Consultant Report: Redistricting Alternatives for the City of Pembroke Pines

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Introduction

This report transmits several alternative considerations for revised Commission Districts for the City of Pembroke Pines, Florida. All of the alternative district configurations presented for consideration meet required criteria as stipulated in the City Charter: "Following the decennial census in 2010, and every ten (10) years thereafter, or sooner if it is determined by the Commission that districts shall have become unbalanced due to population shifts, the City Commission shall contract with an accredited four (4) year college or university located within the State of Florida for the purpose of identifying and designating the four (4) election districts within the City of Pembroke Pines. The City Commission shall adopt the redistricting plan as designated, provided that the plan incorporates the principles of nondiscrimination and fairness". The districting requirements in the City Charter are consistent with generally accepted standard practice and the legal rulings and guidelines that emanate from the 1965 Voting Rights Act and its Amendments. The consulting team was tasked by the city to prepare a side-by-side analysis of population balance among the districts that accounts for *both* the 2020 U.S. Census population count, *and* an estimated population for the year 2023. This was done such that the commission may consider not only the population balance of the present, but also of the near future

Redistricting Criteria, Data Sources, Population Estimates

The framework or criteria guiding the development of revised district plans, which are the standards under which rational districts are developed nationwide and are supported by law and practice throughout the nation, can be summarized as follows:

1) Reasonable population equality across districts
   o Districts should have approximately the same number of people when all persons, regardless of age, are counted. Ideal district size is based on the total population divided by the number of districts.
   o Redistricting should adhere to Section 2 of the Voting Rights Act of 1965, as amended and interpreted through case law. This criterion requires that minority population clusters be respected in the development of district boundaries. Arbitrary dilution and other discriminatory practices are prohibited.
   o Redistricting should adhere to Florida's Fair Districting Amendment.

- Although deviations should be avoided wherever possible, there must be no more than a 10% overall deviation from the ideal size across districts.

2) Geographic contiguity and appropriate compactness

- Follow major natural and manmade boundaries to the extent possible in defining boundaries of voting districts.
- Maintain the integrity of communities of interest based on race, life cycle/age, income, and other community identity characteristics.
- Maintain district compactness and spatial contiguity. A compact shape for each district will be sought in each redistricting option presented to the city.

3) Political criteria

- Minimize the degree of change in pre-existing patterns of districts, to promote continuity of citizen identification with a district.

The first criterion is of primary importance; the others are significant in guiding decisions in reaching reasonable population balance.

In developing revised Pembroke Pines City Commission districts the spatial units used in composing or building the districts are residential housing subdivisions (communities) and U.S. Census blocks. Subdivisions are typically homogeneous in their housing characteristics and thus serve households with broadly similar interests. Thus district borders are typically subdivision boundaries and associated major roadways or other obvious physical features. U.S. Census blocks are typically subunits in subdivisions and are the smallest spatial unit used in tabulating Census data.

The population data developed for this redistricting begins with the 2020 U.S. Census counts obtained from the official national redistricting files. This provides the foundation upon which the *current* population balance amongst the four districts was analyzed. To account for the near *future*, we also include in this report population estimates derived from new housing in the City, scheduled to be constructed by January of 2023. These new housing unit counts come from the City of Pembroke Pines' Planning and Economic Development Department. These housing unit counts are converted into population by multiplying by the average persons per household (2.95, per the U.S. Census) for Pembroke Pines.

The 2020 Census

There are two primary differences that make the 2020 U.S. Census stand out from those that preceded it: a significant delay in its release due to the COVID-19 pandemic, and the implementation of a brand new 'differential privacy' policy. We will briefly address both of these here for the sake of posterity and context.

The decennial census aims to capture a snapshot in time of the population of the United States of America. Understanding that the population is constantly changing, with births, deaths, and migration patterns constantly adjusting the fabric of the American people, Census Day represents a single moment in time for which the U.S. population is enumerated with the greatest precision possible. This day is always April 1st. By this date, every household in America received an invitation to participate in the 2020 census, with three options to respond: online, by mail, or by phone. 2020 represented the first census to include an online response option. Subsequent to this day is a period of time in which the U.S. Census follows up with non-responders and begins a quality control process. Traditionally, the Census Bureau would deliver an apportionment count to the U.S. President on December 31st, followed by a distribution of redistricting data to the states exactly one year to the day after Census Day: in this case, Aril 1, 2021.

However, due to complications caused by the COVID-19 pandemic, the Census Bureau sought statutory relief from Congress that would allow for apportionment counts to be delivered to the president by April 30, 2021, and redistricting data to be delivered to the states no later than September 30, 2021. Additionally, the Census Bureau compressed the typical three-month non response follow up enumeration period to two and half months. Ultimately, redistricting data was released in a 'legacy format' on August 12, 2021. This delay inevitably and unavoidably complicated redistricting efforts for every electoral district in the nation. It also meant that the amount of error in the data, inherent to every census where 100% accuracy is impossible, would likely be greater in the 2020 census. The Census Bureau has since confirmed that the rate of missing information was higher in the 2020 census than that of 2010. However, they have also stated that this rate was lower than they initially feared.

The 2020 redistricting data is the first to employ 'differential privacy protection'. This represents the Census Bureau's introduction of 'noise' into the data at the more local geographic scale (Blocks and Block Groups) with the intent to strike a balance between data protection and precision. The effect is that while the enumeration counts can be trusted at the Census Tract level, we must anticipate a certain degree of 'fuzziness' at the Block level. Specifically, while the aggregate count of population for a Census

Tract will be accurate, a certain proportion of people/housing units will have been *deliberately* misallocated by the Census Bureau at the Block level. While this may not be problematic in the realignment of Congressional Districts, for example, it certainly represents a challenge for Municipal Districts, for which the geographic precision of Census Blocks is highly desirable.

Taken together, therefore, the complications related to the COVID-19 pandemic and the implementation of 'differential privacy' introduce a certain amount of additional uncertainty to the primary source of data for this analysis (2020 Census Redistricting Data (PL 94-171)) that is unprecedented. Nevertheless, this data remains the standard upon which municipal redistricting efforts shall be based across the nation.

Lastly, at the direction of staff, the consulting team sought to confirm that the population of recently completed projects was included in the 2020 count. Data were specifically provided to the U.S. Census by city staff regarding these projects, and while the above referenced 'fuzziness' of Block level data make it impossible to state with complete certainty, the overwhelming evidence suggests that these properties were accounted for (with one possible, relatively small, exception) and that no adjustment to the Census data is warranted. Further details on this analysis may be found within the Appendix of this report.

Current Districts

An Evaluation of Present Conditions:

According to the 2020 Census, the official 2020 population of the City of Pembroke Pines is 171,178. Dividing by four puts the average population for each district at 42,795. The **Existing Districts Map** and **Table 1** show the geographic boundaries and population counts for the current districts. The district with the greatest population is District 1 with 44,754 residents; the district with the smallest population is District 2 with 41,423 residents. District 3, with a population of 41,854, is close to that of District 2. Finally, District 4 is closest to the ideal average with a resident population of 43,147.

While the Current Districts are not heavily unbalanced, the existing deviation is sufficient to warrant redistricting (see **Table 1**). District 1 accounts for the greatest portion of the city's population at 26.14%. This deviates from the theoretical average population of 42,795 by 4.58%. District 2, the smallest district, has 24.2% of the population and deviates from the average by 3.2%. This represents a difference of 3,331 people between the two districts. District 3 is 2.2% below the average, while District 4 is just 0.82% above the average. This aggregates to a total deviation of 10.81% between all four districts. As such, the current population imbalance exceeds, though barely, that stipulated in the criteria for redistricting: there must

be no more than a 10% overall deviation from the ideal size across districts.

Table 1 – Current Commission Districts – City of Pembroke Pines

Resident Population, U.S. Census 2020

Current Districts	2020 Population	% of City	Deviation From Average
District 1	44,754	26.14	4.58%
District 2	41,423	24.20	-3.20%
District 3	41,854	24.45	-2.20%
District 4	43,147	25.21	0.82%
Total	171,178	100	10.81%
Average	42,795	25	2.70%

Thus, even without accounting for approved future developments, a realignment of district boundaries to better balance the population in the districts is required. The overall pattern of district boundary changes will need to reduce the population of District 1 and expand those of Districts 2 and 3. This will, of course, necessitate an adjustment of their geographic boundaries where both Districts 2 and 3 gain territory, while District 1 must contract in size.
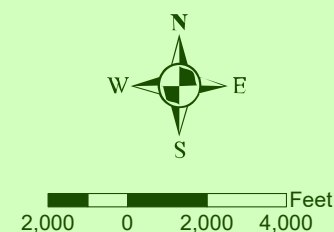
An Evaluation of Future Growth:

City staff identified three developments that have received approval and are expected to be constructed and occupied by January of 2023: 1600 Pines Market, Pembroke Tower II, and Merrick Square. Population projections were established for each of these projects by multiplying their planned units by the city's average persons per household in 2020 according to the U.S. Census: 2.95 (with the result rounded to the nearest whole number). These properties and their population projections are listed in **Table 2** below. The total amounts to an additional 1,369 people for the city, with the vast majority (1,109) being allotted to District 4, which, as previously noted, has a share of the city's population that is slightly above the ideal average. The remaining 260 people will be located within District 2, which presently is below the ideal average.
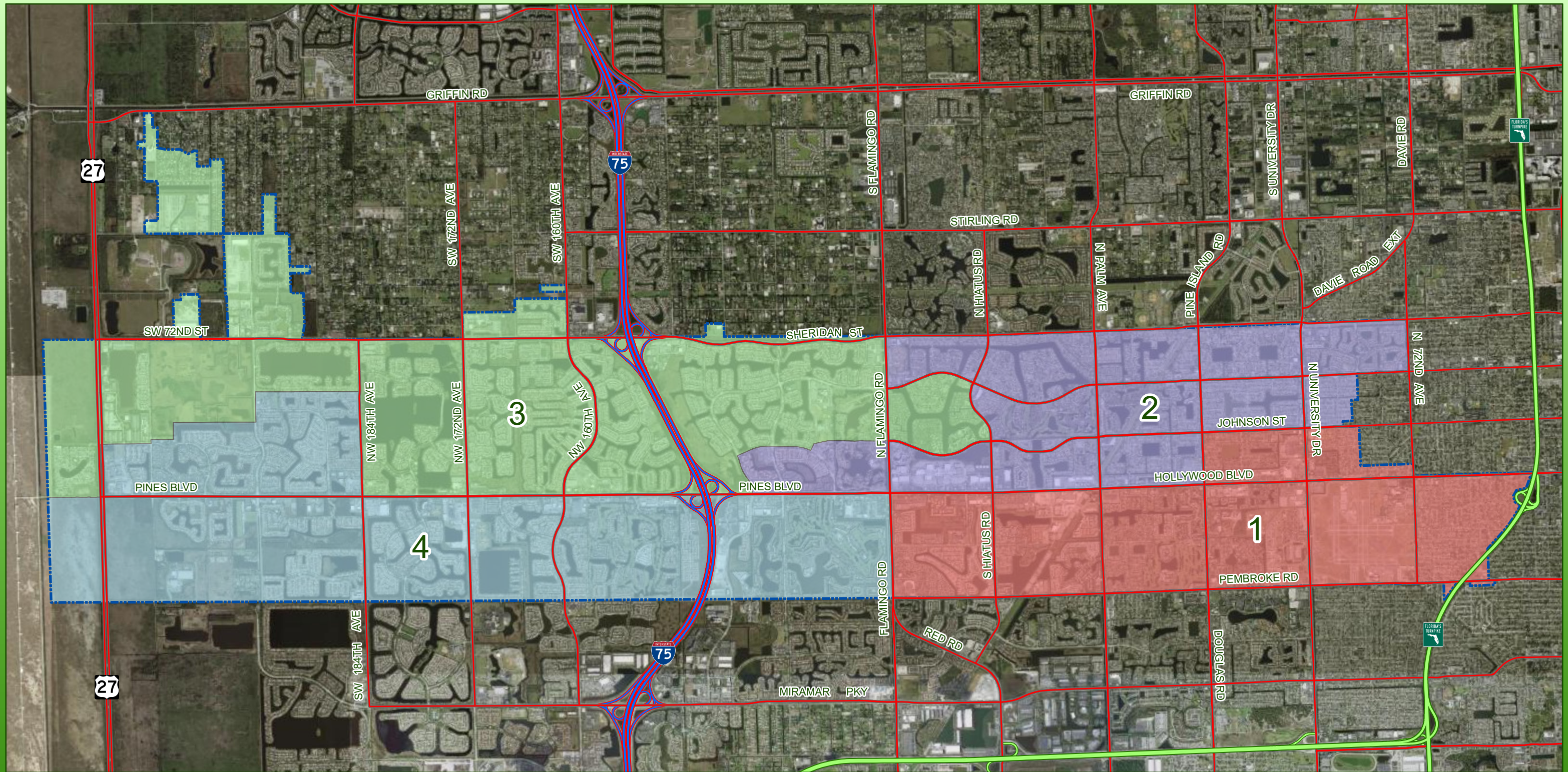
The City Of
PEMBROKE PINES
EXISTING DISTRICTS

District 1
District 2
District 3
District 4

Feet
2,000 0 2,000 4,000

Current Districts	2020 Population	% of City	Deviation From Average
District 1	44,754	26.14	4.58%
District 2	41,423	24.20	-3.20%
District 3	41,854	24.45	-2.20%
District 4	43,147	25.21	0.82%
Total	171,178	100	10.81%
Average	42,795	25	2.70%

Table 2 – City of Pembroke Pines
Population Estimates for Approved Developments

Subdivision	Units	Population Estimate	Current District
1600 Pines Market	165	487	4
Pembroke Tower II	88	260	2
Merrick Square	211	622	4
	464	**1,369**	

Note: The 2020 U.S. Census average persons per household for Pembroke Pines (2.95) is used to calculate the population estimate, rounded to the nearest whole number.

When these population projections were factored into the analysis of the existing districts, the total deviation of the four districts grew from 10.81% to 12.69%, as shown in **Table 3**. The additional 1,369 people will grow the city's overall projected population to 172,547, with a new idealized district average of 43,137. While District 1 retains the largest share of the city's population in this scenario, it is somewhat closer to the newer higher average and so is slightly less imbalanced than when relying on the 2020 U.S. Census numbers alone. The other districts, on the other hand, all become more imbalanced upon accounting for this future growth. This is unsurprising in the case of District 4, which is set to absorb the majority of this new population, and thus moves from 0.82% above average to 2.59% above average. District 3 begins to fall further behind the average population, and is now 2.97% below the mean as opposed to the previous 2.2%. Finally, even though District 2 is expected to gain additional residents, they will not be enough to keep pace with the rising average, and so it falls slightly further below the idealized average, from 3.2% to 3.37%.

Table 3 – Current Commission Districts – City of Pembroke Pines
Projected Population, 2023

| Current Districts	2023 Population Projection	% of City	Deviation From Average
District 1	44,754	25.94	3.75%
District 2	41,683	24.16	-3.37%
District 3	41,854	24.26	-2.97%
District 4	44,256	25.65	2.59%
Total	**172,547**	**100**	**12.69%**
Average	**43,137**	**25**	**3.17%**

This analysis of projected population demonstrates additional imbalance in the current districts that even further exceeds the stipulated maximum 10% overall deviation called for by the redistricting criteria. As such, the necessity for the City of Pembroke Pines to undergo redistricting is reaffirmed when accounting for its anticipated, near-term, growth. Taking these projections into consideration, therefore, the necessary pattern of district boundary changes would require some further slight adjustment, where District 4 would join District 1 in its need for contraction.

Alternatives

Given the necessity for redistricting, under both current and projected populations, three alternatives have been developed and are transmitted herein for review and discussion at a Commission Meeting. With the direction to provide side-by-side analysis of present and future population, this effectively amounts to six permutations, wherein the geographic boundaries are modified from one alternative to the next, but each has two different tables: one depicting 2020 population, and the other depicting 2023 projected population. (The distinction between these being labeled as 1.1 vs. 1.2, etc.). Maps and corresponding tables are presented in this report for commissioner review. In our opinion, all three alternatives meet standard districting guidelines and the requirements of the City Charter. They represent alternative ways to better balance district populations, while also keeping with the intent of the other identified guidelines. The current districts' population figures and boundaries are used as the primary reference in discussing the changes in each of the three alternatives.
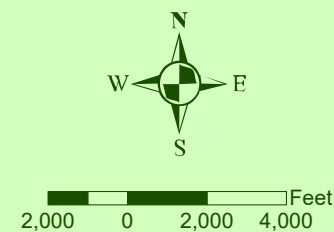
Alternative 1

Alternative 1 presents a revised district plan that has the smallest geographic impact on the current districts, with a strict focus on improving their overall population balance. This minimalist approach is achieved by moving territory from Districts 1 and 4 to Districts 2 and 3, respectively. The overall impact of these modifications on the city's 2020 U.S. Census population size and geographic boundaries is reflected in **Table 4** and the **Alternative 1 Map**. This alternative's anticipated population balance in 2023 is detailed in **Table 5** and the **Existing vs. Alternative 1 Comparison Map**.
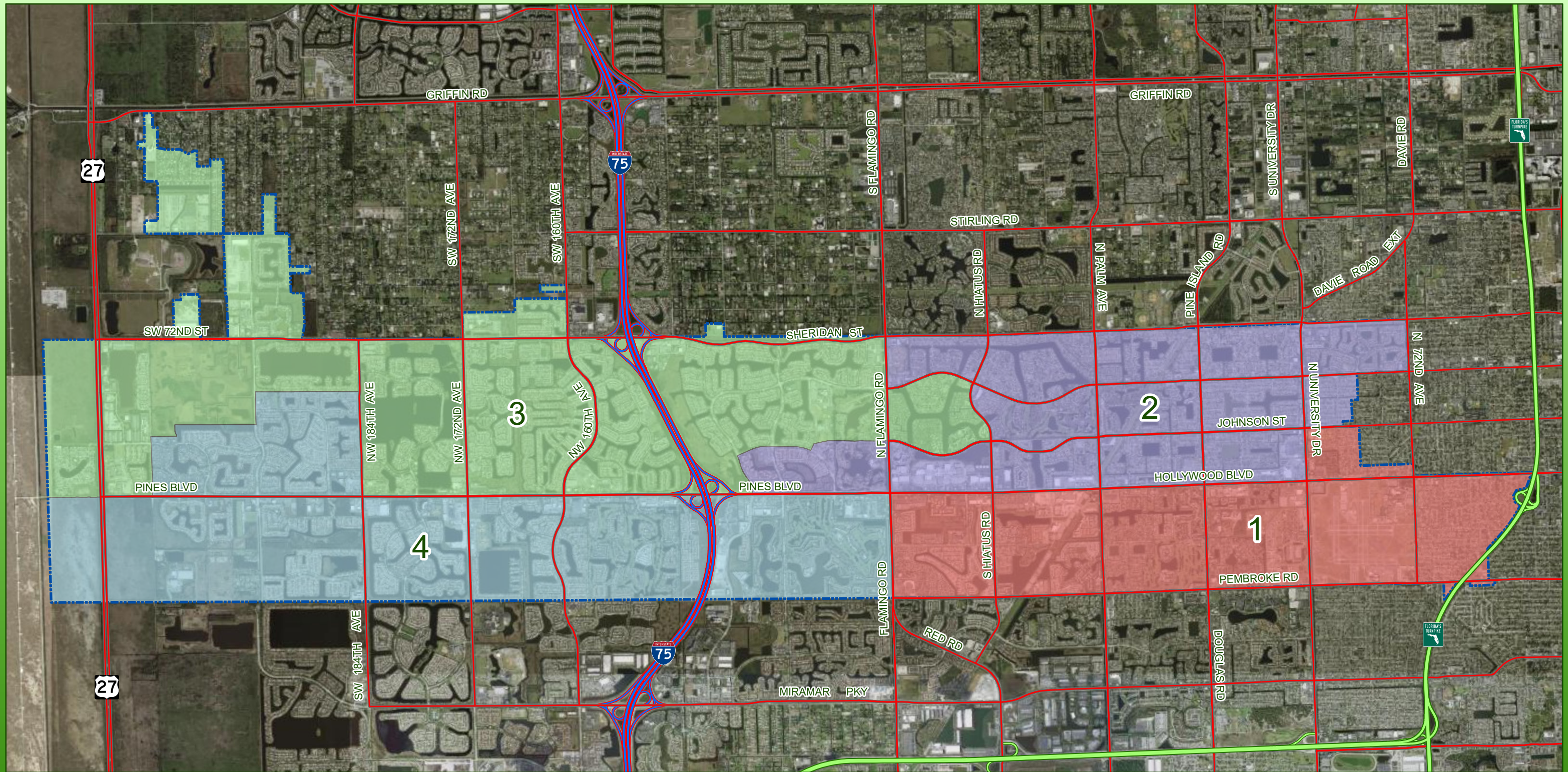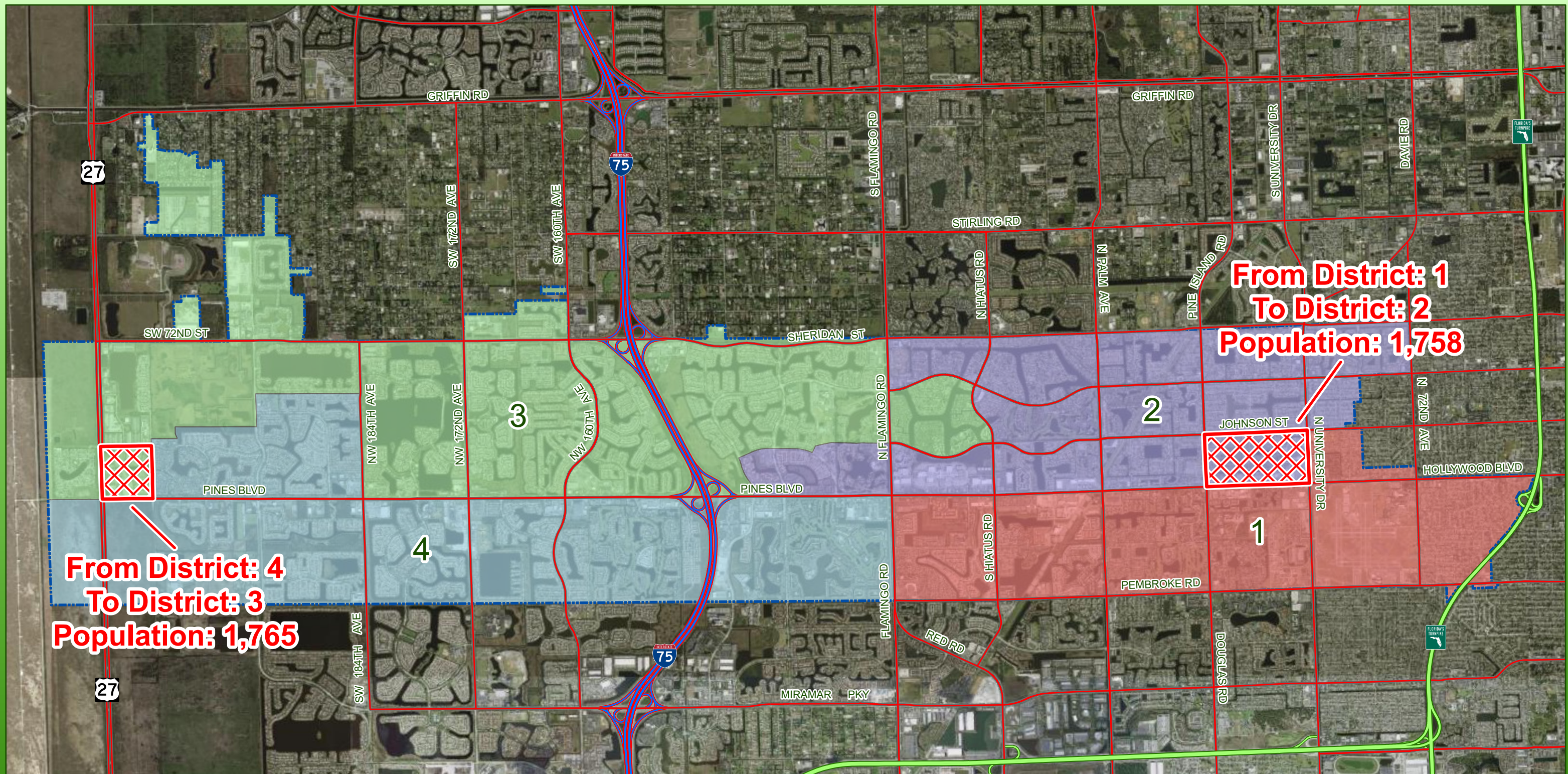
The City Of
PEMBROKE PINES
ALTERNATE DISTRICTS 1

District 1
District 2
District 3
District 4

N
W E
S

Feet
2,000   0   2,000   4,000

Alternative 1	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	43,181	25.23	0.90%
District 3	43,619	25.48	1.93%
District 4	41,382	24.17	-3.30%
Total	171,178	100	6.60%
Average	42,795	25	1.65%

From District: 1
To District: 2
Population: 1,758

From District: 4
To District: 3
Population: 1,765

27
75
GRIFFIN RD
GRIFFIN RD
SW 172ND AVE
SW 160TH AVE
S FLAMINGO RD
STIRLING RD
N HIATUS RD
N PALM AVE
PINE ISLAND RD
S UNIVERSITY DR
DAVIE RD
SW 72ND ST
SHERIDAN ST
NW 184TH AVE
NW 172ND AVE
NW 160TH AVE
N FLAMINGO RD
JOHNSON ST
N UNIVERSITY DR
N 72ND AVE
HOLLYWOOD BLVD
PINES BLVD
PINES BLVD
PINES BLVD
3
2
SW 184TH AVE
4
S HIATUS RD
1
PEMBROKE RD
27
FLAMINGO RD
RED RD
MIRAMAR PKY
DOUGLAS RD
75

The City Of
PEMBROKE PINES
Existing vs. Alternative 1

Changes
District 1
District 2
District 3
District 4

N
W   E
S

Feet
2,000   0   2,000   4,000

Alternative 1	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	43,441	25.18	0.71%
District 3	43,619	25.28	1.12%
District 4	42,491	24.63	-1.50%
Total	172,547	100	3.65%
Average	43,137	25	0.91%

Table 4 – Alternative Districts 1 – City of Pembroke Pines Resident Population, U.S. Census 2020 (Permutation 1.1)

Alternative 1	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	43,181	25.23	0.90%
District 3	43,619	25.48	1.93%
District 4	41,382	24.17	-3.30%
Total	171,178	100	6.60%
Average	42,795	25	1.65%

The specific changes from the existing districts to those of Alternative 1 are described below:

1. District 3, presently 1,283 people below the ideal average of 43,137, gains 1,765 people from District 4 by absorbing that area found between NW 208th Avenue and US 27 in the east-west direction, and Johnson Street and Pines Boulevard in the north-south direction (see Figure 1). This serves to lower District 3's deviation from **negative 2.97%** to **positive 1.93%**. The overall imbalance of District 4 is raised slightly in this scenario (going from **2.59%** above the ideal average to **3.3%** below), but this is more than offset by improved balance in the other districts. (Note that this change is also reflected in Alternative 2.)
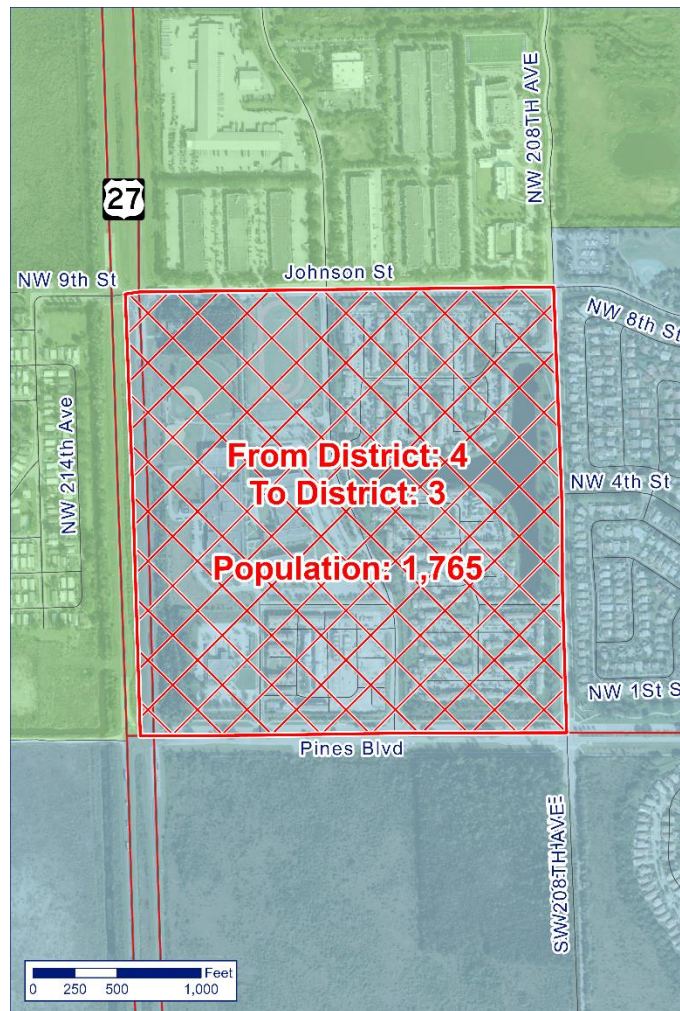

Figure 1

2. The percent deviation for District 1 is reduced from **3.75%** to just **0.47%** by shifting the jog in its northern border to the east: from Douglas Road to University Drive (see Figure 2). This change also serves to reduce District 2's population deviation from **negative 3.75%** to **positive 0.9%**. (Note that this change is found in all the Alternatives.)
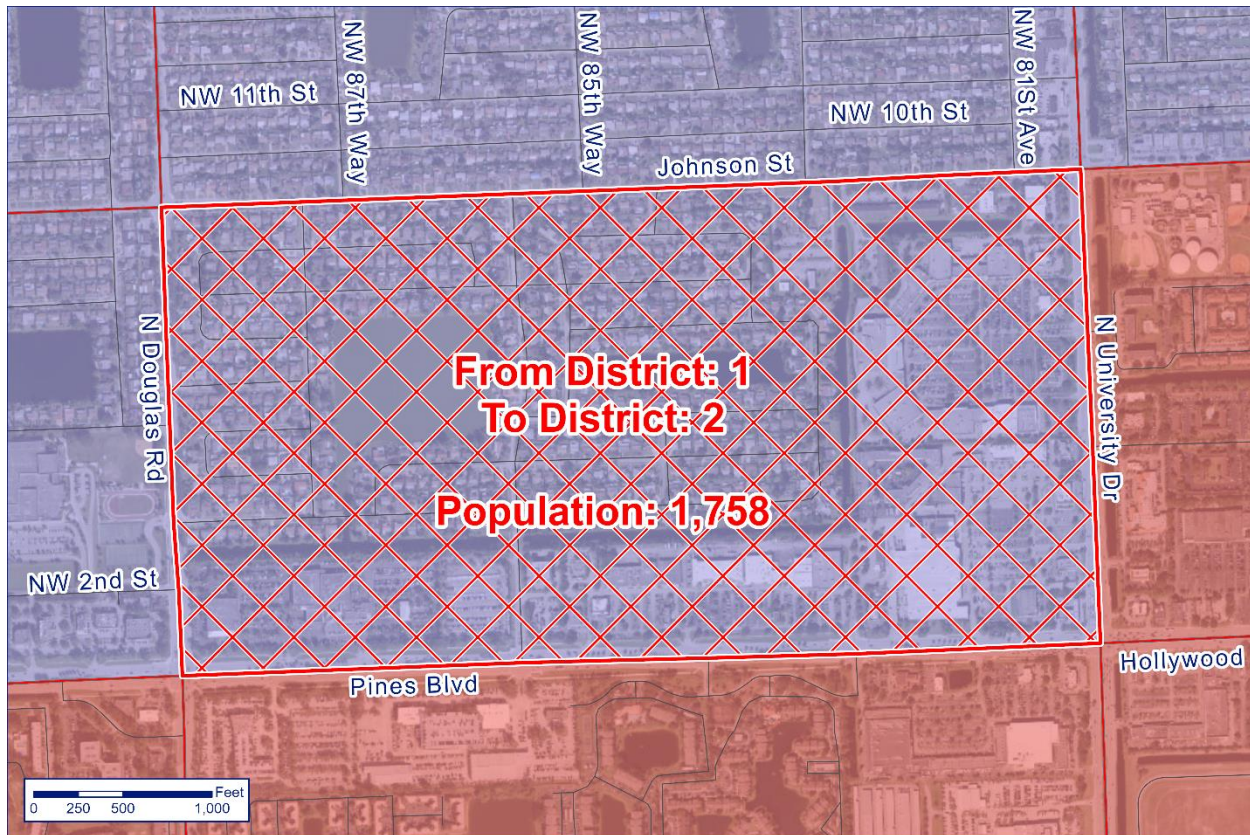

Figure 2

Referring to the existing population count of the 2020 U.S. Census (permutation 1.1), the overall percent deviation for the four districts in Alternative 1 is **6.6%**. This is a much reduced figure from the **10.81%** in the existing districts. However, these numbers are even better once we account for the city's anticipated growth (permutation 1.2, see Table 5). Referring to the U.S. Census' 2020 count, District 4 is Alternative 1's least balanced, with a deviation from average of **negative 3.3%**. However, upon adding in the projected 1,109 people discussed previously, this value is lowered to **negative 1.5%**. Furthermore, recalling that the city's overall deviation is expected to be **12.69%** by 2023 (Table 3) under the existing districts, this value is even further reduced to just **3.65%**, with an average deviation of just **0.91%**. It is worth noting that of six permutations discussed in this report, this is the most balanced of them all.

Table 5 – Alternative Districts 1 – City of Pembroke Pines

Projected Population, 2023 (Permutation 1.2)

Alternative 1	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	43,441	25.18	0.71%
District 3	43,619	25.28	1.12%
District 4	42,491	24.63	-1.50%
Total	172,547	100	3.65%
Average	43,137	25	0.91%

Alternative 2

Alternative 2 builds off the changes reflected in Alternative 1. However, in addition to seeking improved population balance, it also strives to provide more geographically compact district boundaries for the city. While the redistribution of population from Districts 1 and 4 remains, there is also an effort to make the border between Districts 2 and 3 as straight as possible. The product of these efforts is depicted in **Table 6** and the **Alternative 2 Map**, both of which detail the distribution of the 2020 U.S. Census data (permutation 2.1). **Table 7** and the **Existing vs. Alternative 2 Comparison Map**, meanwhile, accounts for the population estimates for 2023 under these revised boundaries (permutation 2.2).
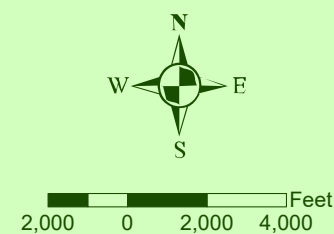
Table 6 – Alternative Districts 2 – City of Pembroke Pines

Resident Population, U.S. Census 2020 (Permutation 2.1)

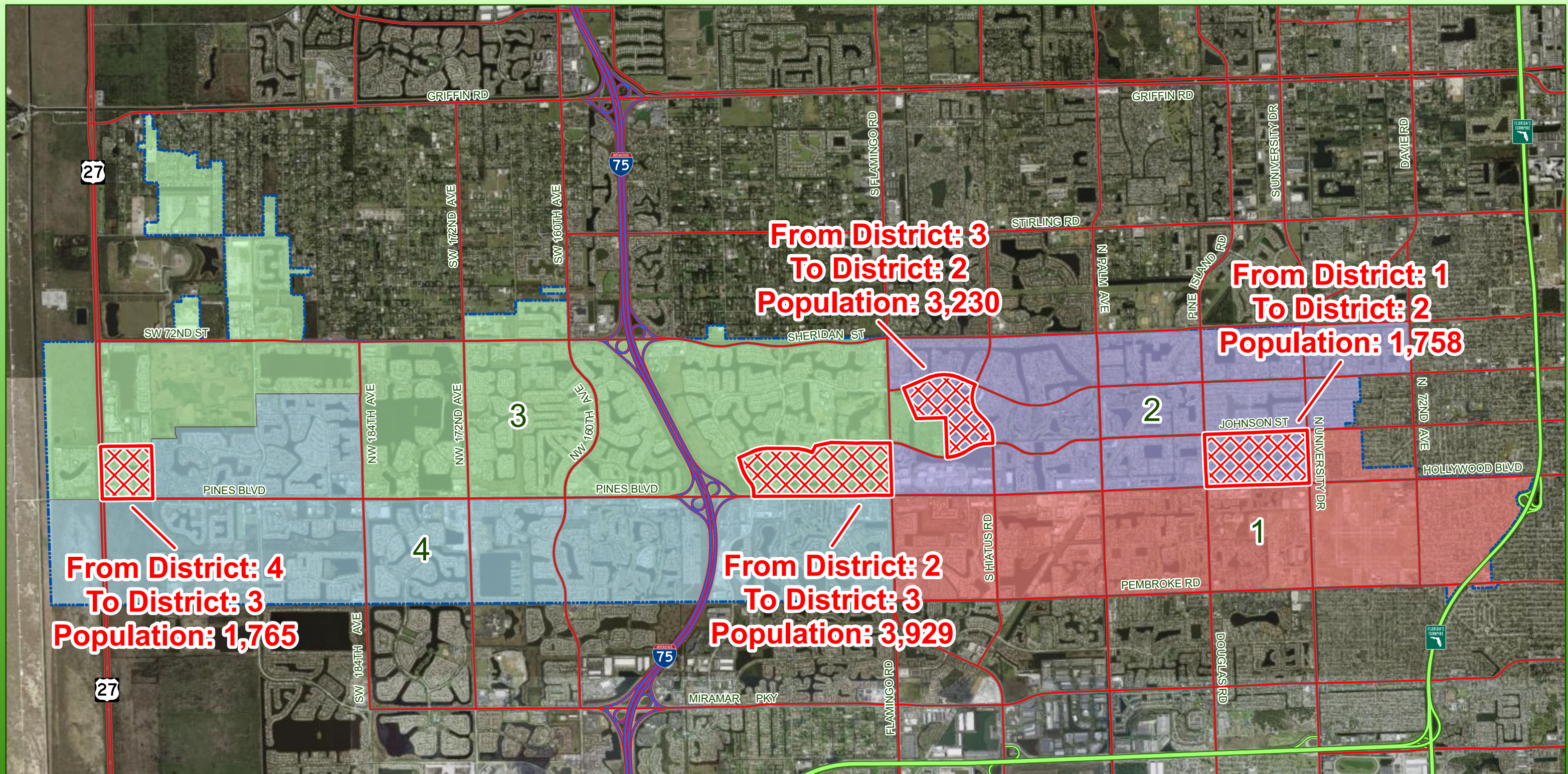| Alternative 2	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	42,482	24.82	-0.73%
District 3	44,318	25.89	3.56%
District 4	41,382	24.17	-3.30%
Total	171,178	100	8.06%
Average	42,795	25	2.02%
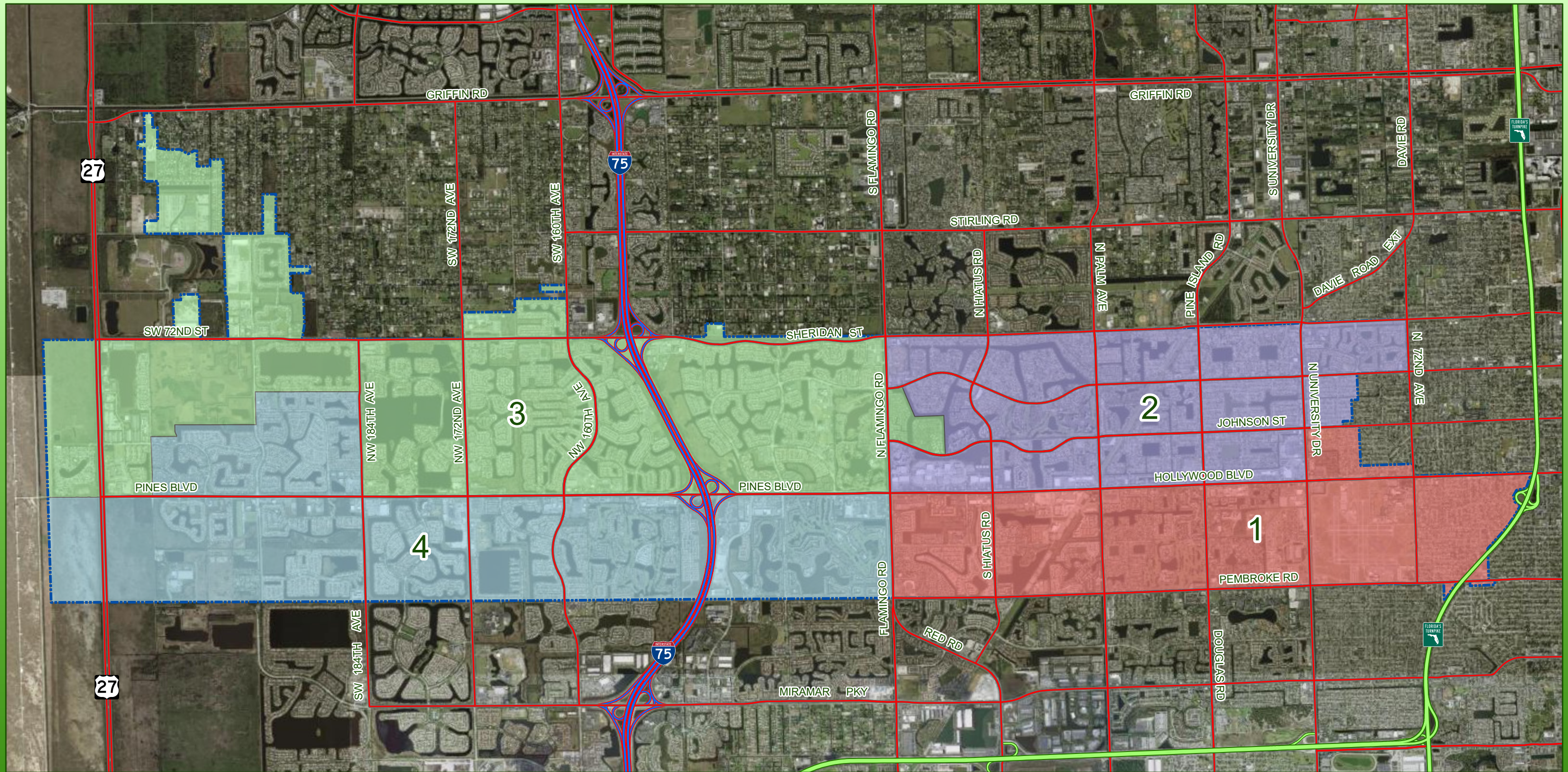
The City Of
PEMBROKE PINES
ALTERNATE DISTRICTS 2

District 1
District 2
District 3
District 4

N
W E
S

Feet
2,000 0 2,000 4,000

Alternative 2	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	42,482	24.82	-0.73%
District 3	44,318	25.89	3.56%
District 4	41,382	24.17	-3.30%
Total	171,178	100	8.06%
Average	42,795	25	2.02%

From District: 3
To District: 2
Population: 3,230

From District: 1
To District: 2
Population: 1,758

From District: 4
To District: 3
Population: 1,765

From District: 2
To District: 3
Population: 3,929

The City Of
PEMBROKE PINES
Existing vs. Alternative 2

Changes
District 1
District 2
District 3
District 4
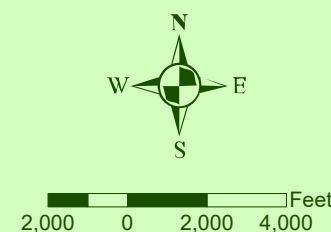
N
W   E
S

Feet
2,000   0   2,000   4,000

Alternative 2	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	42,742	24.77	-0.92%
District 3	44,318	25.68	2.74%
District 4	42,491	24.63	-1.50%
Total	172,547	100	5.48%
Average	43,137	25	1.37%

In addition to the changes described previously as part of Alternative 1, Alternative 2 modifies the existing districts as follows:

1. The southeastern boundary of District 3 is squared off to follow the major thoroughfares under this proposed alternative, with its southern border now continuing along Pines Boulevard to Flamingo Road, which now also forms its eastern boundary as far north as Johnson Street (see Figure 3). In addition to moving the entirety of C.B. Smith Park into District 3, this realignment also moves 3,929 people into the district. (Note that this change is also reflected in Alternative 3.) To remain balanced, an additional swap of territory, with a similar number of residents, is necessitated with District 2, which is detailed below.
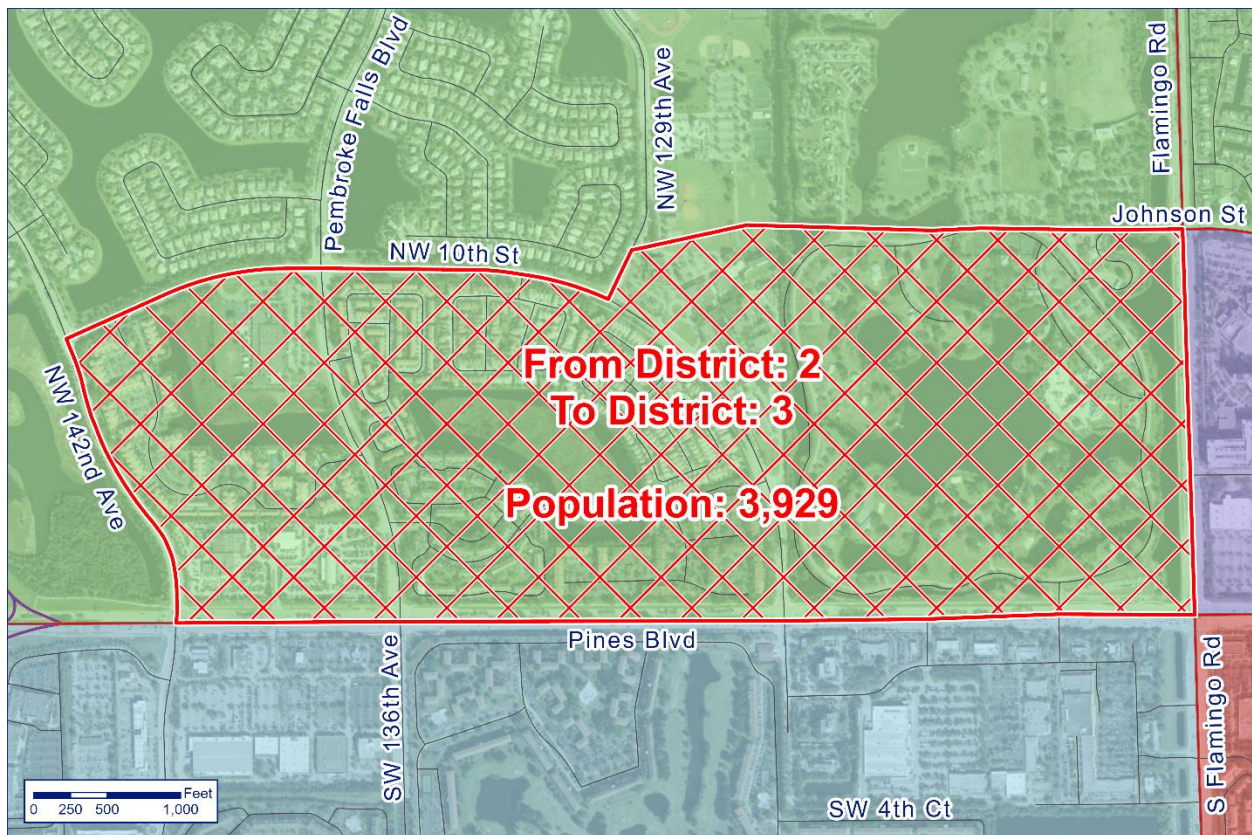
2. From a compactness point-of-view, it would have been ideal if that part of District 3 that protrudes east of Flamingo Road (north of Johnson Street and south of Taft Street) was similar in population to the 3,929 residents described above. However, this area actually accounts for 6,335 people, and therefore cannot be swapped in its entirety without greatly unbalancing the districts. Consequently, only the eastern part of this area that is contiguous with District 2 can be shifted, using the waterways as the proposed border between the two districts. Under this scenario, the

neighborhoods Pierpointe and Flamingo Villas would remain in District 3, while Pierpointe East, Colony Pointe, Villa Lakes, Gardens at Pembroke Lakes, and Pembroke Lakes would all be moved to District 2 (see Figure 4). This area includes 3,230 residents, which balances to a reasonable degree the area lost by District 2 to District 3 (see Figure 3).
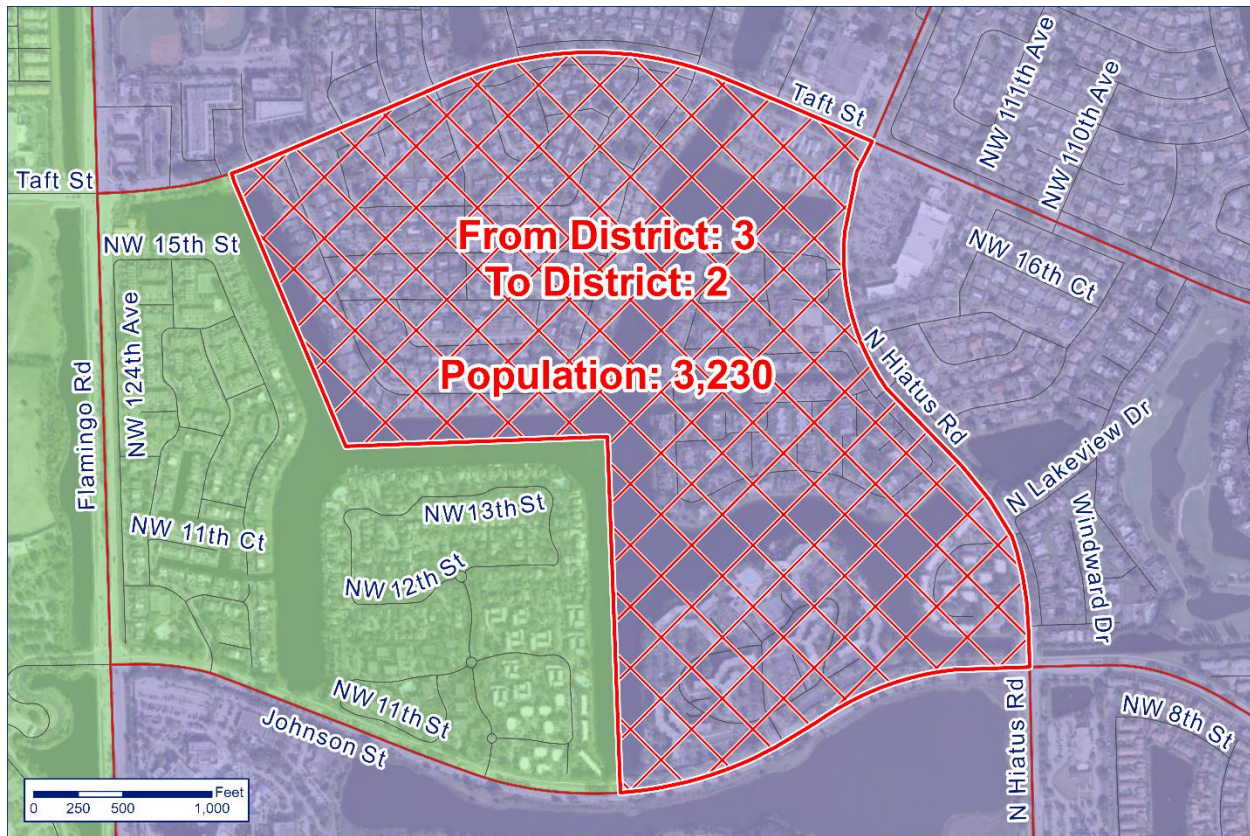
Only accounting for the present population of the city according to the U.S. Census (permutation 2.1), the overall percent deviation for the four districts in Alternative 2 is **8.06%**. Again, while this is not as good as that observed in Alternative 1, it is better than the **10.81%** of the existing districts and meets the "no more than 10% deviation" criterion of population balance previously specified.

Moreover, with the boundaries of District 4 remaining unchanged from those proposed in Alternative 1, we observe improved balance upon accounting for the future growth in that district (permutation 2.2, see Table 7). Specifically, the overall deviation falls to **5.48%**, with an average deviation of **1.37%**. This alternative is, therefore, not only more compact, but also represents very good population balance both now and when projecting into the future.

Table 7 – Alternative Districts 2 – City of Pembroke Pines

Projected Population, 2023 (Permutation 2.2)

Alternative 2	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	42,742	24.77	-0.92%
District 3	44,318	25.68	2.74%
District 4	42,491	24.63	-1.50%
Total	172,547	100	5.48%
Average	43,137	25	1.37%

Alternative 3

While Alternative 2 successfully addresses both the compactness and population balance issues, the first and second redistricting criteria that guide this work, it does move the condominium community Colony Pointe out of District 3 and into District 2. This impacts the third of our redistricting criteria: political considerations. While population balance is of primary importance, the other criteria should be observed where possible. To this end, it may be desirable to ensure that each of the four districts includes one of the four major condominium communities, as is presently the case, with those being: Hollybrook (District 1), Park Place (District 2), Colony Pointe (District 3), and Century Village (District 4).

Table 8 – Alternative Districts 3 – City of Pembroke Pines

Resident Population, U.S. Census 2020 (Permutation 3.1)

Alternative 3	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	41,583	24.29	-2.83%
District 3	43,452	25.38	1.54%
District 4	43,147	25.21	0.82%
Total	171,178	100	5.66%
Average	42,795	25	1.42%

Alternative 3 builds off of Alternative 2, therefore, and returns Colony Pointe and its 899 residents to District 3. For the sake of improved compactness, this adjustment is also accompanied by the shifting of the Pembroke Pines Mall (obviously not being home to any residents, and therefore not impacting the population balance of the districts) from District 2 to District 3. The restoration of Colony Pointe to District 3 does put it out of balance, which is why it was not included as part of the Alternative 2 proposal. As such, District 3 must give up population elsewhere. This is achieved by restoring the original boundaries of District 4, undoing the change described in figure 1, and thus subtracting 1,765 residents from the newly proposed District 3. This serves to reestablish the sought after population balance. The distribution of the city's 2020 U.S. Census count
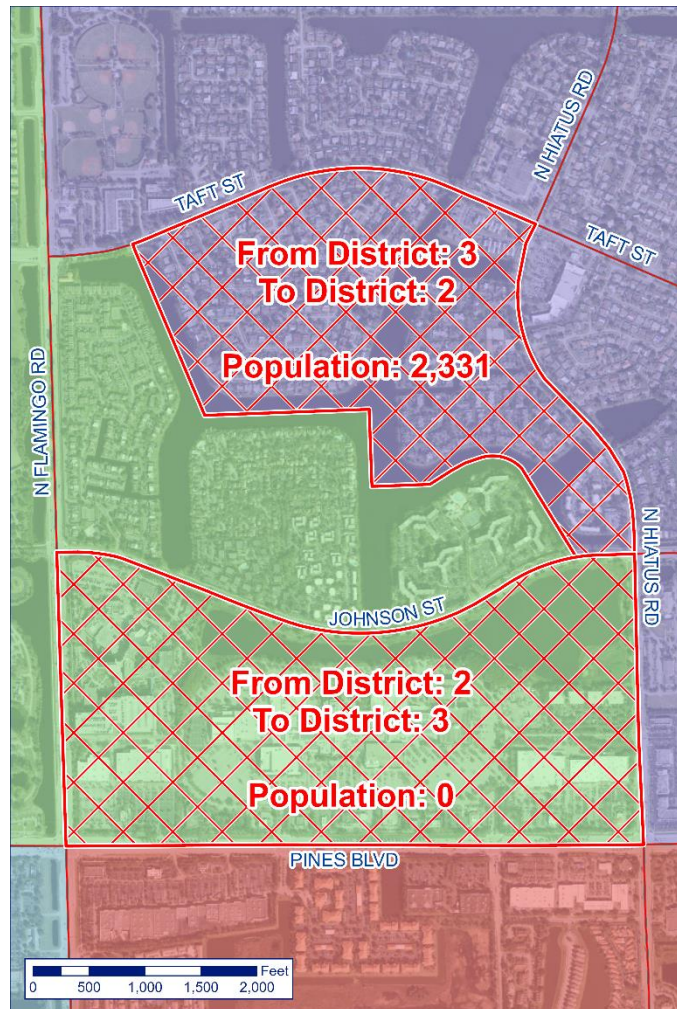
Figure 5

(permutation 3.1) is reflected in **Table 8** and the **Alternative 3 Map**. This alternative's anticipated population balance in 2023 (permutation 3.2) is detailed in **Table 9** and the **Existing vs. Alternative 3 Comparison Map**.

Table 9 – Alternative Districts 3 – City of Pembroke Pines

Projected Population, 2023 (Permutation 3.2)

Alternative 3	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	41,843	24.25	-3.00%
District 3	43,452	25.18	0.73%
District 4	44,256	25.65	2.59%
Total	172,547	100	6.65%
Average	43,137	25	1.66%
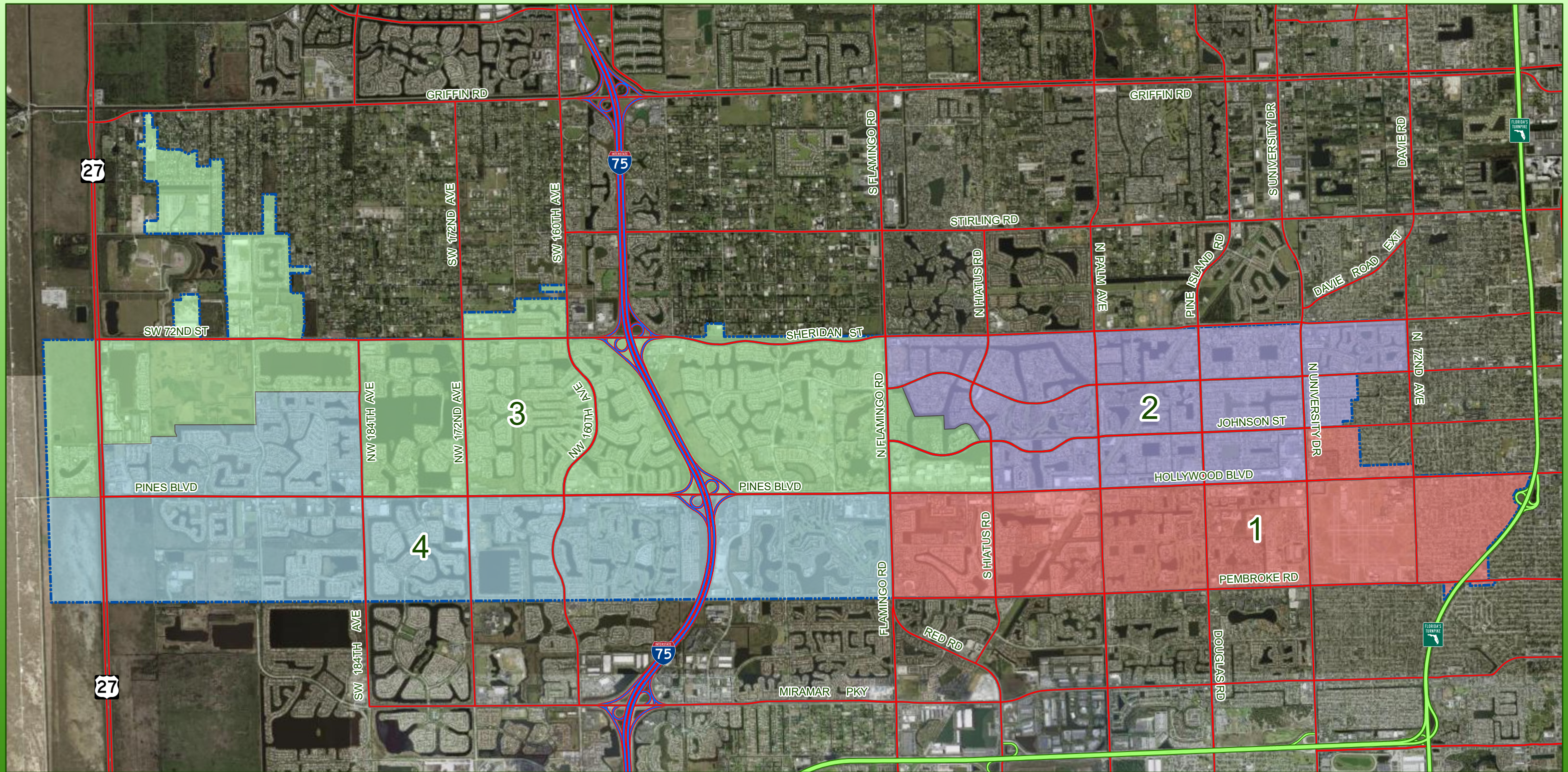
The City Of
PEMBROKE PINES
ALTERNATE DISTRICTS 3

District 1
District 2
District 3
District 4
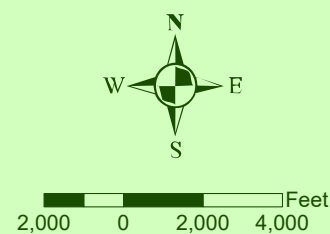
N
W   E
S

Feet
2,000   0   2,000   4,000

Alternative 3	2020 Population	% of City	Deviation From Average
District 1	42,996	25.12	0.47%
District 2	41,583	24.29	-2.83%
District 3	43,452	25.38	1.54%
District 4	43,147	25.21	0.82%
Total	171,178	100	5.66%
Average	42,795	25	1.42%

From District: 3
To District: 2
Population: 2,331

From District: 1
To District: 2
Population: 1,758

From District: 2
To District: 3
Population: 3,929

From District: 2
To District: 3
Population: 0
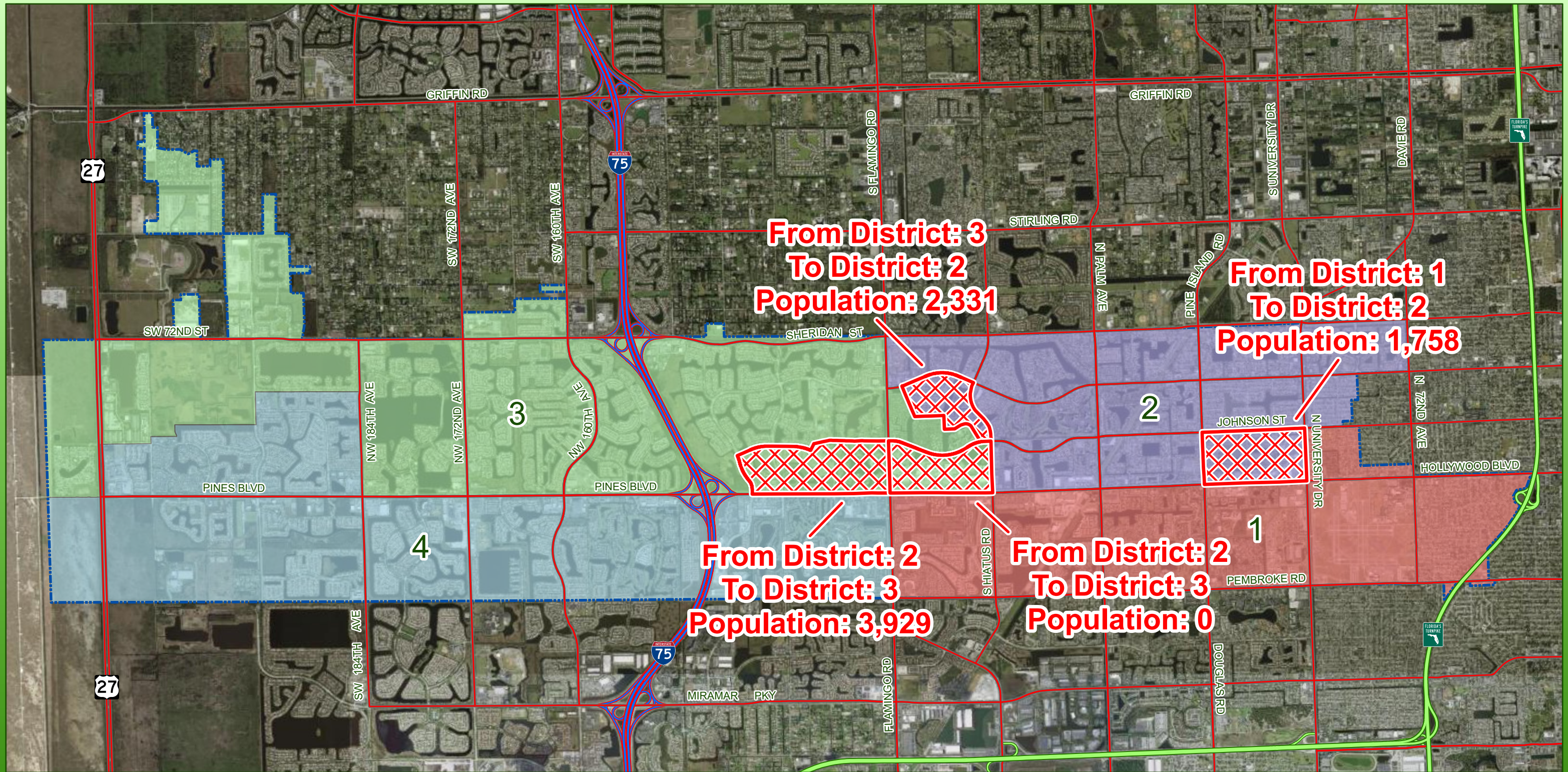
The City Of
PEMBROKE PINES
Existing vs. Alternative 3

Changes
District 1
District 2
District 3
District 4

N
W   E
S

Feet
2,000   0   2,000   4,000

Alternative 3	2023 Population	% of City	Deviation From Average
District 1	42,996	24.92	-0.33%
District 2	41,843	24.25	-3.00%
District 3	43,452	25.18	0.73%
District 4	44,256	25.65	2.59%
Total	172,547	100	6.65%
Average	43,137	25	1.66%

When taking into consideration only the 2020 U.S. Census count, the overall percent deviation for the four districts in Alternative 3 is **5.66%**, with an average deviation of **1.42%** (permutation 3.1, see Table 8). This is even better than Alternative 1, with its deviation of **6.6%**, and average deviation of **1.65%.** Of course, this is because the boundaries of District 4 are no longer adjusted to account for its anticipated growth. When this is taken into consideration, the overall deviation increases slightly to **6.65%**, with an average deviation of **1.66%** (permutation 3.2, see Table 9). This still represents very good population balance, while also improving upon the overall compactness of the city's districts relative to the present situation, and retains the present configuration of condominium communities with respect to their existing districts.

Summary

The three alternatives are recommended to the City of Pembroke Pines for consideration, with each serving to reestablish population balance among the four districts. They were prepared as part of a side-by-side analysis that considered both the population count provided by the 2020 U.S. Census and took into consideration estimated population figures for the year 2023. This was done such that the commission may consider not only the population balance of the present, but also of the foreseeable future. Alternative 1 represents a minimalist approach with a focus on achieving the minimum deviations in population among the various districts. Alternative 2 focuses on geographic compactness within the constraints of maintaining reasonable population balance. Finally, Alternative 3 attempts to strike a balance between all three of the redistricting criteria: population balance, compactness, and the political considerations given to maintaining the integrity of communities.

Appendix

Recent Construction

At the direction of staff, the consulting team investigated whether or not recent construction projects were included in the 2020 U.S. Census. Specifically, we were asked to investigate five projects: Raintree, Chapel Grove, Pines Garden Apartments, Tuscan Pines, and Deer Creek. City staff provided us with unit counts for these properties, which were converted into an estimated population by multiplying the number of units by the 2020 persons per household value established by the U.S. Census: 2.95. The results of this analysis, detailed below, suggested that no adjustment to the 2020 Census data was warranted, with all projects seemingly accounted for, with the possible exception of Tuscan Pines. In this case, there is insufficient evidence to suggest that its estimated 177 people had not been included in the enumeration.

1. **Raintree**: A project of 497 single family and townhome units generally located north of Pembroke Road and west of Hiatus Road. Current District 1 (Reference Folio: 514024140010)
   - 2010 Population (Block 3000): 1,747.
   - 2020 Population: 3,136.
   - 497 units multiplied by 2.95 equals an estimated population of 1,466.15 (1,466).
   - The gain of 1,389 people is commensurate with the estimate of 1,466.

2. **Chapel Grove**: A project of 125 townhome units generally located north of Pines Boulevard and west of 209th Avenue. Current District 4 (Reference Folio: 513915110011)
   - 2010 Population (Block 2029): 0.
   - 2020 Population: 367
   - 125 units multiplied by 2.95 equals an estimated population of 368.75 (369).
   - The gain of 367 people is commensurate with the estimate of 369.

3. **Pines Garden Apartments:** A project of 387 units generally located south of Pines Boulevard and west of Palm Avenue within City Center. Current District 1 (Reference Folio: 514118280015)
   - 2010 Population (Block 1000): 1,055.
   - 2020 Population: 2,272.
   - 387 units multiplied by 2.95 equals an estimated population of 1,141.65 (1,142).
   - The gain of 1,217 people is commensurate with the estimate of 1,142.

- However, interestingly the gain is NOT all in the new block that covers the new development, but may be found in the new blocks that make up the original 2010 block. This is possibly attributable to the Census' new block 'fuzziness' introduced by the 'differential privacy' program.

4. **Tuscan Pines:** A project of 58 townhome units, generally located south of Pines Boulevard and west of 184th Avenue. Current District 4 (Reference Folio: 513913200010)

   - 2010 Population (Block 1000): 1,528.
   - 2020 Population: 1,384.
   - 58 multiplied by 2.95 equals an estimated population of 171.1 (171).
   - The *loss* of 144 people is obviously *not* commensurate with the estimated gain of 171.
   - However, the block in question is exceedingly large and is composed of single family homes. It is possible that this difference could be attributed to an offset of a legitimate decrease in population within the remainder of the block, though this seems unlikely given the overall trend of positive growth in the city. Alternatively, it may be that this is a product of the Census' new 'fuzziness', and that some unknowable number of people have been assigned to other blocks. Suffice to say, there is insufficient evidence to argue that the estimated 171 people should be added to the block, especially given that all of the other development provided to the Census by the City seems to have been accounted for.

5. **Deer Creek:** A project of 12 townhome units generally located south of Pines Boulevard and west of 184th Avenue. Current District 2 (Reference Folio: 514108240010)

   - 2010 Population (Block 3004): 0.
   - 2020 Population: 22.
   - 12 multiplied by 2.95 equals an estimated population of 35.4 (35).
   - The gain of 22 people is commensurate with the estimate of 35.

District Demographics

The tables below depict the demographics taken from the 2020 U.S. Census for both the existing commission districts and for each of the proposed redistricting alternatives. NOTE: For each table, the columns 'White' through 'Other' sum to the City's population total (these categories represent the U.S. Census' definition of race). The last two columns ('Hispanic or Latino' and 'Not Hispanic or Latino') also sum to the City's population total (the U.S. Census' classification of ethnicity).

Existing Districts

District (Existing)	Total Population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other	Hispanic or Latino	Not Hispanic or Latino
1	44,754	10,326 (23.07%)	15,186 (33.93%)	150 (0.34%)	2,120 (4.74%)	28 (0.06%)	16,944 (37.86%)	19,884 (44.43%)	24,870 (55.57%)
2	41,423	15,296 (36.93%)	7,361 (17.77%)	154 (0.37%)	1,891 (4.57%)	18 (0.04%)	16,703 (40.32%)	20,625 (49.79%)	20,798 (50.21%)
3	41,854	14,320 (34.21%)	5,788 (13.83%)	126 (0.3%)	3,554 (8.49%)	22 (0.05%)	18,044 (43.11%)	20,936 (50.02%)	20,918 (49.98%)
4	43,147	14,969 (34.69%)	6,390 (14.81%)	118 (0.27%)	2,236 (5.18%)	18 (0.04%)	19,416 (45%)	23,688 (54.9%)	19,459 (45.1%)
	171,178	54,911 (32.08%)	34,725 (20.29%)	548 (0.32%)	9,801 (5.73%)	86 (0.05%)	71,107 (41.54%)	85,133 (49.73%)	86,045 (50.27%)

Alternative 1

District (Alt 1)	Total Population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other	Hispanic or Latino	Not Hispanic or Latino
1	42,996	9,703 (22.57%)	14,868 (34.58%)	146 (0.34%)	2,028 (4.72%)	27 (0.06%)	16,224 (37.73%)	19,003 (44.2%)	23,993 (55.8%)
2	43,181	15,919 (36.87%)	7,679 (17.78%)	158 (0.37%)	1,983 (4.59%)	19 (0.04%)	17,423 (40.35%)	21,506 (49.8%)	21,675 (50.2%)
3	43,619	14,828 (33.99%)	5,979 (13.71%)	129 (0.3%)	3,630 (8.32%)	22 (0.05%)	19,031 (43.63%)	22,119 (50.71%)	21,500 (49.29%)
4	41,382	14,461 (34.95%)	6,199 (14.98%)	115 (0.28%)	2,160 (5.22%)	18 (0.04%)	18,429 (44.53%)	22,505 (54.38%)	18,877 (45.62%)
	171,178	54,911 (32.08%)	34,725 (20.29%)	548 (0.32%)	9,801 (5.73%)	86 (0.05%)	71,107 (41.54%)	85,133 (49.73%)	86,045 (50.27%)

Alternative 2

District (Alt 2)	Total Population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other	Hispanic or Latino	Not Hispanic or Latino
1	42,996	9,703 (22.57%)	14,868 (34.58%)	146 (0.34%)	2,028 (4.72%)	27 (0.06%)	16,224 (37.73%)	19,003 (44.2%)	23,993 (55.8%)
2	42,482	16,201 (38.14%)	7,163 (16.86%)	150 (0.35%)	1,850 (4.35%)	19 (0.04%)	17,099 (40.25%)	21,085 (49.63%)	21,398 (50.37%)
3	44,318	14,546 (32.82%)	6,495 (14.66%)	137 (0.31%)	3,763 (8.49%)	22 (0.05%)	19,355 (43.67%)	22,540 (50.86%)	21,777 (49.14%)
4	41,382	14,461 (34.95%)	6,199 (14.98%)	115 (0.28%)	2,160 (5.22%)	18 (0.04%)	18,429 (44.53%)	22,505 (54.38%)	18,877 (45.62%)
	171,178	54,911 (32.08%)	34,725 (20.29%)	548 (0.32%)	9,801 (5.73%)	86 (0.05%)	71,107 (41.54%)	85,133 (49.73%)	86,045 (50.27%)

Alternative 3

District (Alt 3)	Total Population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other	Hispanic or Latino	Not Hispanic or Latino
1	42,996	9,703 (22.57%)	14,868 (34.58%)	146 (0.34%)	2,028 (4.72%)	27 (0.06%)	16,224 (37.73%)	19,003 (44.2%)	23,993 (55.8%)
2	41,583	15,864 (38.15%)	7,080 (17.03%)	150 (0.36%)	1,829 (4.4%)	19 (0.05%)	16,641 (40.02%)	20,573 (49.47%)	21,011 (50.53%)
3	43,452	14,375 (33.08%)	6,387 (14.7%)	134 (0.31%)	3,708 (8.53%)	22 (0.05%)	18,826 (43.33%)	21,869 (50.33%)	21,582 (49.67%)
4	43,147	14,969 (34.69%)	6,390 (14.81%)	118 (0.27%)	2,236 (5.18%)	18 (0.04%)	19,416 (45%)	23,688 (54.9%)	19,459 (45.1%)
	171,178	54,911 (32.08%)	34,725 (20.29%)	548 (0.32%)	9,801 (5.73%)	86 (0.05%)	71,107 (41.54%)	85,133 (49.73%)	86,045 (50.27%)