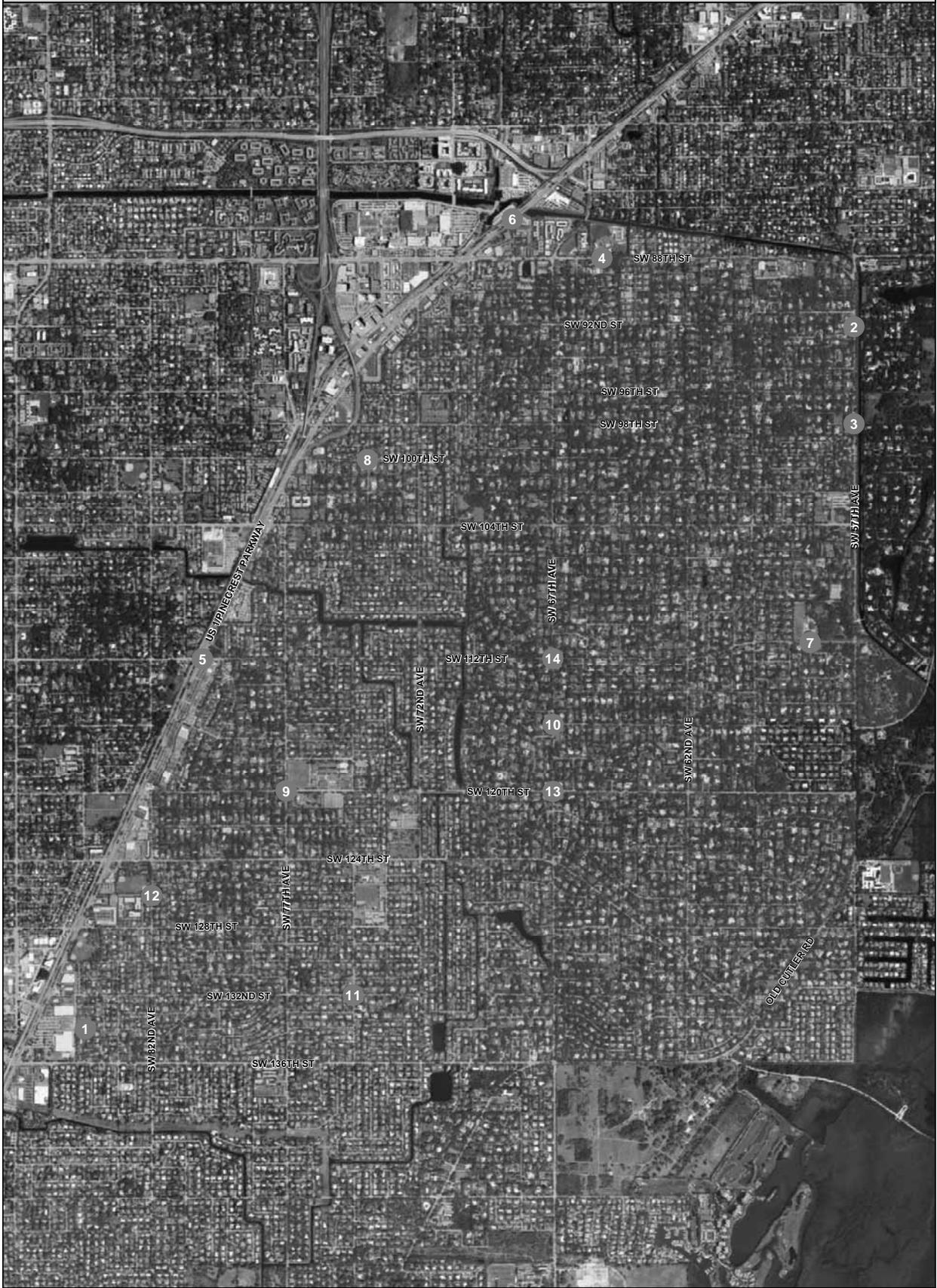
Approximately sixteen (16) issues were identified during Phase 1 that related to improvements to alternatives modes. Areas for further review including the need for additional sidewalks, crosswalks (signalized and unsignalized), and the need for bicycle facilities. Table 3 and Figure 4 summarizes the traffic operations issues identified in Phase 1.



Table 3: Phase 1 Alternative Modes Issues Summary

Alternative Modes Issues		
Issue #	Location	Study Objective & Concerns
1	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Sidewalk evaluation.
2	SW 57 th Avenue between SW 96 th Street and SW 88 th Street/Kendall Drive	Crossing evaluation.
3	SW 57 th Avenue between 96 th Street and SW 100 th Street	Crossing evaluation.
4	SW 88 th Street/Kendall Drive near Gulliver Prep School	Crossing evaluation.
5	112 th Street/Killian Drive at US 1/Pinecrest Parkway	Crossing evaluation.
6	SW 68 th Court at US 1/Pinecrest Parkway	Sidewalk evaluation.
7	SW 111 th Street/Killian Drive near Library	Sidewalk evaluation.
8	SW 100 th Street from SW 72 nd Avenue to SW 73 rd Court and SW 73 rd Court from SW 98 th Street to SW 104 th Street	Sidewalk evaluation.
9	SW 77 th Avenue	Bicycle facilities.
10	SW 67 th Avenue/Ludlam Road	Bicycle facilities.
11	SW 132 nd Street	Sidewalk evaluation.
12	SW 124 th Street/Chapman Field Drive/SW 128 th Street	Improve connectivity between ballfields.
13	SW 120 th Street	Bicycle facilities.
14	SW 112 th Street/Killian Drive	Bicycle facilities.
15	General Comment	Better connectivity to/from Palmetto Bay/Black Point Marina.
16	General Comment	Improve bicycle parking at existing transit stations.

Figure 4: Phase 1 Alternative Modes Issues Map



Legend

- Alternative Modes Issues
- Village of Pinecrest

3 PHASE 2 – TRANSPORTATION MASTER PLAN

Based upon the input provided in Phase 1; data collection, analysis, and evaluations were conducted for each of the subject locations, as applicable. If improvements to address a specific transportation issue were identified; conceptual design, feasibility analysis, and cost estimating were performed.

3.1 TRAFFIC OPERATIONS IMPROVEMENTS

Data Collection

Traffic data was collected as a part of the evaluation of the traffic operations issues identified during Phase 1 at study locations, where appropriate. Data was collected during the typical weekday (Tuesday, Wednesday or Thursday) A.M. peak period and P.M. peak period. Counts were conducted at the following locations:

- SW 88th Street/Kendall Drive at SW 57th Avenue (February 6, 2018)
- SW 96th Street at SW 60th Avenue (February 6, 2018)
- SW 104th Street at SW 67th Avenue/Ludlam Road (February 6, 2018)
- SW 104th Street at SW 77th Avenue/Flagler Grove Park (February 6, 2018)
- SW 104th Street at US 1/Pinecrest Parkway (January 31, 2018)
- SW 108th Terrace at SW 77th Avenue (February 6, 2018)
- SW 110th Street at SW 77th Avenue (February 6, 2018)
- SW 110th Street at US 1/Pinecrest Parkway (February 6, 2018)
- SW 112th Street/Killian Drive at SW 60th Avenue (February 6, 2018)
- SW 112th Street/Killian Drive at SW 62nd Avenue (February 6, 2018)
- SW 112th Street/Killian Drive/SW 110th Terrace at SW 72nd Avenue (February 6, 2018)
- SW 112th Street/Killian Drive at SW 77th Avenue (February 6, 2018)
- SW 112th Street/Killian Drive at US 1/Pinecrest Parkway (January 31, 2018)
- SW 120th Street at SW 57th Avenue (February 6, 2018)
- SW 120th Street at SW 62nd Avenue (February 6, 2018)
- SW 120th Street at SW 72nd Avenue (February 6, 2018)
- SW 120th Street at SW 77th Avenue (February 6, 2018)
- SW 120th Street at SW 82nd Avenue (February 6, 2018)
- SW 120th Street at US 1/Pinecrest Parkway (February 6, 2018)
- SW 124th Street/Chapman Field Drive at SW 62nd Avenue (February 6, 2018)
- SW 124th Street/Chapman Field Drive at Old Cutler Road (February 6, 2018)
- SW 128th Street at SW 82nd Avenue (February 6, 2018)
- SW 132nd Street at SW 82nd Avenue (February 6, 2018)
- SW 132nd Street at SW 77th Avenue (February 6, 2018)
- SW 136th Street at SW 72nd Avenue (February 6, 2018)
- SW 136th Street at SW 85th Avenue/OfficeMax West Driveway (February 6, 2018)
- SW 136th Street at Ocean Bank/OfficeMax East Driveway (February 6, 2018)
- SW 136th Street at Bank of America/Colonial Palms Driveway (February 6, 2018)

- SW 136th Street at US 1/Pinecrest Parkway (January 31, 2018)
- SW 124th Street/Chapman Field Drive at US 1/Pinecrest Parkway (January 31, 2018)
- SW 128th Street at US 1/Pinecrest Parkway (January 31, 2018)
- SW 67th Avenue/Ludlam Road at Villas of Pinecrest Entry (February 6, 2018)
- SW 88th Street at SW 67th Avenue/Ludlam Road (February 6, 2018)
- SW 79th Avenue at SW 120th Street (February 6, 2018)
- SW 79th Avenue at SW 122nd Street (February 6, 2018)
- SW 79th Avenue at SW 124th Street/Chapman Field Drive (February 6, 2018)
- SW 78th Avenue at SW 124th Street/Chapman Field Drive (February 6, 2018)
- SW 78th Avenue at SW 125th Street/Terrace (February 6, 2018)
- SW 78th Avenue at SW 126th Terrace (February 6, 2018)
- SW 78th Avenue at SW 128th Street (February 6, 2018)
- SW 104th Street at Miami-Dade Transitway (January 31, 2018)
- SW 112th Street/Killian Drive at Miami-Dade Transitway (January 31, 2018)
- SW 136th Street at Miami-Dade Transitway (January 31, 2018)
- SW 124th Street/Chapman Field Drive at Miami-Dade Transitway (January 31, 2018)
- SW 128th Street at Miami-Dade Transitway (January 31, 2018)
- SW 72nd Avenue at SW 104th Street (March 6, 2018)
- SW 72nd Ave at SW 124th Street/Chapman Field Drive (June 5, 2018)

The peak period turning movement count data is included in Appendix G.

Field Reviews

In order to confirm the traffic operations issue identified at each location during Phase 1, peak period field reviews were conducted to observe traffic conditions. Field reviews were conducted on February 21, 2018 and February 22, 2018 throughout each day qualitatively examining each issue.

Future Traffic Forecasting

As part of the assessment, future growth in traffic volumes was estimated to provide additional insight on the effectiveness and lifespan of the potential improvements. Traffic growth rates for roadways within the Village were obtained from volume data extracted from the *Southeast Florida Regional Planning Model (SERPM)* – Version 7.071 which was developed and is maintained by the Florida Department of Transportation (FDOT) and Miami-Dade County's Transportation Planning Organization (TPO). The model provides for both validation year (year 2010) and long range (year 2040) year traffic volumes. A comparison of the volumes on each Village roadway in the model was conducted to identify an annual areawide growth rate to be applied to all traffic volumes collected in the analysis. The analysis yielded an areawide annual growth rate of 0.52 percent (0.52%). Additionally, a background growth rate was calculated based on historical FDOT count station data. FDOT count stations referenced in this analysis include count stations along US 1/Pinecrest Parkway. Growth trends yielded a growth rate of 0.58 percent (0.58%). To provide for a conservative analysis, a 0.6 percent (0.6%) annual growth rate was assumed. Detailed growth rate analyses are included in Appendix H.

Operational Analysis

Operational analysis for conventional intersections was conducted at each Phase 1 location utilizing Trafficware's *Synchro 10* software which utilizes the methodologies found in the Transportation Research Boards' *Highway Capacity Manual*, 2010 Edition. For intersections where roundabouts exist or are being considered as part of the Master Plan, Akcelik & Associates' *Sidra* Version 7 software was used to evaluate operations. Operational analysis results are provided for each peak hour period on an 'average delay per entering vehicle' or 'seconds per vehicle' basis. Based upon that numerical result, a 'level of service' (LOS) is provided based on the letters A through F. LOS A represents the best operating conditions, LOS E represents operating conditions on the brink of failure, and LOS F represents failing operating conditions. Additionally, the analysis software can provide other important results including queuing lengths by specific lanes as well as the ability to test potential changes to traffic signal timing and phasing. Refer to Appendix I for the detailed operational analysis results for each Phase 1 location.

Table 4 summarizes the results of the intersection operational analysis performed at the study locations where the resulting LOS for the intersection were examined. As noted in the table, the majority of intersections were examined for a potential roundabout or a full signalized intersection. However, the following locations were analyzed for general operations or other geometric/signalization improvements:

- Issue #5: SW 108th Terrace at SW 77th Avenue – examined overall operations.
- Issue #9: SW 112th Street/Killian Drive at SW 77th Avenue – examined potential signal timing modifications.
- Issue #14: SW 120th Street at SW 77th Avenue – examined signal timing modifications.
- Issue #17: SW 124th Street/Chapman Field Drive at Old Cutler Road – examined overall operations.
- Issue #20: SW 132nd Street at SW 77th Avenue – examined signing timing modifications and a potential roundabout.
- Issue #22: SW 136th Street at SW 86th Court/US 1/Pinecrest Parkway – examined overall operations.

Note that Table 4 may indicate that same LOS grade between the existing geometry and the proposed geometry. However, the detailed operational analysis may indicate that the average delay per vehicle under one scenario is less than another scenario. Refer to Appendix I for detailed information regarding the average delay per vehicle.

Turn lane operations were examined at two (2) locations: the northbound left-turn movement at SW 104th Street at SW 67th Avenue/Ludlam Road and the eastbound left-turn movement at SW 120th Street at SW 57th Avenue/Old Cutler Road. Table 5 summarizes the results of this analysis. At the intersection of SW 104th Street at SW 67th Avenue/Ludlam Road, implementation of a northbound left-turn protected signal phase was examined. At the intersection of SW 120th Street and SW 57th Avenue/Old Cutler Road, the eastbound left-turn lane queue length was examined to determine if signal timing modification would reduce queues.

Initial Improvement Evaluation and Recommendations

Based upon the data collection, field reviews, future traffic volumes, and operational analysis; each improvement was evaluated to determine the overall initial recommendation for the Master Plan. Table 6 presents the initial recommendations of the Master Plan that was presented to stakeholders, the TAC, and to the public.



Table 4: Traffic Operations Analysis Results Summary

Intersection Operational Analysis								
Issue #	Location	Analysis Objective	Analysis Results - Level of Service (LOS) Existing (Future)					
			A.M. Peak Period			P.M. Peak Period		
			Existing Geometry	Round - about	Other Geometry/ Signalization Changes	Existing Geometry	Round - about	Other Geometry/ Signalization Changes
2	SW 96 th Street at SW 60 th Avenue	Roundabout feasibility.	B (B)	A (A)	N/A	A (A)	A (A)	N/A
5	SW 108 th Terrace at SW 77 th Avenue	Operations review: difficulty leaving neighborhood during peak periods.	B (C)	N/A	N/A	C (C)	N/A	N/A
6	SW 112 th Street/ Killian Drive at SW 60 th Avenue	Roundabout feasibility.	B (B)	A (A)	N/A	B (B)	A (A)	N/A
7	SW 112 th Street/ Killian Drive at SW 62 nd Avenue	Roundabout feasibility.	B (C)	A (B)	N/A	B (B)	A (A)	N/A
8	SW 112 th Street/ Killian Drive/SW 110 th Terrace at SW 72 nd Avenue	Roundabout feasibility.	B (B)	C (D)	N/A	B (B)	B (C)	N/A
9	SW 112 th Street/Killian Drive at SW 77 th Avenue	Operations review: signal timings.	B (C)	N/A	B (C)	B (C)	N/A	B (B)
12	SW 120 th Street at SW 62 nd Avenue	Roundabout feasibility.	C (F)	B (B)	N/A	B (B)	A (A)	N/A
13	SW 120 th Street at SW 72 nd Avenue	Roundabout feasibility.	E (F)	B (C)	N/A	C (E)	B (B)	N/A
14	SW 120 th Street at SW 77 th Avenue	Operations review: southbound P.M. peak extensive queues.	B (C)	N/A	B (C)	B (B)	N/A	B (B)
16	SW 124 th Street/Chapman Field Drive at SW 62 nd Avenue	Roundabout feasibility.	B (B)	A (A)	N/A	A (A)	A (A)	N/A
17	SW 124 th Street/Chapman Field Drive at Old Cutler Road	Operations review: examine signage enhancements.	B (B)	N/A	N/A	B (C)	N/A	N/A
18	SW 128 th Street at SW 82 nd Avenue	Full signal/roundabout feasibility.	C (D)	A (B)	B (B)	E (F)	B (C)	B (B)
19	SW 132 nd Street at SW 82 nd Avenue	Full Signal/ Roundabout Feasibility	D (E)	B (B)	B (B)	E (F)	B (C)	B (B)
20	SW 132 nd Street at SW 77 th Avenue	Operations review: signal timing and roundabout feasibility.	B (B)	C (E)	B (B)	A (A)	D (F)	A (A)
22	SW 136 th Street at SW 86 th Court/US 1/Pinecrest Parkway	Operations review: timings and median construction.	D (D)	N/A	N/A	D (E)	N/A	N/A
28	SW 72 nd Avenue at SW 104 th Street	Roundabout feasibility.	B (C)	E (F)	N/A	B (B)	B (C)	N/A
29	SW 72 nd Avenue at SW 124 th Street/Chapman Field Drive	Roundabout feasibility.	C (E)	A (B)	N/A	C (C)	A (B)	N/A

Table 5: Turn Lane Analysis Results Summary

Turn Lane Queuing Analysis							
Issue #	Location	Analysis Objective	Study Turning Movement	Analysis Results - Queue Length (ft.) Existing (Future)			
				A.M. Peak Period		P.M. Peak Period	
				Existing Geometry/ Phasing	Geometry/ Signalization Changes	Existing Geometry/ Phasing	Geometry/ Signalization Changes
3	SW 104 th Street at SW 67 th Avenue/ Ludlam Road	Evaluate need for turn lanes/ phases for turning movements	Northbound Left-Turn	106 (147)	82 (101)	97 (188) ⁽¹⁾	39 (69) ⁽¹⁾
11	SW 120 th Street at SW 57 th Avenue	Evaluate length/queue of eastbound left-turn lane	Eastbound Left-Turn	221 ⁽¹⁾ (138) ⁽¹⁾	201 ⁽¹⁾ (127) ⁽¹⁾	85 (94)	85 (85)

NOTE: ⁽¹⁾ Queue shown is maximum after two cycles. The 95th percentile volume exceeds capacity, queue may be longer.



Table 6: Initial Improvement Evaluation and Recommendations Summary

Initial Improvement Evaluation and Recommendations				
Issue #	Location	Analysis Objective	Analysis Summary	Initial Recommendations
1	SW 88 th Street/Kendall Drive at SW 57 th Avenue	Operations review: eastbound right-turn lane length insufficient.	The condition was verified in the field.	Lengthen the eastbound right-turn lane.
2	SW 96 th Street at SW 60 th Avenue	Roundabout feasibility.	Roundabout provides improved operations; however, TAC/residents not supportive of roundabout. Residents supportive of raised intersection.	Move issue to Traffic Calming Improvements.
3	SW 104 th Street at SW 67 th Avenue/Ludlam Road	Operations review: review detection and timing. Evaluate need for lengthened turn lanes/turn phases.	Northbound left-turn queue extends beyond storage during peak period. Northbound left-turn lane phase meets warrants.	Add northbound left-turn protected phase.
4	SW 104 th Street at SW 77 th Avenue/Flagler Grove Park	Operations review: examine potential of signalization at US 1/Pinecrest Parkway/SW 110 th Street to provide alternative route to US 1/Pinecrest Parkway south of this location	Lengthy NB queues in AM due to NBL volume; Add lane for dual NBL and modify signal. Signal at US 1/Pinecrest Parkway at SW 110 th Street not warranted.	Install dual northbound left-turn lanes.
5	SW 108 th Terrace at SW 77 th Avenue	Operations review: difficulty leaving neighborhood during peak periods.	Occasional northbound queuing in AM peak blocked side street movements; refer to traffic calming section improvements	No recommended operational improvements.
6	SW 112 th Street/Killian Drive at SW 60 th Avenue	Roundabout feasibility.	Roundabout provides improved operations; however, TAC/residents not supportive of roundabout.	No recommended operational improvements.
7	SW 112 th Street/Killian Drive at SW 62 nd Avenue	Roundabout feasibility.	Roundabout provides improved operations; however, TAC/residents not supportive of roundabout.	No recommended operational improvements.
8	SW 112 th Street/Killian Drive/SW 110 th Terrace at SW 72 nd Avenue	Roundabout feasibility.	Operations degrade with roundabout installation.	No recommended operational improvements.
9	SW 112 th Street/Killian Drive at SW 77 th Avenue	Operations review: signal timings (EW approaches).	Condition verified; signal timings should allow for more EW green time.	Contact Miami-Dade County to modify signal timings.
10	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Operations review: signal timings (EW approaches).	Miami-Dade County is currently retiming corridor to improve US 1/Pinecrest Parkway/Transitway operations.	Address timings with Miami-Dade County at a future date.
11	SW 120 th Street at SW 57 th Avenue	Operations review: eastbound left-turn lane queue.	Eastbound left-turn lane insufficient. Multiple conflict points exist at closely spaced intersections per field review.	Lengthen eastbound left-turn lane, add raised medians, & modify Moss Ranch Road intersection.
12	SW 120 th Street at SW 62 nd Avenue	Roundabout feasibility.	Roundabout provides improved operations; however, TAC not supportive of roundabout.	No recommended operational improvements.
13	SW 120 th Street at SW 72 nd Avenue	Roundabout feasibility.	Roundabout provides improved operations.	Install roundabout.
14	SW 120 th Street at SW 77 th Avenue	Operations review: southbound P.M. peak queue.	Conditions verified; signal timing modifications will improve operations.	Contact Miami-Dade County to modify signal timings.
15	SW 120 th Street at SW 82 nd Avenue	Operations review: northbound left-turn movement.	Northbound queues caused by northbound left-turn movement spill back from US 1/Pinecrest Parkway.	Install median to prohibit northbound left-turn but permit westbound left-turn.
16	SW 124 th Street/Chapman Field Drive at SW 82 nd Avenue	Roundabout feasibility.	Roundabout provides improved operations; traditional roundabout design not feasible. Modifications could provide separate intersections along SW 62 nd Avenue; however, TAC/residents not supportive of separate intersections.	No recommended operational improvements.
17	SW 124 th Street/Chapman Field Drive at Old Cutler Road	Safety/operations review: examine signage enhancements.	Signage does not meet current standards. Existing vegetation partially blocks sight distance triangle.	Install new signage and trim vegetation.
18	SW 128 th Street at SW 82 nd Avenue	Roundabout/full signal feasibility.	Roundabout provides improved operations.	Install roundabout.
19	SW 132 nd Street at SW 82 nd Avenue	Roundabout/full signal feasibility.	Roundabout provides improved operations.	Install roundabout.
20	SW 132 nd Street at SW 77 th Avenue	Operations review: signal timings, detection, and roundabout feasibility.	Operations degrade with roundabout installation. Directional queues during peaks observed; signal timing modifications will improve operations.	Contact Miami-Dade County to modify signal timings.
21	SW 136 th Street at SW 72 nd Avenue	Operations review: examine southbound P.M. peak operations.	Conditions verified during P.M. peak period.	Install southbound right-turn lane.



Village of Pinecrest

TRANSPORTATION MASTER PLAN



Initial Improvement Evaluation and Recommendations			
Issue #	Location	Analysis Objective	Analysis Summary
22	SW 136 th Street at SW 86 th Court/US 1/ Pinecrest Parkway	Operations review: signal timing and median construction.	Miami-Dade County is currently retiming corridor to improve US 1/Pinecrest Parkway/Transitway operations. Numerous turning conflict points observed.
23	SW 124 th Street/Chapman Field Drive at US 1/Pinecrest Parkway	Operations review: signal timings.	Miami-Dade County is currently retiming corridor to improve US 1/Pinecrest Parkway/Transitway operations.
24	SW 128 th Street at US 1/Pinecrest Parkway	Operations review: signal timings.	Miami-Dade County is currently retiming corridor to improve US 1/Pinecrest Parkway/Transitway operations.
25	SW 67 th Avenue/Ludlum Road at Villas of Pinecrest Entry	Operations review: northbound left-turn movement.	Northbound left-turn vehicles queue in through lane. Restrictive median not supported by TAC/residents. Northbound left-turn lane installation supported.
26	SW 79 th Avenue from SW 122 nd Street to SW 124 th Street/Chapman Field Drive	Operations review: potential two (2) lane two (2) way operation.	Volumes indicate road operates as two (2) way (heavily directional).
27	SW 78 th Avenue from SW 128 th Street to SW 129 th Street	Operations review: potential two (2) lane two (2) way operation.	Volumes indicate road operations at one (1). Signage and pavement markings unclear.
28	SW 72 nd Avenue at SW 104 th Street	Roundabout feasibility.	Operations degrade with roundabout installation.
29	SW 72 nd Avenue at SW 124 th Street/Chapman Field Drive	Roundabout feasibility.	Roundabout provides improved operations; Right-of-way acquisition required.
30	US 1/Pinecrest Parkway at SW 98 th Street	Operations review: westbound right-turn lane	Field reviews verified benefit of westbound right-turn lane
31	Villagewide	Improve signal operations and vehicle detection.	Installation will improve signal operations Village wide
			Initial Recommendations
			Address timings with Miami-Dade County at a future date. Install raised landscaped median.
			Address timings with Miami-Dade County at a future date.
			Address timings with Miami-Dade County at a future date.
			Install northbound left-turn lane into development.
			Widen road to provide for two (2) way operation.
			Install missing one-way signage/pavement markings.
			No recommended operational improvements.
			Install roundabout. Obtain required right-of-way.
			Install westbound right-turn lane.
			Install new detection on programmatic basis.



Kimley-Horn

Conceptual Design/Feasibility Analysis

Upon completion of the data collection, field reviews, and operational analysis; conceptual designs were developed for locations where feasibility required a more detailed evaluation. Conceptual designs were developed using the aerial photography and property line/right-of-way data obtained from the Miami-Dade County Property Appraiser. Conceptual designs/feasibility analyses were prepared at the following locations:

- Issue #1: SW 88th Street/Kendall Drive at SW 57th Avenue – eastbound right-turn lane improvement
- Issue #3: SW 104th Street at SW 67th Avenue/Ludlam Road – northbound left-turn phase improvement
- Issue #4: SW 104th Street at SW 77th Avenue – northbound dual left-turn lane improvement
- Issue #11: SW 120th Street at SW 57th Avenue – eastbound left-turn lane improvement with raised medians and intersection reconfiguration
- Issue #13: SW 120th Street at SE 72nd Avenue – roundabout
- Issue #15: SW 120th Street at SW 82nd Avenue – raised median/turning restriction
- Issue #17: SW 124th Street/Chapman Field Drive at Old Cutler Road – signage improvements
- Issue #18: SW 128th Street at SW 82nd Avenue – roundabout
- Issue #19: SW 132nd Street at SW 82nd Avenue – roundabout
- Issue #21: SW 136th Street at SW 72nd Avenue – southbound right-turn lane improvement
- Issue #22: SW 136th Street at SW 86th Court/US1/Pinecrest Parkway – raised median improvement
- Issue #25: SW 67th Avenue/Ludlam Road at Villas at Pinecrest Driveway – northbound left-turn lane improvement
- Issue #26: SW 79th Avenue from SW 120th Street to SW 124th Street/ Chapman Field Drive – two (2) lane roadway improvement
- Issue #27: SW 78th Avenue from SW 128th Street to SW 129th Street one (1) way signing and pavement marking improvement
- Issue #29: SW 124th Street/Chapman Field Drive at SW 72nd Avenue – roundabout
- Issue #30: US 1/Pinecrest Parkway at SW 98th Street – westbound right-turn lane improvement

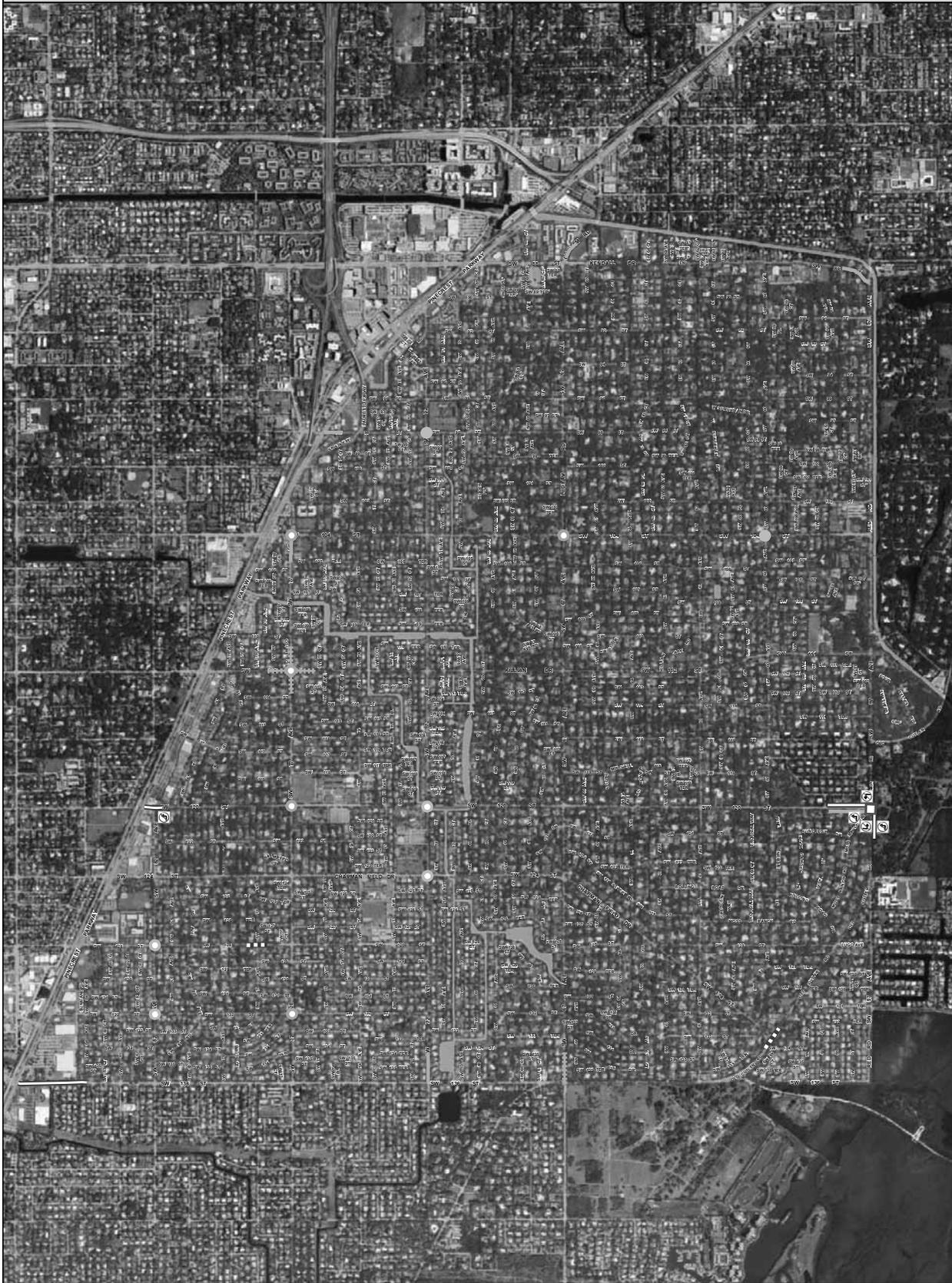
Conceptual design plans for the feasible improvements can be found in Appendix J. Refer to Figure 5 for the initial proposed traffic operations improvement plan.

Planning Cost Estimates

Planning-level cost estimates were developed for the proposed improvements based upon current industry standards and general trends in construction costs. It should be noted that the cost estimates provided are based on information known at this time and are subject to change based up further engineering analyses. Table 7 summarizes the approximate cost of each traffic operation improvement.



Figure 5: Initial Traffic Operations Improvement Plan



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
● Planned Roundabout	□ Geometry Modifications	▬ New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening





Table 7: Initial Traffic Operations Improvements Cost Estimate Summary

Planning Level Cost Estimate Summary			
Issue #	Location	Initial Recommendations	Planning Cost Estimate
1	SW 88 th Street/Kendall Drive at SW 57 th Avenue	Lengthen the eastbound right-turn lane.	\$75,000
2	SW 96 th Street at SW 60 th Avenue	No recommended operational improvements.	N/A
3	SW 104 th Street at SW 67 th Avenue/Ludlam Road	Add northbound left-turn protected phase.	\$65,000
4	SW 104 th Street at SW 77 th Avenue/ Flagler Grove Park	Install dual northbound left-turn lanes.	\$95,000
5	SW 108 th Terrace at SW 77 th Avenue	No recommended operational improvements.	N/A
6	SW 112 th Street/Killian Drive at SW 60 th Avenue	No recommended operational improvements.	N/A
7	SW 112 th Street/Killian Drive at SW 62 nd Avenue	No recommended operational improvements.	N/A
8	SW 112 th Street/Killian Drive/SW 110 th Terrace at SW 72 nd Avenue	No recommended operations improvements.	N/A
9	SW 112 th Street/Killian Drive at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
10	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
11	SW 120 th Street at SW 57 th Avenue	Lengthen eastbound left-turn lane, add raised medians, & modify Moss Ranch Road intersection.	\$100,000
12	SW 120 th Street at SW 62 nd Avenue	No recommended operational improvements.	N/A
13	SW 120 th Street at SW 72 nd Avenue	Install roundabout.	\$125,000
14	SW 120 th Street at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
15	SW 120 th Street at SW 82 nd Avenue	Install median to prohibit northbound left-turn but permit westbound left-turn.	\$65,000
16	SW 124 th Street/Chapman Field Drive at SW 62 nd Avenue	No recommended operational improvements.	N/A
17	SW 124 th Street/Chapman Field Drive at Old Cutler Road	Install new signage and trim vegetation.	\$5,000
18	SW 128 th Street at SW 82 nd Avenue	Install roundabout.	\$125,000
19	SW 132 nd Street at SW 82 nd Avenue	Install roundabout.	\$125,000
20	SW 132 nd Street at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
21	SW 136 th Street at SW 72 nd Avenue	Install southbound right-turn lane.	\$50,000
22	SW 136 th Street at SW 86 th Court/US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date. Install raised landscaped median.	\$50,000
23	SW 124 th Street/Chapman Field Drive at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
24	SW 128 th Street at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
25	SW 67 th Avenue/Ludlam Road at Villas of Pinecrest Entry	Install a northbound left-turn lane.	\$150,000
26	SW 79 th Avenue from SW 122 nd Street to SW 124 th Street/Chapman Field Drive	Widen road to provide for two (2) way operation.	\$150,000
27	SW 78 th Avenue from SW 128 th Street to SW 129 th Street	Install missing one-way signage/pavement markings.	\$2,000
28	SW 72 nd Avenue at SW 104 th Street	No recommended operational improvements.	N/A
29	SW 72 nd Avenue at SW 124 th Street/Chapman Field Drive	Install roundabout. Obtain required right-of-way (not included in cost).	\$125,000
30	US 1/Pinecrest Parkway at SW 98 th Street	Install westbound right-turn lane.	\$50,000
31	Villagewide	Install new detection on programmatic basis.	\$630,000
Total Traffic Operations Improvement Costs			\$1,987,000

Note: Costs do not include costs for any potential right-of-way acquisition.

3.2 TRAFFIC CALMING IMPROVEMENTS

Data Collection

Traffic data was collected as a part of the evaluation of the thirty-nine (39) traffic calming issues identified during Phase 1 along study corridors. The majority of data was collected during the typical weekday (Tuesday, Wednesday or Thursday). Total volume and speed counts were conducted during a twenty-four (24) hour period at the following locations:

- SW 92nd Street east of SW 67th Avenue/Ludlam Road
- SW 92nd Street east of SW 62nd Court
- SW 91st Street west of SW 57th Avenue
- SW 98th Street west of SW 73rd Avenue
- SW 98th Street east of SW 70th Avenue
- SW 98th Street west of SW 67th Avenue/Ludlam Road
- SW 73rd Court north of SW 104th Street
- SW 100th Street west of SW 73rd Court
- SW 100th Street east of SW 60th Avenue
- SW 100th Street west of SW 57th Avenue
- SW 106th Street east of SW 77th Court
- SW 77th Avenue south of SW 104th Street
- SW 77th Avenue north of SW 107th Street
- SW 77th Avenue north of SW 110th Street
- SW 77th Avenue north of SW 112th Street/Killian Drive
- SW 110th Street east of SW 78th Avenue
- SW 81st Road north of SW 120th Street
- SW 81st Road north of SW 117th Street
- SW 80th Road north of SW 120th Street
- SW 80th Road north of SW 117th Street
- SW 71st Avenue south of SW 124th Street/Chapman Field Drive
- SW 71st Avenue north of SW 130th Street
- SW 70th Avenue south of SW 128th Street
- SW 120th Street east of SW 77th Avenue
- SW 122nd Street east of SW 77th Avenue
- SW 132nd Street between SW 69th Avenue & SW 67th Avenue/Ludlam Road
- SW 133rd Terrace between SW 69th Avenue & SW 67th Avenue/Ludlam Road
- SW 104th Street east of SW 67th Avenue/Ludlam Road
- SW 104th Street west of SW 60th Avenue
- SW 128th Street east of SW 67th Avenue/Ludlam Road
- SW 129th Terrace east of SW 67th Avenue/Ludlam Road
- SW 64th Court south of SW 124th Street/Chapman Field Drive
- SW 60th Avenue between SW 120th Street & SW 112th Street/Killian Drive
- SW 60th Avenue between SW 112th Street/Killian Drive & SW 104th Street
- SW 81st Avenue between SW 124th Street/Chapman Field Drive & SW 128th Street



- SW 102nd Street west of SW 57th Avenue
- SW 102nd Street east of SW 67th Avenue/Ludlam Road
- SW 84th Avenue between SW 136th Street & SW 132nd Street
- SW 72nd Avenue north of SW 110th Terrace
- SW 72nd Avenue south of SW 106th Street
- SW 81st Avenue north of SW 128th Street
- SW 81st Avenue between SW 124th Street/Chapman Field Drive & SW 128th Street
- SW 81st Avenue between SW 128th Street & SW 132nd Street
- SW 126th Street between SW 77th Avenue & SW 74th Avenue
- SW 127th Street between SW 77th Avenue & SW 74th Avenue
- SW 74th Court between SW 120th Street & SW 124th Street/Chapman Field Drive
- SW 74th Avenue between SW 112th Street/Killian Drive & SW 120th Street
- SW 73rd Avenue between SW 120th Street & SW 124th Street/Chapman Field Drive
- SW 74th Avenue between SW 128th Street & SW 132nd Street
- SW 73rd Avenue between SW 128th Street & SW 132nd Street
- SW 72nd Avenue between US 1/Pinecrest Parkway & SW 98th Street
- SW 72nd Avenue between SW 98th Street & SW 104th Street
- SW 130th Terrace between SW 69th Avenue SW 67th Avenue/Ludlam Road
- SW 77th Avenue between SW 112th Street/Killian Drive & SW 120th Street
- SW 77th Avenue between SW 120th Street & SW 124th Street/Chapman Field Drive
- SW 134th Street between SW 69th Court & SW 69th Avenue

Field Reviews

In order to confirm the traffic calming issues identified at each location during Phase 1, peak period field reviews were conducted to observe traffic conditions. Field reviews were conducted on February 21, 2018 and February 22, 2018 throughout each day.

Traffic Calming Criteria Analysis

The criteria for the installation of traffic calming device were established by Miami-Dade County's Department of Transportation and Public Works in January 2009 in the *Traffic Flow Modification(s)/Street Closure(s) Procedure* document. Six (6) criteria are identified: Minimum Traffic Flow (daily and peak hour), 85th Percentile Speed, Correctable Accidents per Year, Peak Hour Cut-through Traffic, Peak Hour Pedestrian Crossing Volume, and Resident/Property Owner Concurrence. It should be noted that the minimum thresholds for the Minimum Traffic Flow criterion can be reduced by 30 percent and for the 85th Percentile Speed criterion by 50 percent at the request of municipalities that provide funding for their own traffic calming program. For purposes of this Master Plan, those reductions were applied. Note that the Minimum Traffic Flow criterion and at least one (1) of the other must be met to be eligible for traffic calming improvements.

Different criteria have been established for residential local streets and residential collector streets. For purposes of this Master Plan the following criteria were the focus of the analysis:

- **Minimum Traffic Flow** – For local streets, daily traffic volumes must be between 1,050 and 3000 vehicles per day (vpd) and peak hour volumes must be between 105 and 300



vehicles per hour to meet the criteria. For collector streets, daily traffic volumes must be between 2,100 and 8,000 vehicles per day (vpd) and peak hour volumes must be between 210 and 800 vehicles per hour to meet the criteria. Note that the lower thresholds account for a thirty percent (30%) reduction in the criteria values from the County's *Traffic Flow Modification(s)/Street Closure(s) Procedure* as the roadway segments are within a municipal boundary. Also, it should be noted that any roadway segments carrying more vehicles than the upper threshold and are not eligible for traffic calming devices.

- **85th Percentile Speed** – For local and collector streets, the 85th percentile speed must exceed 5 miles per hour over the speed limit. Note that this accounts for a 50% reduction in the criteria from the County's *Traffic Flow Modification(s)/Street Closure(s) Procedure* as the roadway segments are within a municipal boundary.
- **Peak Hour Cut-Through Traffic** – Roadways identified with a directional volume disparity greater than 25 percent (25%) are considered cut-through routes.

Note that the requirement of resident/property owner concurrence can be obtained by approved from two-thirds approval affected property owners or a resolution of support from the Village Council.

Table 8 summarizes the results of the traffic calming analysis using the subject criteria. As indicated, twenty-one (21) of the thirty-six (36) study segments met the criteria for traffic calming.



Table 8: Traffic Calming Criteria Analysis Summary

Traffic Calming Criteria						
Issue #	Location	Data Points	Miami-Dade Traffic Calming Criteria (Must Meet Criterion #1, #2 and/or #3)			Traffic Calming Criteria Met?
			#1: Exceeds Livability Threshold	#2: Speeding	#3: Cut- Through Traffic	
1	SW 98 th Street from US 1/Pinecrest Parkway to SW 67 th Avenue/Ludlam Road	W/O SW 73 rd Avenue	Yes	Yes	No	Yes
		E/O SW 70 th Avenue	Yes	Yes	No	
		W/O SW 67 th Avenue/ Ludlam Rd	Yes	Yes	No	
2	SW 100 th Street/SW 73 rd Court from US 1/ Pinecrest Parkway to SW 104 th Street	SW 73 rd Court N/O SW 104 th Street	Yes	Yes	Yes	Yes
		SW 100 th Street W/O SW 73 rd Court	Yes	No	Yes	
3	SW 92 nd Street from SW 67 th Avenue/ Ludlam Road to SW 57 th Avenue	E/O SW 67 th Avenue/Ludlam Road	Yes	No	Yes	Yes
		E/O SW 62 nd Court	Yes	No	Yes	
		SW 91 st Street W/O SW 57 th Avenue	Yes	No	Yes	
4	SW 100 th Street from SW 60 th Avenue to SW 57 th Avenue	E/O SW 60 th Avenue	Yes	Yes	Yes	Yes
		W/O SW 57 th Avenue	Yes	No	No	
5	SW 102 nd Street from SW 67 th Avenue/ Ludlam Road to SW 57 th Avenue	W/O SW 57 th Avenue	Yes	No	N/A	Yes
		E/O SW 67 th Avenue /Ludlam Rd	Yes	Yes	No	
6	SW 106 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	E/O SW 77 th Court	Yes	No	Yes	Yes
7	SW 77 th Avenue at SW 108 th Terrace	S/O SW 104 th Street	Over ⁽¹⁾	No	Yes	No ⁽¹⁾
		N/O SW 107 th Street	Over ⁽¹⁾	No	Yes	
		N/O SW 110 th Street	Over ⁽¹⁾	Yes	Yes	
		N/O SW 112 th Street/ Killian Drive	Over ⁽¹⁾	No	Yes	
8	SW 110 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	E/O SW 78 th Avenue	Yes	Yes	Yes	Yes
9	SW 81 st / SW 80 th Road from SW 120 th Street to SW 112 th Street/Killian Drive	SW 81 st Road N/O SW 120 th Street	Yes	Yes	Yes	Yes
		SW 81 st Road N/O SW 117 th Street	Yes	No	Yes	
		SW 80 th Road N/O SW 120 th Street	Yes	No	Yes	
		SW 80 th Road N/O SW 117 th Street	Yes	Yes	Yes	
10	SW 77 th Avenue from SW 104 th Street to SW 112 th Street/ Killian Drive	S/O SW 104 th Street	Over ⁽¹⁾	No	Yes	No ⁽¹⁾
		N/O SW 107 th Street	Over ⁽¹⁾	No	Yes	
		N/O SW 110 th Street	Over ⁽¹⁾	Yes	Yes	
		N/O SW 112 th Street/ Killian Drive	Over ⁽¹⁾	No	Yes	
11	SW 72 nd Avenue from SW 104 th Street to SW 112 th Street/ Killian Drive	N/O SW 110 th Terrace	Yes	No	No	Yes
		S/O SW 106 th Street	Yes	Yes	No	
12	SW 104 th Street from SW 60 th Avenue to SW 67 th Avenue/ Ludlam Road	E/O SW 67 th Avenue /Ludlam Road	Yes	No	No	No
		W/O SW 60 th Avenue	Yes	No	No	
13	SW 60 th Avenue south of SW 104 th Street	Bet. SW 120 th Street & SW 112 th Street/Killian Drive	Yes	Yes	No	Yes
		Bet. SW 112 th Street/Killian Drive & SW 104 th Street	Yes	Yes	No	
14	SW 111 th Street at Pinecrest Gardens/ Village Green	SW 111 th Street Bet. SW 60 th Avenue & SW 57 th Avenue	Yes	No	No	No
15	SW 71 st Avenue from SW 133 rd Street to SW 124 th Street/ Chapman Field Drive	S/O SW 124 th Street/ Chapman Field Drive	Yes	No	Yes	Yes
		N/O SW 130 th Street	No	No	Yes	
16	SW 70 th Avenue from SW 133 rd Street to SW 126 th Street	S/O SW 128 th Street	No	No	No	No
17	SW 120 th /SW 122 nd Street	SW 120 th Street E/O SW 77 th Avenue	Yes	No	No	No
		SW 122 nd Street E/O SW 77 th Avenue	No	Yes	No	
18	SW 132 nd Street from SW 69 th Avenue to SW 67 th Avenue/ Ludlam Road	Bet. SW 69 th Avenue & SW 67 th Avenue/ Ludlam Road	No	Yes	Yes	No



Traffic Calming Criteria						
Issue #	Location	Data Points	Miami-Dade Traffic Calming Criteria (Must Meet Criterion #1, #2 and/or #3)			Traffic Calming Criteria Met?
			#1: Exceeds Livability Threshold	#2: Speeding	#3: Cut- Through Traffic	
19	SW 133 rd Terrace from SW 69 th Avenue to SW 67 th Avenue/ Ludlam Road	Bet. SW 69 th Avenue & SW 67 th Avenue/ Ludlam Road	Yes	Yes	Yes	Yes
20	SW 64 th Court	SW 128 th Street E/O SW 67 th Avenue/ Ludlam Road	No	No	No	No
		SW 129 th Terrace E/OSW 67 th Avenue/ Ludlam Road	No	No	No	
		SW 64 th Court S/O SW 124 th Street/ Chapman Field Drive	No	No	No	
21	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Bet. SW 136 th Street & SW 132 nd Street	Yes	No	Yes	Yes
22	SW 81 st Avenue from SW 124 th Street/ Chapman Field Drive to SW 128 th Street	Between SW 124 th Street & SW 128 th Street	Yes	No	Yes	Yes
23	SW 81 st Avenue from SW 128 th Street to SW 132 nd Street	Between SW 128 th Street & SW 132 nd Street	Yes	Yes	Yes	Yes
24	SW 126 th Street from SW 77 th Avenue to SW 74 th Avenue	Between SW 77 th Avenue & SW 74 th Avenue	No	No	Yes	No
25	SW 127 th Street from SW 77 th Avenue to SW 74 th Avenue	Between SW 77 th Avenue & SW 74 th Avenue	No	No	No	No
26	SW 74 th Court from SW 120 th Street to SW 124 th Street/ Chapman Field Drive	Between SW 120 th Street & SW 124 th Street/ Chapman Field Drive	Yes	No	No	No
27	SW 74 th Avenue from SW 112 th Street/ Killian Drive Street to SW 120 th Street	Between SW 112 th Street/Killian Drive & SW 120 th Street	Yes	Yes	No	Yes
28	SW 73 rd Avenue from SW 120 th Street to SW 124 th Street/ Chapman Field Drive	Between SW 120 th Street & SW 124 th Street/ Chapman Field Drive	Yes	Yes	No	Yes
29	SW 74 th Avenue from SW 128 th Street to SW 132 nd Street	Between SW 128 th Street & SW 132 nd Street	Yes	No	Yes	Yes
30	SW 73 rd Avenue from SW 128 th Street to SW 132 nd Street	Between SW 128 th Street & SW 132 nd Street	Yes	No	No	No
31	SW 72 nd Avenue from US 1/Pinecrest Parkway to SW 98 th Street	Between US 1/ Pinecrest Parkway & SW 98 th Street	Yes	No	Yes	Yes
32	SW 72 nd Avenue from SW 98 th Street to SW 104 th Street	Between SW 98 th Street & SW 104 th Street	Yes	No	Yes	Yes
33	SW 130 th Terrace from SW 69 th Avenue to 67 th Avenue/ Ludlam Road	Between SW 69 th Avenue & 67 th Avenue/Ludlam Road	No	No	Yes	No
34	SW 77 th Avenue from SW 112 th Street/ Killian Drive to SW 120 th Street	Between SW 112 th Street/ Killian Drive & SW 120 th Street	Over ⁽¹⁾	No	No	No
35	SW 77 th Avenue from SW 120 th Street to SW 124 th Street/ Chapman Field Drive	Between SW 120 th Street & SW 124 th Street/ Chapman Field Drive	Over ⁽¹⁾	No	No	No
36	SW 134 th Street from SW 70 th Avenue to SW 69 th Avenue	Between S SW 70 th Avenue & SW 69 th Avenue	Yes	No	Yes	Yes

Note: ⁽¹⁾ Volume over maximum threshold for Collector (8,000 vpd/800 vph); therefore, not eligible for traffic calming.



Conceptual Design/Feasibility Analysis

Specific traffic calming elements were identified for each segment based upon the specific issue identified (i.e. speeding, high volumes, etc.), the specific geometry of the segment (i.e. driveway spacing, intersection spacing), and input from the community and stakeholders. Note that the recommended spacing between traffic calming features is between 350 feet and 600 feet to significantly impact the prevalent speed along the corridor. However, the initial number of features was reduced and the resulting spacing between features increased based upon community and stakeholder input. Furthermore, the type of traffic calming features along section- and half-section -lines roads are limited per Miami-Dade County's Traffic Engineering Division. The following features was utilized in the Master Plan:

- **Speed Cushion/Table** – a raised section of pavement across the entire width of the street. The element's cross section could be curved for a speed cushion or beveled for a speed table. The primary purpose of this element is to reduce speeds. It should be noted that the location and design of cushions/tables should be coordinated with emergency responders.
- **Raised Intersection** – a raised plateau where two (2) or more streets intersect. This element can be applied to both two (2) way and four (4) way stop controlled intersections and is intended to slow vehicles down in all directions regardless of traffic calming control. Similar to speed cushions/tables, the location of these elements should be coordinated with emergency responders.
- **Semi-Diverter** – a raised island or curb extension that prohibits a movement or direction. Semi-diverters are intended to reduce specific cut-through patterns to reduce volumes along a roadway segment.
- **Chicane** – a deviated roadway alignment within a straight segment of roadway. Chicanes are typically created using offset curb extensions requiring motorists to weave within the segment. This element is intended to address speed. Note that this element is not typically recommended within areas of significant residential driveway density.
- **Lane Narrowing** – a narrowing of the travel lane or lanes for short segment of roadway. Lane narrowing is not intended to create one (1) lane-two (2) way streets. However, it is intended to reduce speeds of approaching oncoming traffic within this segment.
- **Diverting Median** – an oval-shaped raised median within an uninterrupted segment of roadway requiring motorists to deviate from a straight approach along the segment. The intent of this element is to address speeding and is the primary element permitted by Miami-Dade County's Traffic Engineering Division for use on section- and half-section-lines roads.

Figure 6 graphically summarizes the proposed initial traffic calming improvements within the Village. Figure 6 was removed from this report per direction from Village Council on December 11, 2018.

Planning Level Cost Estimates

Planning-level cost estimates were developed for the proposed improvements based upon current industry standards and general trends in construction costs. It should be noted that the cost estimates provided are based on information known at this time and are subject to change based up further engineering analyses. Table 9 summarizes the approximate cost of each traffic operation improvement. Table 9 was removed from this report per direction from Village Council on December 11, 2018.



3.3 LOCALIZED PEDESTRIAN FACILITY IMPROVEMENTS

Study Locations

Point locations were identified for further study and analysis for potential pedestrian facility improvements as part of stakeholder, TAC, and community input:

- SW 84th Avenue from SW 132nd Street to SW 136th Street – Sidewalk Evaluation
- SW 57th Avenue between SW 96th Street and SW 88th Street/Kendall Drive – Crossing Evaluation
- SW 57th Avenue between 96th Street and SW 100th Street – Crossing Evaluation
- SW 88th Street/Kendall Drive near Gulliver Preparatory School – Crossing Evaluation
- SW 112th Street/Killian Drive at US 1/Pinecrest Parkway – Additional Crossing Evaluation
- SW 68th Court at US 1/Pinecrest Parkway – Substandard Sidewalk Width Evaluation

Data Collection

Pedestrian and bicyclist counts were conducted on typical weekdays (Tuesday, Wednesday, or Thursday) from 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. at most of the locations, as applicable. At SW 57th Avenue between 96th Street and SW 100th Street and SW 111th Street/Killian Drive near Library/SW 59th Avenue, counts were conducted on weekend peak periods coinciding the high pedestrian traffic associated with reoccurring events nearby. Detailed count data is provided in Appendix G.

Pedestrian Facility Criteria Analysis

The Florida Department of Transportation's (FDOT) Transportation Engineering Manual (TEM) – November 2017 and FDOT Manual of Uniform Standards for Design, Construction and Maintenance for Streets and Highways – 2016 Edition (Florida Greenbook) provides the relevant criteria used in the evaluation of the study locations.

Section 3.8 of the TEM provides criteria for the installation of enhanced pedestrian crossing treatments the following locations were preliminarily identified for implementation of Rapid Rectangular Flashing Beacons (RRFBs) as part of new/existing crosswalks:

- SW 57th Avenue at SW 102nd Street
- SW 57th Avenue at SW 96th Street
- SW 88th Street/Kendall Drive at Gulliver Preparatory School

Along SW 68th Court in the vicinity of US 1/Pinecrest Parkway, the existing sidewalk width along the west side of the roadway is less than the recommended minimum of six (6) feet per the *Florida Greenbook*.

The intersection of US 1/Pinecrest Parkway at SW 112th Street/Killian Drive currently lacks a pedestrian crosswalk on the north leg of the intersection. Based upon the pedestrian counts on that leg of the intersection of the unique signal operating plan, the installation of a north leg crosswalk was not considered warranted or recommended.

Note that requests for sidewalk installations/extensions were evaluated as part of the overall network analysis in the following section of the report.



Conceptual Design/Feasibility Analysis

Upon completion of the data collection and analysis, conceptual designs were developed for locations where feasibility required a more detailed evaluation. Conceptual designs were developed using the aerial photography and property line/right-of-way data obtained from the Miami-Dade County Property Appraiser. Conceptual design plans for the feasible improvements can be found in Appendix J.

Planning Level Cost Estimates

Planning-level cost estimates were developed for the proposed improvements based upon current industry standards and general trends in construction costs. It should be noted that the cost estimates provided are based on information known at this time and are subject to change based up further engineering analyses. Table 10 summarizes the approximate cost each localized improvement



Table 10: Localized Pedestrian Improvements Cost Estimate Summary

Localized Pedestrian Improvements Cost					
Issue #	Location	Study Objective & Concerns	Initial Findings & Recommendations	Estimated Planning Construction Cost	
1	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Sidewalk Evaluation	Minimal bicycle and pedestrian activity; However, significant community support for sidewalk	(1)	
2	SW 57 th Avenue between SW 96 th Street and SW 88 th Street/ Kendall Drive	Crossing Evaluation	Bicycle and pedestrian activity observed; Proposed RRFB crossing at SW 96 th Street	\$45,000	
3	SW 57 th Avenue between 96 th Street and SW 100 th Street	Crossing Evaluation	Bicycle and pedestrian activity observed; However, proposed RRFB crossing (in addition to SW 96 th Street above) not initially supported. Missing sidewalk added in Network Plan.	(1)	
4	SW 88 th Street/Kendall Drive near Gulliver Prep School	Crossing Evaluation	Significant bicycle and pedestrian crossing activity observed; Two (2) proposed RRFB crossings.	\$90,000	
5	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Crossing Evaluation	Existing crosswalks on 3 of 4 legs. Minimal pedestrian activity observed on north leg. Installation of crosswalk on north leg significantly impacts intersection operations. Crosswalk not recommended.	N/A	
6	SW 68 th Court at US 1/Pinecrest Parkway	Sidewalk Evaluation	Pedestrian activity observed; sidewalk improvements proposed along SW 68 th Court. Eliminate Dairy Queen parking along SW 68 th Court to provide additional sidewalk width.	\$75,000	
Localized Pedestrian Improvement Total				\$210,000	

Note: (1) Sidewalk cost included in Network Plan cost

3.4 PEDESTRIAN/BICYCLE FACILITY NETWORK IMPROVEMENTS

Network Review and Analysis

A review of the existing and planned bicycle and pedestrian network both within the Village of Pinecrest and the adjacent municipalities was initially performed. The following key findings were noted as part of this analysis and community input:

- North-south shared-use paths along SW 57th Avenue (Old Cutler Trail) and US 1/Pinecrest Parkway (South Dade Trail) provide shared facilities on both the east and west sides of the Village leaving the central area of the Village remains underserved.
- An east-west shared-use path is planned along Snapper Creek by Miami-Dade County at the northern boundary of the Village but no other east-west shared use paths are provided within the Village connecting Old Cutler Trail to the South Dade Trail.
- No on-street bicycle lanes exist within the Village. Bicycle lanes are planned along SW 136th Street from SW 67th Avenue/Ludlam Road to US 1/Pinecrest Parkway by Miami-Dade County.
- Pedestrian/bicycle facility connectivity between schools, parks, and other significant trip generators is limited.
- The existing sidewalk network coverage within the Village is intermittent with illogical termini in many locations forcing users to walk within the street.
- The community, stakeholders, and TAC members desire more sidewalk coverage in the area of SW 73rd Court/SW 100th Street, SW 84th Avenue, and SW 132nd Street.

Network Recommendations

Based upon the review, analysis, and public input; the following goals of the network plans were identified:

- Provide new shared-use paths and on-street bicycle lanes within the Village to create both north-south and east-west spines.
- Provide improved connectivity between schools and parks via new shared-use paths or new sidewalk connections.
- Complete important missing sidewalk connections to provide for logical sidewalk termini
- Add missing crosswalks at signalized or four (4) way stop controlled intersections.
- Add missing/substandard pedestrian features at signalized crosswalks including countdown signals and pedestrian pushbuttons.
- Minimize landscaping impacts.
- Avoid right-of-way acquisition.

As part of the network recommendations, the following pedestrian/bicycle elements were identified as potential components of the Master Plan as defined by the *Florida Greenbook*:

- **Sidewalk** – Walkways parallel to the roadway and generally designed for pedestrians. The minimum width of a sidewalk is five (5) feet with a minimum of 2-foot separation from the back of curb. For sidewalks adjacent to curb, the minimum width is six (6) feet. For sidewalks on flush shoulder roadways, a minimum of one-foot separation between the sidewalk and the roadway is required.



- Bicycle Lane** - Bicycle lanes delineate available roadway space for preferential use by bicyclists providing more predictable movements by motorist and bicyclists. The minimum width of a bicycle lane is four (4) feet for flush shoulder and curbed roadways. Buffered bicycle lanes are bicycle lanes separated from the adjacent travel line, typically separated by additional pavement markings. Buffered bicycle lanes are typical a minimum of six (6) feet in width. Additionally, green colored bicycle lanes can be provided to enhance the visibility of the lane.
- Shared-Use Path** – Shared-use paths are paved facilities physically separated from motorized vehicular traffic by an open space or barrier. They are used by bicyclists, pedestrians, runners, skaters, etc. Typical shared-use path widths range from 10 to 14 feet with minimum widths of eight (8) feet under the one (1) of the following circumstances: bicycle traffic is expected to be low; pedestrian use of the facility is not expected to be more than occasional; horizontal and vertical alignments provide frequent, well-designed passing and resting opportunities; or the path will not be regularly subjected to maintenance vehicle loading conditions that would cause pavement edge damage. In addition, the path width of eight (8) feet can be used for short distance due to a physical constraint. Note that it is not uncommon for shared-use paths to be less than eight (8) feet wide in areas of significant constraint.
- Sidewalk** – Walkways parallel to the roadway and generally designed for pedestrians. The minimum width of a sidewalk is five (5) feet with a minimum of 2-foot separation from the back of curb. For sidewalks adjacent to curb, the minimum width is six (6) feet. For sidewalks on flush shoulder roadways, a minimum of one-foot separation between the sidewalk and the roadway is required.
- Shared Lane Markings/Sharrows** – Shared lane markings or Sharrows are an optional pavement marking for roadways where bicyclists and motor vehicles are intended to share the lane and no bicycle lane or paved shoulder exists. Their use is limited to roadways with speed limits of 35 mph or less. Shared lane markings provide guidance to cyclists on their lateral positioning when vehicular lanes are too narrow to share side-by-side with a motor vehicle.

Utilizing these elements and the goals identified for the Village network, improvements were identified within the Village. The improvements consist of the following:

Bicycle Lanes

- SW 120th Street from US 1/Pinecrest Parkway to SW 57th Avenue – Bicycle lanes on both sides of street connecting Old Cutler Trail to South Dade Trail paralleling a proposed shared-use path along SW 112th Street/Killian Drive. This alignment is within the central portion of the Village connecting numerous schools a proposed north-south on-street bike facility.
- SW 72nd Avenue from SW 98th Street to SW 136th Street – Bicycle lanes on both sides of the corridor providing for a north-south bicycle lane corridor connecting to SW 120th Street. This improvement provides a 2.4-mile facility central to the Village connecting to the planned bicycle lanes along SW 136th Street.

Shared-Use Paths

- SW 88th Street/Kendall Drive from SW 57th Avenue to SW 67th Avenue/Ludlam Road
- SW 104th Street from SW 67th Avenue/Ludlam Road to US 1/Pinecrest Parkway



- SW 111th/112th Street/Killian Drive from SW 57th Avenue to US 1/Pinecrest Parkway
- SW 120th Street from SW 77th Avenue to SW 82nd Avenue
- SW 124th Street/Chapman Field Drive from SW 82nd Avenue to Evelyn Greer Park
- SW 128th Street from SW 82nd Avenue to US 1/Pinecrest Parkway
- SW 67th Avenue/Ludlam Road from Snapper Creek to SW 136th Street
- SW 77th Avenue from SW 112th Street/Killian Drive to SW 120th Street
- SW 82nd Avenue from SW 120th Street to SW 136th Street

Shared Lane Markings/Sharrows

- SW 96th Street from SW 57th Avenue to SW 72nd Avenue
- SW 104th Street from SW 57th Avenue to US 1/Pinecrest Parkway
- SW 60th Avenue from SW 96th Street to SW 104th Street
- SW 62nd Avenue from SW 104th Street to SW 136th Street
- SW 72nd Avenue from US 1/Pinecrest Parkway to SW 98th Street

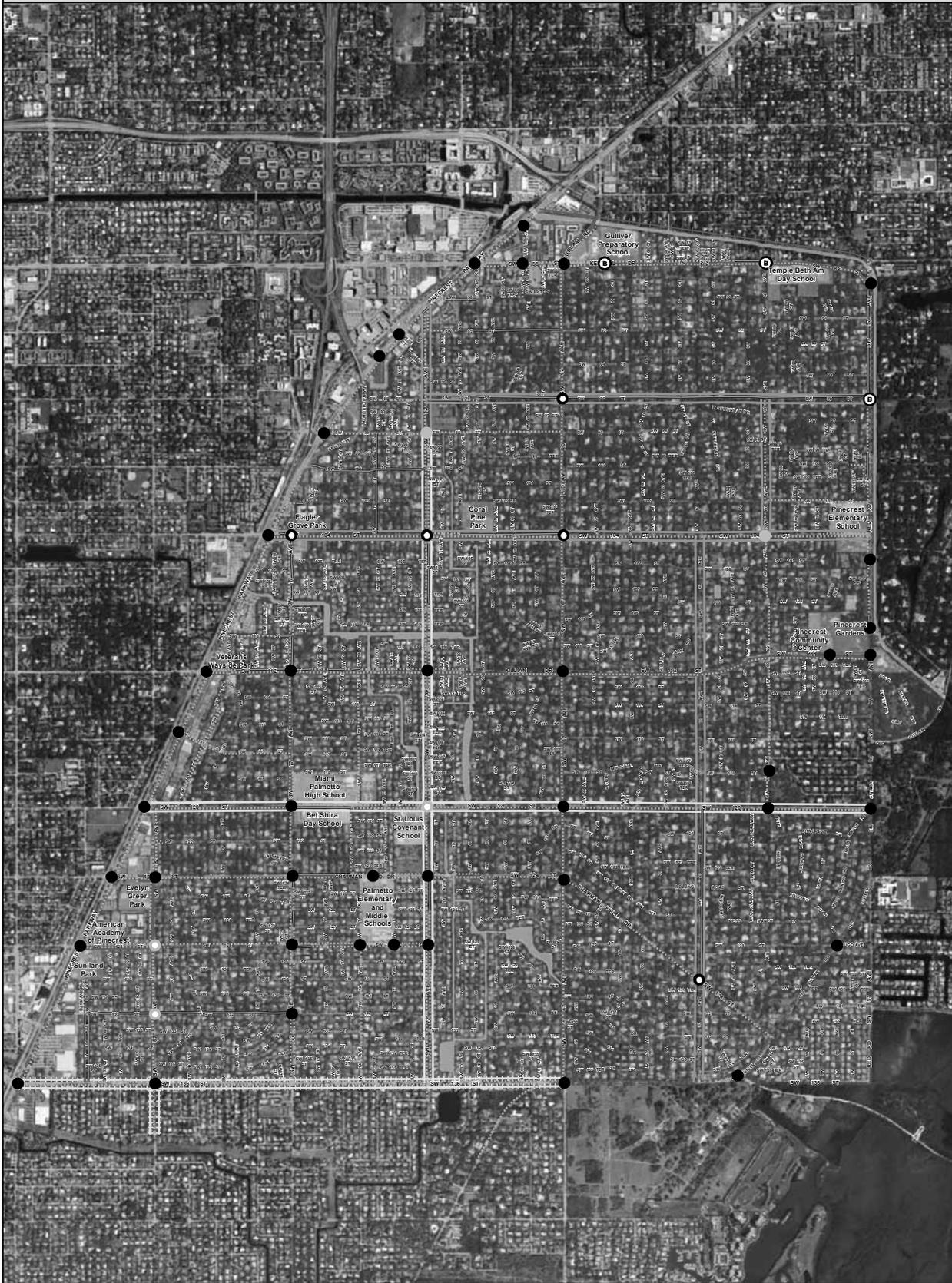
Sidewalks

- SW 88th Street/Kendall Drive from SW 60th Avenue to east of SW 61st Avenue
- SW 90th Street from SW 69th Court to east of US 1/Pinecrest Parkway
- SW 92nd Street from SW 67th Avenue/Ludlam Road to SW 70th Avenue
- SW 96th Street from SW 57th Avenue to SW 69th Court and from SW 70th Avenue to
- SW 72nd Avenue
- SW 100th Street from SW 72nd Avenue to US 1/Pinecrest Parkway
- SW 102nd Street from east of US 1/Pinecrest Parkway to west of SW 75th Place
- SW 104th Street from SW 67th Avenue/Ludlam Road to Coral Pine Park
- SW 110th Street from SW 77th Avenue to SW 77th Court Circle
- SW 112th Street/Killian Drive from SW 74th Avenue to SW 79th Avenue
- SW 120th Street from SW 74th Court to SW 77th Avenue
- SW 124th Street//Chapman Field Drive from SW 74th Court to SW 77th Avenue and
- west of SW 82nd Avenue
- SW 128th Street east of SW 77th Avenue
- SW 132nd Street from SW 77th Avenue to US 1/Pinecrest Parkway
- SW 57th Avenue from SW 88th Street to SW 96th Street, near SW 100th Street, and near Pinecrest Gardens
- SW 62nd Avenue from SW 120th Street to SW 124th Street/Chapman Field Drive
- SW 68th Avenue south of SW 88th Street
- SW 77th Avenue from SW 104th Street to north of SW 108th Terrace and from SW 124th Street/Chapman Field Drive to SW 126th Street
- SW 73rd Court from SW 98th Street to SW 104th Street
- SW 72nd Avenue from SW 104th Street to SW 112th Street/Killian Drive and south of SW 124th Street/Chapman Field Drive
- SW 84th Avenue from SW 132nd Street to SW 136th Street

Refer to Figure 7 presents the overall initial pedestrian/bicyclist network plan. Refer to figures 13 through 17 for detailed network improvements. Note that the localized pedestrian improvements are also presented with these figures.



Figure 7: Initial Pedestrian/Bicycle Network Improvement Plan



Pedestrian Facilities	Bicycle Facilities	Shared Use Paths	Crossing Locations (Signalized/Four-way Stop)
Existing Sidewalk	Planned Bicycle Lane	Existing Shared Use Path	Existing (Signalized/Four-way Stop)
Proposed Sidewalk	Proposed Bicycle Lane	Planned Shared Use Path	Proposed (New Crosswalks)
	Proposed Sharrows	Proposed Shared Use Path	New Flashing Beacon Crossing
			Existing Roundabout
			Planned Roundabout
			Proposed Roundabout

Conceptual Design/Feasibility Analysis

Conceptual design analyses were conducted for pedestrian/bicyclist network improvements of significant length where right-of-way availability, general feasibility, and right-of-way impacts were a particular concern. Cross section design analyses were conducted for the following corridors:

- SW 88th Street/Killian Drive – Shared Use Path
- SW 104th Street – Shared Use Path
- SW 112th Street/Killian Drive – Shared Use Path
- SW 120th Street – Shared Use Path and Bicycle Lanes
- SW 124th Street/Chapman Field Drive – Shared Use Path
- SW 128th Street – Shared Use Path
- SW 67th Avenue/Ludlam Road – Shared Use Path
- SW 72nd Avenue – Bicycle Lanes
- SW 82nd Avenue – Shared Use Path

Conceptual cross sections for these corridors can be found in Appendix J.

Planning Level Cost Estimates

Planning-level cost estimates were developed for the proposed improvements based upon current industry standards and general trends in construction costs per linear mile. It should be noted that the cost estimates provided are based on information known at this time and are subject to change based up further engineering analyses. Table 11 summarizes the approximate cost of each corridor for the improvements proposed.



Table 11: Initial Pedestrian/Bicycle Network Improvement Cost Estimate Summary

Initial Pedestrian/Bicycle Facility Network Improvement Plan Cost				
Street	Limits	Type	Length (miles)	Estimated Planning Construction Cost
Villagewide		Pedestrian Signal Upgrades	N/A	\$630,000
SW 88 th Street/Kendall Drive	SW 57 th Avenue to SW 67 th Avenue/Ludlam Road – south side	Shared Use Path	1.15	\$378,000
SW 104 th Street	SW 67 th Avenue/Ludlam Road to US 1/Pinecrest Parkway – south side	Shared Use Path	1.09	\$359,000
SW 112 th Street/Killian Drive	SW 57 th Avenue to US 1/Pinecrest Parkway – south side	Shared Use Path	2.74	\$901,000
SW 120 th Street	SW 77 th Avenue to SW 82 nd Avenue – south side	Shared Use Path	0.5	\$165,000
SW 124 th Street/Chapman Field Drive	SW 82 nd Avenue to Evelyn Greer Park – south side	Shared Use Path	0.7	\$230,000
SW 128 th Street	SW 82 nd Avenue to US 1/Pinecrest Parkway – south side	Shared Use Path	0.26	\$86,000
SW 67 th Avenue/Ludlam Road	Village Limits – West Side	Shared Use Path	3.25	\$1,068,000
SW 77 th Avenue	SW 112 th Street/Killian Drive to SW 120 th Street – west side	Shared Use Path	0.52	\$171,000
SW 82 nd Avenue	SW 120 th Street to SW 124 th Street/Chapman Field Drive – east side	Shared Use Path	0.26	\$86,000
SW 82 nd Avenue	SW 124 th Street/Chapman Field Drive to SW 136 th Street – west side	Shared Use Path	0.72	\$237,000
SW 72 nd Avenue	SW 98 th Street to SW 136 th Street – both sides	Bicycle Lane	2.42	\$497,000
SW 120 th Street	US 1/Pinecrest Parkway to SW 57 th Avenue – both sides	Bicycle Lane	2.69	\$552,000
SW 100 th Street	East of US 1/Pinecrest Parkway to SW 72 nd Avenue – south side	Sidewalk	0.43	\$71,000
SW 102 nd Street	East of US 1/Pinecrest Parkway to west of SW 75 th Place - south side	Sidewalk	0.03	\$5,000
SW 104 th Street	Missing section west of SW 77 th Avenue - north side; SW 70 th Avenue to SW 67 th Avenue/Ludlam Road – north side	Sidewalk	0.39	\$65,000
SW 110 th Street	SW 77 th Court Circle to SW 77 th Avenue - north side	Sidewalk	0.06	\$10,000
SW 112 th Street/Kilian Drive	East of SW 79 th Avenue to SW 74 th Avenue (missing sections only) - north side	Sidewalk	0.36	\$60,000
SW 120 th Street	SW 77 th Avenue to SW 74 th Court - south side	Sidewalk	0.21	\$36,000
SW 124 th Street/Chapman Field Drive	Missing section west of SW 82 nd Avenue - north side; SW 77 th Avenue to SW 74 th Court - north side	Sidewalk	0.24	\$39,000
SW 128 th Street	Missing section east of SW 77 th Avenue - south side	Sidewalk	0.06	\$11,000
SW 57 th Avenue	North of SW 100 th Street to south of SW 100 th Street - west side; Missing section south of SW 107 th Street - west side	Sidewalk	0.08	\$14,000
SW 62 nd Avenue	SW 120 th Street to SW 124 th Street/ Chapman Field Drive - east side	Sidewalk	0.64	\$105,000
SW 68 th Avenue	South of SW 88 th Street/Kendall Drive - west side	Sidewalk	0.07	\$12,000
SW 72 nd Avenue	South of SW 104 th Street to south of SW 107 th Terrace - east side; SW 124 th Street/Chapman Field Drive to SW 126 th Street - east side	Sidewalk	0.34	\$56,000
SW 73 rd Court	SW 98 th Street to SW 104 th Street - east side	Sidewalk	0.37	\$61,000
SW 77 th Avenue	SW 104 th Street to SW 112 th Street/Killian Drive (missing sections only) - east side; South of SW 124 th Street/ Chapman Field Drive - east side; SW 126 th Street to SW 127 th Street - east side	Sidewalk	0.42	\$69,000
SW 84 th Avenue	SW 132 nd Street to SW 136 th Street - both sides	Sidewalk	0.50	\$83,000
SW 88 th Street	East of SW 61 st Avenue to SW 60 th Avenue - north side	Sidewalk	0.12	\$19,000
SW 90 th Street	East of US 1/Pinecrest Parkway to SW 69 th Court – south side	Sidewalk	0.11	\$18,000
SW 96 th Street	SW 72 nd Avenue to SW 70 th Avenue - south side; SW 69 th Court to SW 57 th Avenue -north side	Sidewalk	1.57	\$258,000
SW 92 nd Street	SW 70 th Avenue to SW 67 th Avenue/Ludlam Road – north side	Sidewalk	0.37	\$61,000
SW 57 th Avenue	SW 88 th Street/Kendall Drive to SW 96 th Street - west side	Sidewalk	0.39	\$65,000
SW 132 nd Street	US 1/Pinecrest Parkway to SW 77 th Avenue - north side	Sidewalk	0.84	\$138,000
SW 96 th Street	SW 72 nd Avenue to SW 57 th Avenue	Sharrows	1.65	\$9,000
SW 104 th Street	US 1/Pinecrest Parkway to SW 57 th Avenue	Sharrows	2.24	\$12,000
SW 60 th Avenue	SW 96 th Street to SW 104 th Street	Sharrows	0.51	\$3,000
SW 62 nd Avenue	SW 104 th Street to SW 136 th Street	Sharrows	2.04	\$11,000
SW 72 nd Avenue	US 1/Pinecrest Parkway to SW 98 th Street	Sharrows	0.47	\$3,000
Pedestrian/Bicycle Facility Network Improvement Total				\$6,654,000

3.5 TRANSIT RECOMMENDATIONS

Given depth and breadth of the Master Plan's scope regarding traffic operations, traffic calming, and pedestrian/bicycle improvements, it was determined that potential transit improvements should be further examined as part a separate effort. It is recommended that a two (2) phase assessment of the existing Pinecrest People Mover system be performed to determine if modifications and/or expansion of the system is desired and warranted. Under Phase I, the following tasks are recommended:

- Existing Operations Review – examine ridership and operating costs.
- Preliminary Capital Improvement Identifications – identify costs for additional staffing, vehicles, stop amenities, etc.
- Pilot Program Options – determine the potential expansion costs and potential testing plan.
- Service Standards Review – review plan against Miami-Dade TPO operational standards.
- Community Survey – perform community survey an online to determine citizen interest level.
- Transportation Options Review – identify potential alternatives to shuttle expansion including vouchers, public/private partnerships, etc.

If it is determined that expansion of the existing system is appropriate, Phase 2 of the study will examine a service, schedule, and routing plans as well as the operations and maintenance costs associated with the expansion.

3.6 TRANSPORTATION ADVISORY COMMITTEE MEETING #3

A TAC meeting was held on April 9, 2018 to present the initial draft Transportation Master Plan recommendations. The TAC provided initial comments on the recommendations. In general, TAC members disagreed with some of the proposed recommendations and commented on the general priority of specific recommendations. A meeting summary and presentation documents are included in Appendix K. Minor revisions were made to the draft plan in preparation for Community Meeting #2.

3.7 COMMUNITY MEETING #2

A community meeting was held on April 18, 2018 at the Evelyn Greer Park presenting the initial draft Master Plan recommendations. Approximately 70 people were in attendance including TAC members, City staff and the project team. The meeting format consisted of a presentation, discussion period, and breakout session. The presentation covered the following topics:

- Phase II Final Scope Overview
- Preliminary Draft Plan
- Traffic Operations Improvements
- Traffic Calming Improvements
- Site-Specific Pedestrian Facility Improvements
- Pedestrian Facility Network Improvements
- Bicycle Facility Network Improvements
- Transit Study Recommendations
- Next Steps



After the presentation, breakout sessions were conducted in each improvement area where residents provide specific input. Residents were encouraged to provide written feedback via emails and/or comment cards. A summary of this meeting, sign-in sheet and the presentation documents are included in Appendix L.

3.8 SECONDARY STAKEHOLDER MEETINGS

A second round of stakeholder meeting were held with the Village Mayor and available members of Council to review the draft Master Plan recommendations and obtain input. These meetings were held in April and May of 2018. A summary of these meetings is included in Appendix M. Two (2) of the more significant changes that resulted from these meetings are:

- Removal of the proposed traffic operations improvements at the intersection of SW 120th Street at SW 57th Avenue.
- Addition of a RRFB at the existing crossing across SW 111th Street at the Pinecrest Community Center.

3.9 TRANSPORTATION ADVISORY COMMITTEE MEETINGS #4, #5, AND #6

Additional TAC meetings were held on May 30, 2018; June 27, 2018; and July 25, 2018; further review the draft Master Plan recommendations. Note that the project consultant did not attend these meetings. However, meeting minutes provided by Village staff are provided in Appendix N. Note that comments provided by TAC during these meetings were recognized but not all TAC recommendations were incorporated in the revised draft Master Plan. Two (2) of the more significant changes that resulted from these meetings are:

- The option of providing a north-south bicycle lane along SW 77th Avenue from SW 104th Street to SW 136th Street instead of along SW 72nd Avenue.
- Addition of a shared use path along the east side of SW 62nd Avenue from SW 104th Street to SW 136th Street.

3.10 COMMUNITY MEETING #3

A community meeting was held on September 5, 2018 at the Evelyn Greer Park presenting the draft Master Plan. Approximately 15 people were in attendance including TAC members, City staff and the project team. The meeting format consisted of a presentation and breakout session. The presentation covered the following topics:

- Pedestrian/Bicycle Facility Improvements
- Traffic Operations Improvements
- Traffic Calming Improvements
- Transit Study Recommendations
- Next Steps

Note that the presentation included remarks from the TAC Chairman outlining the TAC's review of the draft Master Plan. After the presentation, breakout sessions were conducted in each improvement area where residents provide specific input. Residents were encouraged to provide written feedback via emails and/or comment cards. A summary of this meeting, sign-in sheets and the presentation documents are included in Appendix O. One (1) of the more significant changes that resulted from this meeting is the addition of widening SW 68th Avenue from SW 90th Street to SW 92nd Street from a one (1) lane two-way facility to two (2) lane, two-way facility.

3.11 TRANSPORTATION ADVISORY COMMITTEE MEETING #7

A final TAC meeting was held on September 17, 2018 to present the Transportation Master Plan recommendations. The TAC provided initial comments on the recommendations. In general, TAC members disagreed with many of the proposed recommendations and commented on the general priority of specific recommendations. A meeting summary and presentation documents are included in Appendix P. Minor revisions were made to the draft plan in preparation for Village Council Workshop. One (1) of the more significant changes that resulted from this meeting is the addition of a proposed sidewalk along the west side of SW 57th Avenue from Lugo Avenue to SW 131st Terrace per input from the Public Works Director.

3.12 PRIORITIZATION PLAN

A preliminary prioritization plan was developed for each area of improvements: traffic operations, traffic calming, and the pedestrian/bicycle network. Four (4) priority levels were utilized with Priority 1 considered the highest priority and Priority 4 being the lowest. Prioritization for traffic operations improvements were developed using the results of the operational analyses, community input, and TAC recommendations. If an improvement provided a more significant operational benefit compared to others, it was ranked higher. If more residents/TAC members showed support for a specific improvement, it was also prioritized. The goal of the overall traffic operations improvement prioritization was to provide similar budgets for each prioritization level.

For traffic calming improvements, prioritization was determined directly from the results of the speed and volume analysis performed for each segment. Per Miami-Dade County's traffic calming criteria, a roadway segment must meet the overall volume criterion in order to be potentially eligible for calming improvements. Therefore, the results of the volume criterion analysis were weighted at 67 percent (67%) or two-thirds of the overall ranking for each segment. If a segment met the volume criterion, the speed and/or cut through volume criteria must be met in order for the segment to be eligible for calming. Since this a secondary requirement, the scoring associated with these factors were weighted as 33 percent (33%) or one-third of the overall score for that segment. Once the scores for each segment were established, the segments were ranked by priority. The goals of the traffic calming improvement prioritization were to provide similar overall budgets for each prioritization level. It should also be noted that if calming was proposed on parallel and adjacent streets, these segments were grouped in the same prioritization level.

For the pedestrian/bicycle network improvements, rankings from the TAC were utilized as no quantitative metrics were available for prioritization. In general, the TAC prioritized the completion of missing sidewalks and the construction of shared-use paths/bicycle lanes. Note that the TAC did not support all improvements proposed in the plan. Therefore, those improvements were incorporated in the prioritization plan consistent with general TAC recommendations. Refer to Appendix Q for the initial prioritization plan recommendations.

3.13 VILLAGE COUNCIL WORKSHOP MEETING

A Village Council workshop was held on September 27, 2018 to present the draft Transportation Master Plan recommendations. The presentation included all proposed traffic operations, traffic calming, and pedestrian/bicycle network improvements as well as the draft prioritization plan. Presentation documents and Village Council minutes are included in Appendix R. The Council was in support of the plan. However, Council recommended that the specific traffic calming improvements and prioritization be eliminated from the final plan. Council requested that the Master Plan only identify roadway segments that were analyzed and/or eligible for traffic calming improvements.



3.14 FINAL TRANSPORTATION MASTER PLAN

The final Transportation Master Plan recommendations are divided into three (3) improvement areas: pedestrian/bicycle facility improvements, traffic operations improvements, and traffic calming improvements based upon input from stakeholders, the Village's Transportation Advisory Committee (TAC), and Village residents. Refer to Tables 12 through 14 and Figures 8 through 22 for a summary of the Plan. Note that per request from the Public Works Director, SW 64th Court from SW 88th Street/Kendall Drive to SW 92nd Street was added to the list of eligible traffic calming segments as data indicates that it meets Miami-Dade County's traffic calming criteria.

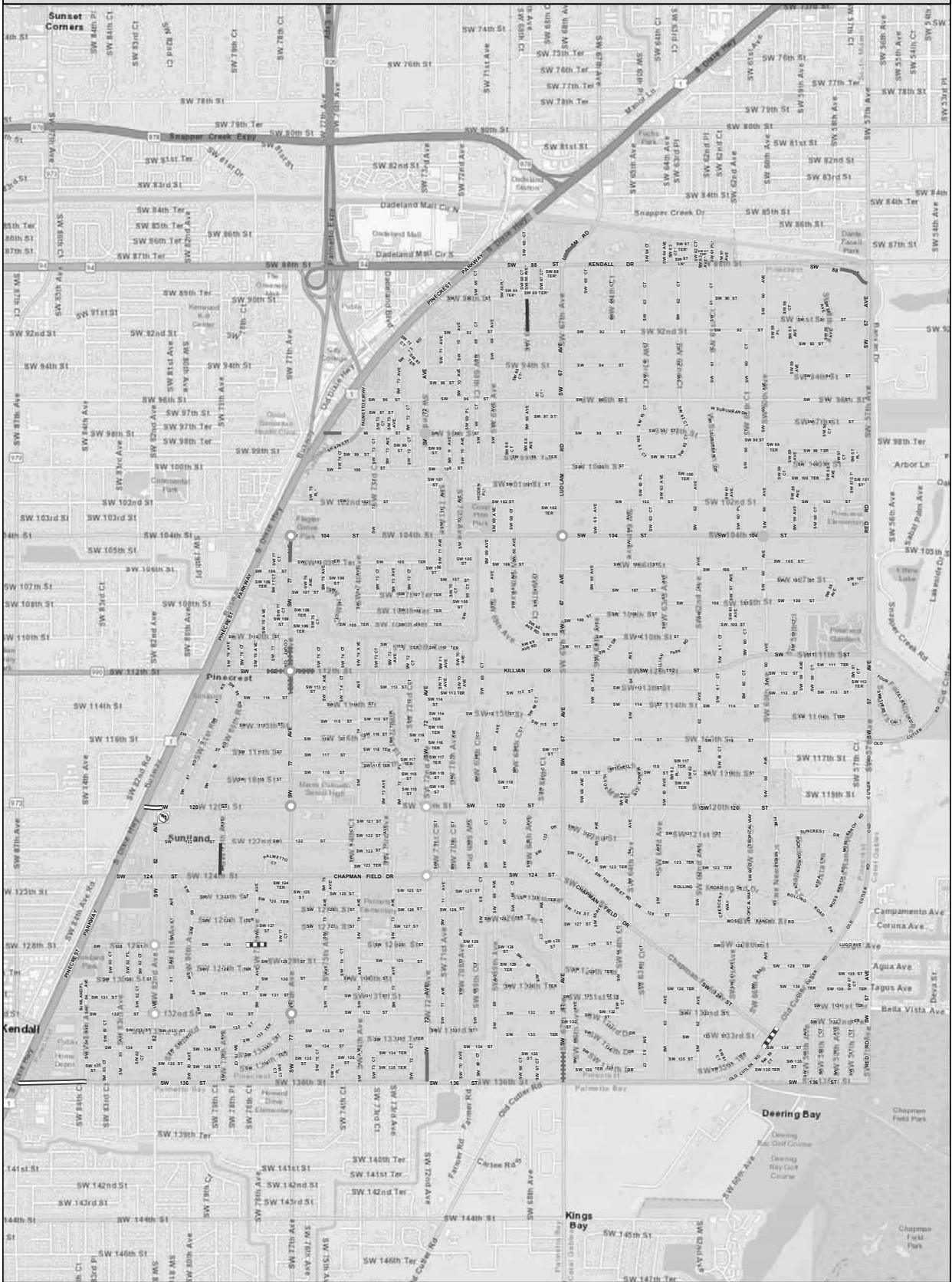


Table 12: Final Traffic Operations Improvements Summary

Final Traffic Operations Improvements Summary			
Issue #	Location	Final Recommendations	Planning Cost Estimate
1	SW 88 th Street/Kendall Drive at SW 57 th Avenue	Lengthen the eastbound right-turn lane.	\$75,000
2	SW 96 th Street at SW 60 th Avenue	No recommended operational improvements.	N/A
3	SW 104 th Street at SW 67 th Avenue/Ludlam Road	Add northbound left-turn protected phase.	\$65,000
4	SW 104 th Street at SW 77 th Avenue/ Flagler Grove Park	Install dual northbound left-turn lanes.	\$95,000
5	SW 108 th Terrace at SW 77 th Avenue	No recommended operational improvements.	N/A
6	SW 112 th Street/Killian Drive at SW 60 th Avenue	No recommended operational improvements.	N/A
7	SW 112 th Street/Killian Drive at SW 62 nd Avenue	No recommended operational improvements.	N/A
8	SW 112 th Street/Killian Drive/SW 110 th Terrace at SW 72 nd Avenue	No recommended operations improvements.	N/A
9	SW 112 th Street/Killian Drive at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
10	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
11	SW 120 th Street at SW 57 th Avenue	No recommended operational improvements.	N/A
12	SW 120 th Street at SW 62 nd Avenue	No recommended operational improvements.	N/A
13	SW 120 th Street at SW 72 nd Avenue	Install roundabout.	\$125,000
14	SW 120 th Street at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
15	SW 120 th Street at SW 82 nd Avenue	Install median to prohibit northbound left-turn but permit westbound left-turn.	\$65,000
16	SW 124 th Street/Chapman Field Drive at SW 62 nd Avenue	No recommended operational improvements.	N/A
17	SW 124 th Street/Chapman Field Drive at Old Cutler Road	Install new signage and trim vegetation.	Improvements Implemented
18	SW 128 th Street at SW 82 nd Avenue	Install roundabout.	\$125,000
19	SW 132 nd Street at SW 82 nd Avenue	Install roundabout.	\$125,000
20	SW 132 nd Street at SW 77 th Avenue	Contact Miami-Dade County to modify signal timings.	N/A
21	SW 136 th Street at SW 72 nd Avenue	Install southbound right-turn lane.	\$50,000
22	SW 136 th Street at SW 86 th Court/US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date. Install raised landscaped median.	\$50,000
23	SW 124 th Street/Chapman Field Drive at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
24	SW 128 th Street at US 1/Pinecrest Parkway	Address timings with Miami-Dade County at a future date.	N/A
25	SW 67 th Avenue/Ludlam Road at Villas of Pinecrest Entry	Install a northbound left-turn lane.	\$150,000
26	SW 79 th Avenue from SW 122 nd Street to SW 124 th Street/Chapman Field Drive	Widen road to provide for two (2) way operation.	\$150,000
27	SW 78 th Avenue from SW 128 th Street to SW 129 th Street	Install missing one-way signage/pavement markings.	\$2,000
28	SW 72 nd Avenue at SW 104 th Street	No recommended operational improvements.	N/A
29	SW 72 nd Avenue at SW 124 th Street/Chapman Field Drive	Install roundabout. Obtain required right-of-way (not included in cost).	\$125,000
30	US 1/Pinecrest Parkway at SW 98 th Street	Install westbound right-turn lane.	\$50,000
31	Villagewide	Install new detection on programmatic basis.	Assumed to be paid for by MDC
32	SW 68 th Avenue from SW 90 th Street to SW 92 nd Street	Widen road to provide for two (2) way operation.	\$150,000
Total Traffic Operations Improvement Costs			\$1,402,000

Note: Costs do not include costs for any potential right-of-way acquisition.

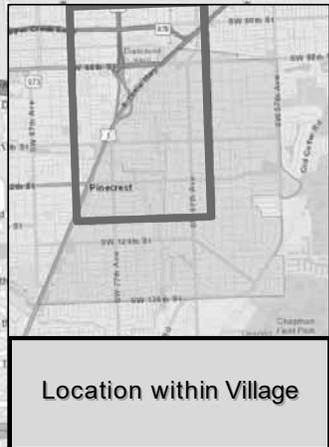
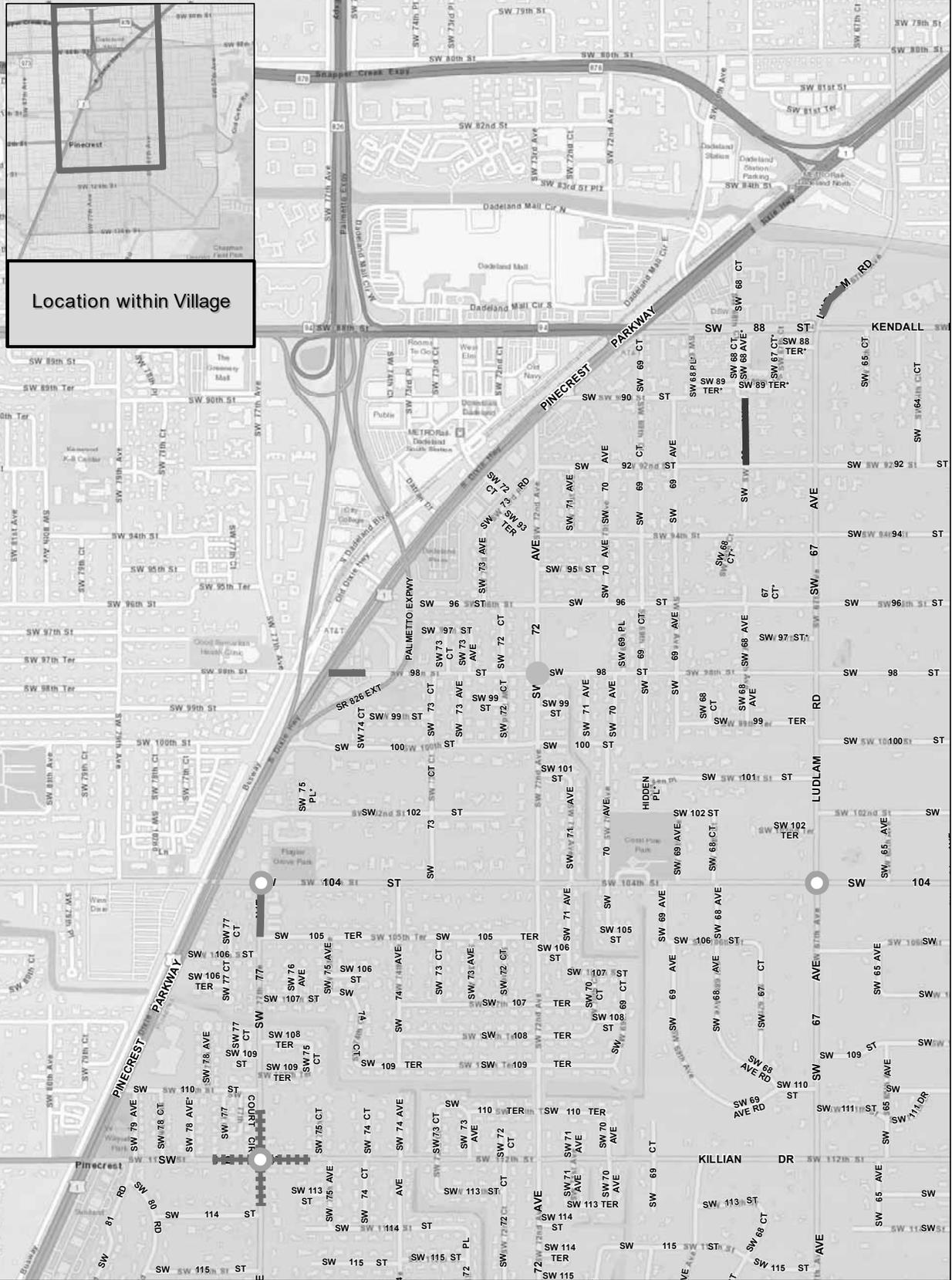
Figure 8: Traffic Operations Improvement Plan - Villagewide



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
◌ Planned Roundabout	◻ Geometry Modifications	▬ New Signage
◉ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening

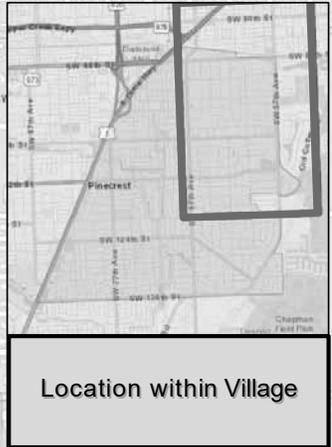
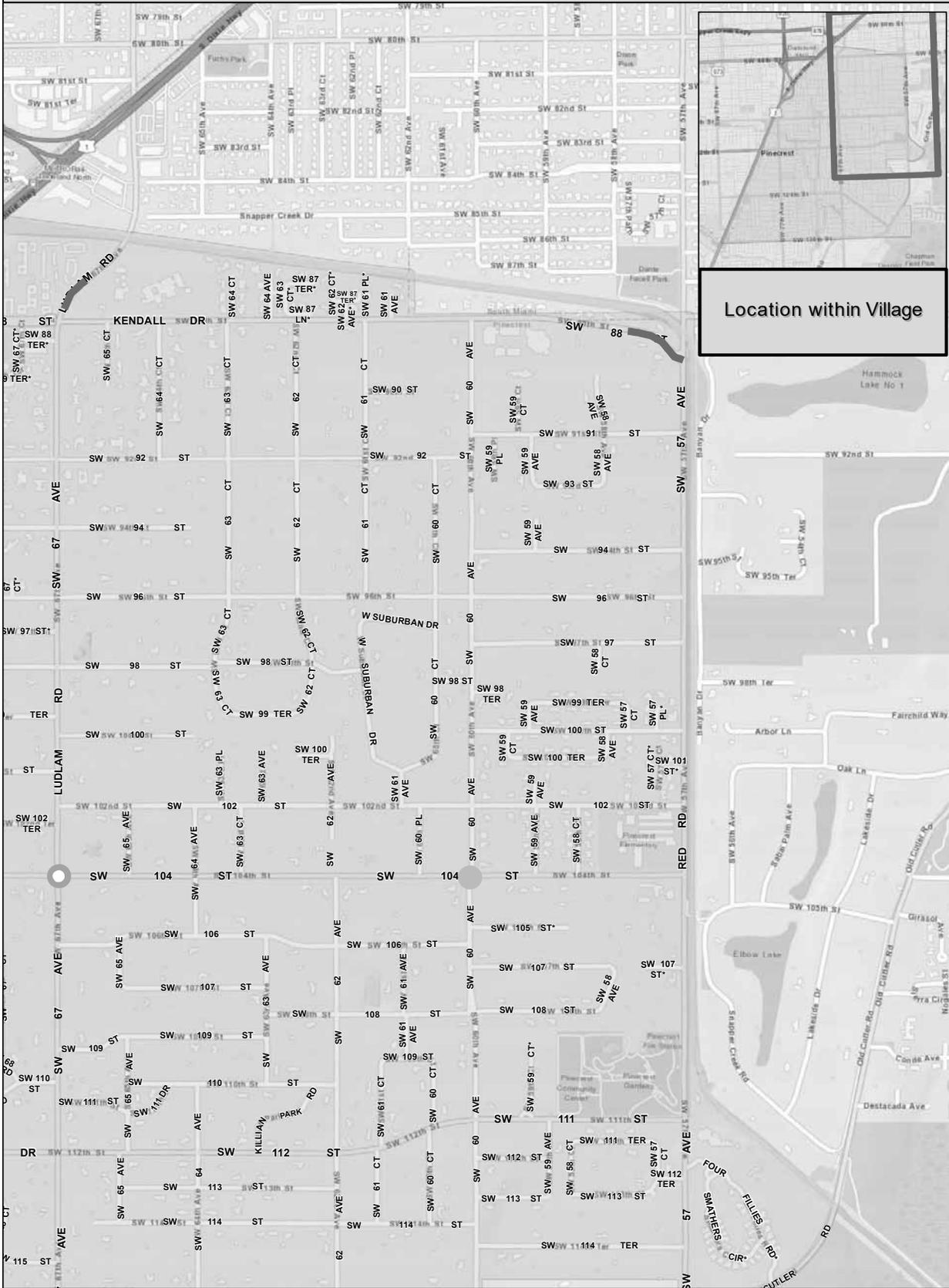
0 0.25 0.5 0.75 1 Miles

Figure 9: Traffic Operations Improvement Plan - NW Quadrant



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
● Planned Roundabout	□ Geometry Modifications	▬ New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening

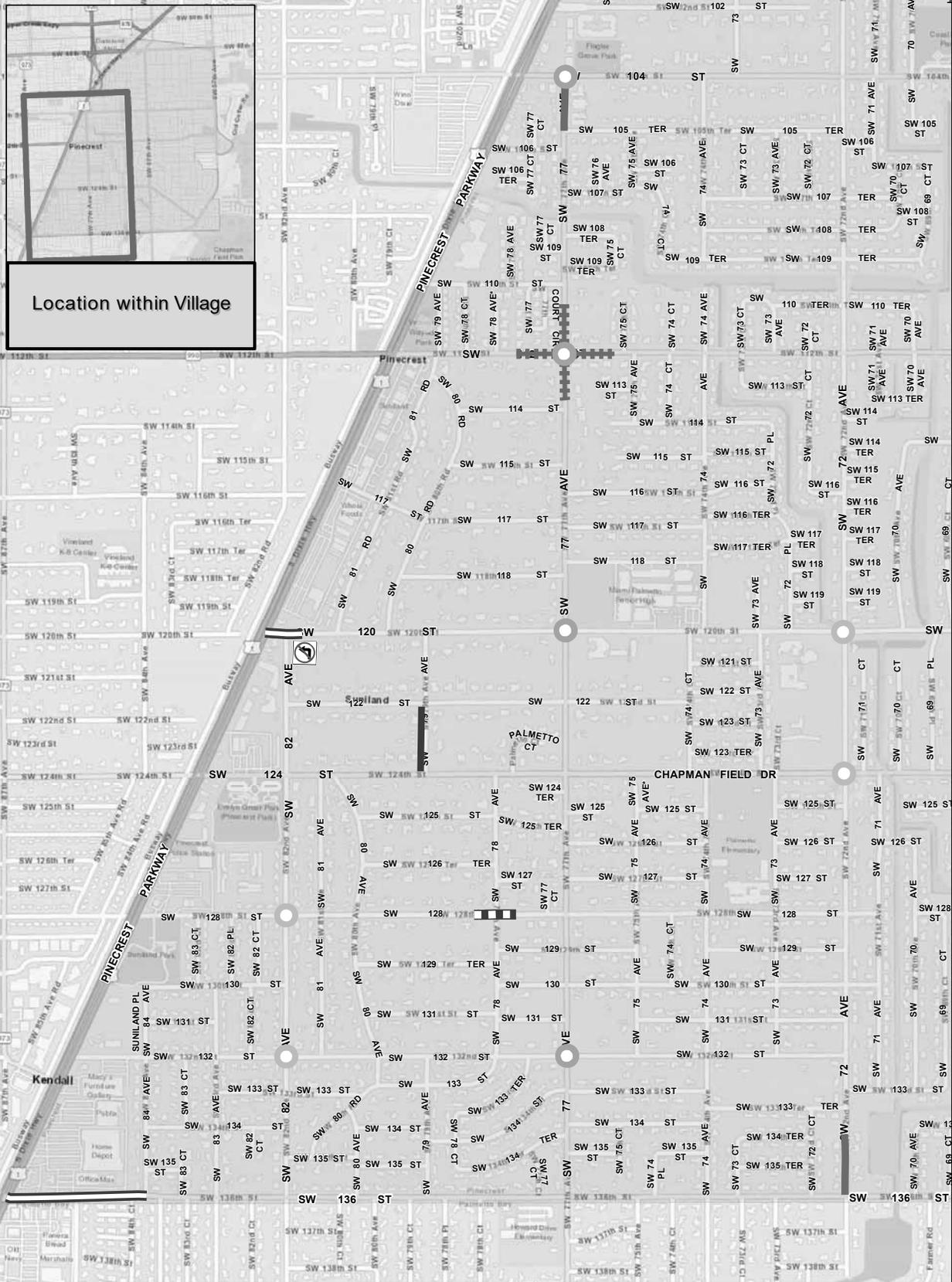
Figure 10: Traffic Operations Improvement Plan - NE Quadrant



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
● Planned Roundabout	□ Geometry Modifications	▬ New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening



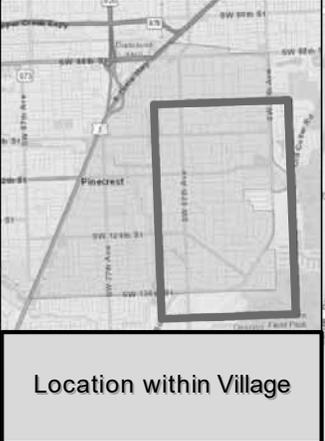
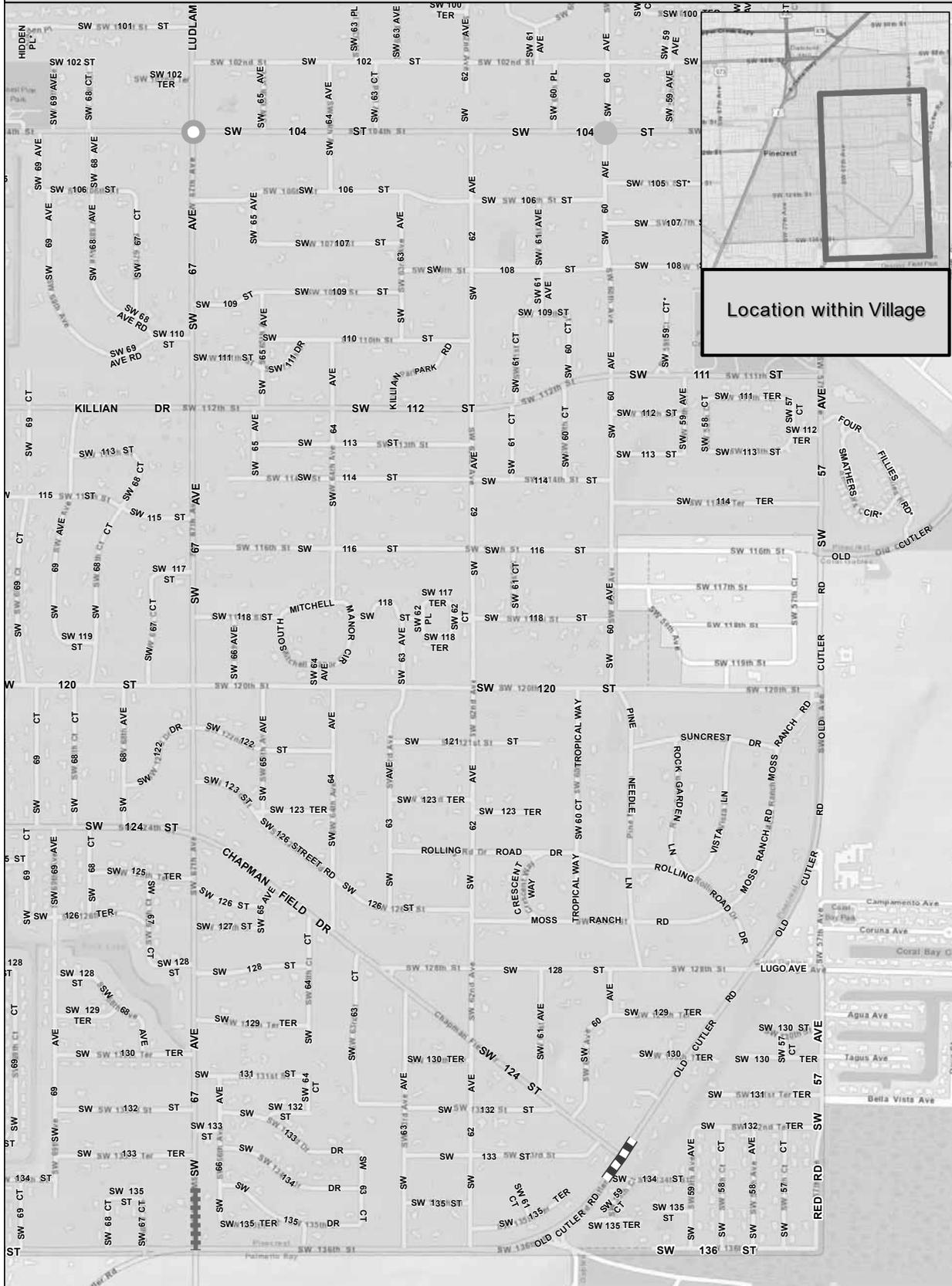
Figure 11: Traffic Operations Improvement Plan - SW Quadrant



Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
● Planned Roundabout	□ Geometry Modifications	▬ New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening

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Figure 12: Traffic Operations Improvement Plan - SE Quadrant



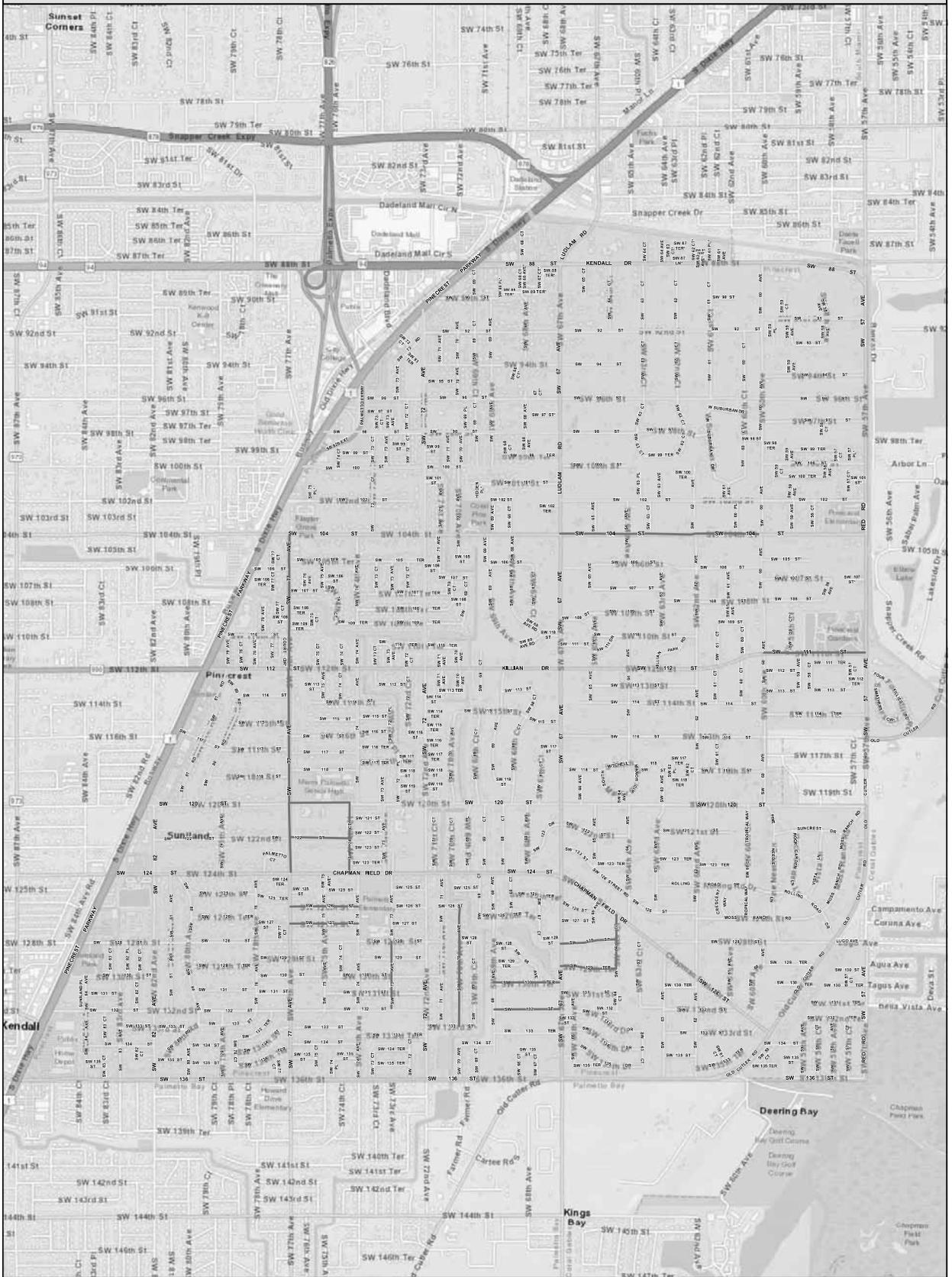
Roundabouts	Signal/Geometry Improvements	Roadway Improvements
● Existing Roundabout	○ Signal Retiming/New Signal Phases	▬ Median Installation
● Planned Roundabout	□ Geometry Modifications	▬ New Signage
○ Proposed Roundabout		▬ Proposed/Lengthen Turn Lane
		▬ Planned Lengthen Turn Lane
		▬ Widening



Table 13: Final Traffic Calming Evaluation Summary

Final Traffic Calming Evaluation Summary		
Issue #	Location	Eligible for Traffic Calming?
1	SW 98 th Street from US 1/Pinecrest Parkway to SW 67 th Avenue/Ludlam Road	Eligible
2	SW 100 th Street/SW 73 rd Court from US 1/Pinecrest Parkway to SW 104 th Street	Eligible
3	SW 92 nd Street from SW 67 th Avenue/Ludlam Rad to SW 57 th Avenue	Eligible
4	SW 100 th Street from SW 60 th Avenue to SW 57 th Avenue	Eligible
5	SW 102 nd Street from SW 67 th Avenue/Ludlam Road to SW 57 th Avenue	Eligible
6	SW 106 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	Eligible
7	SW 77 th Avenue at SW 108 th Terrace	Not Eligible
8	SW 110 th Street from US 1/Pinecrest Parkway to SW 77 th Avenue	Eligible
9	SW 81 st /SW 80 th Road from SW 120 th Street to SW 112 th Street/Killian Drive	Eligible
10	SW 77 th Avenue from SW 104 th Street to SW 112 th Street/Killian Drive	Not Eligible
11	SW 72 nd Avenue from SW 104 th Street to SW 112 th Street/Killian Drive	Eligible
12	SW 104 th Street from SW 60 th Avenue to SW 67 th Avenue/Ludlam Road	Not Eligible
13	SW 60 th Avenue south of SW 104 th Street	Eligible
14	SW 111 th Street at Pinecrest Gardens/Village Green	Not Eligible
15	SW 71 st Avenue from SW 133 rd Street to SW 124 th Street/Chapman Field Drive	Eligible
16	SW 70 th Avenue from SW 133 rd Street to SW 126 th Street	Not Eligible
17	SW 120 th /SW 122 nd Street	Not Eligible
18	SW 132 nd Street from SW 69 th Avenue to SW 67 th Avenue/Ludlam Road	Not Eligible
19	SW 133 rd Terrace from SW 69 th Avenue to SW 67 th Avenue/Ludlam Road	Eligible
20	SW 64 th Court south of Chapman Field Drive	Not Eligible
21	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Eligible
22	SW 81 st Avenue from SW 124 th Street/Chapman Field Drive to SW 128 th Street	Eligible
23	SW 81 st Avenue from SW 128 th Street to SW 132 nd Street	Eligible
24	SW 126 th Street from SW 77 th Avenue to SW 74 th Avenue	Not Eligible
25	SW 127 th Street from SW 77 th Avenue to SW 74 th Avenue	Not Eligible
26	SW 74 th Court from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Not Eligible
27	SW 74 th Avenue from SW 112 th Street/Killian Drive to SW 120 th Street	Eligible
28	SW 73 rd Avenue from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Eligible
29	SW 74 th Avenue from SW 128 th Street to SW 132 nd Street	Eligible
30	SW 73 rd Avenue from SW 128 th Street to SW 132 nd Street	Not Eligible
31	SW 72 nd Avenue from US 1/Pinecrest Parkway to SW 98 th Street	Eligible
32	SW 72 nd Avenue from SW 98 th Street to SW 104 th Street	Eligible
33	SW 130 th Terrace from SW 69 th Avenue to 67 th Avenue/Ludlam Road	Not Eligible
34	SW 77 th Avenue from SW 112 th Street/Killian Drive to SW 120 th Street	Not Eligible
35	SW 77 th Avenue from SW 120 th Street to SW 124 th Street/Chapman Field Drive	Not Eligible
36	SW 134 th Street from SW 70 th Avenue to SW 69 th Avenue	Eligible
37	SW 64 th Court from SW 88 th Street/Kendall Drive to SW 92 nd Street	Eligible

Figure 13: Traffic Calming Summary - Villagewide



Traffic Calming Roadway Segments

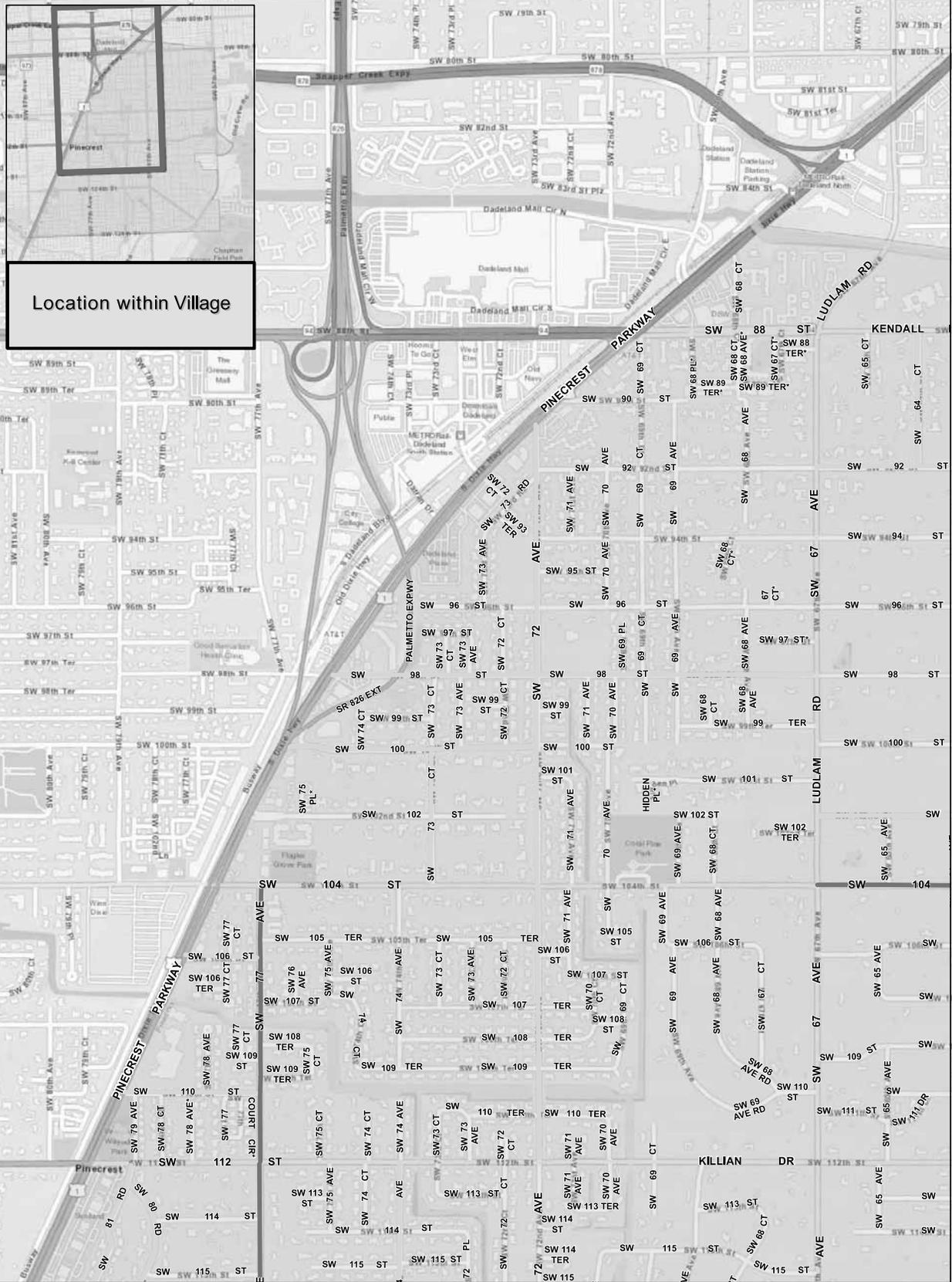
- Segment Eligible for Traffic Calming
- Segment Not Eligible for Traffic Calming

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0 0.25 0.5 0.75 1 Miles

Figure 14: Traffic Calming Summary - NW Quadrant

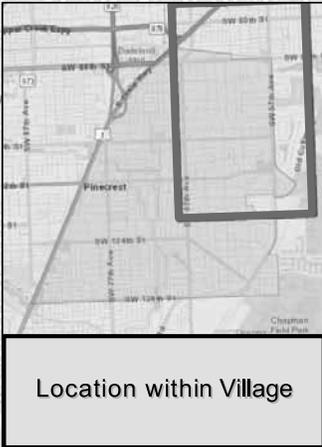
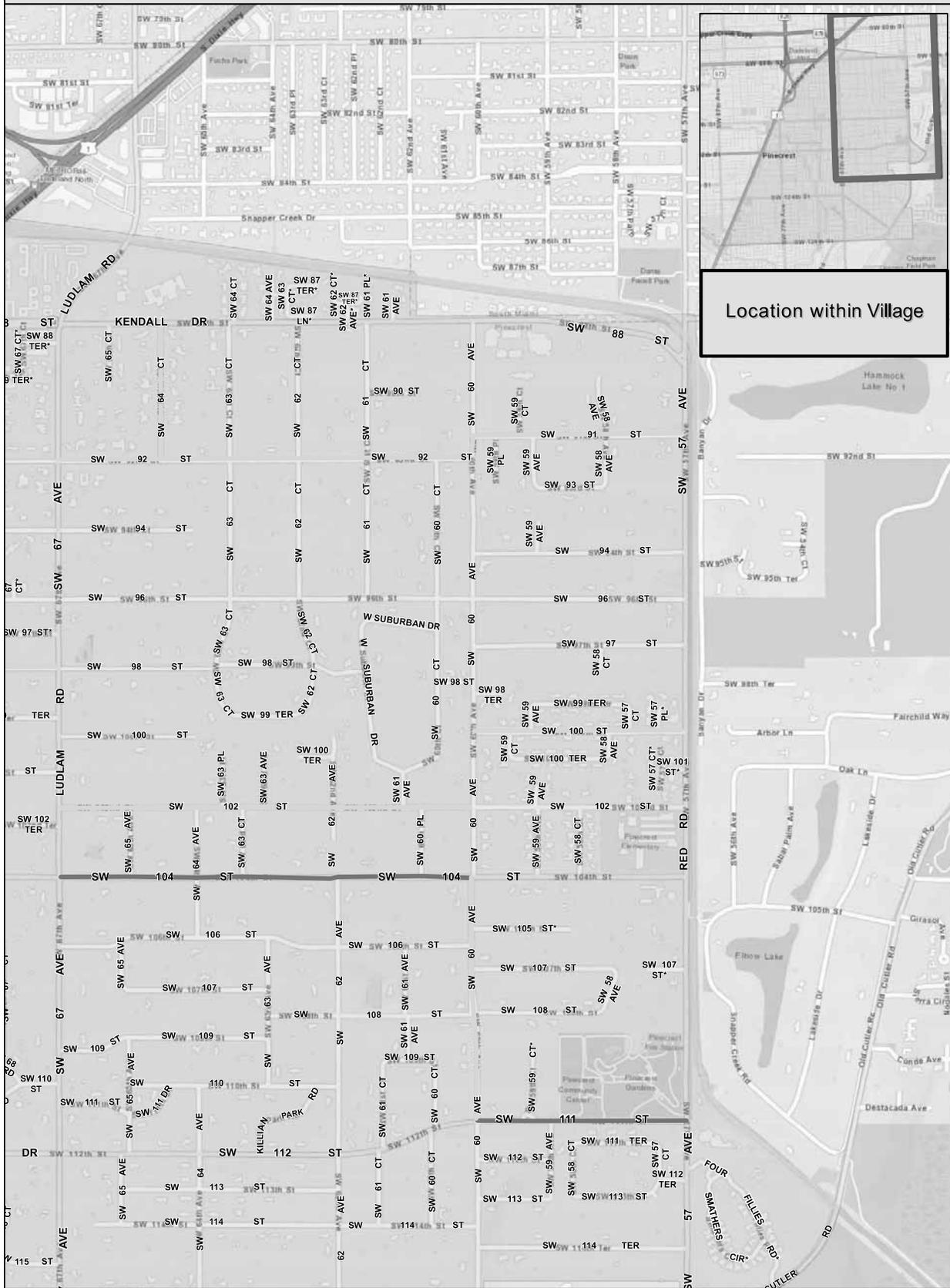


Traffic Calming Roadway Segments

- Segment Eligible for Traffic Calming
- Segment Not Eligible for Traffic Calming



Figure 15: Traffic Calming Summary - NE Quadrant

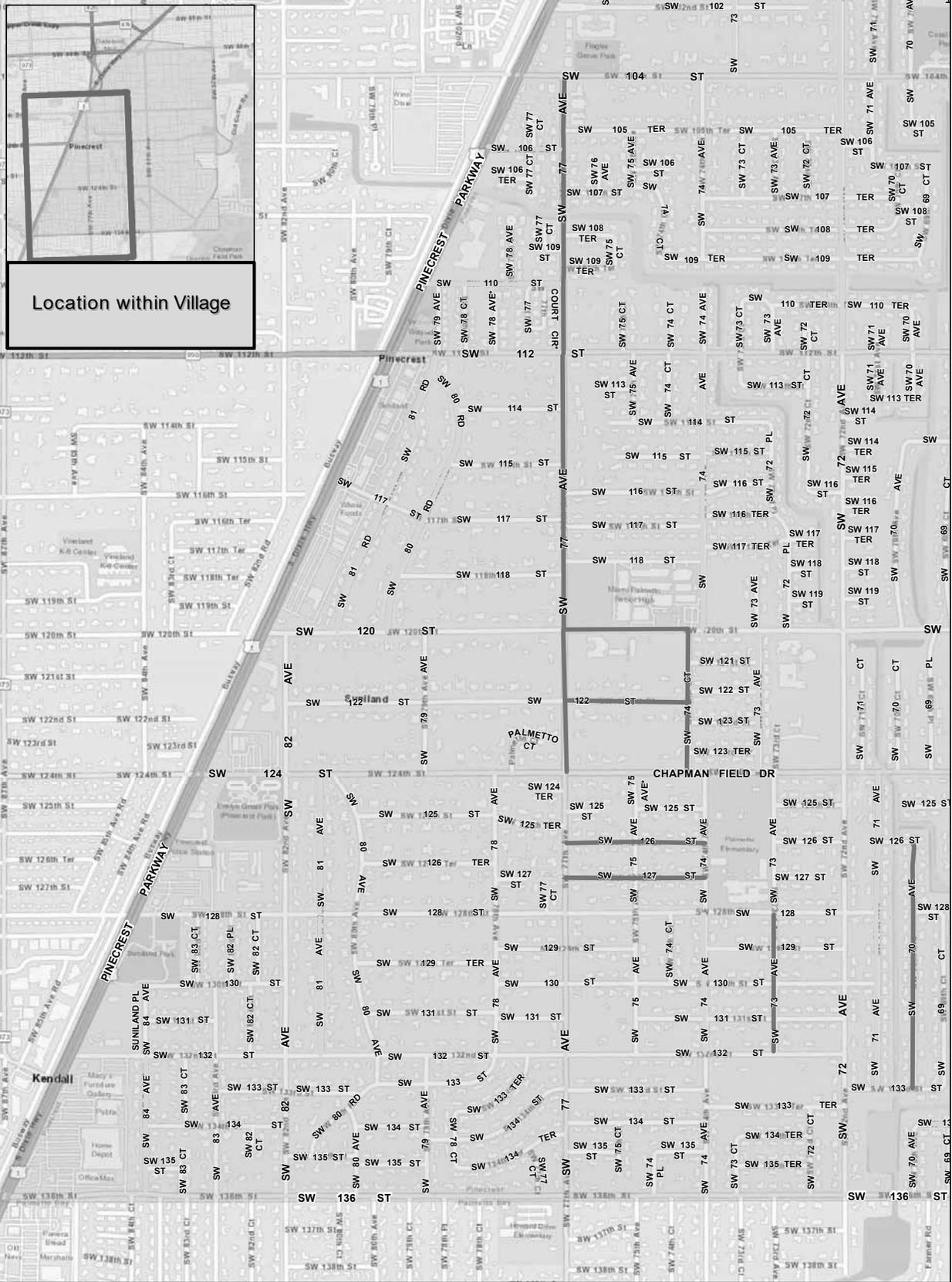


Traffic Calming Roadway Segments

- Segment Eligible for Traffic Calming
- Segment Not Eligible for Traffic Calming



Figure 16: Traffic Calming Summary - SW Quadrant

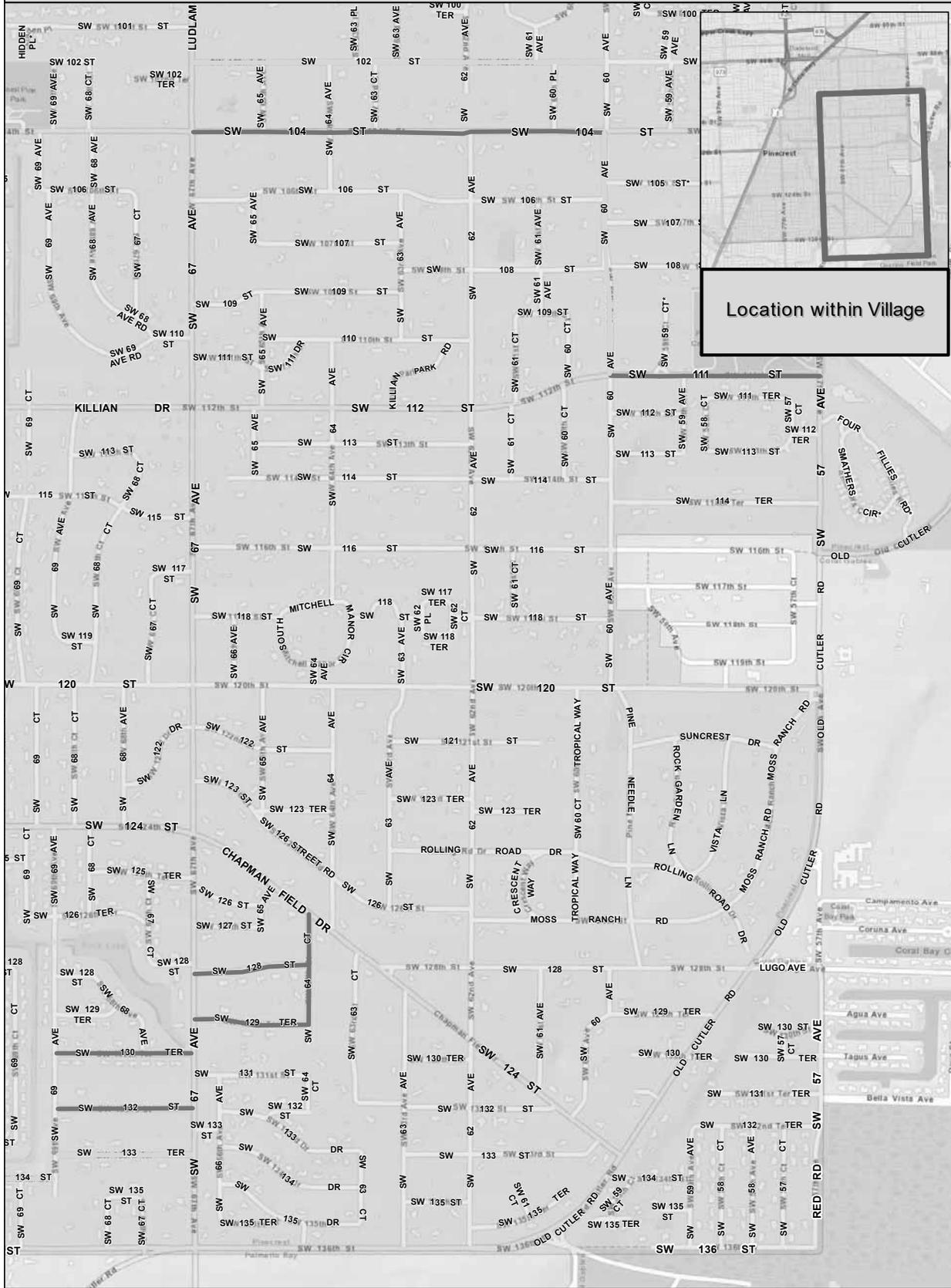


Traffic Calming Roadway Segments

- Segment Eligible for Traffic Calming
- Segment Not Eligible for Traffic Calming



Figure 17: Traffic Calming Summary - SE Quadrant



Traffic Calming Roadway Segments

- Segment Eligible for Traffic Calming
- - - Segment Not Eligible for Traffic Calming



Table 14: Final Localized Pedestrian Improvements Summary

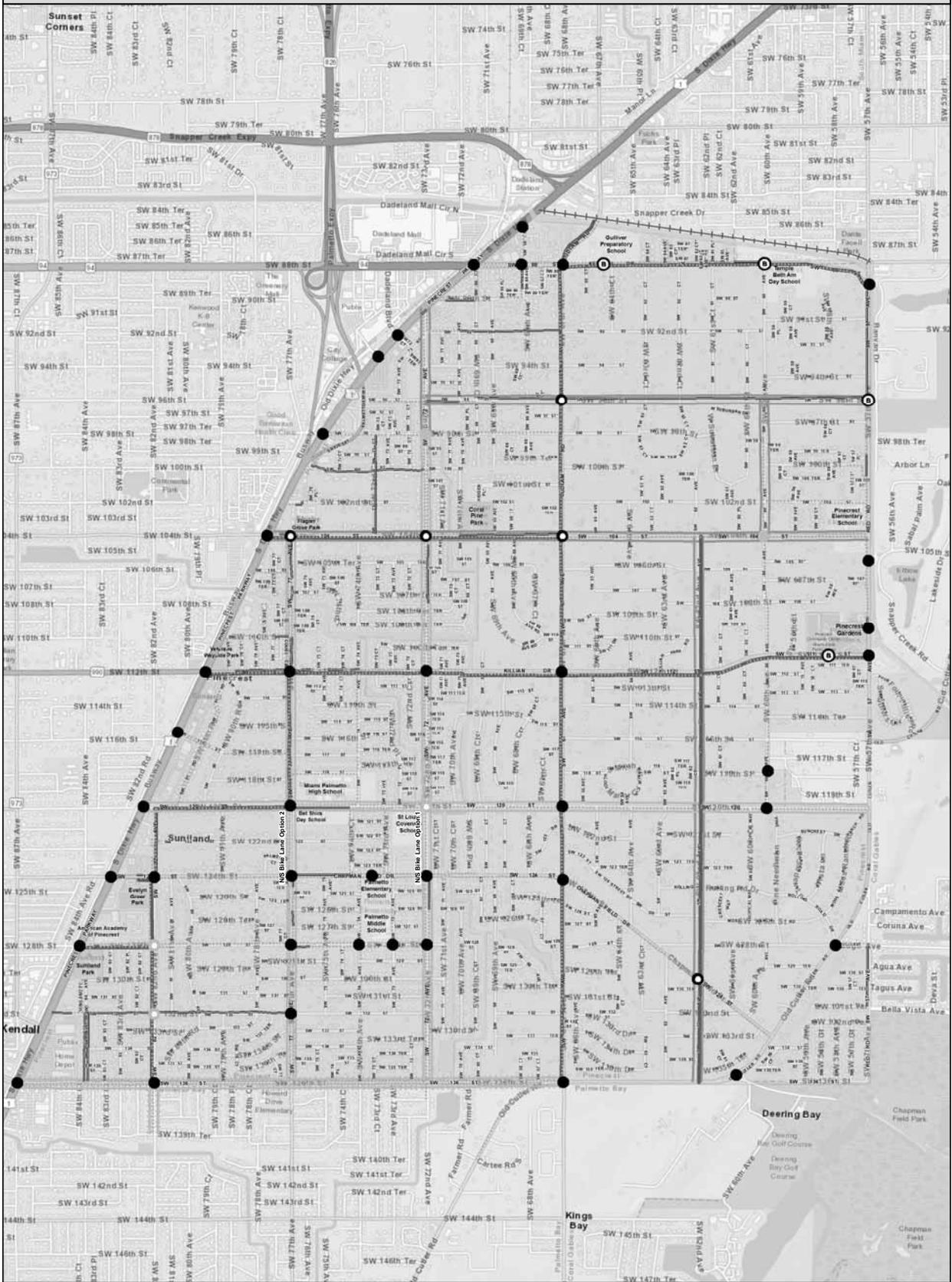
Final Localized Pedestrian Improvements Summary			
Issue #	Location	Final Recommendations	Estimated Planning Construction Cost
1	SW 84 th Avenue from SW 132 nd Street to SW 136 th Street	Proposed sidewalk along both sides of SW 84 th Avenue in Network Plan.	(1)
2	SW 57 th Avenue between SW 96 th Street and SW 88 th Street/ Kendall Drive	Proposed RRFB crossing at SW 96 th Street.	\$45,000
3	SW 57 th Avenue between 96 th Street and SW 100 th Street	Missing sidewalk added in Network Plan.	(1)
4	SW 88 th Street/Kendall Drive near Gulliver Prep School	Two (2) proposed RRFB crossings.	\$90,000
5	SW 112 th Street/Killian Drive at US 1/Pinecrest Parkway	Crosswalk not recommended.	N/A
6	SW 68 th Court at US 1/Pinecrest Parkway	Sidewalk improvements proposed along SW 68 th Court.	\$75,000
7	SW 111 th Street/Killian Drive near Library	Proposed RRFB crossing	\$45,000
Localized Pedestrian Improvement Total			\$255,000

Note: (1) Sidewalk cost included in Network Plan cost

Table 15: Final Pedestrian/bicycle Network Improvements Summary

Final Pedestrian/Bicycle Facility Network Improvement Plan				
Street	Limits	Type	Length (miles)	Estimated Planning Construction Cost
Villagewide		Pedestrian Signal Upgrades	N/A	\$630,000
SW 88 th Street/Kendall Drive	SW 57 th Avenue to SW 67 th Avenue/Ludlam Road – south side	Shared Use Path	1.15	\$378,000
SW 104 th Street	SW 67 th Avenue/Ludlam Road to US 1/Pinecrest Parkway – south side	Shared Use Path	1.09	\$359,000
SW 112 th Street/Killian Drive	SW 57 th Avenue to US 1/Pinecrest Parkway – south side	Shared Use Path	2.74	\$901,000
SW 120 th Street	SW 77 th Avenue to SW 82 nd Avenue – south side	Shared Use Path	0.5	\$165,000
SW 124 th Street/Chapman Field Drive	SW 82 nd Avenue to Evelyn Greer Park – south side	Shared Use Path	0.7	\$230,000
SW 128 th Street	SW 82 nd Avenue to US 1/Pinecrest Parkway – south side	Shared Use Path	0.26	\$86,000
SW 67 th Avenue/Ludlam Road	Village Limits – West Side	Shared Use Path	3.25	\$1,068,000
SW 77 th Avenue	SW 112 th Street/Killian Drive to SW 120 th Street – west side	Shared Use Path	0.52	\$171,000
SW 82 nd Avenue	SW 120 th Street to SW 124 th Street/Chapman Field Drive – east side	Shared Use Path	0.26	\$86,000
SW 82 nd Avenue	SW 124 th Street/Chapman Field Drive to SW 136 th Street – west side	Shared Use Path	0.72	\$237,000
SW 62 nd Avenue	SW 104 th Street to SW 136 th Street - east side	Shared Use Path	2.04	\$671,000
Option 1: SW 72 nd Avenue Option 2: SW 77 th Avenue	Option 1: SW 98 th Street to SW 136 th Street – both sides Option 2: SW 104 th Street to SW 136 th Street – both sides	Bicycle Lane	2.42	\$497,000
SW 120 th Street	US 1/Pinecrest Parkway to SW 57 th Avenue – both sides	Bicycle Lane	2.69	\$552,000
SW 100 th Street	East of US 1/Pinecrest Parkway to SW 72 nd Avenue – south side	Sidewalk	0.43	\$71,000
SW 102 nd Street	East of US 1/Pinecrest Parkway to west of SW 75 th Place - south side	Sidewalk	0.03	\$5,000
SW 104 th Street	Missing section west of SW 77 th Avenue - north side; SW 70 th Avenue to SW 67 th Avenue/Ludlam Road – north side	Sidewalk	0.39	\$65,000
SW 110 th Street	SW 77 th Court Circle to SW 77 th Avenue - north side	Sidewalk	0.06	\$10,000
SW 112 th Street/Killian Drive	East of SW 79 th Avenue to SW 74 th Avenue (missing sections only) - north side	Sidewalk	0.36	\$60,000
SW 120 th Street	SW 77 th Avenue to SW 74 th Court - south side	Sidewalk	0.21	\$36,000
SW 124 th Street/Chapman Field Drive	Missing section west of SW 82 nd Avenue - north side; SW 77 th Avenue to SW 74 th Court - north side	Sidewalk	0.24	\$39,000
SW 128 th Street	Missing section east of SW 77 th Avenue - south side	Sidewalk	0.06	\$11,000
SW 57 th Avenue	North of SW 100 th Street to south of SW 100 th Street - west side; Missing section south of SW 107 th Street - west side	Sidewalk	0.08	\$14,000
SW 68 th Avenue	South of SW 88 th Street/Kendall Drive - west side	Sidewalk	0.07	\$12,000
SW 72 nd Avenue	South of SW 104 th Street to south of SW 107 th Terrace - east side; SW 124 th Street/Chapman Field Drive to SW 126 th Street - east side	Sidewalk	0.34	\$56,000
SW 73 rd Court	SW 98 th Street to SW 104 th Street - east side	Sidewalk	0.37	\$61,000
SW 77 th Avenue	SW 104 th Street to SW 112 th Street/Killian Drive (missing sections only) - east side; South of SW 124 th Street/Chapman Field Drive - east side; SW 126 th Street to SW 127 th Street - east side	Sidewalk	0.42	\$69,000
SW 84 th Avenue	SW 132 nd Street to SW 136 th Street - both sides	Sidewalk	0.50	\$83,000
SW 88 th Street	East of SW 61 st Avenue to SW 60 th Avenue - north side	Sidewalk	0.12	\$19,000
SW 90 th Street	East of US 1/Pinecrest Parkway to SW 69 th Court – south side	Sidewalk	0.11	\$18,000
SW 96 th Street	SW 72 nd Avenue to SW 70 th Avenue - south side; SW 69 th Court to SW 57 th Avenue -north side	Sidewalk	1.57	\$258,000
SW 92 nd Street	SW 70 th Avenue to SW 67 th Avenue/Ludlam Road – north side	Sidewalk	0.37	\$61,000
SW 57 th Avenue	SW 88 th Street/Kendall Drive to SW 96 th Street - west side	Sidewalk	0.39	\$65,000
SW 132 nd Street	US 1/Pinecrest Parkway to SW 77 th Avenue - north side	Sidewalk	0.84	\$138,000
SW 57 th Avenue	SW 128 th Street to SW 131 st Terrace – west side	Sidewalk	0.22	\$37,000
SW 96 th Street	SW 72 nd Avenue to SW 57 th Avenue	Sharrows	1.65	\$9,000
SW 104 th Street	US 1/Pinecrest Parkway to SW 57 th Avenue	Sharrows	2.24	\$12,000
SW 60 th Avenue	SW 96 th Street to SW 104 th Street	Sharrows	0.51	\$3,000
SW 62 nd Avenue	SW 104 th Street to SW 136 th Street	Sharrows	2.04	\$11,000
SW 72 nd Avenue	US 1/Pinecrest Parkway to SW 98 th Street	Sharrows	0.47	\$3,000
Pedestrian/Bicycle Facility Network Improvement Total				\$7,257,000

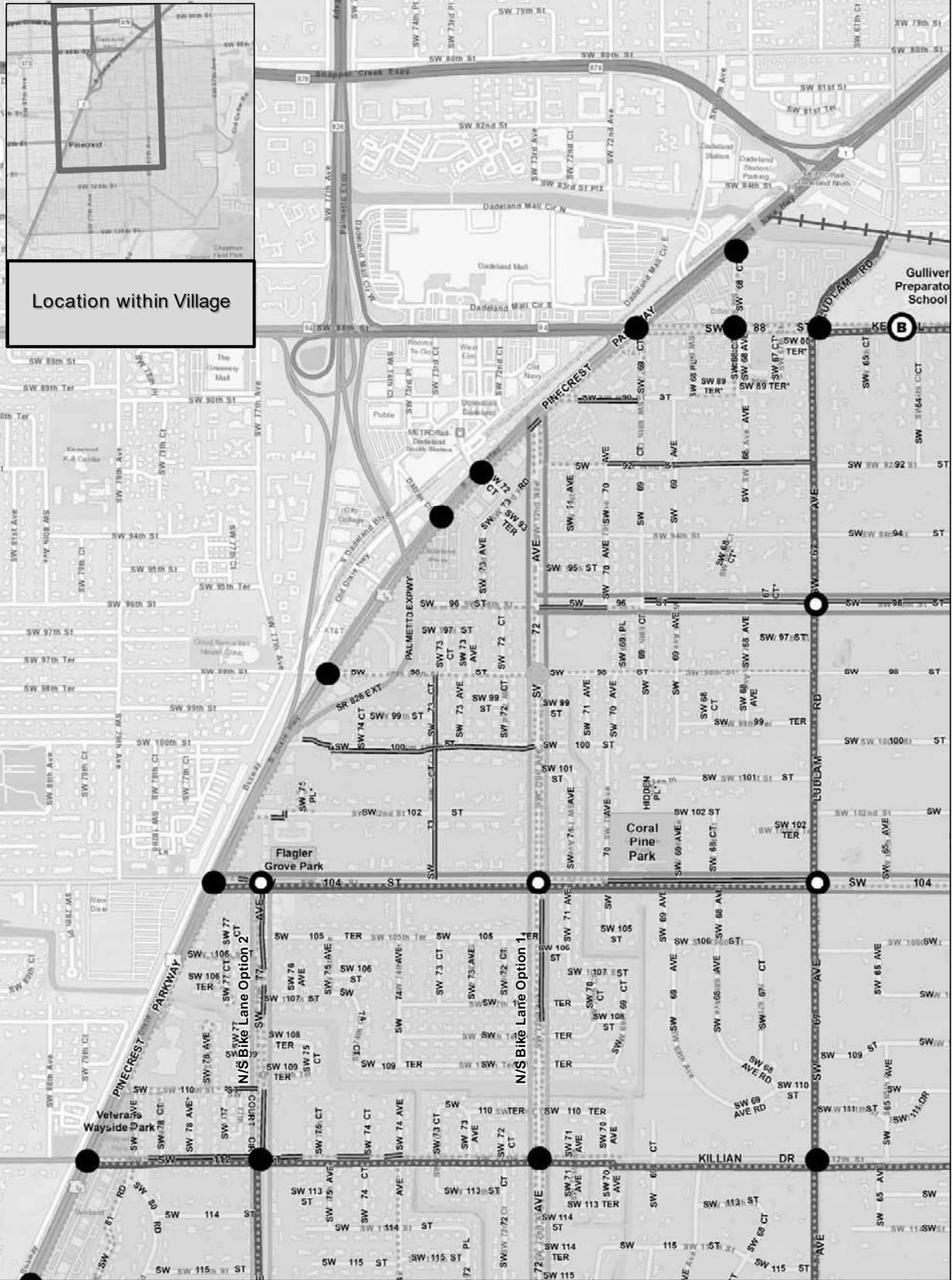
Figure 18: Bicycle/Pedestrian Network Improvement Plan - Village-wide



Pedestrian Facilities	Bicycle Facilities	Shared Use Paths	Crossing Locations
Existing Sidewalk	Planned Bicycle Lane	Existing Shared Use Path	Existing (Signalized/Four-way Stop)
Proposed Sidewalk	Proposed Bicycle Lane	Planned Shared Use Path	Proposed (New Crosswalks)
	Proposed Sharrows	Proposed Shared Use Path	New Flashing Beacon Crossing
			Existing Roundabout
			Planned Roundabout
			Proposed Roundabout

0 0.25 0.5 0.75 1 Miles

Figure 19: Bicycle/Pedestrian Network Improvement Plan - NW Quadrant



Location within Village

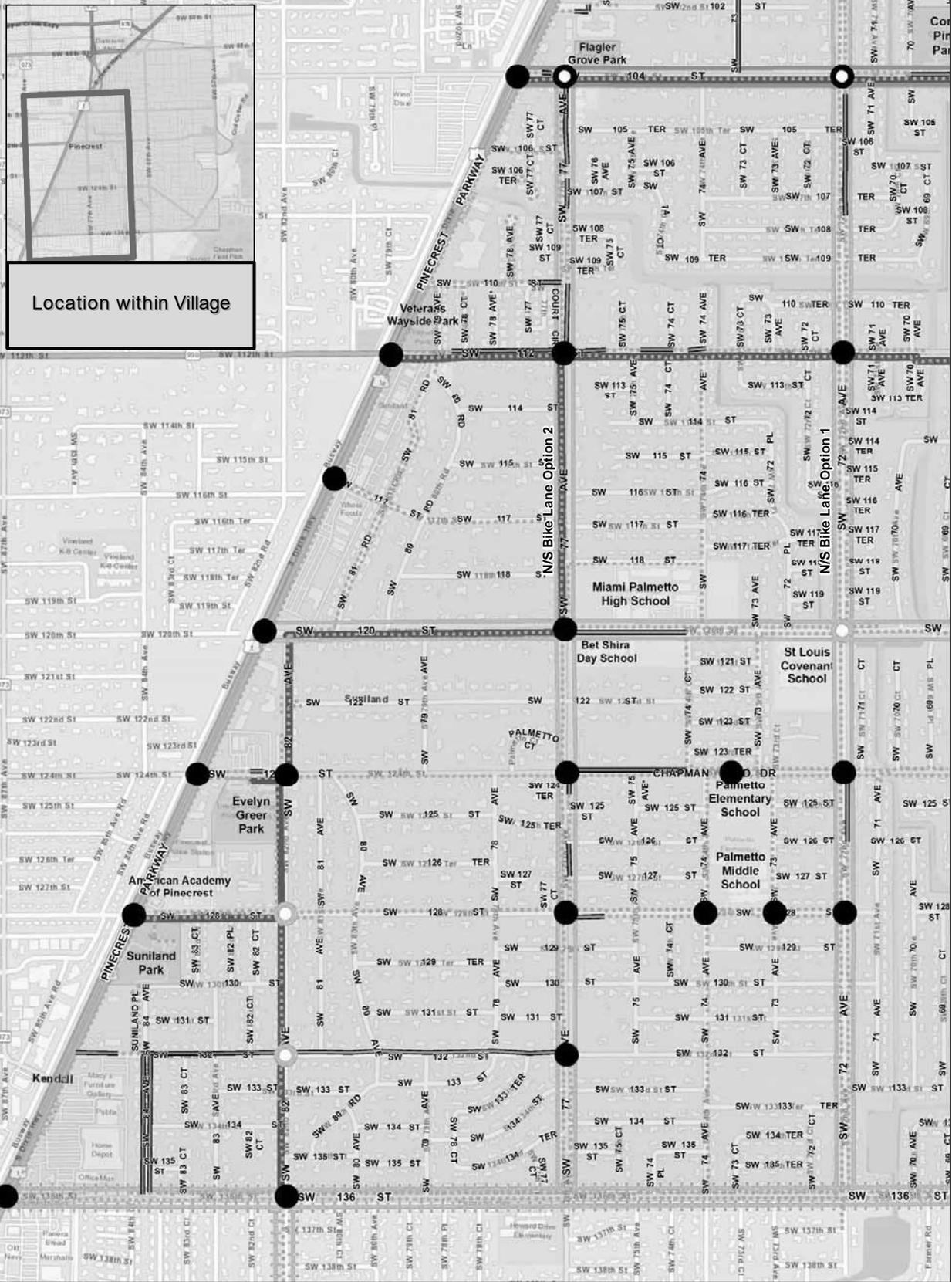
Pedestrian Facilities	Bicycle Facilities	Shared Use Paths	Crossing Locations
Existing Sidewalk	Planned Bicycle Lane	Existing Shared Use Path	Existing (Signalized/Four-way Stop)
Proposed Sidewalk	Proposed Bicycle Lane	Planned Shared Use Path	Proposed (New Crosswalks)
	Proposed Sharrows	Proposed Shared Use Path	New Flashing Beacon Crossing
			Existing Roundabout
			Planned Roundabout
			Proposed Roundabout

Kimley Horn

Figure 20: Bicycle/Pedestrian Network Improvement Plan - NE Quadrant

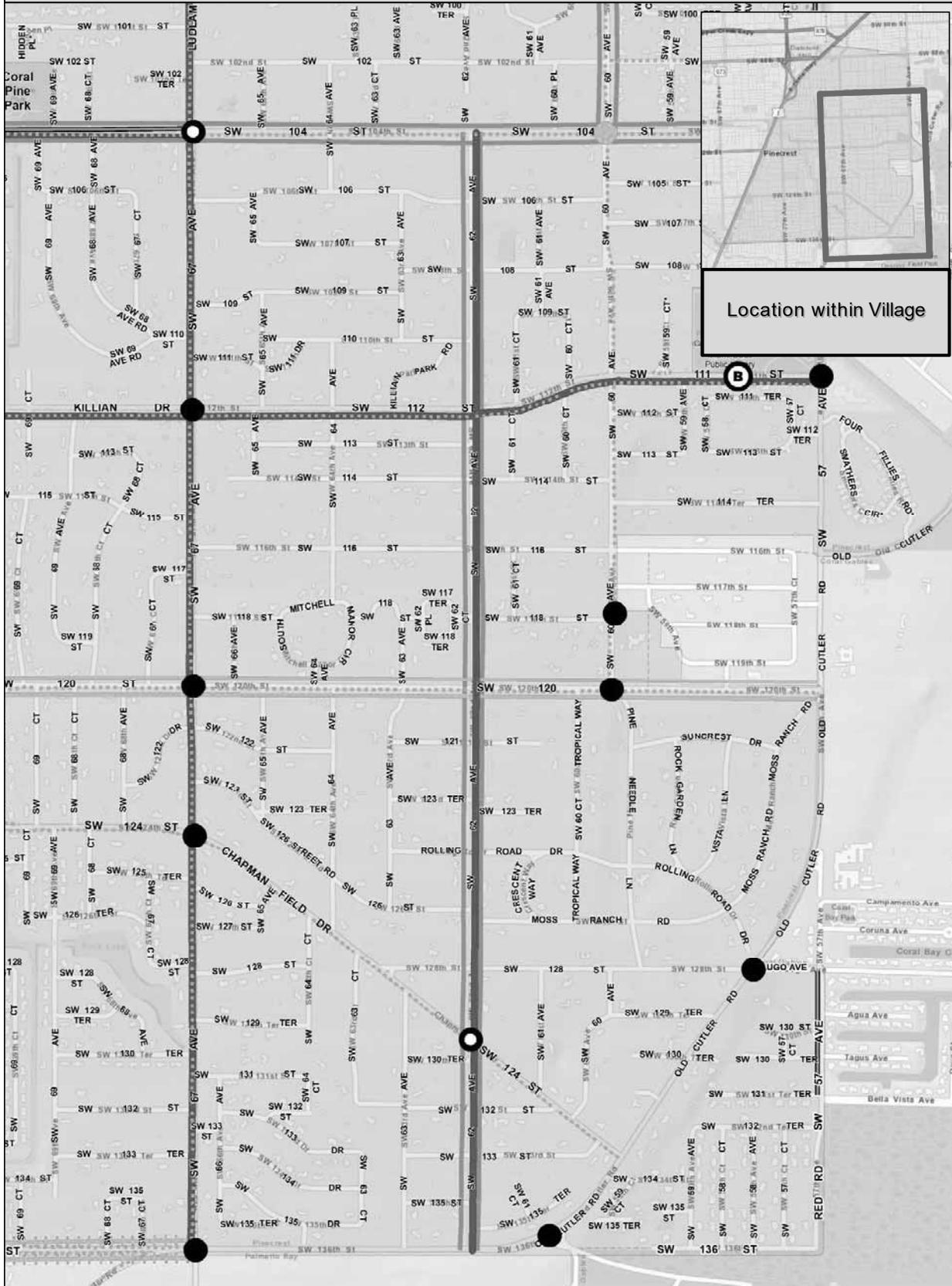


Figure 21: Bicycle/Pedestrian Network Improvement Plan - SW Quadrant



Pedestrian Facilities	Bicycle Facilities	Shared Use Paths	Crossing Locations (Signalized/Four-way Stop)
Existing Sidewalk	Planned Bicycle Lane	Existing Shared Use Path	Existing (Signalized/Four-way Stop)
Proposed Sidewalk	Proposed Bicycle Lane	Planned Shared Use Path	Proposed (New Crosswalks)
	Proposed Sharrows	Proposed Shared Use Path	New Flashing Beacon Crossing
			Existing Roundabout
			Planned Roundabout
			Proposed Roundabout

Figure 22: Bicycle/Pedestrian Network Improvement Plan - SE Quadrant



Pedestrian Facilities	Bicycle Facilities	Shared Use Paths	Crossing Locations
Existing Sidewalk	Planned Bicycle Lane	Existing Shared Use Path	Existing (Signalized/Four-way Stop)
Proposed Sidewalk	Proposed Bicycle Lane	Planned Shared Use Path	Proposed (New Crosswalks)
	Proposed Sharrows	Proposed Shared Use Path	New Flashing Beacon Crossing
			Existing Roundabout
			Planned Roundabout
			Proposed Roundabout

0 0.125 0.25 0.375 0.5 Miles