

An aerial architectural rendering of a city development. The scene features a large, modern stadium with a white, curved roof and a blue base, situated in the lower-left quadrant. To its right is a large, green, rectangular field. In the center and upper portions, there are several large, multi-story buildings with blue and white facades, interspersed with green spaces and trees. The overall style is a detailed, colorful illustration of a planned urban environment.

GREEN CITY MIAMI LAND USE NEEDS ANALYSIS

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GREEN CITY MIAMI PROPOSED AMENDMENT

LAND USE NEEDS ANALYSIS

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1.0 INTRODUCTION

The proposed Green City Miami land use amendment (“**Green City Amendment**”) provides a unique opportunity to proactively plan for the long term growth needs of the west Kendall corridor and support the implementation of the *West End* planning and development strategy. The Green City Amendment proposes an innovative, transit oriented village (“**TOV**”) that will be unlike any other development along Kendall Drive or the West End area. Located on the north side of Kendall Drive and just east of Krome Avenue (**Attachment “1”**), Green City Miami will encompass 860 acres and achieve the scale and urban character required to function as a dynamic urban center. Miami Green City will be comprised of a major downtown village interconnected with five villages, each with its own unique character, land use mix and functions. Green City will provide:

- a variety of medium to medium-high density multifamily housing options, ranging from townhouses to mid-rise buildings up to fifteen stories;
- new employment opportunities, including a new health and sports village that will complement and create synergy with nearby Baptist Hospital;
- office and industrial workplace uses to address the limited diversity workplaces in the West End;
- regional, community and local shopping as well as services and entertainment;
- professional sports training facilities, local sports facilities and significant recreational open space, which are clustered to provide a protective buffer for the West Wellfield; and
- hydroponic agricultural facilities with comparable production to the existing agricultural land as well as a supporting local farmers market.

The Vision Plan provided as background in the Green City Amendment application provides much more detail on the design and sustainability concept to be incorporated in Green City, which will serve as a model community in Miami-Dade County. The Downtown and five villages are further described below:

MIAMI GREEN CITY

Downtown (Metropolitan Urban Center)	High urban character with vertical mixed use, medium-high density, retail and office uses in a compact, walkable Downtown setting, forming the core of the Metropolitan Urban Center. The Downtown will be highly active with uses, densities and intensities concentrated to support express transit service that will be enhanced further through a well designed transit hub.
Health and Wellness Village (Community Urban Center)	Specialized cluster of health, sports and wellness related functions, including professional training and practice facilities, community sports facilities, as well as related R&D, medical offices and retail.
Mid-Town	Medium density centered within the property with moderate intensity mix of retail, restaurants, offices, parks and K-12 schools.
East Village	Medium density neighborhoods transitioning to townhouses on the east edge with supporting community-scale shopping, restaurants and parks.
Park Village	Lower density multifamily and townhouse neighborhoods with a mix of neighborhood shopping and low intensity office uses.
The Preserve	Focused on sustainability research with hydroponic agriculture/ supporting activities, alternative energy manufacturing, and lower density multifamily and townhouse neighborhoods with a mix of neighborhood shopping and low intensity offices.

The Green City Amendment incorporates covenants and guidelines to achieve the development program generally described above. The purpose of this analysis is to determine the projected Countywide demand for residential, commercial and

industrial land uses and to determine if the Urban Development Boundary (“**UDB**”) provides sufficient development capacity to accommodate that projected land use demand. Policy LU-8F provides that the UDB should be extended when sufficient capacity is not available to accommodate projected demand through 2025. As this analysis demonstrates, the Green City Amendment is necessary in order to provide sufficient capacity for multifamily demand at densities occurring at 13 units per acre or greater and for those related housing products. In addition, this analysis discusses the broader policy context related to the needs of the South Central Tier and West End that should be carefully considered as Miami-Dade County evaluates the proposed Green City Amendment.

1.1 Proposed Green City Amendment

The Green City Amendment consists of three proposed amendments to the Future Land Use Map (“**FLUM**”) to implement the urban village concept as follows:

- Extend the UDB to encompass the property;
- Change the future land use designation from Agricultural to Green City Miami, which is a new, mixed use land category designed to achieve the benefits of an urban village; and;
- Apply the Metropolitan Urban Center (“**MUC**”) overlay designation over the majority of the acreage within Green City Miami and apply the Community Urban Center (“**CUC**”) designation to the northwest portion of the property to support the Health and Sports Village.

The Miami-Dade County Comprehensive Development Master Plan (“**CDMP**”) includes goals, objectives and policies to control the timing, location and form of growth and development. Several policies work together to direct urban development and supporting urban infrastructure to the geographic area encompassed by the UDB. Policy LU-8F is one of the key policies of the CDMP, and provides that the UDB should be extended to accommodate future urban growth based on projected land use demands. The Green City Amendment does not seek to

change that fundamental concept, but does propose text amendments to refine Policy LU-8F and related development standards to facilitate longer term planning and achieve greater public benefits than achieved by the current CDMP policies. The Green City Amendment also proposes new Policy LU-8J, which establishes a policy framework to encourage TOVs as a model form of development with higher standards for achieving public benefits as discussed in more detail in the text amendment application. Policy LU-8J provides an incentive for land assembly, long term development strategies and phased growth to enable the TOV option at appropriate locations and in accordance with longer term demand projections. The TOV policy is intended to achieve public benefits that are not otherwise achievable to the same degree by smaller-scale, short term projects.

The Green City Amendment anticipates a phased development process expected over the course of approximately twenty years. The Applicant has assembled land within the Urban Expansion Area (“**UEA**”) and coordinated with other land owners within the proposed amendment boundary to plan a highly innovative, mixed use, urban village. This planning approach should be encouraged as an appropriate alternative to single use developments planned on five or ten acres over the course of a few months. To achieve this goal, the 15-year planning timeframe required by Policy LU-8F should be reconsidered. As discussed in the application narrative, Policy LU-8F establishes a 15-year planning horizon (i.e., ten years from adoption of the Evaluation and Appraisal Report (“**EAR**”) plus an additional 5 years) for comparing “UDB Development Capacity” to projected housing demands through the 2025 plan horizon. Based on the seven-year EAR adoption schedule, the next EAR will be completed in 2017 followed by the adopted of EAR based amendments in 2019. This means that the 2025 plan horizon will not be extended until 2019 when only six years of housing development capacity will remain as measured against the 2025 planning horizon. This is the maximum time period, assuming that projected demand is accurate. However, if housing demand is under-projected, then the intended 15-year supply may be exhausted sooner than anticipated, potentially resulting in fewer than five years of remaining development capacity. This obviously does not accommodate long range planning strategies by County staff or the private

market, and does not ensure a stable allocation of housing to meet demands and maintain housing affordability. The Green City Amendment proposes to amend Policy LU-8F to extend the planning horizon to 20 years as calculated during each two year UDB amendment cycle in order to correct this deficiency.

1.2 TOV Benefits

Scale is also an important planning consideration and is directly related to the planning horizon. Policy LU-8F currently encourages smaller scale, incremental development by limiting allocations to time periods as short as five years or less. By comparison, urban villages are larger scale, mixed use communities that are planned and developed over the course of many years. The advantages of scale enable a TOV, such as Green City Miami, to grow and adapt to market changes and the needs of the greater, surrounding community over time. For example, the Health and Wellness Village is planned for major sports training facilities and related health facilities that will also allow for collaboration and synergy with Baptist Hospital. This “agglomeration of economies” is not possible with smaller incremental projects. The TOV scale also provides for a more diverse employment base, allowing for the integration of retail, office, and light industrial uses in proximity to residential uses, rather than as isolated shopping centers or business parks. Green City will be highly walkable, encouraging a healthy lifestyle supported by a transit hub to encourage single car households. Finally, the TOV provides an opportunity for a more inclusive community by allowing for different types of housing products, including workforce housing, and incorporating educational opportunities. All of these advantages are achieved through scale and require a flexible UDB policy to allow for phased development over time.

1.3 Land Use Need

The UDB capacity analysis, often referred to as “land use need,” does not explicitly recognize the “need” for mixed use development or for specific development characteristics, although many policies within the CDMP espouse the virtues of

mixed use and require such projects in certain areas, such as MUCs and for projects requiring amendments to the UDB. In terms of the actual need calculations, Policy LU-8F instead addresses the need for housing, commercial and industrial land uses separately. However, Miami-Dade County adopted Policy LU-8H as part of the 2012 EAR-based amendments in order to ensure that proposed amendments to expand the UDB comply with certain minimum criteria, including the requirement for residential development to address the non-residential needs of its residents. While Policy LU-8H necessarily requires projects of a minimum scale to achieve the mix of uses and other criteria set forth in the policy, it does not provide incentives for model developments that would exemplify the type of communities that the CDMP aspires to achieve. Green City Miami embraces those policies through a well-planned, coordinated effort among numerous property owners to assemble lands and create a destination project, which the CDMP attempts to achieve through the MUC designation. In considering land use need, the broader context of the County's policy objectives should be paramount. The TOV policy framework is designed to encourage coordinated planning among property owners on a larger scale, which requires longer term planning. The current 15-year limit set forth in Policy LU-8F inhibits such proactive planning efforts.

It is noteworthy that urban villages are not a new planning and development concept. However, in the suburban market place that dominates most urban areas, including Miami-Dade County, suburban developers typically opt for the safe bet. They build low density, single use subdivisions with perhaps a supporting neighborhood shopping center, or they develop stand alone, commercial or office uses. Rather than undertaking the challenge of assembling land and planning a unique, special place in the community, they instead choose the easier, "less risky" path. Even higher density, more urban developments typically occur as isolated projects. Repeated over and over, these market decisions collectively result in the suburban development pattern that dominates much of Miami-Dade County and the West End. The Green City Amendment proposes the TOV as a new prototype that is appropriate for certain locations where sufficient land can be assembled to achieve planning objectives in a manner not otherwise attainable through incremental,

smaller scale development proposals. It is important to keep this context in the forefront as Miami-Dade County considers the fundamental choice between past development patterns and the opportunity and benefits of Green City Miami.

Government policies are necessary to ensure that development occurs in an appropriate manner, and such policies strongly influence the decision making process undertaken by developers. Put another way, land use and development occur as a function of both government policies and how the marketplace responds to those policies. Developers must show lending institutions that proposed development plans will generate reasonable, anticipated profits in the market place and are achievable based on government policies and regulations. For this reason, most developers plan relatively short term projects on relatively smaller sites. This incremental approach is generally viewed as less risky for the developer as compared to assembling land and planning for a longer term development project on a larger development site that can yield substantially greater public benefits. Green City Miami has been planned from the long term perspective. The applicant has assembled lands within the Urban Expansion Area and coordinated with other landowners to plan and design a model community that is well balanced, but that also considers the broader context of nearby uses, such as Baptist Hospital, as well as those of the West End. If the CDMP does not provide the flexibility for private landowners to coordinate and assemble land to master plan excellent projects, then Miami-Dade County will reinforce the message that conventional, single use, suburban development is the appropriate path for developers. The UDB is the primary policy tool for directing urban growth and must work to promote the achievement of the CDMP objectives rather than inhibiting their implementation. The following analysis presents the population projections, projected land use demands and UDB capacity with this context in mind. The Appendix includes a review of the CDMP policies that support the Green City Amendment.

2.0 POPULATION PROJECTIONS

Several meetings were held with Miami-Dade County planning staff over the course of six months in an effort to coordinate on the methodology for determining the development capacity of the UDB. The applicant requested updated population projections, detailed documentation of the methodology and the spreadsheet calculations from staff in order to fully analyze the County's methodology and calculations. As of the date of this filing, the applicant received a copy of the population projections from 2013 and a generalized summary of the methodology (**Attachment "1"**). The applicant has not had an opportunity to review updated UDB capacity calculations, detailed documentation of the methodology and the Geographic Information System ("**GIS**") files in order to fully understand the County's calculations. As of the date of this filing, the applicant received a one-page summary of the methodology (**Attachment "2"**) and a limited set of GIS shapefiles. Given that the County requires the UDB capacity analysis pursuant to CDMP Policy LU-8F, we would like to work with staff to address methodology issues as presented in this analysis.

Miami-Dade County utilizes a component methodology for its population projections. This method projects natural growth (births-deaths), net immigration and net domestic migration. Each of these components is projected in order to yield a composite population projection for future years. While natural growth is quite stable and lends itself to accurate projections in a large jurisdiction like Miami-Dade County, immigration and domestic migration fluctuate greatly, making accurate projections based on past trends inherently challenging. As such, population projections are subject to "projection error," which refers to the difference between a projection population for a future year and the actual population that occurs in that future year. Due to this inherent difficulty, population projections should be updated in conjunction with each two year UDB amendment cycle, particularly during periods of significant economic transition, as has occurred during the past five years on a national scale and in Miami-Dade County. During this period, both annual

immigration and domestic migration have changed significantly, which should be evaluated in updated population projections.

The purpose of this Section 2.0 analysis is to review the changes in immigration and domestic migration trends and to propose an adjustment to the County's 2013 population projections to appropriately account for those trends. Section 2.6 provides a population projection for a subset of the population to determine the land use need allocations required for the Miami Green City Amendment.

2.1 Census Estimates

The U.S. Census produces population estimates each year for Miami-Dade County. During each successive year, census staff reevaluates previous projections and adjust on a continuing basis previous year estimates to reflect methodology changes. As County staff noted during the EAR-based amendment cycle, the U.S. Census estimates are also subject to some degree of "estimation error" for the same reasons as projections are subject to projection error – information is not perfect. The census estimates are not based on a new 100% population census, but rather use of different data sets, such as building permit data, fertility and mortality data, American Community Survey sample survey data, and similar information. The U.S. Census also uses the residual method, whereby differences between control total populations at the national and state level are utilized to anchor County estimates (i.e., the counties sum to the control totals). The U.S. Census population estimates are widely utilized and represent an acceptable population base by which to base population projections. Similarly, the Bureau of Economic and Business Research ("**BEBR**") also produces population estimates for Florida and its counties in coordination with the Office of Economic Demographics and Research ("**EDR**") using similar information as considered by the U.S. Census. Table 1 compares the BEBR and U.S. Census population estimates for 2014 to Miami-Dade County's population projection for the same year.

Table 1. Population Estimates vs. County Population Projection

Year/Period	Census¹	BEBR²	County³
April 1, 2010	2,496,457	census	census
2014	2,662,874 2,657,622 (adjusted)	2,613,692	2,586,290
2010-2014	166,417 161,165 (adjusted)	117,235	89,833
Difference between estimates and County projection	71,332	27,402	-

1. U.S. Census. Population estimate from 2014 Vintage estimate. Estimate is for July 1, 2014.

2. BEBR Florida Population Studies, Bulletin 171. Estimate is for April 1, 2014.

3. County 2013 Population Projections. Population projection is for March 31, 2014. Adjustment calculated by subtracting 25% (5,252) of the difference between the U.S. Census population estimate for years 2013 and 2014.

Table 1 documents the significant differences between the County 2014 population projection and the BEBR and U.S. Census estimates. Obviously, the U.S. Census and BEBR estimates vary significantly between each other, but both are considered acceptable data sets to utilize for the launch year (i.e., most recently available estimate year) for new projections. The County’s population projections should be updated based on either the U.S. Census or the BEBR population estimate. It may be most appropriate to average the two estimates. The next section reviews the changes in immigration and domestic migration that has caused the higher population growth as compared to the County’s previous projections.

2.2 Immigration

County staff utilizes the American Community Services (“**ACS**”) sample population estimates produced by the U.S. Census as a data set that is then adjusted to estimate “net” immigration, which is the difference between immigration (inflow) and emigration (outflow). The ACS conducts a population sample survey each year and asks respondents to confirm whether they moved from abroad during the past year. This question provides a data set that the U.S. Census considers among other

data to produce its annual population estimates, which are also based on component methodology. Estimating emigration is particularly challenging because that population is not surveyed by the census and does not file tax returns. In addition, immigration estimates are recognized as undercounting population, due in part to illegal immigrants and cultural differences that result in lower response rates to surveys and fewer tax returns.

County staff average the ACS inflow estimate with the lower bound of the “margin of error” calculated by the U.S. Census to account for survey error. Table 2 compares the County population projection to the U.S. Census population estimates for immigration.

Table 2. Census Net Immigration Estimates vs. County Net Immigration Projections

Year	County Projections¹	Census Estimate²	County Method Using 2013 ACS Estimate³
2010	30,364	27,267	34,851
2011	35,447	39,202	40,165
2012	28,667	35,830	35,909
2013	29,063	38,795	36,973
2014	29,262	38,734	34,087
Total	152,803	179,828	181,985
Difference from County Projection		27,025	29,182

1. See Attachment 11.

2. U.S. Census. Population estimate from 2014 Vintage estimate. Estimate is for July 1, 2014

3. The 2014 ACS inflow estimate is not yet available. The 2014 figure of 34,087 is based on averaging the ASC estimates for years 2010-2013, averaging the margins of error for those same estimates and then applying the county methodology to calculate the figure of 34,087.

Like the comparison in Table 1, the County net immigration projections for 2010-2014 significantly lower than the net immigration estimated by the U.S. Census, and

significantly lower than the calculation that is yielded by using the County methodology with updated ACS inflow survey estimates as shown in the final column. As noted above, the 2014 year was estimated from the ACS data to allow a comparison for year 2014. Even using the lower proxy value for the 2014 ACS figure, the County's methodology as applied to the 2013 ACS data would yield a marginally higher figure than estimated by the U.S. Census, but a much higher estimate as compared to the County's population projections. On average, the differences between the County population projections and the current estimates suggest that the County's population projections should be adjusted by an increase of roughly 5,000 persons per year to account for these recent trends. However as further discussed in the following section, revised extrapolations should be conducted to consider the impact of both immigration and domestic migration trends.

2.3 Domestic Migration

County staff relies on the Internal Revenue Service (“**IRS**”) exemption figures as an estimate for domestic migration. The IRS produces inflow and outflow domestic migration estimates based on tax records that are filed over a two year period, which allows the IRS to match the new address against the previous address from the prior year to identify migration flows. The County population report presents the net difference between inflow and outflow, calculated as inflow minus outflow. A negative number as shown in **Attachment “1”** indicates greater outflow than inflow for a given year. The Domestic Migration figures shown in Attachment 1 accurately represent the IRS inflow/outflow data for the years identified and are unadjusted by County staff.

The IRS has released the inflow/outflow data for 2010-2011. Table 3 shows the trend from 2007 to 2011, which documents that outflow has declined since 2007, while inflow has increased, resulting in a net positive inflow by 2011.

Table 3. Recent Domestic Migration Trends

Year	Inflow	Outflow	Domestic Migration (inflow minus outflow)	Change in Domestic Migration from Previous Year
2006-07	50960	85998	-35038	
2007-08	56057	81629	-25572	9,466+
2008-09	56621	75287	-18666	6,906+
2009-10	62292	70794	-8502	10,164+
2010-11	84419	80193	4226	12,728+
2007 to 2011 Change	33,459	-5805	39,264	

As the data indicate, inflow has substantially increased during the 2007-2011 period, resulting in a dramatic overall increase in Domestic Migration of over 39,294. The final column compares the change in Domestic Migration from the previous year. County staff essentially viewed the reduction in 2009-2010 to -8502 as a statistical outlier as summarized in the County staff presentation on the EAR-based amendments in 2012. As County staff correctly points out, the long term trend has consistently resulted in net outflow until this recent shift in the trend. Thus, the challenge in considering this component in population projections is that this trend has only occurred over this limited four year period. As a general methodology principle, population projections should be prepared taking into consideration multiple base periods (i.e., the period of time from the base year to the launch year, which is the first year of estimates and the final year of estimates, respectively). For example, BEBR uses a series of extrapolation techniques, each using a 5-year, 10-year and 15-year base period. However, BEBR applies these techniques to total population rather than components. County staff instead extrapolate each component and then sum the extrapolations, which is appropriate. However, the population methodology report does not describe how County staff applied their extrapolations for any of the individual component data sets. Extrapolation

methodology is based on the fundamental premise that past trends will serve as a reasonable indicator of future trends. In applying the methodology certain statistical measures should be applied to determine the “best fitting” equation that results in a trend line that best fits the data points utilized for the projections. In other words, the trend line that results in the least degree of variance from the data points would typically be considered the most appropriate extrapolation to utilize.

Attachment “3” provides extrapolations of Domestic Migration using the linear equation for three base periods (1995-2011, 2000-2011 and 2005-2011). The data utilized for the extrapolations are from the IRS website, which provides county to county migration data for the years presented. The analysis generally demonstrates that the best fitting line from the three extrapolations results from the 1995-2011 base period. However, even this best fitting extrapolation varies significantly from the data points because the change in the trend, from large outflow to lesser outflow and finally to a positive inflow, doesn’t follow a linear trend. However, the broader conclusion that can be drawn from the analysis is that the number of years and degree of change over the past four year period has the effect of reducing net outflow migration in all projections and eventually results in positive inflow in all cases. Table 4 compares the results of the first extrapolation to the County’s projection of Domestic Migration for 2015-2020.

Table 4. Comparison of County Population Projection (2013) to Linear Extrapolation (2015) Accounting for Recent Trend Shift

County Projection	Applicant Extrapolation
-21,586	-13739
-21947	-13031
-22308	-12322
-22419	-11614
-22780	-10905
-23141	-10197

Given the degree of non-linearity, the analysis does not yet reasonably support long term, positive net inflow projections. However, it does suggest that the County projections should be moderated, particularly in the early years of the projection period. In other words, it is unreasonable to assume that the historic, long term trend of negative outflow migration will change for the entire projection period through 2035, but it is also not appropriate to assume continued negative outflows of over 20,000 persons per year in the face of the past four year trend. Similarly, the immigration data also support an adjustment to the County’s population projections to account for the significant increases in net immigration as estimated by the U.S. Census and as indicated by the ACS data as previously discussed.

2.4 Proposed Population Adjustment

The applicant would like to work with County staff to evaluate appropriate adjustments to account for the moderating effect of recent population immigration and domestic migration trends. As we have been unable to review the County’s methodology in detail, it is difficult to offer specific recommendations. However, based on the findings presented in this analysis, it seems appropriate for the early years of the population period to be adjusted upward by roughly 15,000 persons per year. This would be consistent with recent trends as reviewed in this analysis and would be generally consistent with BEBR projections. Table 5 compares BEBR’s

2015 medium range population projections to the County’s population projections, confirming that the BEBR projections are significantly higher than the County projections.

Table 5. BEBR 2015 Population Projections vs. County 2013 Population Projections

Year	BEBR	County	Difference
2020	2,796,800	2,731,543	65,257
2025	2,944,400	2,865,402	78,998
2030	3,090,200	3,014,151	76,049
2035	3,220,700	N/A	
2040	3,343,700	N/A	

It should be further considered that if the U.S. Census estimates prove to be accurate, the County will have substantially under-projected its population growth even with the 15,000/year adjustment.

2.5 Projected Population/Housing Demands

Based on the preceding section, two sets of projected housing demands are presented for comparison to the UDB capacity through 2025, 2030 and 2035, taking into account the additional housing demands from the Green City Amendment. The first set of projections utilizes BEBR 2015 population projections as the starting point for calculating housing demand. The second set of projections simply calculates the projected demand based on a 5% - 7% increase to BEBR’s projections to account for the possibility that the Census estimates prove more accurate than the BEBR estimates. The basic methodology calculates the projected growth through the target years (2025, 2030 and 2035), projects the percentage of that population requiring medium to medium high density multifamily housing, converts that population subset to multifamily households using the persons per household for that housing type and converts those households to demand for housing units by accounting for competing seasonal housing demand from tourists and the

secondary home market. The analysis results in projected demand for multifamily housing through 2025, 2030 and 2035.

The methodology is summarized as follows:

1. Calculate the difference between the BEBR 2014 population estimate and the BEBR 2030 and 2035 population projections.
2. Analyzed the ACS 2013 data set to obtain a cross tabulation of Population by Units in Structure (ACS Table 25033). The U.S. Census classifies units as either a form of single family, duplex, structures with 3 or 4 units, structures with 5-9 units and so on, up to structures with 50 or more units. The Green City Amendment proposes medium- and medium high-density, multifamily development in the form of townhouses and midrise structures that are consistent with the census classifications starting with structures with 5-9 units and all ranges above that classification. The U.S. Census data confirms that 29% of the overall population within Miami-Dade County live in structures with 5 or more units (“**MFR**”).
3. Multiplied the 2014-2025, 2014-2030 and 2014-2035 population change by 29% to obtain projected multifamily population change for the three time periods.
4. Analyzed the ACS 2013 data set to obtain a cross tabulation of Occupied Housing Units by Units in Structure (Table B25124) and Population by Units in Structure (ACS Table 25033) to calculate persons per household (“**PPH**”) for the MFR units. The MFR population was then divided by the MFR PPH to obtain MFR households (“**HH**”).
5. Analyzed the U.S. Census Public Use Microdata Sample (“**PUMS**”) data to create a cross-tabulation of Units in Structure by Vacant Unit Type to confirm the seasonal vacancy rate for MFR units and cross checked against ACS control totals. Calculated the MFR Dwelling Unit (“**DU**”) Demand by dividing by the occupancy rate (i.e., occupied units deducting seasonally occupied units).

Table 6 summarizes the results from each step of the methodology and indicates that multifamily demand can be expected to be at least 69,121 by 2030. However, this is considered a conservative projection, given the significant difference between

the U.S. Census population estimates and the BEBR population estimates following the 2010 Census.

Table 6. Projected MFR Demand Using BEBR Projections.

BEBR	Pop. Change	MFR % of Pop	MFR Pop.	MFR PPH	MFR HH	MFR Seasonal Vacancy	MFR DU Demand
2014-2025	330,708	29%	94679	2.31	40987	14.56%	47971
2014-2030	476,508	29%	136421	2.31	59057	14.56%	69121
2014-2035	607,008	29%	173782	2.31	75230	14.56%	88051

Table 7 presents the adjusted MF DU Demand, taking into account the potential under-projection that would result if the U.S. Census estimate is realized. Table 7 compares the adjustment to the difference between the BEBR medium and high projection series for 2025, 2030 and 2035.

Table 7. Adjusted MF Housing Demand vs. BEBR Medium to High Range Percentage

Target Year	Medium BEBR	High BEBR	BEBR High/BEBR Medium	MF Demand Adjustment	MF DU Demand
2025	2,944,400	3,224,100	109.5%	5%	50,370
2030	3,090,200	3,477,300	112.5%	6%	73,268
2035	3,220,700	3,726,200	115.7%	7%	94,214

The proposed adjustment is roughly mid-way between the medium and high BEBR projections and generally correlates with the adjustment necessary to account for BEBR's potential under-estimation of population from 2010-2014 and the impact on future projections.

3.0 URBAN DEVELOPMENT CAPACITY

This section analyzes the UDB capacity for multifamily residential unit allocations at medium to medium high density ranges, commercial allocations and industrial allocations to demonstrate that additional land use allocations are necessary and appropriate to accommodate the projected demands for the three land use types.

3.1 Multifamily Development Capacity

As discussed in the Introduction, the proposed text amendments are intended to accommodate long range planning to achieve high quality, mixed use developments that efficiently utilize urban lands as espoused by many CDMP policies. As such, the proposed amendment to Policy LU-8F calls for a 20-year planning horizon that would apply at each UDB amendment cycle. Based on the proposed policy amendment, the appropriate Countywide UDB capacity would be determined for 2035.

Proposed Policy LU-8F as amended would require the following:

LU-8F. The Urban Development Boundary (UDB) should contain developable land having capacity to sustain projected Countywide residential demand for a period of 15 years after adoption of the CDMP amendments required to implement the most recent Evaluation and Appraisal Report (EAR), referred to as EAR-based amendments, plus a 5-year surplus (a total 20-year Countywide supply beyond the adoption date of EAR-based amendments). During the intervening period prior to the next EAR adoption, CDMP amendments may be adopted to maintain a maximum 20-year Countywide supply from the adoption date of such amendments. The estimation of this capacity shall include the capacity to develop and redevelop around transit stations at the densities recommended in Policy LU-7F. The adequacy of non-

residential land supplies shall be determined on the basis of land supplies in subareas of the County appropriate to the type of use, as well as the Countywide supply within the UDB. The adequacy of land supplies for neighborhood- and community-oriented business and office uses shall be determined on the basis of localized subarea geography such as Census Tracts, Minor Statistical Areas (MSAs) and combinations thereof. Tiers, Half-Tiers and combinations thereof shall be considered along with the Countywide supply when evaluating the adequacy of land supplies for regional commercial and industrial activities.

As previously reviewed in Section 2.6, the Green City Amendment will result in the demand for only medium to medium-high, multifamily development. To determine the UDB Development Capacity for this limited residential allocation, a GIS analysis was performed in order to calculate the capacity of vacant lands, agricultural lands and significantly underdeveloped lands that are designated on the Miami-Dade County Future Land Use Map as set forth in the CDMP. It is understood that the County typically translates future land use designations from the municipal future land use maps in determining the overall multifamily development capacity of the UDB. However, as the Green City Amendment will impact only the density ranges defined by the Medium Density (13-25 units per acre) and Medium-High (25-60 units per acre), the GIS analysis spatially joined those categories as well as the Business-Office land use category with the Miami-Dade County property appraiser data set and the Miami-Dade County staff LUMA Land Use Codes (“**Land Use Codes**”).

The following methodology generally describes the GIS procedures utilized to estimate UDB capacity for the two multifamily density ranges:

1. Selected all lands within the UDB designated in the three FLUM land use categories referenced above.

2. Applied the following Land Use Codes: 30-Multifamily, 35-Multifamily, 69-Government Multifamily, 160-office/residential mixed use, 170-office/business/residential mixed use < 15 units per acre, 180-condominium/apartments/mixed use >15 units per acre, residential/hotel/hotel apartments, 420-cultural/mixed use, 517-open space for residential, 700s (agricultural categories), 801-vacant government owned and 804-vacant, private-non-protected.
3. Calculated the development capacity of all vacant lands at 80% of the maximum density allowed by the land use categories.
4. Calculated the development capacity for properties developed at or below 20% of the maximum density allowed, and then subtracted the developed units from the 80% threshold for each land use category.
5. Selected and deleted parcels of two acres or less where not under common ownership. It is reasonable to assume that these isolated parcels will generally support smaller-scale multifamily projects, such as triplexes or quadraplexes, which were not included in the demand, or will otherwise develop at a very slow rate.
6. Selected and deleted parcels identified as Proposed or Approved Projects and Projects Under Construction to avoid double counting that supply. The County estimate of those units is included in the UDB capacity estimated for medium to medium high multifamily units as presented in Table 8.
7. Performed final visual review of all parcels in the final data set with aerial imagery to confirm existing conditions.

Table 8 confirms that the UDB does not currently include sufficient capacity in 2025 for the projected demand of 51,771 multifamily units within the density range and building type. The proposed amendment will add an additional 11,401 multifamily residential units of that type within the UDB . The Green City Amendment application is necessary in order to accommodate the proposed development. Table 8 includes the UDB capacity determined from the GIS analysis (13,604), the Green City Amendment (11,401) and the Proposed/Approved/Constructed projects (24,636).

Table 8. Comparison of Projected Medium/Medium High Multifamily Demand vs. UDB Capacity

Year	Medium/Medium High Density Multifamily Demand (DUs)	Medium/Medium High Density Multifamily UDB Capacity (DUs)
2025	51,771	49,641
2030	84,669	49,641
2035	105,615	49,641

5.2 Commercial Development Capacity

Policy LU-8F requires generally that Miami-Dade County ensure through amendments to the CDMP that sufficient commercial land use is allocated on the FLUM to meet the needs of the projected population. It further specifies that the need for regional commercial land use shall be considered in relation to sub-regional demand (i.e., tiers/half tiers) and Countywide demand, while local and community oriented commercial uses shall be considered in relation to localized demand (i.e., Census Tracts and Minor Statistical Areas (“**MSA**”).

Policy LU-8F. The adequacy of non-residential land supplies shall be determined on the basis of land supplies in subareas of the County appropriate to the type of use, as well as the Countywide supply within the UDB. The adequacy of land supplies for neighborhood- and community-oriented businesses and office uses shall be determined on the basis of localized subarea geography such as Census Tracts, Minor Statistical Areas (MSAs) and combinations thereof. Tiers, Half-Tiers and combinations thereof shall be considered along with Countywide supply when evaluating the adequacy of land supplies for regional commercial and industrial activities.

The CDMP does not define the terms “regional commercial” or “community-oriented businesses” or “local-oriented businesses.” These terms are defined differently by local government jurisdictions, depending on many factors, including the size, character (i.e., how intensely urbanized) and regulatory approach of each jurisdiction. Generally speaking, larger malls are often considered regional, conventional shopping centers anchored by a grocery store are considered community scale and smaller centers serving one or more nearby neighborhoods are often considered local or neighborhood scale. However, as retail centers have evolved, various terms such as “power centers” and “lifestyle centers” have been coined to characterized shopping centers targeting certain demographics or focused on certain types of products. Some of these type centers can be quite large, but are often considered community centers based on the type of anchor (pet stores, sports, etc.).

Many jurisdictions differentiate regional, community and local based on relative acreage, square footage and market radius. These ranges vary significantly between jurisdictions and also according to the character of the area. Thresholds are generally higher for areas with more intense urban character as compared to suburban areas. The following ranges show overlap, reflecting the range commonly found in many jurisdictions and varying by the character of the area:

Table 9. Commercial Characteristics by Type

Commercial Classification	Acreage	Square Feet	Market Radius
Regional	5-10+	400,000+	5+ miles
Community	3-8	100,000-400,000	3-5 miles
Local	1-3	< 100,000 s.f.	1-3 miles

The CDMP does not incorporate standards such as these ranges. However, the CDMP descriptions of Urban Centers differentiate somewhat between regional urban centers, metropolitan urban centers and community urban centers. The CDMP (p. I-46) includes the following guidelines, which confirm that MUCs should target a

larger population base, including visitors, while CUCs are intended to serve the local community:

“Regional and Metropolitan Centers shall accommodate a concentration and variety of uses and activities which attract large numbers of both residents and visitors while Community-scale Urban Centers will be planned and designed to serve a more localized community”

“Both large and small businesses are encouraged in these centers, but the Community Centers shall contain primarily moderate and smaller sized businesses, which serve, and draw from, the nearby community.”

Based on the above CDMP references and typically accepted references, the Green City Amendment commercial land uses are appropriately classified and evaluated as follows pursuant to the covenants proposed as part of the application:

Table 10. Acreage Demand by Commercial Classification

Village	Commercial Classification	Square Feet	FAR ¹	Acreage Demand
Downtown Metropolitan Urban Center	Regional	750,000	2.0	8.6
Sports and Health Village	Community	192,000	1.0	4.4
East Village	Community/Local	155,000	1.0	3.6
Midtown	Community/Local	130,000	1.0	3.0
Park Village	Local	75,000	1.0	1.7
The Preserve	Local	60,000	1.0	1.4

1. FAR represents an average FAR, which results in a higher calculated acreage demand than using the maximum FAR allowable for each Village.

Miami-Dade County has not prepared a UDB capacity analysis for commercial development that is current through the filing date of this application. However, staff provided a UDB capacity analysis, dated February 2015 (**Attachment “4”**), which

projects that Countywide UDB capacity for all commercial land use is projected to be depleted in 22 years. The 2012 EAR-based amendments generally indicate that projected absorption rates are based on extrapolation of past trends.

County staff’s analysis projects that the South Central Tier will be depleted by 2027 and is substantially underserved by commercial land use acreage as compared to the other tiers. Table 11 summarizes the depletion years and commercial land allocations per thousand persons for each of the tiers.

Table 11. Commercial Allocations by Tier

Tier	Projected Depletion Year	2020 Commercial Acreage per Thousand Population	2020 Share by Tier (Tier Ratio Divided by Countywide Ratio)	2030 Commercial Acreage per Thousand Population	2020 Share by Tier (Tier Ratio Divided by Countywide Ratio)
North	2037	5.3	98.1%	5.0	102.0%
North Central	2033	5.8	107.4%	5.2	106.1%
South Central	2027	4.7	87.0%	4.4	89.8%
South	2047	6.8	125.9%	5.3	108.2%
Countywide	2037	5.4	100%	4.9	100%

The analysis confirms that the South Central Tier has the lowest commercial allocation relative to population demand of the four sectors in both 2020 and 2030. As shown by the comparative percentages, the South Central share slightly improves by 2030, but remains significantly underserved. Moreover, this assumes that the South Central Tier population does not increase beyond the projections provided by the County. It is important to recognize that small area population projections are subject to greater projection error. Thus, the disproportionate allocation could potentially be much worse if the South Central tier experiences greater population growth than projected by staff. This deficiency is magnified when analyzed at the MSA level. Table 12 provides the same analysis, comparing the relative allocations by MSA within the South Central Tier.

Table 12. Commercial Allocations by MSA

South Central Tier MSAs	Projected Depletion Year	2020 Commercial Acreage per Thousand Population	2020 Share by MSA (MSA Ratio Divided by Tier Ratio)	2030 Commercial Acreage per Thousand Population	2030 Share by MSA (MSA Ratio Divided by Tier Ratio)
1.2	2015	6.1	129.79%	6.0	136.36%
5.2	2017	2.8	59.57%	2.5	56.82%
5.3	2039	4.6	97.87%	4.4	100.00%
5.4	2019	5.6	119.15%	5.5	125.00%
5.5	2017	7.0	148.94%	6.7	152.27%
5.6	2034	6.9	146.81%	6.7	152.27%
5.7	2042	10.4	221.28%	10.2	231.82%
5.8	2030	3.0	63.83%	2.8	63.64%
6.1	2020	2.9	61.70%	2.8	63.64%
6.2	2033	4.8	102.13%	4.4	100.00%
South Central Tier	2027	4.7	100%	4.4	100%

The analysis confirms that within the South Central Tier, which itself is underserved relative to other tiers, MSA 6.1 is severely underserved by comparison to the other MSAs in 2020 and 2030, accounting for only 64% of its relative share in 2030. Its commercial allocation relative to population is projected to decline between 2020 and 2030, which could be understated if MSA 6.1 experiences more population growth than projected by County staff.

While the methodology utilized by staff provides a reasonable comparative basis for evaluating relative need, it should be recognized that it has certain limitations. One significant limitation is that acreage does not consistently convert to square footage;

five acres of commercial use in the Central Business District (“**CBD**”) produces substantially more square footage than five acres in a suburban location. Taking this limitation into account, the more intensely developed eastern areas of the County (i.e., eastern Half-Tiers and their MSAs) will have substantially greater commercial square footage allocations relative to population as compared to the western Half Tiers. Therefore, the South Central Half Tier and MSA 6.1 are in actuality much more significantly underserved than suggested by the acreage to population ratio.

The Regional Commercial allocation of 750,000 square feet is justified in light of the severe disproportionate allocation of commercial square footage when evaluated at the Tier, Half Tier and MSA level, taking into account the Countywide allocation. As documented by “West End Strategy: A Vision for the Future” (“**FIU Study**”) the West End lacks sufficient employment opportunities, resulting in significant commuting to other tiers that are disproportionately allocated with more regional commercial use, particularly when accounting for square footage as opposed to only acreage. The regional commercial allocations are also intended to serve the shopping, service and entertainment needs of visitors, workers and residents within the South Central Tier, and particularly the western South Central Half-Tier. The regional commercial component is critically necessary in order to achieve the critical mass of residents, workers and visitors as directed by the CDMP policies. Please refer to the Appendix for reference to supporting policies.

The proposed community and local commercial allocations are also justified based on the localized need within MSA 6.1. and from the residents and workers within each of the six villages. The community and local commercial allocations are intended to encourage multimodal options by locating smaller scale uses within the individual villages to allow for easy walking distance from residences to those areas for every day trip needs. The analysis demonstrates the need for the commercial allocations pursuant to the requirements of Policy LU-8F.

Green City Miami will also include office land use allocation. Table 13 summarizes the office allocations for each of the six villages.

Table 13. Office Land Use Allocations.

Village	Square Feet	FAR¹	Acreage Demand
Downtown Metropolitan Urban Center	400,000	2.0	4.6
Sports and Health Village	300,000	1.0	6.9
East Village	65,000	1.0	1.5
Park Village	56,000	1.0	1.3
The Preserve	54,000	1.0	1.2
Midtown	50,000	1.0	1.1

1. FAR represents an average FAR, which results in a higher calculated acreage demand than using the maximum FAR allowable for each Village.

Policy LU-8F classifies office use as a non-regional land use and recognizes that this need should satisfy demand at the MSA level. For the same reasons as stated above, office use is a critical component of the overall MUC strategy and as an antidote for the West End commuting patterns. The County’s commercial land use analysis accounts for office use within the allocations summarized by Tier and MSA. The severe under-allocation of commercial use includes office allocations as a subset of those acreages. Thus, the office allocations are supported by the preceding commercial analysis. In general, the Downtown MUC responds to demand for general office from MSA 6.1, while the Sports and Health Village is intended to be more specialized in supporting medical, health and sports related activities. The more limited allocations within the other four villages are intended to provide services and limited employment in proximity to the village neighborhoods, again in order to encourage pedestrian and bicycle accessibility.

The proposed office land use allocations are justified based on the localized need within MSA 6.1 and are consistent with Policy LU-8F.

5.3 Industrial Land Use

Policy LU-8F applies the same general process for determining industrial need. It states:

Tiers, Half-Tiers and combinations thereof shall be considered along with Countywide supply when evaluating the adequacy of land supplies for... industrial activities.

County staff provided a similar analysis of industrial acreage evaluated in February 2015 (**Attachment “5”**), which projects that Countywide industrial acreage will be depleted by 2037. As occurs with the commercial allocations, the analysis clearly demonstrates that the South Central Tier and western Half-Tier are severely underserved by industrial land use, as also recognized by the FIU study. Table 14 summarizes the industrial allocations by tier.

Table 14. Industrial Allocations by Tier

Tier	Projected Depletion Year	2020 Industrial Acreage per Thousand Population¹	2020 Share by Tier (Tier Ratio Divided by Countywide Ratio)	2030 Industrial Acreage per Thousand Population¹	2020 Share by Tier (Tier Ratio Divided by Countywide Ratio)
North	2076	7.1	119.1%	6.7	123.6%
North Central	2030	10.9	181.4%	9.9	180.9%
South Central	2021	1.3	21.7%	1.2	22.6%
South	2075	3.2	52.6%	2.4	44.9%
Countywide	2037	6.2	100%	5.5	100%

1. Attachments “4” and “5” do not specifically reference the 2020 and 2030 population utilized by the County for the analysis. Tier population derived from Attachment 2 and may vary slightly from population utilized by counting due to rounded acreage Attachment 2. This slight difference does not affect the relative shares or the results of the analysis.

The County analysis for industrial land use does not include the comparison of the industrial acreage relative to population. While industrial demand is generally a

function of regional, state and national economic conditions and is not driven by population demand per se, industrial land is important for the Tier and Half Tier population from an employment perspective. Again, this point is consistent with the findings of the FIU Study, which determined that new employment opportunities are critically needed for the West End population to reduce reliance on commuting to other tiers for work. The analysis confirms the same findings as the commercial analysis. The South Central Tier is severely underserved by industrial land use allocation relative to its population base, confirming that industrial employment opportunities are generally not available in the South Central Tier. Moreover, MSA 6.1 does not have any vacant industrial acreage.

Table 15 presents the proposed industrial acreage demands for Green City Miami. The proposed industrial allocations are justified based on the limited allocation of industrial use within the South Central Tier and the need for employment opportunities for existing and future workers within the South Central and West End area.

Table 15. Industrial Acreage Demand

Village	Square Feet	FAR ¹	Acreage Demand
Sports and Health Village	150,000	1.0	4.4
The Preserve	200,000	1.0	1.4

1. FAR assumes a single floor building as typical for most industrial uses. Multistory could potentially occur for certain types of industrial use and would achieve a higher FAR and correspondingly lower acreage demand.

Finally, it should be recognized that the long term projected depletion years for industrial acreage results to some degree from vacant sites that are overlooked by the market for many possible reasons. While the absorption rates provide some understanding of demand, the simple average absorption does not consider site specific factors, which should be considered in determining acreage that is available and suitable for industrial activity as opposed to only considering the designation on future land use maps. Ultimately, limiting the opportunity for new sites by reserving

Countywide capacity for marginal sites impacts the County's economy and individual property owners in the form of "opportunity costs." In effect, such capacity reservations can throttle more viable opportunities to expand and diversify the County's economic base.

Appendix

Consistency with the Comprehensive Development Master Plan

Policy LU-1A. High intensity, well-designed urban centers shall be facilitated by Miami-Dade County at locations having high countywide multimodal accessibility.

FINDING: The proposed Green City MUC is located along Kendall Drive, which is designated as a transit corridor on the Future Mass Transit System maps in the Transportation Element.

LU-1B. Major centers of activity, industrial complexes, regional shopping centers, large-scale office centers and other concentrations of significant employment shall be the structuring elements of the metropolitan area and shall be sited on the basis of metropolitan-scale considerations at locations with good countywide, multi-modal accessibility.

FINDING: The proposed Green City MUC has been planned to serve as an express transit hub with regional commercial, industrial, and large scale office centers, as well as a transit center that strongly supports the land use mix, densities, intensities and multimodal design of Green City.

LU-1F. To promote housing diversity and to avoid creation of monotonous developments, Miami-Dade County shall vigorously promote the inclusion of a variety of housing types in all residential communities through its area planning, zoning, subdivision, site planning and housing finance activities, among others. In particular, Miami-Dade County shall review its zoning and subdivision practices and regulations and shall amend them, as practical, to promote this policy.

FINDING: The proposed Green City land use category provides for a variety of multifamily housing types, including townhouses and low-story, mid-story and higher-story structures up to 10 stories with 15 stories allowed in the Downtown core.

LU-1G. Business developments shall preferably be placed in clusters or nodes in the vicinity of major roadway intersections, and not in continuous strips or as isolated spots, with the exception of small neighborhood nodes. Business developments shall be designed to relate to adjacent development, and large uses should be planned and designed to serve as an anchor for adjoining smaller businesses or the adjacent business district. Granting of commercial or other non-residential zoning by the County is not necessarily warranted on a given property by virtue of nearby or adjacent roadway construction or expansion, or by its location at the intersection of two roadways.

FINDING: The proposed amendment clusters regional commercial uses within the Downtown MUC, which is proximate to the Kendall Drive/Krome Avenue intersection.

LU-3B. All significant natural resources and systems shall be protected from incompatible land use including Biscayne Bay, future coastal and inland wetlands, future potable water-supply wellfield areas identified in the Land Use Element or in adopted wellfield protection plans, and forested portions of Environmentally Sensitive Natural Forest Communities as identified in the Natural Forest Inventory, as may be amended from time to time.

FINDING: The proposed amendment defines land use allocations by village to ensure proposes land uses are compatible with the West Wellfield protection area, including a significant buffer around the site that will be roughly the same width as the wellfield property.

LU-7I. Miami-Dade County will continue to review development incentives to encourage higher density, mixed use and transit-oriented development at or near existing and future transit stations and corridors, and continue to update its land development regulations to remove impediments and promote transit-oriented development.

FINDING: The proposed amendment implements this policy by proposing the TOV concept, which incorporates transit oriented design requirements within the Downtown core, consistent with the intent of this policy and the MUC policies.

LU-8A. Miami-Dade County shall strive to accommodate residential development in suitable locations and densities which reflect such factors as recent trends in location and design of residential units; a variety of affordable housing options; projected availability of service and infrastructure capacity; proximity and accessibility to employment, commercial and cultural centers; character of existing adjacent or surrounding neighborhoods; avoidance of natural resource degradation; maintenance of quality of life and creation of amenities. Density patterns should reflect the Guidelines for Urban Form contained in this Element.

FINDING: The proposed amendment achieves all of these objectives. The proposed allocation of densities by village type ensures that housing types and densities will transition from the Downtown core to the development edge where the lower density, townhouse neighborhoods will occur. As discussed in the supporting engineering and traffic studies, the proposed amendment is appropriately located to ensure utility connections and to allow for vehicular and multimodal accessibility. The highly integrated, walkable, mixed use design clusters residential uses, employment, shopping and entertainment uses, while also providing cultural and recreational activities through the farmers' market, sports facilities and parks. The design incorporates low intensity,

recreational uses to buffer the West Wellfield, and is appropriately located to avoid natural resource degradation.

LU-8B. Distribution of neighborhood or community-serving retail sales uses and personal and professional offices throughout the urban area shall reflect the spatial distribution of the residential population, among other salient social, economic and physical considerations.

FINDING: The community- and neighborhood-oriented retail uses, personal services and professional offices are allocated within the villages to meet the needs of the residents, employees and visitors, as well as to provide the greater West End community with community-oriented businesses in a village setting.

LU-8E. Applications requesting amendments to the CDMP Land Use Plan map shall be evaluated for consistency with the Goals, Objectives and Policies of all Elements, other timely issues, and in particular the extent to which the proposal, if approved, would:

- i) Satisfy a deficiency in the Plan map to accommodate projected population or economic growth of the County;
- ii) Enhance or impede provision of services at or above adopted LOS Standards;
- iii) Be compatible with abutting and nearby land uses and protect the character of established neighborhoods; and
- iv) Enhance or degrade environmental or historical resources, features or systems of County significance; and
- v) If located in a planned Urban Center, or within 1/4 mile of an existing or planned transit station, exclusive busway stop, transit center, or standard or express bus stop served by peak period headways of 20 or fewer minutes, would be a use that promotes transit ridership and pedestrianism as indicated in the policies under Objective LU-7, herein.

FINDING: The proposed amendment:

- i) satisfies a deficiency for multifamily uses within the targeted density range and building types. While high-rise structures have been developed in the Miami CBD, Brickell and along the coast, those developments serve a select demographic sector. The proposed amendment provides an urban scale that efficiently utilizes land and is designed to ensure compatibility through density/height gradients, while also incorporating new employment opportunities to meet a recognized economic need in the West End.**
- ii) will be served by urban infrastructure readily available to the site, including centralized water and wastewater facilities and arterial roadways. The traffic study documents the long term transportation improvements to support the development, and provides for**

proportionate share contributions to allow for prioritized, pipelined capacity projects. The urban scale and mix of uses should be recognized as an antidote to the long distance commutes and unnecessary short trips that are both curtailed through appropriate, highly integrated, urban village design. The proposed amendment also provides land use allocations for substantial recreational facilities, school sites and government office allocations to serve the community at large. The amendment enhances the ability to provide services.

iii) As previously discussed, the proposed land use allocations, mix of uses, densities, intensities and building types were carefully considered in forming the village design to achieve real urban character, while creating appropriate transitions to protect the neighborhoods to the east.

iv) The proposed amendment is appropriate for the site. The land use, intensities and densities are suitable for the existing conditions, and the West Wellfield will be protected to a much higher degree than required by the West Wellfield protection regulations., as a result of the low intensity, recreational land use designed to serve as a significant protection buffer.

v) The TOV design implements this requirement and furthers the concepts through the transit stipends as described by the covenants.

LU-8G. When considering land areas to add to the UDB, after demonstrating that a need exists, in accordance with the foregoing Policy LU-8F:

- i) The following areas shall not be considered:
 - a) The Northwest Wellfield Protection Area located west of the Turnpike Extension between Okeechobee Road and NW 25 Street and the West Wellfield Protection Area west of SW 157 Avenue between SW 8 Street and SW 42 Street;
 - b) Water Conservation Areas, Biscayne Aquifer Recharge Areas, and Everglades Buffer Areas designated by the South Florida Water Management District;
 - c) The Redland area south of Eureka Drive; and
 - d) Areas within the accident potential zones of the Homestead Air Reserve Base.
- ii) The following areas shall be avoided:
 - a) Future Wetlands delineated in the Conservation and Land Use Element and land designated Agriculture on the Land Use Plan map, except where located in designated Urban Expansion Areas (UEAs);
 - b) Coastal High Hazard Areas east of the Atlantic Coastal Ridge;
 - c) Comprehensive Everglades Restoration Plan project footprints delineated in Tentatively Selected Plans and/or Project Implementation Reports; and
- iii) The following areas shall be given priority for inclusion, subject to conformance with Policy LU-8F and the foregoing provision of this policy:

- a) Land within Planning Analysis Tiers having the earliest projected supply depletion year; and
 - b) Land within the UEAs and contiguous to the UDB; and
 - c) Locations within one mile of a planned urban center or extraordinary transit service; and
 - d) Locations having projected surplus service capacity or where necessary facilities and services can be readily extended.
- iv) Notwithstanding Policy LU-8G (iii), other land may be included to expand an existing unique regional facility, defined as an existing public facility or attraction of regional prominence that has been constructed on publicly owned land with significant public funding and intergovernmental coordination, if it satisfies all of the following criteria:
- a) The land is within the UEA, is contiguous to the UDB, and is contiguous to a unique regional facility;
 - b) The use of the land will be limited to the expansion of the unique regional facility, together with ancillary uses; and
 - c) The expansion will have a positive economic impact, including increased economic development and tourism.

FINDING:

The proposed amendment does not trigger any of the criteria that prohibit or otherwise seek to avoid urban use. Rather, the proposed amendment qualifies for priority inclusion within the UDB based on its long standing location within the UEA and contiguity to the UDB, proximity to transit service and designation as a MUC and the services readily available to the site. At the time of this application, the applicant has not received a tier level analysis for the proposed multifamily density range. County staff provided a residential analysis, dated December 2014, which determined that the North Tier would be the first depleted tier for multifamily units in 2030. By comparison, the South-Central west Half Tier would be depleted though in 2026 according to the County's analysis.

In considering residential supply, the County's methodology for absorption warrants discussion. The analysis is based on the average annual absorption projected based on population growth. As previously discussed, the methodology for performing small scale population projections is inherently subject to significant projection error. The County population growth at the Census Tract level and then aggregates those projections to the MSA, Half Tier and Tier levels. Given the volatility of immigration and domestic migration rates, population projections at the Census Tract level are unreliable as a basis for making the fine grained allocations required to forecast depletion years. Small area projections typically require a share methodology as attempting to apply extrapolation techniques independently to small geographic areas, such as Census Tracts, results in unacceptable levels of projection error. For this reason, small area projections are typically done by projecting relative shares for each of the smaller areas and controlling to

the population projection of the larger geographic area. This approach though inherently disfavors areas that have previously experienced low growth rates for reasons that may no longer apply and conversely favor higher growth area for reasons that may no longer apply or that should not be favored based on changes in policy. Projection technique should not be applied in isolation from policy considerations, but rather policy considerations should be considered in determining methodologies that will appropriately implement policy.

There are many examples of the conflict between the tier methodology and CDMP policies. Coastal allocations are a good example. Such area experience very high growth rates and would be favored by the current tier methodology, but the result would generally conflict with the CDMP objectives of not encouraging population growth in areas vulnerable to Coastal High Hazard Area and Sea Level Rise impacts. Conversely, western areas that do not have significant land use allocations of a certain type may absorb slowly simply due to the lack of viable options for marketable developments. This occurs with the South Central tier, which has less than half of the multifamily allocations than the South Tier, but absorbs more slowly. One should question how the tier with the lowest allocation of multifamily units is not appropriately prioritized to receive greater allocations. The tier methodology does not consider the fundamental point that limited supply throttles growth potential, resulting in slower absorption rates, particularly when applied at the Census Tract level.

Another related problem is that tiers with large allocations of underperforming properties effectively preclude opportunities for economic growth on more viable sites. In effect, supply is reserved on a long term basis for vacant properties that may not have developed for twenty or more years. While such areas should be a policy priority to encourage redevelopment and infill, the reservation of perpetually unused capacity does not help the market problem with those sites, and only hinders economic development on properties that are viable for development. Intuitively, it may seem that the policy would not bank those allocations as the absorption rate would be slow, but the analysis level at the census tract masks this problem; that is, a Tier or Half-Tier with some census tracts experiencing high growth and others very low growth may, on average, absorb at the highest rate in the County. Yet, the capacity associated with the poorly performing census tracts is effectively reserved, resulting in the lack of allocations for sites that are in a position to develop during the pending plan horizon.

The South-Central Tier, and particularly its western Half-Tier, should be given the highest priority for multifamily allocations based on the lack of allocations currently available.

LU-8H. Applications requesting expansion of the UDB shall be in accordance with the foregoing Policies LU-8F and LU-8G, and must meet the following criteria to be considered for approval:

- a) Residential development proposals shall provide for the non-residential needs of the future residents of such proposed developments including but not limited to places of employment, shopping, schools,

- recreational and other public facilities, and shall demonstrate that such needs are addressed;
- b) Residential development shall be at an average minimum density of ten (10) dwelling units per gross acre;
 - c) Residential development must participate in the Purchase of Development Rights, Transfer of Development Rights (TDR) or other County established program(s) geared to protecting agricultural lands and/or environmentally sensitive lands;
 - d) Non-residential development, excluding public facilities, shall be developed at a minimum intensity of 0.25 FAR; and
 - e) The proposed development shall be planned to provide adequate buffering to adjacent agricultural lands and shall incorporate and promote bicycle and pedestrian accessibility throughout the development.
 - f) The proposed development must be demonstrated not to discourage or inhibit infill and redevelopment efforts within the UDB;
 - g) The proposed development will not leave intervening parcels of property between the proposed development and any portion of the UDB; and
 - h) It must be demonstrated that the proposed development will have a positive net fiscal impact to Miami-Dade County.

FINDING: The land use allocations and covenants demonstrate consistency with all of the above criteria. In regard to criteria (f), the proposed development serves a different market type and will not inhibit infill and redevelopment efforts within the UDB. Moreover, the capacity determination included the 24,000+ redevelopment units identified by staff.

LU-9I. Miami-Dade County shall continue to update and enhance its land development regulations and area planning program to facilitate development of better planned neighborhoods and communities, and well designed buildings, and shall encourage and assist municipalities to do the same.

FINDING: The proposed amendment implements the intent of this strategy. Green City and its accompanying TOV policy framework provide a specific mechanism to achieve better long term planning by incentivizing the market place.

LU-9K. By 2016, Miami-Dade County shall initiate the review and revision of its Subdivision Regulations to facilitate the development of better planned communities. The Public Works Department shall specifically review and update the Subdivision Regulations for urban design purposes. Changes to be considered shall include provisions for:

- i) Open space in the form of squares, plazas, or green areas in residential and commercial zoning categories; and

- ii) A hierarchy of street types and designs, ranging from pedestrian and bike paths to boulevards that serve both neighborhood and areawide vehicular and pedestrian trip making needs by addressing cross sections, corner radii, connectivity and rationality of street and pathway networks, and balanced accommodation of automobiles, pedestrians, bicyclists, and landscaping.

FINDING: Green City is not yet at the platting stage, but it has been planned and conceptually designed to achieve these objectives.

LU- 9T. The County shall consider provisions to allow horizontal mixed-use developments, defined as the horizontal integration of parcels with different primary uses within the same site or block, in appropriate future land use categories in the Urban Development Boundary.

FINDING: The proposed Green City Amendment implements the intent of this policy and demonstrates that vertical and horizontal integration of mixed uses can occur in an appropriate manner that achieves urban intensity and activity levels, while protecting adjacent lands. This can best be accomplished by encouraging land assembly to allow for larger, planned projects rather than smaller incremental projects that simply don't have sufficient acreage to allow for urban intensity and density gradients to protect neighbors. Green City's scale and thoughtful land use allocations achieves this intended objective.

**Population Projections
Miami-Dade County
2010 to 2030**

May 2013

Introduction

The population projections contained in this report are an update of a set that was adopted in October 2007. The projections fully incorporate data from the 2010 Census, as well as the most recent available data relating to the components of population change. It is always important to revisit previous projections, in light of recent data and estimates, but it is doubly so when the decennial population count is released. This provides a firm base for projecting population into the future.

It is important to understand that projections have a basis in past trends, but fundamentally must consider how these trends are likely to change in the future. Since the future always remains uncertain, population projections must be appreciated in this context. In particular, in Miami-Dade more so than in most of the country, migration flows are the component that is most difficult to forecast. International migration or net immigration is the variable that displays the most fluctuation and is the most difficult to project.

This new projection series shows the population of the County reaching over 3,014,000 persons in 2030 compared to the previous series that projected the 2030 population to be approximately 3,206,000. The deceleration of economic activity over the past decade was reflected in the much lower than expected 2010 census population count. This official population count in 2010, at 2,496,435 was, in fact, over 67,000 persons below the projected figure for that year. It is expected that population growth through 2015 will be considerably lower than previously thought. Thereafter it is expected to pick-up and by the 2021-2030 period it will return to a pace that is somewhat lower, but more in line with the past.

Methodology

The projection method used in this remains unchanged from the method previously employed that was based on the component method. The component method uses data on births, deaths, and migration flows, domestic and international. The components of population change are estimated separately and then combined for total population change. Long term trends are analyzed and assumptions are made regarding what the likely trends will be in the future. Future trends are given numerical values through the use of end points for each of the components of the projection. A linear regression is run using data from 1990 to 2010 to project twenty years forward to 2030. The following paragraphs summarize the assumptions used in developing the new projections.

Assumptions

1. **Births** are derived by applying a crude birth rate to the mid-year population. The rate used in these projections shows a moderate decline over time from 12.6 births per 1,000 persons in 2010 to 11.0 in 2030. This trend towards lower birth rates is consistent with those of the nation.
2. **Deaths** are derived by applying a death rate to the mid-year population. The rate used in these projections is 7.3 deaths per 1,000 persons in 2010 and the same figure in 2030. This is in contrast to the declining rate in the previous series and is in line with the national trend that, in fact, begins to move in opposite direction after 2020.
3. **Domestic in-migration and out-migration** figures are derived from a tabulation of personal exemptions on matched income tax returns by the Internal Revenue Service and reported in the County-to-County migration series. The basic assumption here is that the non-covered population moves from county to county in patterns similar to the movement of the covered population. In Miami-Dade County, and perhaps other counties with high numbers of undocumented aliens and high poverty rates, this assumption may be questionable. Despite these difficulties, alternative assumptions are also problematic and therefore the reported numbers are used. For this projection series, domestic in-migration was projected to increase steadily from an average of about 56,000 in 2006-2010 to 63,000 persons in 2030. Domestic out-migration was projected to increase from an average of about 79,000 in 2006-2010 and to increase to 88,000 in 2030. Thus domestic

migration (in – out) represents a net outflow increasing to 25,000 per year in 2030. More details are discussed in the appendix.

- 4. Net immigration** is the number of persons moving into Miami-Dade from other countries less those persons emigrating. There is little information available on emigration from the United States and even less so for more specific areas such as Miami-Dade. The immigrant inflow is also difficult to gauge because of the presence of undocumented aliens. Immigration tends to be volatile and is greatly influenced by political, social and economic change outside the United States. For these reasons, these flows are difficult to project. For this series, the immigration data is based on the American Community Survey, 1 Year Estimates. In previous series, figures derived from the decennial census were used. Net immigration is projected to modestly decrease from 30,364 in 2010 to 29,355 in 2015 and grow thereafter to 44,713 in 2030. Additional details are presented in the appendix.

Results

The projections, shown in Table 1 are lower than the existing projection series. Table 2 compares the projected values in the existing series with the projected population figures for the proposed series. The projected population for the proposed series is 192,128 lower in 2030 than the figure in the previous series. Figure 1 is the graphic representation of the data. The differences are significantly a result of the lower actual population figure than the projected figure for 2010. The 2010 Census population count was approximately 67,520 below the projected number. Over the twenty year period, 2010-2030, population growth is projected to be about 25,886 persons annually, whereas in the existing series the annual rate of population growth was 32,120 or 6,233 higher.

Growth for the current decade is projected to average 23,511 persons a year, with slower growth during the first several years of this period. This number is projected to increase to 28,261 persons in the 2021-2030 period. Although lower, this is more in line with the population increases in the previous series. Net migration, inclusive of domestic migration and immigration, is expected to increase significantly from a low point of –5,014 in 2007 to 12,615 in 2018 and then increase more slowly thereafter with an end point in 2030 of 19, 713. Natural increase is projected to decrease from 14,225 in 2010 to 11,039 in 2030.

The projected population for 2030 is 3,014,151. As indicated earlier, this figure is substantially lower than the 3,206,287 figure in the previous series. Deaths are projected to increase slowly but steadily over the 20-year time span. However, births are expected to peak 2016 and decrease slowly over the following 14 years. Domestic out-migration flows also increase steadily but a lower rate than in the past. It increases steadily to 88,000 a year in 2030 from 70,794 in 2010, while in-migration increases at a somewhat faster rate from an average of 55,889 in 2006 -2010 to 63,000 in 2030. This end point is considerably higher than the figure in the last projection series. In net, domestic migration moves from an average of -22,994 in the 2006 – 2010 period to -25,000 in 2030. These losses are more than offset by the projected increase in immigration that climbs to about 45,000 for the 2030 end year.

Table 1
Population Projections
Components of Change

Miami-Dade County, Florida: 2000 to 2030								
Year Ending March 31	Resident Population	Population Change	Net Migration	Natural Increase (Birth – Death)	Resident Births	Resident Deaths	Net Immigration	Domestic Migration
2000	2,253,485	32,066	19,344	12,722	31,688	18,966	44,452	-25,108
2001	2,292,391	38,906	25,185	13,721	32,331	18,610	49,967	-24,782
2002	2,324,823	32,432	18,360	14,072	32,352	18,280	41,848	-23,488
2003	2,341,995	17,172	3,166	14,006	32,236	18,230	30,036	-26,870
2004	2,371,846	29,851	15,641	14,210	32,575	18,365	38,922	-23,281
2005	2,390,776	18,930	4,711	14,219	32,575	18,356	30,166	-25,455
2006	2,406,342	15,566	1,183	14,383	32,709	18,326	28,373	-27,190
2007	2,417,059	10,717	-5,014	15,731	33,876	18,145	30,024	-35,038
2008	2,437,608	20,549	4,384	16,165	34,124	17,959	29,956	-25,572
2009	2,460,348	22,740	7,370	15,370	33,315	17,945	26,036	-18,666
2010	2,496,435	36,087	21,862	14,225	32,090	17,865	30,364	-8,502
2011	2,523,965	27,530	14,203	13,327	31,339	18,012	35,447	-21,244
2012	2,544,626	20,661	7,664	12,997	31,130	18,133	28,667	-21,003
2013	2,565,685	21,059	7,949	13,110	32,765	19,655	29,063	-21,114
2014	2,586,290	20,605	7,817	12,788	32,998	20,210	29,292	-21,475
2015	2,607,198	20,908	7,769	13,139	33,418	20,279	29,355	-21,586
2016	2,631,355	24,157	11,152	13,005	33,354	20,349	33,099	-21,947
2017	2,654,925	23,570	10,686	12,884	33,326	20,442	32,994	-22,308
2018	2,680,330	25,405	12,650	12,755	33,285	20,530	35,069	-22,419
2019	2,705,145	24,815	12,185	12,630	33,260	20,630	34,965	-22,780
2020	2,731,543	26,398	13,899	12,499	33,222	20,723	37,040	-23,141
2021	2,756,845	25,302	12,933	12,369	33,196	20,827	36,935	-24,002
2022	2,783,973	27,128	14,898	12,230	33,151	20,921	39,011	-24,113
2023	2,810,749	26,776	14,682	12,094	33,120	21,026	38,906	-24,224
2024	2,837,167	26,418	14,466	11,952	33,079	21,127	38,801	-24,335
2025	2,865,402	28,235	16,431	11,804	33,027	21,223	40,877	-24,446
2026	2,893,274	27,872	16,215	11,657	32,988	21,331	40,772	-24,557
2027	2,922,958	29,684	18,179	11,505	32,939	21,434	42,847	-24,668
2028	2,952,275	29,317	17,964	11,353	32,902	21,549	42,743	-24,779
2029	2,983,398	31,123	19,928	11,195	32,854	21,659	44,818	-24,890
2030	3,014,151	30,753	19,713	11,040	32,819	21,779	44,713	-25,000
Decade	Ten-Year Annual Average Change, 1991 to 2030							
1991-2000		31,639	17,732	13,907	32,458	18,551	38,986	-21,253
2001-2010		24,295	9,685	14,610	32,818	18,208	33,569	-23,884
2011-2020		23,511	10,597	12,913	32,810	19,896	32,499	-21,902
2021-2030		28,261	16,541	11,720	33,008	21,288	41,042	-24,501

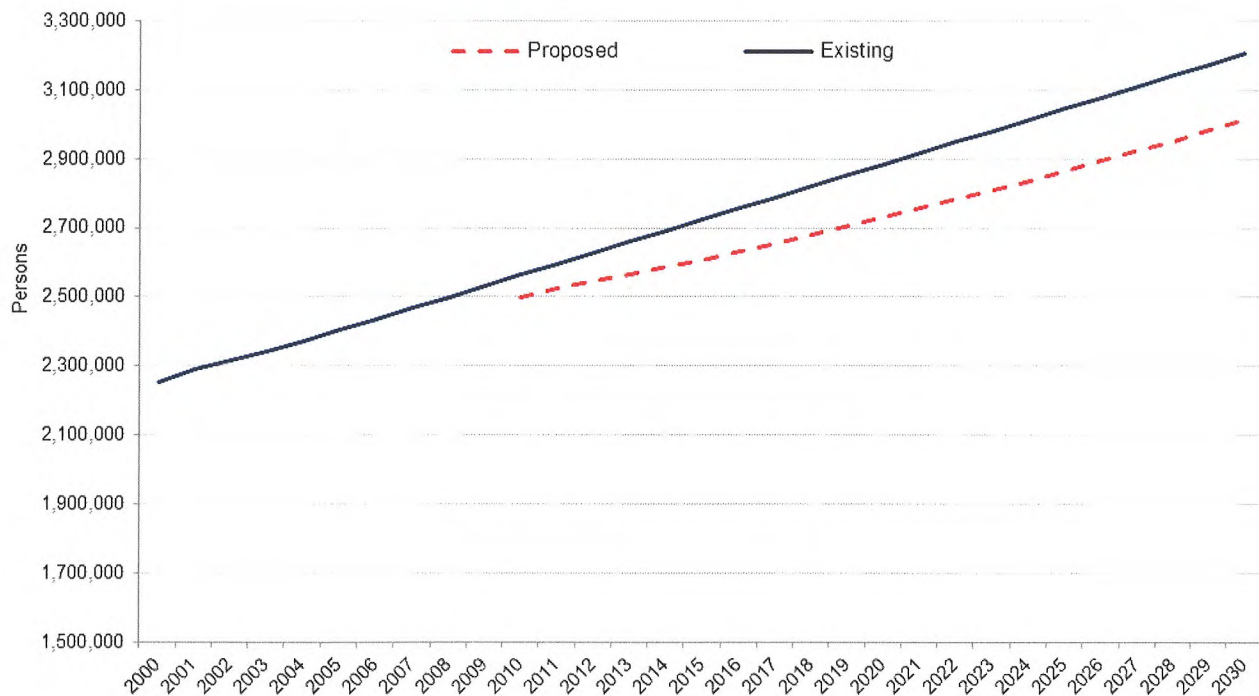
Source: U.S. Bureau of the Census, Decennial Census 1990-2010. Post-2010 figures, Miami-Dade County Department of Regulatory and Economic Resources, Research Section, 2013.

**Table 2
Comparing Population Projections
Proposed versus Existing
Miami-Dade County: 2000 to 2030**

Year Ending March 31	Proposed 2012	Existing 2007	Proposed Less Existing
2000	2,253,485	2,253,485	0
2001	2,292,391	2,289,222	3,169
2002	2,324,823	2,316,676	8,147
2003	2,341,995	2,344,033	-2,038
2004	2,371,846	2,370,937	909
2005	2,390,776	2,403,472	-12696
2006	2,406,342	2,435,517	-29,175
2007	2,417,059	2,467,583	-50,524
2008	2,437,608	2,499,667	-62,059
2009	2,460,348	2,531,769	-71,421
2010	2,496,435	2,563,885	-67,450
2011	2,523,965	2,596,014	-72,049
2012	2,544,626	2,628,155	-83,529
2013	2,565,685	2,660,304	-94,619
2014	2,586,290	2,692,461	-106,171
2015	2,607,198	2,724,623	-117,425
2016	2,631,355	2,756,788	-125,433
2017	2,654,925	2,788,954	-134,029
2018	2,680,330	2,821,119	-140,789
2019	2,705,145	2,853,282	-148,137
2020	2,731,543	2,885,439	-153,896
2021	2,756,845	2,917,590	-160,745
2022	2,783,973	2,949,731	-165,758
2023	2,810,749	2,981,861	-171,112
2024	2,837,167	3,013,979	-176,812
2025	2,865,402	3,046,081	-180,679
2026	2,893,274	3,078,165	-184,891
2027	2,922,958	3,110,230	-187,272
2028	2,952,275	3,142,273	-189,998
2029	2,983,398	3,174,293	-190,895
2030	3,014,151	3,206,287	-192,136

Source: U.S. Bureau of the Census, Decennial Census Reports 1990-2010. Post-2010 figures, Miami-Dade County, Department of Regulatory and Economic Resources, Research Section, 2013.

Figure 1
Population Projections
Miami-Dade County, 2000 - 2030



Components

The results were based on the projection of each of the components of population change developed separately and then summed. This discussion first examines the broadest categories, namely net migration and natural increase. This is followed by looking at the individual components that are included in each of these categories.

Net migration includes the total of domestic migration and immigration, while natural increase is simply births minus deaths. Figure 2 presents these two categories in five year intervals beginning in 2000. Net migration from 2010 to 2015 exhibits substantial variation from the past. In the 2010-2015 period net migration averages 9,081; this represents a continuation of the immigration and domestic migration trends seen in the latter half of the past decade. Thereafter, net migration averages approximately 15,000 persons.

Figure 3 displays each of the components of natural increase. Both births and deaths increase slowly in the projected period. This is to be expected as they are based on rates per thousand persons with specified end points. Net increase averages about 12,400 on an annual basis for the 2010-2030, however it continuously declines after 2015.

Figure 4 shows net domestic migration that is in-migration less out-migration, for the 2000-2030 period. The dashed blue outline represents in-migration, while the dashed red outline shows out-migration. The solid red bar shows that net domestic migration is negative throughout the period. In-migration is projected to steadily increase from an average of 55,900 in the 2006 – 2010 period to 63,000 in 2030. Out-migration steadily increases during the projection period. For the first half of the projection period it is similar to the levels reached in the 2000-2005 period significantly below the peak levels of the building boom. During the projection period, net domestic migration remains negative for the entire projection period.

Figure 5 depicts net immigration. It is composed of persons immigrating to this area less an estimate of those emigrating. For the 2000-2010 period immigration displayed a decidedly downward trend with several spikes. It is expected that immigration will slowly increase from a low of about 26,036 in 2009 to reach approximately 45,000 in 2030. This figure in 2030 is approximately equal to that in 2000. Figure 6 combines net immigration and net domestic migration. As can readily be seen, net immigration is a strong positive factor in population growth in Miami-Dade and that net domestic migration has the opposite influence. The sum of these two factors is net migration. Net migration remains low during the first five years of the projection period and then increases steadily to just under 20,000 in 2030.

Figure 2
Components of Population Change,
Miami-Dade County, 2000 - 2030

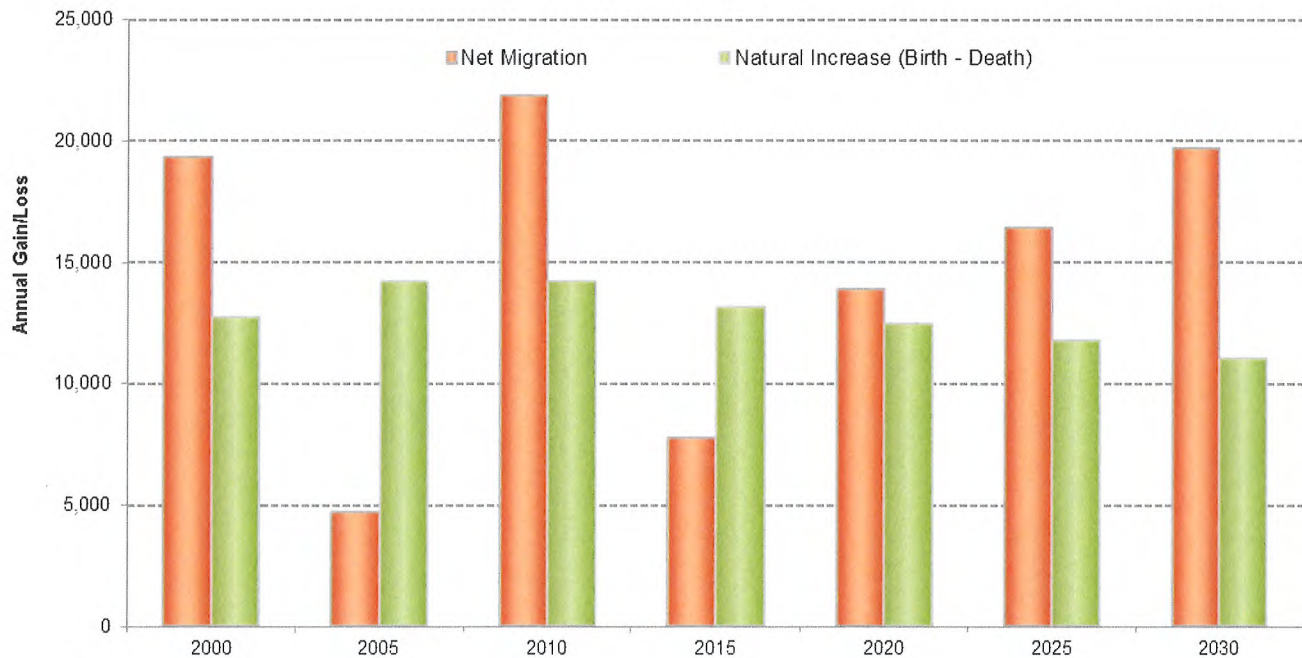


Figure 3
Components of Natural Increase,
Miami-Dade County, 2000 - 2030

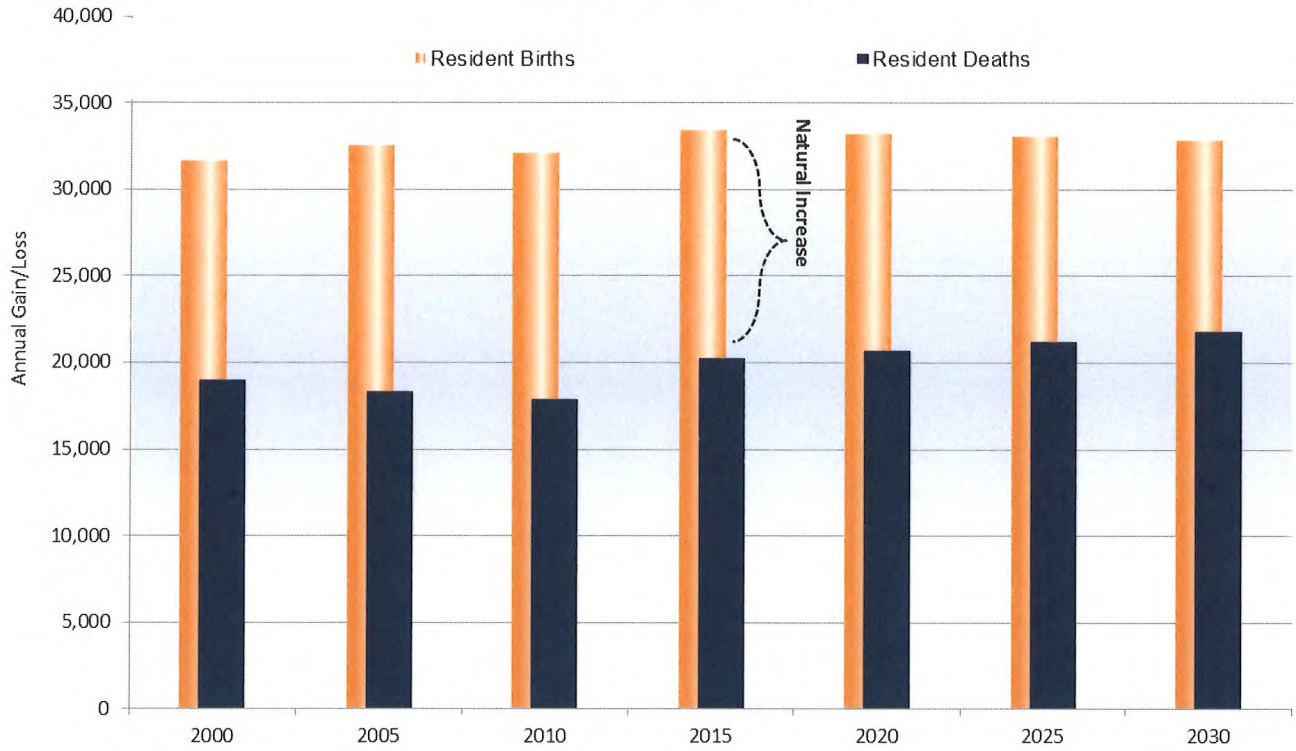


Figure 4
Net Domestic Migration
Miami-Dade County, Florida
2000 - 2030

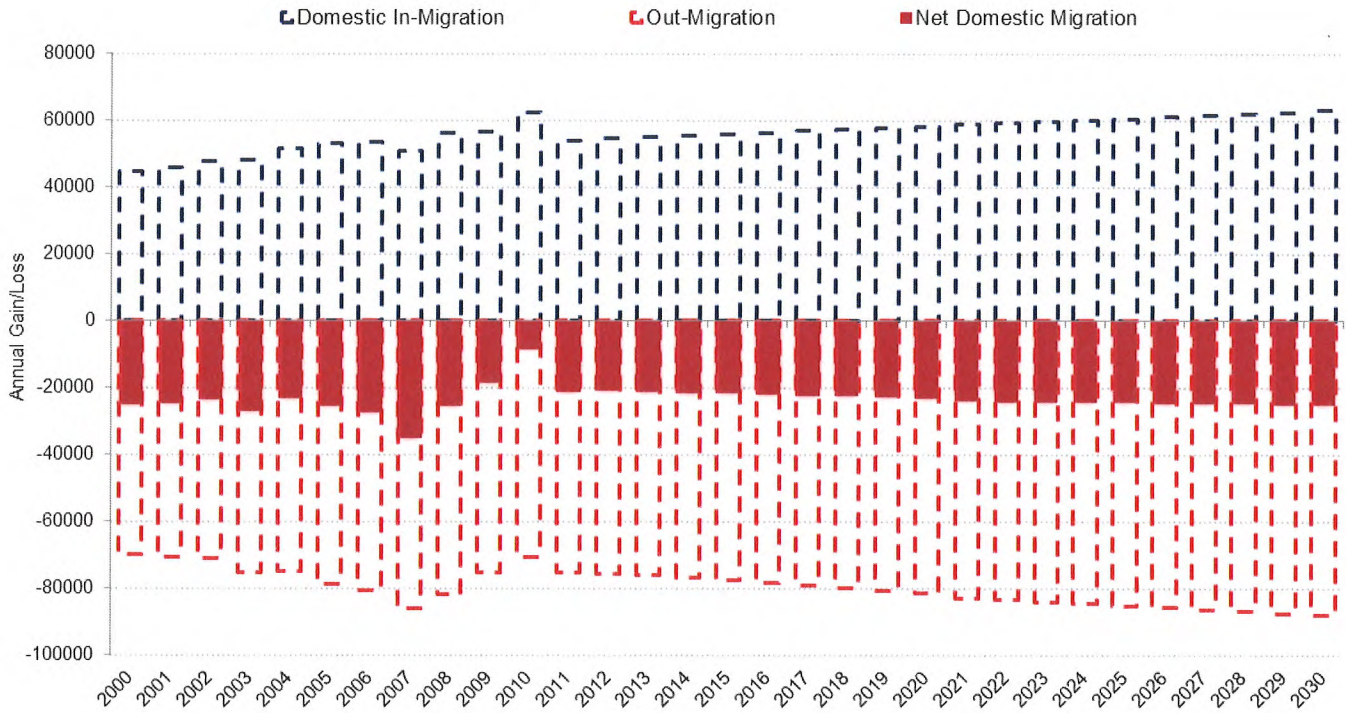


Figure 5
Net Immigration
Miami-Dade County, Florida
2000 - 2030

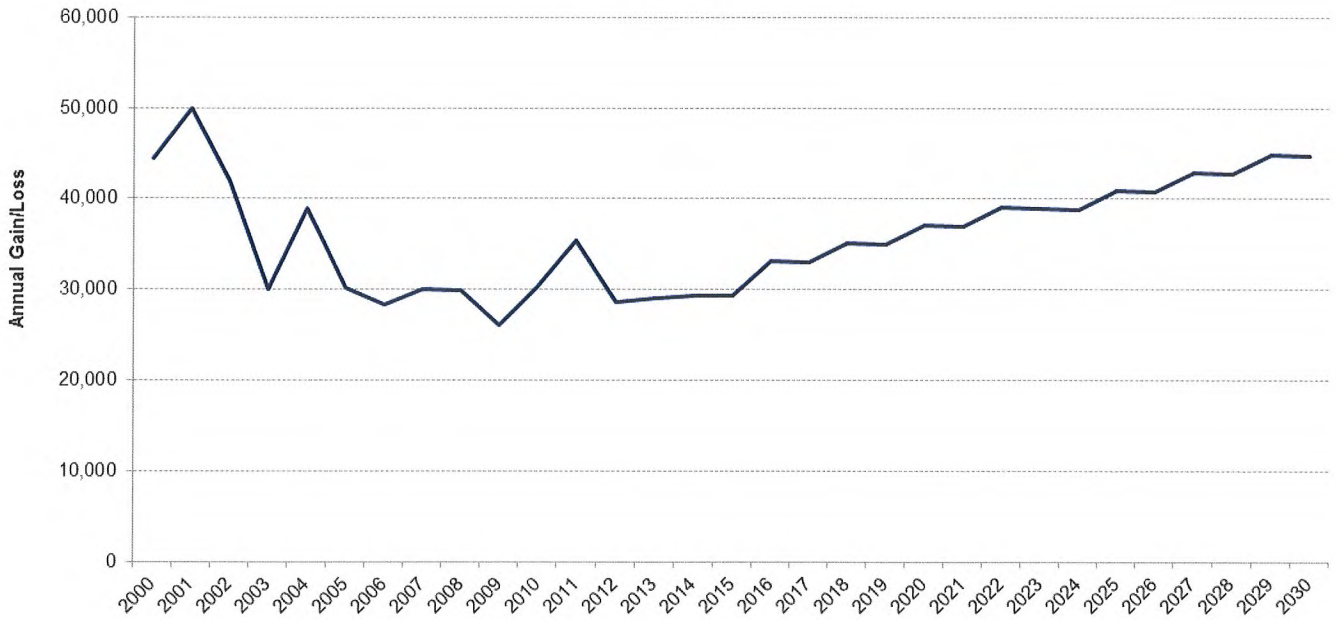
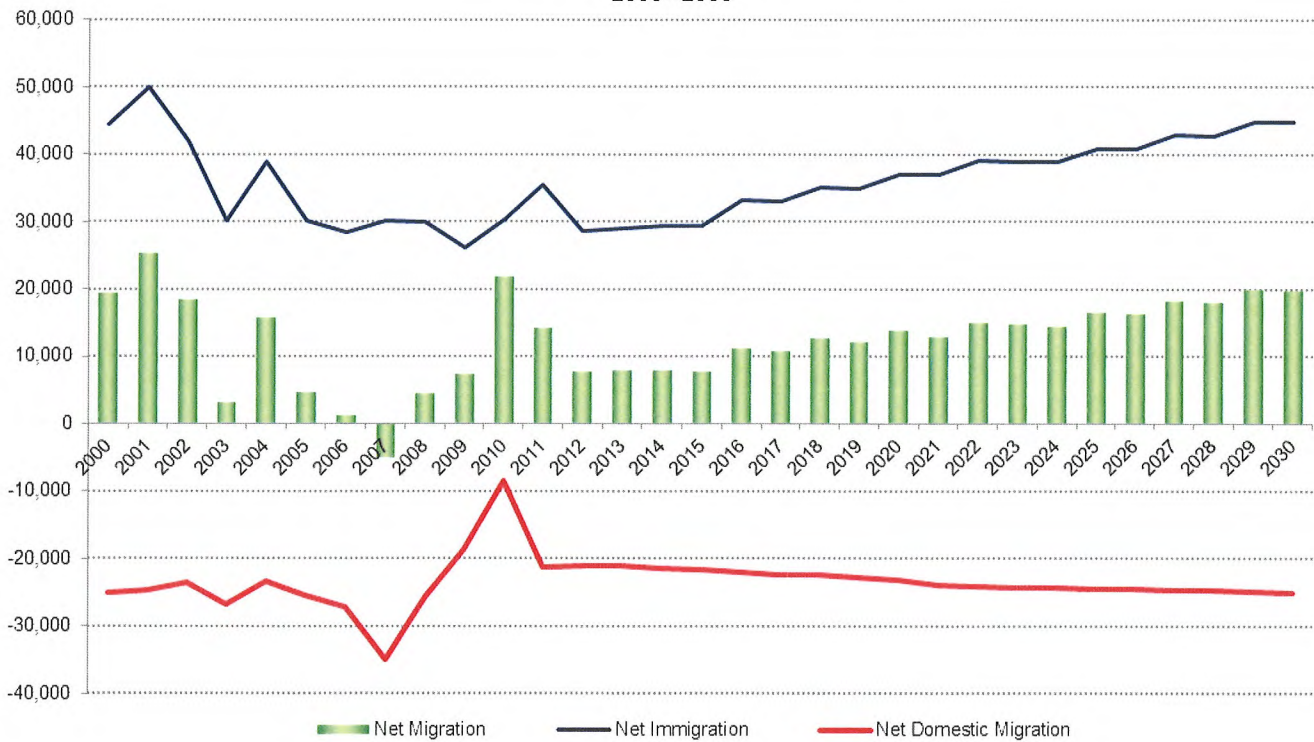


Figure 6
Net Migration
Miami-Dade County, Florida
2000 - 2030



Appendix

This appendix presents more details on the assumptions about future migration flows into and out of Miami-Dade County over the next 20 years. Migration is the factor that leads to variation in the population growth of the County. In particular, recorded trends in immigration have altered the projection for this population component.

While the future is of course unknown, migration flows here are more volatile and uncertain than in most areas of the United States. For this reason, the careful monitoring of the components of population change in the County is vital.

The first part of this Appendix deals with the Internal Revenue Service (IRS) data, which is the primary source of information about domestic migration flows. The second part focuses on international migration or immigration and is primarily a review of census estimates of immigration, since other data on immigration is not available at the County level.

IRS county to county data on personal exemptions on matched income tax returns was used to estimate migration flows. The Census Bureau has used an IRS-based rate of migration that is applied to the total population.

The key issue in using the IRS data as a rate is the question of who is covered and who is not. In the last year for which IRS non-mover data were readily available about 27 percent of the total resident population in Miami-Dade County were not covered. Using the IRS matched income tax returns to develop a rate of movement, assumes that the population not covered by tax returns moves in patterns similar to those who are covered. If a 73 percent coverage is assumed the IRS population data should seemingly be inflated to the total population by multiplying by 1.37 ($100/73=1.37$).

This assumption may not be correct in for the County. There is suggestive evidence that the non-covered population is different from those covered by income tax reports. The non-covered group includes those who are not required to file a return (members of low and very low income households) and those who do not report income at all. The latter include those with no social security number and those working for cash, a significant group in Miami's low skill service economy in which many undocumented aliens are able to find a job. This non-covered population is less likely to move out of the County at the same rate as those who are covered simply because they have fewer resources and may have difficulty finding comparable social and economic support in other communities. A similar non-covered population exists outside Miami-Dade County but it is a relatively smaller group and there are a smaller proportion of undocumented immigrants. Thus, the use of the IRS-based rate might be expected to overstate the net outflow.

Despite the apparent overstatement of migration flows, the IRS data closely follow the expected ups and downs of domestic migration flows and the detailed geographic origins and destinations of movers. For this reason, and the fact that alternative assumptions may also cause distortions to the data, the migration assumptions used in this projection series are based on unadjusted IRS data.

Immigration data until the American Community Survey was introduced in 2001 was not available on an annual basis. Although the Department of Homeland Security provides data on immigrants, both new arrivals and those adjusting their status, it is not available at the County level. Further, since there is no quantitative data on undocumented immigrants, they are not considered in the analysis as their magnitude is unknown. Beginning in 2001, the American Community Survey, 1 Year Estimates provided data on persons living abroad during the past year. The previous two decennial censuses (1990 and 2000) showed a rapid increase in immigration to Miami-Dade County from 24,000 a year in the late 1980s to 37,000 a year in the late 1990s. The more recent American Community Survey data indicates that immigration has basically been in line with the figures from the late 1980s. The new projection series was developed by using the annual figures on immigration from the American Community

Survey (ACS). In order to provide an estimate for emigration from the area (that must be subtracted from immigration to determine net immigration), the average of the estimate and the lower bound was used. The 2010 figure was adjusted to reflect the assumption of low net immigration for each of the years from 2010 to 2015. Over this period, the average annual net immigration figure was 30,000.

There are many reasons to project continued growth in the flow of immigrants to Miami-Dade County. The geographic location of the County is close to the most populated countries of the Caribbean and Latin America. The existing population of Miami-Dade that is more than 50 percent foreign born provides a degree of linguistic, ethnic, and familial comfort not found in other places. For these and other reasons it is likely that immigration will continue to constitute a large component of the total population increase in the County.

Finally, it should be noted that several adjustments to the data had to be made to anchor the series to the 2010 decennial population count.

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES

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ATTACHMENT "2"

Projected Residential Land Supply and Demand

Residential supply and demand analysis is done to determine the adequacy of the existing capacities to accommodate projected growth. It is based on the amount of developable vacant land and redevelopment projects and capacity. In terms of developable vacant land, the analysis determines how many housing units can be built on vacant land under existing land use and zoning regulations approved municipal plans, covenants, other legal restrictions and so forth. The capacity of vacant parcels is 100 percent of allowable capacity and then reduced by 20 percent to account for build-out limitations. For vacant and underutilized parcels, the maximum allowable density was applied and then the total units were reduced by 20 percent. In addition, there is a 3 percent reduction in capacity to account for the existence of all vacant parcels even in a built-out area.

Projects included on the Redevelopment List are large scale projects approved by County or municipal commissions with an unexpired permit. The capacity of these projects is reduced by 50 percent of approved capacity. In addition, projects under construction are counted at 100 percent of their capacity. The procedure to estimate redevelopment capacity was restricted only to residential parcels (excluding single-family type parcels) and parking lots without a structure. In addition, only those parcels inside the Urban Infill Area were analyzed. To qualify as a candidate for redevelopment a parcel had to satisfy the following requirements: (i) The building to land value ratio had to be 0.9 or lower (ii) The structure had to be built before 1970; and (iii) The ratio of allowable to existing density was at least 4.

Residential demand is assessed in terms of housing units that will be needed to accommodate projected population growth of the County over the planning horizon. Future population figures for the County as a whole are developed by using the component method. Using these countywide numbers, population is allocated to the County's 32 Minor Statistical Areas (MSAs) by extrapolating from historic trends and capacity. The population figures are converted into housing units by applying the persons per household ratio to determined residential demand. In order to adjust for the demand for second homes, a procedure to estimate the number of units used by non-residents for seasonal purposes was added. (The percent of units used for this purpose, by MSA, was derived from the 2000 Census. Also examined was the trend since 1980). In addition, a four percent vacancy factor was included in the calculation of residential demand to account for normal residential market turnover. Finally, a downward adjustment in residential demand was made to account for group quarters population.

It is worth noting that these are projections, not predictions, of future conditions. They are an indication of what will happen if the current assumptions, which are based on a thorough review of current trends in Miami-Dade County, hold. However, experience has shown that the Miami-Dade County housing market, like its population growth, is subject to abrupt and sizable changes so the future may be quite different from the projections. This is especially relevant for housing market during the latter half of the past decade, whose volatility led to very high foreclosure and vacancy rates.

Attachment 3. Domestic Migration Linear Extrapolation

Year	Net Migration	Population Projection	1st Difference	% Absolute Error
1995	-21489	-27909		29.88%
1996	-23554	-27200	-2065	15.48%
1997	-24237	-26492	-683	9.30%
1998	-23582	-25783	655	9.34%
1999	-25510	-25075	-1928	1.71%
2000	-25108	-24367	402	2.95%
2001	-24782	-23658	326	4.54%
2002	-23488	-22950	1294	2.29%
2003	-26870	-22241	-3382	17.23%
2004	-23281	-21533	3589	7.51%
2005	-25455	-20824	-2174	18.19%
2006	-27190	-20116	-1735	26.02%
2007	-35038	-19407	-7848	44.61%
2008	-25572	-18699	9466	26.88%
2009	-18666	-17990	6906	3.62%
2010	-8502	-17282	10164	103.27%
2011	4226	-16573	12728	492.17%
2012		-15865		
2013		-15156		
2014		-14448		
2015		-13739		
2016		-13031		
2017		-12322		
2018		-11614		
2019		-10905		
2020		-10197		
2021		-9488		
2022		-8780		
2023		-8071		
2024		-7363		
2025		-6654		
2026		-5946		
2027		-5237		
2028		-4529		
2029		-3820		
2030		-3112		
Y Int.	-1441342.012			
Slope	708.4877451			
MAPE	0.4794			
St Dev of 1st Diffs	5572			
Mean of 1st Diffs	1607			
CRV	3.47			

Year	Net Migration	Population Projection	1st Difference	% Absolute Error
2000	-25108	-30729		22.39%
2001	-24782	-29077	326	17.33%
2002	-23488	-27425	1294	16.76%
2003	-26870	-25773	-3382	4.08%
2004	-23281	-24122	3589	3.61%
2005	-25455	-22470	-2174	11.73%
2006	-27190	-20818	-1735	23.44%
2007	-35038	-19166	-7848	45.30%
2008	-25572	-17514	9466	31.51%
2009	-18666	-15862	6906	15.02%
2010	-8502	-14210	10164	67.14%
2011	4226	-12559	12728	397.17%
2012		-10907		
2013		-9255		
2014		-7603		
2015		-5951		
2016		-4299		
2017		-2647		
2018		-996		
2019		656		
2020		2308		
2021		3960		
2022		5612		
2023		7264		
2024		8916		
2025		10567		
2026		12219		
2027		13871		
2028		15523		
2029		17175		
2030		18827		
Y Int.	-3334449.344			
Slope	1651.86014			
MAPE	0.5462			
St Dev of 1st Diffs	6479			
Mean of 1st Diffs	2667			
CRV	2.43			

Year	Net Migration	Population Projection	1st Difference	% Absolute Error
2005	-25455	-22470		11.73%
2006	-27190	-20818	-1735	23.44%
2007	-35038	-19166	-7848	45.30%
2008	-25572	-17514	9466	31.51%
2009	-18666	-15862	6906	15.02%
2010	-8502	-14210	10164	67.14%
2011	4226	-12559	12728	397.17%
2012		-10907		
2013		-9255		
2014		-7603		
2015		-5951		
2016		-4299		
2017		-2647		
2018		-996		
2019		656		
2020		2308		
2021		3960		
2022		5612		
2023		7264		
2024		8916		
2025		10567		
2026		12219		
2027		13871		
2028		15523		
2029		17175		
2030		18827		
Y Int.	-10259611.29			
Slope	5099.678571			
MAPE	0.8447			
St Dev of 1st Diffs	8005			
Mean of 1st Diffs	4947			
CRV	1.62			

ATTACHMENT "4"

PROJECTED ABSORPTION OF COMMERCIAL LAND
MIAMI-DADE COUNTY, FLORIDA 2015 - 2030

Tier and Minor Statistical Area	Vacant Commercial Land 2015 (Acres)	Commercial Land in Use 2015 (Acres)	Avg Annual Absorption Rate 2015-2030 (Acres)	Projected Year of Depletion	Commercial Land per Thousand Persons	
					2020 (Acres)	2030 (Acres)
North Tier						
1.1	1.2	52.70	0.78	2017	2.2	1.9
2.1	132.5	1,058.40	3.56	2030+	6.5	6.1
2.2	20.4	249.20	1.19	2030+	4.7	4.4
2.3	67.6	300.90	3.35	2030+	4.2	3.9
2.4	70.7	453.70	0.65	2030+	6.3	6.0
3.1	<u>218.5</u>	<u>948.10</u>	<u>13.01</u>	<u>2030+</u>	<u>4.9</u>	<u>4.6</u>
Total	510.9	3,063.00	22.53	2030+	5.3	5.0
North Central Tier						
1.3	3.4	214.10	1.58	2017	1.8	1.7
3.2	307.8	1,520.90	14.69	2030+	10.8	9.3
4.1	42.6	347.60	1.02	2030+	4.3	4.0
4.2	40.5	428.30	1.09	2030+	5.5	5.2
4.3	13.5	683.90	0.36	2030+	5.9	5.9
4.4	3.8	62.50	0.07	2030+	4.0	3.9
4.5	29.6	211.30	0.95	2030+	--	--
4.6	23.8	286.00	1.20	2030+	5.7	5.2
4.7	49.0	235.20	5.16	2025	3.9	2.8
5.1	<u>8.5</u>	<u>480.10</u>	<u>1.77</u>	<u>2020</u>	<u>3.5</u>	<u>3.3</u>
Total	522.5	4,469.90	27.89	2030+	5.8	5.2
South-Central Tier						
1.2	0.0	77.50	0.08	2015	6.1	6.0
5.2	4.6	217.70	2.05	2017	2.8	2.5
5.3	27.8	586.20	1.15	2030+	4.6	4.4
5.4	5.2	566.40	1.28	2019	5.6	5.5
5.5	2.5	577.60	1.10	2017	7.0	6.7
5.6	4.7	225.60	0.24	2030+	6.9	6.7
5.7	8.2	258.90	0.29	2030+	10.4	10.2
5.8	20.4	95.10	1.32	2030+	3.0	2.8
6.1	33.8	530.00	7.15	2020	2.9	2.8
6.2	<u>218.3</u>	<u>547.60</u>	<u>11.69</u>	<u>2030+</u>	<u>4.8</u>	<u>4.4</u>
Total	325.5	3,682.60	26.35	2027	4.7	4.4
South Tier						
7.1	92.8	312.70	2.92	2030+	5.5	4.5
7.2	65.9	210.90	5.64	2027	4.4	3.4
7.3	199.4	198.20	1.32	2030+	9.1	7.8
7.4	243.5	388.50	11.83	2030+	6.2	4.6
7.5	360.7	186.50	7.17	2030+	13.3	9.4
7.6	<u>0.0</u>	<u>4.70</u>	<u>0.56</u>	<u>2015</u>	<u>0.6</u>	<u>0.5</u>
Total	962.3	1,301.50	29.44	2030+	6.8	5.3
Grand Total	2,321.2	12,517.0	106.2	2030+	5.4	4.9

-- Insignificant population.

Source: Miami-Dade County, Department of Regulatory and Economic Resources, Planning Division,
Research Section, February 2015.

ATTACHMENT "5"

PROJECTED ABSORPTION OF INDUSTRIAL LAND MIAMI- DADE COUNTY, FLORIDA 2015 - 2030

Tier and Minor Statistical Area	Vacant Industrial Land 2015 (Acres)	Industrial Land in Use 2015 (Acres)	Avg Annual Absorption Rate 2015-2030 (Acres)	Projected Year of Depletion
<u>North Tier</u>				
1.1	0.00	0.00	0.00	--
2.1	0.00	317.90	0.00	--
2.2	10.20	149.30	0.00	--
2.3	99.20	41.40	0.00	--
2.4	214.10	1637.80	16.51	2028
3.1	<u>1,465.70</u>	<u>895.30</u>	<u>12.88</u>	2030+
Total	1,789.20	3,041.70	29.39	2030+
<u>North Central Tier</u>				
1.3	0.40	8.60	0.07	2021
3.2	1,573.10	5693.40	103.53	2030+
4.1	3.10	162.80	0.09	2030+
4.2	35.50	758.30	2.90	2027
4.3	3.70	509.60	0.00	--
4.4	0.00	5.60	0.06	2015
4.5	30.90	108.60	0.00	--
4.6	21.00	309.40	2.85	2022
4.7	15.40	146.20	0.00	--
5.1	<u>7.40</u>	<u>44.40</u>	<u>0.00</u>	--
Total	1,690.50	7,746.90	109.50	2030+
<u>South-Central Tier</u>				
1.2	0.00	0.00	0.00	--
5.2	0.00	5.10	0.00	--
5.3	12.00	55.80	0.00	--
5.4	0.50	160.30	0.00	--
5.5	0.00	87.80	1.41	2015
5.6	0.60	13.30	0.10	2021
5.7	0.00	2.10	0.17	2015
5.8	0.00	13.40	0.00	--
6.1	0.00	12.20	0.45	2015
6.2	<u>133.30</u>	<u>627.00</u>	<u>22.70</u>	2021
Total	146.40	977.00	24.83	2021
<u>South Tier</u>				
7.1	0.00	22.40	0.00	--
7.2	41.50	280.30	4.41	2024
7.3	32.60	147.50	3.20	2025
7.4	130.90	27.10	0.00	--
7.5	278.70	89.00	0.48	2030+
7.6	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	--
Total	483.70	566.30	8.09	2030+
Grand Total	4,109.80	12,331.90	171.81	2030+

-- Insignificant Demand

Source: Miami-Dade County, Department of Regulatory and Economic Resources,
Planning Division, Research Section, February 2015.