

BROWARD COUNTY COMMERCIAL LINKAGE FEE NEXUS STUDY

2019

Prepared for
Broward County
Board of County Commissioners





The **Metropolitan Center at Florida International University (FIU)** is the leading urban “think tank” in South Florida established in 1997 as an applied research unit within the Stephen J. Green the School of International and Public Affairs (SIPA). The Center frequently partners with government agencies, private firms, and non-profit organizations to build avenues for positive growth. The FIU Metropolitan Center brings an established applied research capacity to local government planning efforts utilizing cutting-edge research and quantitative data analysis tools and techniques. Our highly qualified staff ensures the timely and reliable delivery of the proposed services. The Metropolitan Center provides on-going support to its municipal clients above and beyond the negotiated scope of services. Our research has served as catalyst for major policy changes and projects in the area of housing, transportation, social and health services, quality improvement and organizational development.

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EXECUTIVE SUMMARY

The 2019 *Broward County Commercial Linkage Fee Nexus Study* prepared on behalf of the Board of County Commissioners, Broward County, Florida by the Florida International University (FIU) Metropolitan Center provides an update to the 2014 *Broward County Housing Linkage Fee Nexus Study* (Commercial/Non-Residential Uses). The study update focuses on the “Microeconomic Jobs Housing Analysis” and “Total Housing Nexus Costs” sections of the 2007 study. The purpose of this study is to determine whether there exists a reasonable connection (linkage) between the construction of new workplace buildings of 100,000+ square feet in Broward County and the demand for affordable housing by the new employees who work within these buildings. The nexus analysis is a calculation of the potential number of housing units by affordability level associated with the new workers expected in each new commercial building type. The nexus cost is the amount required to mitigate the affordability gap for worker housing units at each household income affordability level. The affordable housing linkage fee that is considered as a result of the nexus analysis is designed to mitigate the development’s impact on the local housing market by providing a funding source for affordable worker housing.

For the 2019 study update, the FIU Metropolitan Center developed a sample of each of the seven (7) workplace building prototypes in Broward County using a combination of State of Florida Quarterly Census of Employment and Wages and Broward County Property Appraisal data. The Metropolitan Center calculated employment density and the estimated number of new households by income category that would be created by the development of each of the workplace building prototypes. With the property appraisal data, the FIU Metropolitan Center developed a property inventory that distinguished commercial buildings greater than 100,000 square feet by the seven (7) workplace building categories. The analysis also included a calculation of the commercial buildings by age of construction, square foot range and median square feet. The FIU Metropolitan Center used this data to determine a prototype to be used in the employment density calculations. This step in the process determined Broward County’s total employment base by worker occupations. Classification of worker occupations allowed for subsequent calculations to determine wages and employment densities within each workplace building prototype.

The following are the key findings from the study:

1. Broward County Employment Growth

According to Florida Department of Economic Opportunity (DEO), Broward County’s total non-agricultural employment is projected to increase by 89,969

jobs during the next eight years (11,246 jobs annually). The top occupations projected to gain the “most new jobs” include Food Preparation & Serving workers (3,906 jobs), Customer Service Representatives (3,017 jobs), Registered Nurses (2,699 jobs), Retail Salespersons (2,682 jobs) and Janitors & Cleaners workers (1,952 jobs). Significantly, the majority of projected job growth in the coming years will be in lower wage, service sector occupations, with annual incomes that fall within the “Low” and “Moderate” household income categories.

Broward County’s workforce is primarily employed in Office and Administrative Support and Retail Sales occupations. These two major occupation groups represent just over a third of the workforce, with Office and Administrative Support occupations accounting for nearly one quarter of all workforce employment. Most of Broward County’s leading occupations earn less than \$27,448 annually, which calculates as less than 50 percent of the median household income.

2. Housing Market

According to the MIAMI Association of Realtors’ December 2018 sales report, the median sales price of existing single-family homes in Broward County is \$350,000 and \$160,000 for townhouses and condos. Rental housing prices in Broward County have been commensurate with rapidly escalating home sale prices. Broward County’s rental market continues to have significant demand issues which have impacted vacancy rates, absorption levels and rent prices. As of November 2018, the overall average rent in Broward County was \$1,843, which represents an 8.0 percent year-over-year increase. The average rent for a two bedroom apartment was \$1,902 (Reinhold P. Wolff, Economic Research, 4Q 2018 Report for Broward County).

3. Housing Affordability

Affordability calculations based on the price of an existing single-family home in Broward County found extreme gaps for all households earning less than 150 percent of the County’s median household income (\$54,895). Significant affordability gaps also exist for existing condominiums for households earning less than 80 percent of the median household income. An affordability gap analysis of market rate rental units indicates substantial gaps for “very low” (\$1,157), “low” (\$745), “moderate” (\$471), and “workforce” (\$196) income households.

4. New Household Demand by Large-scale Commercial Development

An estimate of new households by income category generated by the creation of each of the seven (7) workplace prototypes found most (80 percent) new household demand would be in the “very low” and “low” household income categories. The highest estimate for “moderate” income household demand is found in warehouse buildings (142 households) and the highest estimate for “middle” income household demand found in medical and educational buildings (52 households). Total new household demand is highest in warehouse (523 households) and hotel & accommodations buildings (415 households).

5. Housing Development Costs

Development pro forma prepared for affordable owner and renter new construction found substantial affordability gaps at all levels of household income. Substantial affordability gaps exist for “moderate” to “middle” household income categories for homeownership construction scenarios and for “very low” and “low” income rental housing construction scenarios. Affordability gaps range from \$44,527 per unit at the “middle” household income price point to \$170,179 per unit at the “moderate” household income price point for homeownership. Rent affordability gaps per unit range from \$159,628 at the “low” renter household income affordability level to \$244,812 at the “very low” renter household income affordability level.

6. Total Nexus Costs

Total nexus costs are derived from a calculation of the total number of new worker households by income category estimated to be generated by each of the seven (7) workplace building prototypes, the affordability gap and square footage of the buildings. Total nexus cost calculations per square foot found the highest costs per square foot in “low” and very low” household income categories. Total nexus cost per square foot are highest for warehouse (\$728 per sf) and hotel and accommodations (\$547 per sf) buildings.

CHAPTER 1: INTRODUCTION

Background

The following study provides an update of the 2014 *Broward County Housing Linkage Fee Nexus Study* prepared on behalf of the Broward County, Florida by the Florida International University (FIU) Metropolitan Center. The study update focuses on the “Microeconomic Jobs Housing Analysis” and “Total Housing Nexus Costs” chapters of the 2014 study. The purpose of this study is to determine whether there exists a reasonable connection (linkage) between the construction of new workplace buildings of 100,000+ square feet in Broward County and the demand for affordable housing by the employees that will work within these buildings.

The Microeconomic Jobs Housing Analysis determines the relationship or linkage between new workplace buildings and the estimated number of worker households by income category that will be employed in these buildings. The step-by-step analysis is based on anticipated economic and employment growth in Broward County and the demand for affordable housing by workers expected to benefit as a result of job opportunities in these new development projects. The subsequent Total Housing Nexus Costs chapter combines the previous economic and housing analysis to calculate the unit cost or total nexus cost of producing various housing types at an affordable price level according to category of household income.

Methodology

The methodology for this analysis has been utilized by governments in other parts of the country to determine the relationship between new non-residential development and the demand for affordable housing. The methodology is a micro-level analysis customized to the local market conditions. It calls for the study of prototypical 100,000+ sq. ft. commercial building types as the basis for a series of calculations aimed at quantifying the affordability nexus and establishing a basis by which to arrive at a fee amount. The basic steps of the nexus analysis are as follows:

- Determine 100,000+ sq. ft. building prototypes
- Estimate number of new employees as a result of the 100,000+ sq. ft. prototypes based on industry-specific average employee density figures
- Estimate wages based on occupation and income information for expected job types in the 100,000+ sq. ft. building prototypes by industry
- Calculate the number of households related to the estimated number of new employees by jobs at each income level and by building type

- Divide number of households by 100,000+ sq. ft. to establish a coefficient of housing unit per square foot of building area by building type
- Multiply the coefficient of housing units per sq. ft. by the costs of delivering housing units affordable to various income groups to arrive at the nexus

The analysis links new non-residential buildings of various types with new and existing workers residing within Broward County. It is reasonable to expect a substantial percentage of these new workers will take up residence in Broward County and as a result will create added demand for affordable housing. Given the wide range of wages associated with all industries a proportion of this demand will be for affordable housing for lower and middle-income households. Specifically, the nexus analysis focuses on the following household income categories:

- Very Low Income (under 50% median income)
- Low Income (51%-80% median income)
- Moderate Income (81%-100% median income)
- Workforce Income (101%-120% median income)
- Middle Income (121%-150% median income)

The analysis conducted by the FIU Metropolitan Center quantifies the potential demand at each affordability level for each type of workplace building. Workplace buildings vary in employee composition. This is largely due to industry specific differences as well as variations in the density of job types within these industries, both of which are also tied to wage structure. This analysis examines seven types of workplace building types:

- | | |
|--|----------------------------|
| • Office | • Manufacturing/Industrial |
| • Retail/Wholesale | • Warehousing |
| • Institutional
(Medical/Educational) | • Hotel (Hospitality) |
| | • Entertainment |

The outcome of the nexus analysis is a calculation of the potential number of housing units by affordability level associated with the new workers expected in each new non-residential building type. The nexus cost is the amount required to mitigate the affordability gap for worker housing units at each affordability level. The linkage fee that is considered as a result of the nexus analysis is designed to mitigate the development's impact on the local housing market by charging a fee to help provide housing opportunities for eligible households.

For the purposes of the 2019 study update, the FIU Metropolitan Center developed a sample of each of the seven (7) workplace building prototypes in Broward County using a combination of Quarterly Census of Employment and Wages (QCEW) and Broward County Property Appraisal data. The Metropolitan Center calculated employment

density and the number of new households by income category that would be created by the development of each of the workplace building prototypes.

The first step in updating the “Microeconomic Jobs Housing Analysis” was a twofold process including: 1) the extraction of commercial property appraisal data from the Broward County Property Appraiser’s Office, and 2) updating population, housing and employment data. With the property appraisal data, the FIU Metropolitan Center developed a property inventory that distinguished commercial buildings greater than 100,000 square feet by the seven (7) workplace building categories. The analysis also included a calculation of the commercial buildings by age of construction, square foot range and median square feet. The FIU Metropolitan Center used this data to determine a prototype to be used in the employment density calculations.

Table 1.1: Broward County Commercial Building Characteristics (100,000 + Sq. Ft.)

Type	Number	Year Built Range	Median Age	Sq. Ft. Range	Median Sq. Ft.
Office	122	1965 - 2017	1989	100,080 - 796,660	142,564
Retail/ Wholesale	287	1954 - 2018	1999	100,255 - 1,169,580	132,070
Institutional (Medical/ Educational)	138	1927 - 2018	1987	100,088 - 4,407,100	163,431
Manufacturing/ Industrial	20	1954 - 2004	1988	100,755 - 415,214	135,854
Warehousing	247	1970 - 2018	1999	100,255 - 1,169,580	132,070
Hotel (Hospitality)	46	1936 - 2014	1986	100,000 - 926,033	184,090
Entertainment	10	1963 - 2005	1992	101,812 - 278,124	135,538
	870				

Source: Broward County Property Appraiser, 2018

The next step in the process was to determine Broward County’s total employment base by worker occupations. Classification of worker occupations allowed for subsequent calculations to determine wages and employment densities within each workplace building prototype.

The Quarterly Census of Employment and Wages (QCEW) program publishes a quarterly count of employment and wages reported by employers covering more than 95 percent of U.S. jobs available at the county, Metropolitan Statistical Area (MSA), state and national levels by detailed industry. The QCEW program provides important occupational employment and wage data that provides a clearer understanding of individual and household income in Broward County and the larger South Florida economy. The 2018 QCEW database contains the following points:

- Business name
- Business address

- Business classification (North American Industry Classification System (NAICS) code and description)
- Ownership type – private, federal, state, local
- Number of Employees
- Total Wages
- Taxable Wages

The final step in the process combines the previous economic and housing analysis to calculate the unit cost or total nexus cost of producing various housing types at an affordable price level according to category of household income. This step of the nexus analysis combines the estimated numbers of new worker households for each household income category associated with the (7) seven workplace building prototypes with a housing affordability analysis based on specific housing development scenarios. The housing development pro forma computations are based on actual unit production costs in Broward County including prevailing land and construction costs for residential development types.

CHAPTER 2: MICROECONOMIC JOBS HOUSING ANALYSIS

Introduction

In this chapter, a micro economic jobs housing analysis is performed to establish the relationship or linkage between new workplace buildings and the estimated number of worker households by income category, which will be employed in these buildings. This systematic analysis is based on anticipated economic and employment growth in Broward County, and the demand for affordable housing by workers expected to reside in the County because of this growth. As previously discussed, the analysis quantifies housing demand by specific household income categories for 100,000+ square foot workplace building prototypes. This analysis is based on the following seven building types or land uses:

- Office
- Retail/Wholesale
- Institutional
(Medical/Educational)
- Manufacturing/Industrial
- Warehousing
- Hotel (Hospitality)
- Entertainment

Jobs Housing Analysis Methodology

The micro economic jobs housing analysis that follows provides the basis for calculating the number of households by income level that will be required as a result of future non-residential development in Broward County based on the 100,000+ square foot workplace building prototypes outlined above. The analysis is a 6-step methodology outlined below:

1. Employment densities associated with each workplace building prototype are calculated;
2. The occupational mix associated with each workplace building prototype is calculated;
3. The income levels associated with the occupational categories for each building prototype are calculated;
4. The occupational distribution by workplace building prototype is determined by using the building density data from Step 1 and occupational mix data from Step 2;
5. Data from Step 4 along with the income level calculations from Step 3 are combined to determine the level of demand for workforce housing as a result of new non-residential development in Broward County; and
6. The final step combines the previous data to determine the number of new households by income level categories as a result of the construction of the seven (7) workplace building prototypes.

Step 1: Determination of Employment Density

In this first step, the employment density associated with each workplace building prototype is calculated. Employment density is defined as the amount of space employees need to perform their industry-specific duties within a workplace building. For the purposes of this study, employment density is calculated based on average employee density figures using 100,000+ square foot building prototypes. The FIU Metropolitan Center calculated densities for Broward County by analyzing the businesses located at commercial properties over 100,000 square feet (Table 2.1). The number of workers employed in the workplace buildings varies according to building type and industry-specific activities. In considering the square footage of a building, the common areas, lobbies, hallways, restrooms and garage space were included.

Employment density was determined by dividing the adjusted building square footage (Adj. Bldg. S.F.) of a building by the number of employees.¹ Despite extensive efforts to quantify the number of “indirect employees”, those who perform duties under contract and are “associated” with a typical workplace building or with the building grounds, e.g. janitors, landscape maintenance workers, adequate or reliable data sources could not be located and are not included in this analysis. The wage structure for the types of employees who are identified as indirect workers would place them at the lower income housing tiers, and accordingly, the true impact of non-residential development on housing demand is potentially understated.

Table 2.1: Estimated Employment Densities by Workforce Building Prototype

Building Type	Square Foot per Employee
Institutional	456
Entertainment	497
Hotel	938
Manufacturing / Industrial	606
Office	286
Retail	607
Warehouse/Storage	1,194

Source: FIU – Metropolitan Center, 2014; Broward County Property Appraiser, 2018; State of Florida Quarterly Census of Employment and Wages (Q3 2018)

¹ Adjusted square feet are measured from the outside walls of the building, and include garages, open patios, covered entries, second floors, carports, and so forth. These parts of a building are calculated using a fraction of their actual square feet to determine the adjusted square feet. (Broward County Property Appraiser, 2019, <http://www.bcpa.net/FrequentlyAskedQuestions.asp>)

Step 2: Determination of Occupational Mix

In this next step, the occupational mix associated with each workplace building prototype is determined. In order to make this determination, the workforce employed in the industries associated with the seven building prototypes is distributed into occupation groups commonly found within industry sub-sectors, based on Florida Department of Employment Opportunity (Florida DEO) calculations. The workforce in any given industry is generally composed of workers performing a variety of tasks associated with many different occupations such as managers, clerical staff and sales persons. For the purposes of this study these numerous occupations are collapsed into 22 occupational groups. Persons in these occupational groups are employed in specific occupations related to the workplace building types considered in this study. Although transportation-related occupations often demand that employees spend much of their time in the field, drivers of various types are included in this analysis because of their relationship to warehouse/storage building types. Below are examples of specific occupations within the 22 selected occupation groups:

1. Management – executives, general and operations managers, food service managers, financial managers, medical and health services managers;
2. Business and Financial Operations – purchasing agents, claims adjusters, appraisers, management analysts, and financial analysts;
3. Computer and Mathematical – computer systems analysts, computer programmers, software developers, web developers, database administrators;
4. Architecture and Engineering – architects, aerospace, civil, mechanical and electrical engineers;
5. Life, Physical, and Social Science – animal scientists, food scientists and technologists, biological scientists, chemical technicians;
6. Community and Social Services – educational and guidance counselors, healthcare social workers, mental health and substance abuse social workers;
7. Legal – lawyers, judges, paralegal and legal assistants, court supporters;
8. Educational – teachers, instructors, librarians;
9. Arts, Entertainment, Sports, and Media – artists, designers, actors, athletes, coaches, musicians, radio and television workers, media and communication workers;

10. Healthcare Practitioners and Technical – dentists, chiropractors, physicians and surgeons, registered nurses;
11. Healthcare Support – clinical laboratory technologists, dental hygienists, emergency medical technicians;
12. Protective Service – police officers, parking enforcement workers, security guards, recreational protective service workers;
13. Food Preparation and Serving – cooks, bartenders, waiters;
14. Building and Grounds – janitors, maids and housekeeping cleaners, pest control workers, landscape grounds maintenance workers;
15. Personal Care and Service – fitness trainers, recreational workers, hairstylist and cosmetologists;
16. Sales – cashiers, rental clerks, salespersons, travel agents, telemarketers;
17. Office and Administrative Support – billing, bookkeeping and file clerks, hotel desk clerks, telephone operators, customer service representatives, secretaries;
18. Farming, Fishing and Forestry – agricultural operators, animal breeders;
19. Construction and Extraction – operating engineers, carpenters, roofers;
20. Installation, Maintenance, and Repair – mechanics, equipment installers, service technicians;
21. Production – systems assemblers, fabricators, food packers, furniture finishers; and
22. Transportation and Material Moving – bus, truck, and taxi drivers, parking lot attendants, truck and ship loaders.

Broward County’s workforce is primarily employed in Office and Administrative Support and Retail Sales occupations (Table 2.2). These two major occupation groups represent just over a third of the workforce, with Office and Administrative Support occupations accounting for nearly one quarter of all workforce employment. The Florida DEO reports employment distributions for the 22 industry sectors shown in Table 2.3. The percentages shown in the table represent the distribution of the major occupational categories within each building prototype. For example, within an office building, 26% of the workers are categorized as being within “office and administrative support occupations” whereas 3% are categorized as “computer and mathematical science” occupations.

Table 2.2: Proportion of Workforce by Selected Occupational Group, 2013 and 2017

OCCUPATIONAL GROUPS	2013	2017
Management	4.3%	4.2%
Business/ Financial Operations	6.0%	5.6%
Computer and Mathematical	2.6%	2.6%
Architecture and Engineering	0.7%	0.9%
Life, Physical and Social Science	0.2%	0.4%
Community and Social Services	1.2%	1.3%
Legal	1.6%	1.3%
Education, Training and Library	5.6%	4.7%
Arts, Design, Entertainment, Sports, and Media	1.0%	1.2%
Healthcare Practitioners and Techs	6.7%	5.8%
Healthcare Support	3.0%	2.6%
Protective Service	3.8%	2.9%
Food Preparation and Serving	7.6%	9.6%
Building and Grounds Maintenance	4.2%	3.4%
Personal Care and Service	1.7%	2.7%
Sales	13.6%	14.4%
Office and Administrative Support	19.7%	18.1%
Farming, Fishing and Forestry	0.1%	0.0%
Construction and Extraction	2.5%	4.2%
Installation, Maintenance and Repair	3.9%	4.6%
Production	3.6%	3.2%
Transportation and Material Moving	6.6%	6.1%

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

Table 2.3: Percentage of Employees in Industry by Occupation Group 2017

Industry by Occupation	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Management	5%	3%	2%	4%	3%	2%	3%
Business/ Financial Operations	4%	3%	0%	3%	3%	2%	6%
Computer and Mathematical	2%	1%	0%	0%	1%	0%	3%
Architecture and Engineering	5%	0%	0%	0%	0%	0%	0%
Life/ Physical/ Social Science	1%	0%	0%	0%	1%	0%	0%
Community/ Social Services	0%	0%	0%	0%	5%	0%	0%
Legal	0%	0%	0%	0%	0%	0%	0%
Education	0%	0%	0%	1%	23%	0%	0%
Arts/Entertainment/ Sports/ Media	1%	1%	0%	4%	1%	1%	1%
Healthcare Practitioners and Technical	0%	3%	0%	0%	24%	0%	1%
Healthcare Support	0%	0%	0%	0%	12%	0%	1%
Protective Service	0%	0%	1%	4%	1%	0%	11%
Food Preparation and Serving	0%	2%	79%	15%	3%	0%	0%
Building/ Grounds	0%	0%	4%	9%	2%	0%	18%
Personal Care and Service	0%	0%	1%	29%	4%	0%	2%
Sales	4%	48%	5%	12%	1%	2%	15%
Office / Admin Support	13%	21%	4%	11%	14%	26%	26%
Farming, Fishing and Forestry	0%	0%	0%	0%	0%	0%	0%
Construction and Extraction	2%	0%	0%	1%	0%	0%	2%
Installation/ Maintenance	4%	5%	1%	4%	2%	11%	2%
Production	52%	3%	0%	1%	0%	1%	1%
Transportation and Material Moving	6%	9%	2%	2%	1%	54%	5%
Totals	100%	100%	100%	100%	100%	100%	100%

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

Step 3: Determination of Income Levels by Occupation

In this step, income levels by occupation are determined for each of the 22 occupation groups utilized in this analysis. Tables 2.4 and 2.5 below provide data on the reported wage and salary income of persons in the selected occupational groups. Management, Computer and Mathematical, Architecture and Engineering, Legal, Business and Financial Operations occupations report higher incomes than all other occupational groups. Transportation and Material Moving, Sales, Personal Care and Service, Building and Grounds, and Food Preparation and Serving occupations report lower incomes than the other occupation groups. Income from 2013 is presented to show income change among the occupational groups.

Occupational groups are created based primarily on similarity of work. This similarity, however, does not necessarily equate to a similarity in income within each occupational group. For example, both surgeons and nutritionists are placed within the Healthcare Practitioners and Technical Support occupational group though nutritionists earn substantially less than surgeons do. For this reason, the calculations in this step of the analysis utilize median rather than mean income figures, as they are less susceptible to extremely high or low values, thereby avoiding data skews in either direction.

The estimated number of employees, as described by occupational group proportions and income levels, relates Broward County's workforce to the construction of building types by occupation and income. New buildings draw a mix of new employees to Broward County. These new employees must find housing for themselves and their families with the income they earn. To address the increase of new employees created by the construction of workplace buildings, this step of the study highlights the relationship between employees and their salaries in the seven building prototypes. The micro-economic level analysis below combines occupation and income data with density figures presented in Table 2.1 of this chapter.

Table 2.4 shows the median earnings by occupational category. Management occupations overall have the highest median salary of \$103,182. The lowest annual wage is for food preparation and serving occupations.

Table 2.4: Reported Workforce Median Wage by Occupational Group, 2013 and 2017

Occupational Groups	2013	2017
Management	\$92,455	\$103,182
Business/ Financial Operations	\$56,458	\$63,008
Computer and Mathematical	\$66,649	\$72,622
Architecture and Engineering	\$59,910	\$65,279
Life/ Physical/ Social Science	\$50,187	\$54,685
Community/ Social Services	\$35,502	\$38,684
Legal	\$59,515	\$64,849
Education	\$43,084	\$46,945
Arts/Entertainment/ Sports/ Media	\$40,826	\$44,486
Healthcare Practitioners and Technical	\$57,507	\$62,661
Healthcare Support	\$26,941	\$30,289
Protective Service	\$35,549	\$39,967
Food Preparation and Serving	\$18,804	\$21,140
Building/ Grounds	\$21,536	\$24,212
Personal Care and Service	\$21,689	\$24,384
Sales	\$25,329	\$27,993
Office / Admin Support	\$30,244	\$33,871
Farming, Fishing and Forestry	\$29,619	\$32,768
Construction and Extraction	\$35,208	\$38,951
Installation/ Maintenance	\$37,760	\$41,435
Production	\$28,020	\$31,390
Transportation and Material Moving	\$26,009	\$29,640

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

However, salaries vary not only by occupation but also by industry sector. Industry-specific occupational employment and wage estimates for sectors were obtained from the Florida Department of Economic Opportunity and are shown in Table 2.5. The building prototypes were used to estimate occupational wages by sector. Since not all occupations are represented in all sectors, some of the fields show no wage data. For example, the table shows that management occupations are present in all sectors, with wages ranging from \$122,993 in the manufacturing sector to \$61,466 in the hotel and accommodation sector.

Table 2.5: Median Wage of Occupation Group by Industry 2017

Industry by Occupation	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Management	\$122,993	\$117,220	\$61,466	\$94,095	\$116,461	\$107,969	\$118,322
Business/ Financial Operations	\$60,460	\$62,829	\$54,658	\$55,499	\$59,633	\$65,823	\$64,644
Computer and Mathematical	\$74,589	\$56,902	-	\$70,912	\$66,581	\$74,540	\$71,705
Architecture and Engineering	\$61,743	\$72,105	-	-	\$70,358	\$50,238	\$68,088
Life/ Physical/ Social Science	\$54,629	\$57,878	-	-	\$51,012	-	\$31,565
Community/ Social Services	-	-	-	-	\$53,299	-	\$39,286
Legal	-	\$103,608	-	\$80,921	\$107,941	-	\$37,957
Education	-	-	-	\$38,474	\$37,163	-	\$25,174
Arts/Entertainment/ Sports/ Media	\$44,633	\$37,289	\$40,336	\$43,572	\$52,009	\$19,341	\$38,290
Healthcare Practitioners and Technical	\$69,492	\$52,193	-	\$76,430	\$66,379	\$32,033	\$50,782
Healthcare Support	-	\$27,317	\$68,691	\$42,454	\$29,792	-	\$35,269
Protective Service	-	\$29,034	\$27,213	\$29,616	\$30,856	\$25,913	\$24,434
Food Preparation and Serving	\$20,707	\$25,327	\$20,780	\$22,907	\$24,191	-	\$25,100
Building/ Grounds	\$24,445	\$23,553	\$22,232	\$24,396	\$27,708	\$58,050	\$23,808
Personal Care and Service	\$0	\$23,485	\$24,918	\$24,815	\$23,099	-	\$19,295
Sales	\$61,785	\$36,731	\$19,642	\$28,290	\$52,576	\$55,434	\$27,576
Office / Admin Support	\$35,156	\$31,084	\$25,152	\$28,569	\$34,589	\$45,747	\$30,896
Farming, Fishing and Forestry	-	-	-	-	-	-	-
Construction and Extraction	\$34,367	\$42,686	\$38,600	\$41,866	\$53,031	\$28,894	\$34,290
Installation/ Maintenance	\$48,655	\$39,700	-	\$35,151	\$41,321	\$52,151	\$39,051
Production	\$31,959	\$32,429	\$23,345	\$49,616	\$42,784	\$41,047	\$25,934
Transportation and Material Moving	\$29,566	\$27,300	\$19,768	\$30,350	\$30,978	\$40,634	\$23,224

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

Step 4: Calculation of Occupation Distribution by Building Prototype

In this step, the occupation distribution within each workplace building prototype is determined according to the workplace building density figures provided by the analysis in Step 1 and the occupational mix proportion data provided in the Step 2 analysis. The occupational mix of employees working in specified industries is also applied. For example, a 100,000+ square foot building serving the activities of the entertainment industry is expected to employ approximately 14 new workers in Management occupations. These estimates are calculated for each occupational group within each workplace building prototype.

The employees working in each of the seven building types reside in Broward County and neighboring counties to the north and south. As previously noted, approximately 77 percent of Broward County’s workforce lives within the County, slightly lower than the 78 percent in 2013. The number of workers presented in Table 2.6 for each building type is reduced by 23 percent to reflect the proportion of new employees expected to reside in Broward County.

Table 2.6: Occupation Types by Workforce Building Prototype

Industry by Occupation	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Management	24	12	13	14	10	21	7
Business/ Financial Operations	18	15	3	11	11	19	13
Computer and Mathematical	8	5	0	2	5	2	6
Architecture and Engineering	24	1	0	0	0	3	0
Life/ Physical/ Social Science	4	0	0	0	2	0	0
Community/ Social Services	0	0	0	0	17	0	0
Legal	0	0	0	0	0	0	1
Education	0	0	0	3	81	0	0
Arts/Entertainment/Sports/Media	5	4	0	15	2	7	3
Healthcare Practitioners and Technical	0	12	0	1	84	0	2
Healthcare Support	0	1	1	0	41	0	3
Protective Service	0	1	5	15	2	3	24
Food Preparation and Serving	2	10	571	59	10	0	1
Building/ Grounds	2	2	32	35	7	4	41
Personal Care and Service	0	1	8	112	16	0	4
Sales	17	224	37	46	3	16	32
Office / Admin Support	62	98	27	41	51	242	58
Farming, Fishing and Forestry	0	0	0	0	0	0	0
Construction and Extraction	10	0	0	3	1	0	5
Installation/ Maintenance	17	25	8	15	5	101	5
Production	242	14	3	4	0	5	3
Transportation and Material Moving	30	42	14	8	5	498	12
Total New Workers	467	467	722	383	351	919	220

Source: 2018 Florida DEO, Current Employment Statistics; Metropolitan Center, 2019; Broward County Property Appraiser, 2018

Step 5: Determination of Housing Demand

In this step, data from the previous two calculations are combined to determine the level of need (demand) for workforce housing because of new non-residential development in Broward County.

The local demand for housing in specific categories is influenced by the house value-to-income ratios. Since the *household* is the unit that occupies a dwelling, it is household income, not individual or family income, which affects housing affordability. Household income includes the income of the householder and all other individuals 15 years old and over in the household, whether they are related to the householder or not.

The income levels of households will produce a demand for homes in certain price ranges. In the previous steps, the analysis calculated how many workers will be generated by each building type based on occupational distributions and employment density. The total number of workers will be 3,529 (Table 2.6) However, each of these workers will not create a demand for a housing unit as these workers will be household members. To understand the demand by occupation, the total numbers of employees in each occupation needs to be adjusted to account for household size.

In this step, worker households are analyzed, i.e. households where the householder (aged 16 to 64) and other members are employed (Table 2.7). The analysis begins with a calculation of the number of workers per household. In 2017, approximately 75.3 percent of Broward County’s households had at least one worker in the household. (American Community Survey (ACS) 5-year Estimates (2013-2017)) This corresponds to 508,926 worker households. In 2017, almost 77 percent of Broward’s population in the 16-64 age group were employed, or 876,555 workers. These figures correspond to a ratio of 1.72 workers per worker household.

The calculation of the new households is performed by dividing the number of new workers to the ratio of workers per worker household. The number of new workers (3,529) was calculated in previous steps. The final calculation shows that new commercial buildings will result in the creation of 2,049 new worker households.

Table 2.7: Estimate of New Households Implied by New Workers in Broward County

Workers/Households	Number
Worker Households	508,926
Workers/Worker Household	1.72 (ratio)
Workers in Households	876,555
New Workers	3,529
New Households Implied	2,049

Sources: US Census Bureau, American Community Survey, 2013-2017, Broward County; Tabulated by the Metropolitan Center, FIU.

Step 6: Determination of Housing Need by Affordability Level

The previous steps in the analysis determined the number of new worker households by dividing the number of new workers by the ratio of workers per household. To determine the household income generated by new households, the analysis multiplies the number of new households by the number of workers per household.

Household income is then used to estimate the housing demand generated by new households formed by the new employees in the County. Table 2.8 provides the estimate of new households by income category generated by the creation of each of the seven workplace building prototypes. This quantifies the number of households by affordability level associated with the building types and will be combined with actual housing unit costs in Chapter 3 to produce the total nexus costs.

Table 2.8: Households by Income Level Categories by Workplace Building Prototypes

	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Very Low Income (Under \$27,448)	3	32	406	120	15	6	49
Low Income (\$27,449 - \$43,916)	200	213	0	85	112	292	62
Moderate Income (\$43,917 - \$54,895)	16	7	2	2	14	142	1
Workforce Income (\$54,896 - \$65,874)	34	13	7	6	6	81	8
Middle Income (\$65,875 - \$82,343)	5	0	0	1	52	1	4
Total HH	257	265	415	214	198	523	124

Source: FIU Metropolitan Center

Notes: Total household figure taken into consideration alongside the 23% commute adjustment for Broward County; 2017 median household income for Broward County is \$54,895.

CHAPTER 3: TOTAL HOUSING NEXUS COSTS

Introduction

The previous chapter, “Micro Economic and Jobs Analysis” provided the economic underpinning for determining the relationship between commercial development activity and the demand for worker housing in Broward County. Specifically, the analysis profiled the seven types of commercial building in terms of occupations, salaries and wages, and the estimated demand for new worker housing based on household income and affordability. This chapter combines the previous economic and housing analysis to calculate the unit cost or total nexus cost of producing various housing types at an affordable price level according to category of household income.

Housing demand refers to the amount and type of real estate desired for purchase or rent in a given market at a given time. The elements that affect demand include the local economic base, labor market area (LMA), household income, household composition, location and affordability. Local housing and labor markets are inextricably linked to one another. Essentially, industries are served by local housing markets that provide choices and opportunities for both existing and expanding labor markets. As such, the availability of an adequate supply of various housing types and price levels must be maintained to address the housing demands of the variety of industries and occupations that comprise the local economic base.

Housing Market Conditions

The FIU Metropolitan Center’s 2018 *Broward County Housing Needs Assessment*, prepared on behalf of the Broward Housing Council, found that significant changes have occurred in Broward County’s housing market in the post-recession economic recovery period, that have impacted rental housing supply and demand and overall affordability. The contributing factors and conditions include a trend toward high-end, multi-family housing development, a lack of affordable housing production, low vacancy rates and depressed household incomes. In particular, affordable rental housing production has not kept pace with increasing affordable rental housing demand. Following are the key findings from the study.

Shifts in Housing Demand and Supply

The availability of a range of affordable housing options is one of the most important community and economic development issues facing communities. The high rate of resident turnover, the loss of professionals, skilled workers, and key wage earners at or below the median income will have damaging local economic effects. Providing housing for a mix of income groups will help to retain and attracts workers from

various backgrounds and skills. This is key to building a resilient and self-sustaining economy less susceptible to regional and national cyclical market swings. A spectrum of housing choice and opportunity also helps maintain a steady stream of new small businesses, entrepreneurs and jobs required to sustain a healthy local economy.

An understanding of the shifting demands for housing is critical for the creation of effective housing policies and strategies. The increasing demand for worker housing has magnified the importance of providing a wide spectrum of owner and renter choice and opportunity with respect to affordability, location and access to jobs.

Creating new opportunities for better paying jobs and higher household incomes is also the key to solving a community's long-term affordable housing issues. Implementing an affordable housing program should, therefore, be an opportunity to accomplish the multiple goals of affordable housing delivery and new job creation. Affordable housing, when paired with traditional economic development and business development incentives, becomes an especially potent new business creation incentive package.

Growing Housing Affordability Gaps

The housing affordability demands in Broward County and its municipalities have not improved despite impressive post-recession job growth numbers and low unemployment. With 53.9 percent cost-burdened households, Broward County is one of the most unaffordable places to live in the United States.

The most critical housing problem in Broward County is the estimated 147,313 renter households who are cost-burdened, and specifically the 77,677 renter households who are "severely" cost-burdened, paying in excess of 50% of their income on housing and related costs. The significant growth of severely cost-burdened renters is the most pressing problem due to three market conditions: 1) the increasing demand for renter housing throughout the County resulting in low vacancy rates and a spiraling increase in rent prices, 2) the lack of affordable rental housing production, and 3) rent prices are increasing faster than wages.

Forecasting a significant decline in the County's cost-burden rate without aggressive intervention is probably unrealistic, for two reasons. First, the dynamics driving housing affordability in Broward County have been moving in the opposite direction — housing prices and rents increasing faster than wages, slow higher-wage job creation, tightening vacancy rates, and increasing speculative investment that each year permanently removes more units from the local market. Secondly, upward housing price trends typically move much faster than wages and income. Historically, housing prices and rents in the county have experienced considerable rates of increase over short time periods. Conversely, to significantly impact its affordability

indicators, the county would need to undergo a monumental change in its industrial and occupation structure that creates higher wages and income. Historically, Broward County's economy has shown employers can shed high-wage jobs very quickly, but businesses have shown resistance to adding new high-skill, high-paying jobs.

Worker Resident Impacts

The competitiveness of a community's housing market is an important economic development objective. To build and maintain competitiveness, a community must offer a range of housing options in keeping with current and future demand. A competitive housing market will yield a quantifiable economic output including job creation, increased tax revenues and secondary (or ripple) benefits to related businesses. In addition, a clear relationship can be demonstrated between the production of housing and stimulating the workforce, attracting new businesses and employees, revitalizing neighborhoods and support for smart growth. Workforce housing, when paired with traditional economic development and business development incentives, becomes an especially potent new business creation incentive package.

Escalating housing prices are significantly impacting Broward County's working families and households. Most working families and households earn salaries and wages in service sector occupations, including retail trade, leisure and hospitality, and educational and health services. The majority (54 percent) of Broward County's workers are employed in low-wage service sector occupations with hourly wages that translate to workers earning 40-60 percent of the County's median household income. The study found over 65 percent of owners and 90 percent of renters in these income categories are cost-burdened. This limits the choices of most service sector working households and families to affordable rental housing opportunities, where available.

Housing and Transportation Costs

The study further examined the critical link between affordable housing, transportation and economic development. According to the Housing and Transportation Index (H+T Affordability Index), Broward County's median monthly housing costs as a percentage of household monthly income is 39 percent. However, when transportation costs are combined with housing costs, the percentage of household income soars to an average of 64 percent, far above the 45 percent H+T Affordability Index threshold. The analysis determined that 28 out of 29 Broward County municipalities have a H+T Index far above the 45 percent threshold.

Broward County Labor Market

As previously noted, local housing demand and labor markets are inextricably linked to one another. Industries are served by local housing markets that provide choices and opportunities for both current and future workers. The availability of an existing supply of various housing types and price levels must be maintained to address the housing demand of the variety of occupations that comprise the local industrial base.

The economic base of Broward County and South Florida is largely supported by the non-durable service-providing industries. Employment growth in Office and Administrative Support, Retail Sales and Food Preparation and Serving are directly related to the region’s population growth. These occupations comprise a significant portion of Broward County’s employment base (Table 3.1).

Table 3.1: Percentage of Employees by Occupational Group, 2013-2017

Occupational Group	2013	2017	Average Annual Change 2013-2017
Management	4.3%	4.2%	6.74%
Business/ Financial Operations	6.0%	5.6%	4.96%
Computer and Mathematical	2.6%	2.6%	6.73%
Architecture and Engineering	0.7%	0.9%	15.44%
Life/ Physical/ Social Science	0.2%	0.4%	23.27%
Community/ Social Services	1.2%	1.3%	10.06%
Legal	1.6%	1.3%	2.29%
Education	5.6%	4.7%	2.49%
Arts/Entertainment/ Sports/ Media	1.0%	1.2%	14.93%
Healthcare Practitioners and Technical	6.7%	5.8%	3.23%
Healthcare Support	3.0%	2.6%	3.50%
Protective Service	3.8%	2.9%	0.47%
Food Preparation and Serving	7.6%	9.6%	14.08%
Building/ Grounds	4.2%	3.4%	1.64%
Personal Care and Service	1.7%	2.7%	23.76%
Sales	13.6%	14.4%	8.35%
Office / Admin Support	19.7%	18.1%	4.73%
Farming, Fishing and Forestry	0.1%	0.0%	-10.91%
Construction and Extraction	2.5%	4.2%	25.85%
Installation/ Maintenance	3.9%	4.6%	11.75%
Production	3.6%	3.2%	3.49%
Transportation and Material Moving	6.6%	6.1%	4.85%

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

Employment growth in Broward County in the past year has been more robust with 15,800 jobs (1.9 percent growth) added from December 2017 to December 2018. Employment growth occurred primarily in service providing industries (13,300 jobs), including Trade, Transportation and Utilities (3,900 jobs) and Transportation, Warehousing, and Utilities (2,900 jobs). Significant employment growth also occurred in Professional and Business Services (2,900 jobs) and Education and Health Services (2,800 jobs) (2018 Florida Department of Economic Opportunity, Current Employment Statistics).

As shown above, Broward County's labor market is largely employed in service sector occupations. According to the 2018 QCEW Report, the average hourly wage in Broward County was \$24.89 which projects to \$52,485 annually. The average quarterly wage/annual projection for Broward County's leading employment sectors includes Retail (\$12.53/ \$26,070), Cashiers (\$10.23/\$21,270) and Food Preparation and Serving related workers (\$12.20/\$25,380).

Within various industrial classifications the annual salaries and wages of occupations can vary considerably. Table 3.2 shows the percentage of employees by occupation for the 22 occupation categories, and their respective salaries, as reported by the Florida DEO. DEO does not report salaries and/or employment if there are no workers in the respective category.

Table 3.2: Median Salaries by Occupation within Major Industry Groups, 2017

Industry by Occupation	Manufacturing		Retail/ Wholesale		Hotel/ Accommodation		Entertainment		Medical/ Educational		Warehousing		Office	
	%	Salary	%	Salary	%	Salary	%	Salary	%	Salary	%	Salary	%	Salary
Management	5%	\$122,993	3%	\$117,220	2%	\$61,466	4%	\$94,095	3%	\$116,461	2%	\$107,969	3%	\$118,322
Business/ Financial Operations	4%	\$60,460	3%	\$62,829	0%	\$54,658	3%	\$55,499	3%	\$59,633	2%	\$65,823	6%	\$64,644
Computer and Mathematical	2%	\$74,589	1%	\$56,902	0%	\$-	0%	\$70,912	1%	\$66,581	0%	\$74,540	3%	\$71,705
Architecture and Engineering	5%	\$61,743	0%	\$72,105	0%	\$-	0%	\$-	0%	\$70,358	0%	\$50,238	0%	\$68,088
Life/ Physical/ Social Science	1%	\$54,629	0%	\$57,878	0%	\$-	0%	\$-	1%	\$51,012	0%	\$-	0%	\$31,565
Community/ Social Services	0%	\$-	0%	\$-	0%	\$-	0%	\$-	5%	\$53,299	0%	\$-	0%	\$39,286
Legal	0%	\$-	0%	\$103,608	0%	\$-	0%	\$80,921	0%	\$107,941	0%	\$-	0%	\$37,957
Education	0%	\$-	0%	\$-	0%	\$-	1%	\$38,474	23%	\$37,163	0%	\$-	0%	\$25,174
Arts/Entertainment/ Sports/ Media	1%	\$44,633	1%	\$37,289	0%	\$40,336	4%	\$43,572	1%	\$52,009	1%	\$19,341	1%	\$38,290
Healthcare Practitioners and Technical	0%	\$69,492	3%	\$52,193	0%	\$-	0%	\$76,430	24%	\$66,379	0%	\$32,033	1%	\$50,782
Healthcare Support	0%	\$-	0%	\$27,317	0%	\$68,691	0%	\$42,454	12%	\$29,792	0%	\$-	1%	\$35,269
Protective Service	0%	\$-	0%	\$29,034	1%	\$27,213	4%	\$29,616	1%	\$30,856	0%	\$25,913	11%	\$24,434
Food Preparation and Serving	0%	\$20,707	2%	\$25,327	79%	\$20,780	15%	\$22,907	3%	\$24,191	0%	\$-	0%	\$25,100
Building/ Grounds	0%	\$24,445	0%	\$23,553	4%	\$22,232	9%	\$24,396	2%	\$27,708	0%	\$58,050	18%	\$23,808
Personal Care and Service	0%	\$-	0%	\$23,485	1%	\$24,918	29%	\$24,815	4%	\$23,099	0%	\$-	2%	\$19,295
Sales	4%	\$61,785	48%	\$36,731	5%	\$19,642	12%	\$28,290	1%	\$52,576	2%	\$55,434	15%	\$27,576
Office / Admin Support	13%	\$35,156	21%	\$31,084	4%	\$25,152	11%	\$28,569	14%	\$34,589	26%	\$45,747	26%	\$30,896
Farming, Fishing and Forestry	0%	\$-	0%	\$-	0%	\$-	0%	\$-	0%	\$-	0%	\$-	0%	\$-
Construction and Extraction	2%	\$34,367	0%	\$42,686	0%	\$38,600	1%	\$41,866	0%	\$53,031	0%	\$28,894	2%	\$34,290
Installation/ Maintenance	4%	\$48,655	5%	\$39,700	1%	\$-	4%	\$35,151	2%	\$41,321	11%	\$52,151	2%	\$39,051
Production	52%	\$31,959	3%	\$32,429	0%	\$23,345	1%	\$49,616	0%	\$42,784	1%	\$41,047	1%	\$25,934
Transportation and Material Moving	6%	\$29,566	9%	\$27,300	2%	\$19,768	2%	\$30,350	1%	\$30,978	54%	\$40,634	5%	\$23,224
Totals	100%		100%		100%		100%		100%		100%		100%	

Source: 2018 Florida Department of Economic Opportunity, Current Employment Statistics

Housing Affordability

Housing affordability is generally defined as the capacity of households to consume housing services and, specifically, the relationship between household incomes and prevailing housing prices and rents. The standard most used by various units of government is that households should spend no more than 30 percent of their income on housing. This is also the standard definition for housing programs administered by the Department of Housing and Urban Development (HUD) and most state programs, including various housing programs administered through the State of Florida's Housing Finance Corporation (FHFC).

The affordability component of housing demand is based on local wages and salaries that are then translated into household incomes. The previous industry and employment analysis clearly shows that Broward County's economic base is principally comprised of service-providing industries, most notably, Retail Trade, Health Care and Social Assistance, Accommodation and Food Services and Administrative Support & Waste Management, Remediation Services. While service-providing industries are essential to South Florida's tourism-based economy and do offer livable wages among many of the associated occupations, the vast preponderance of employment is found in low-wage earning occupations. The annual wage level translates to worker households with median incomes generally below the median income for Broward County.

The general availability of affordable housing in a given market area is impacted by housing development costs. Development costs are driven by a variety of factors including, most notably, the price of land, along with the costs of construction, labor and materials, government regulations and available financing. In a highly inflationary housing market, the rising cost of land becomes the single most important housing development variable.

According to the MIAMI Association of Realtors' December 2018 sales report, the median sales price of existing single-family homes in Broward County was \$350,000 and \$160,000 for townhouses and condos (Table 3.7). December 2017-2018 year-over-year data showed a 2.9 percent increase in the median sale price of single-family homes and a 3.0 percent decrease in the median sale price of townhomes and condos.

As previously noted, housing development costs are largely influenced by land values. According to Broward County Property Appraiser records, the current land value for multifamily residential properties averages \$585,931 per acre.

Rental housing prices in Broward County have been commensurate with rapidly escalating home sale prices. Broward County's rental market continues to have significant demand issues which have impacted vacancy rates, absorption levels and

rent prices. In Broward County, the average lease for a two bedroom apartment increased by over 46 percent since 2007 (Tables 3.3 & 3.4). According to the 2018 Broward County Housing Needs Assessment, average rents in the County vary significantly according to bedroom distribution and submarket area. Current average monthly rents for a 1-bedroom apartment range from a low of \$1,285 per month in the N. Lauderdale/Tamarac Submarket to \$1,941 per month in the Fort Lauderdale Submarket. The average rent (\$1,902) for a 2-bedroom apartment in Broward County is 16 percent higher than a 1-bedroom apartment. The average rent (\$2,277) for a 3-bedroom apartment is 16.5 percent higher than a 2-bedroom apartment and 30 percent higher than a 1-bedroom. Average monthly rents for a 2-bedroom apartment range from a low of \$1,517 per month in the N. Pompano/Deerfield Beach Submarket to a high of \$2,705 per month in the Fort Lauderdale Submarket. Average monthly rents for a 3-bedroom apartment range from a low of \$1,745 in the Lauderdale/Lauderdale Lakes/Sunrise Submarket to a high of \$3,204 per month in the Fort Lauderdale Submarket.

Table 3.3: Broward County Rents, 2013-2017

AREA	2007	2014	2018	CHANGE	% CHANGE
Broward	\$1,259	\$1,328	\$1,843	\$584	46.4%

Source: Reinhold P. Wolff Economic Research, Inc.

Table 3.4: Rent Values by Number of Bedrooms

AREA	1 BR	2 BR	3 BR
Broward County	\$1,599.00	\$1,902.00	\$2,277
HUD Fair Market Rent	\$1,135.00	\$1,444.00	\$2,088.00
Tax Credit Rental Apartments	\$863.00	\$1,048.00	\$1,208.00

Source: HUD User, FY 2019; Reinhold P. Wolff Economic Research Inc.

Applying the 4Q-2018 median sale price (\$350,000) for existing single-family homes in Broward County, a housing affordability analysis was performed for a sampling of occupations that represent the majority of Broward County’s employment base. The sampling also included such “essential” occupations as teachers, registered nurses and police officers. These occupations are often targeted for workforce housing programs. The purpose of this exercise is to profile the individual Broward County worker in terms of housing demand and affordability and the likely occupational composition of worker households.

As shown in Table 3.5 below, most of Broward County’s leading occupations earn less than \$27,448 annually, which also corresponds to less than 50 percent of the median household income.

Table 3.5: Sample Earnings of Selected Occupations in Relation to Area Median Income (Ft. Lauderdale-Pompano Beach-Deerfield Beach, FL Metropolitan Division, 2018)

	<50% of Median HH Income	<80% of Median HH Income	<100% of Median HH Income	<120% of Median HH Income	<150% of Median HH Income	150% + of Median HH Income
Essential Occupations	< \$27,448	\$27,449 - \$43,916	\$43,916 - \$54,895	\$54,896 - \$65,874	\$65,875- \$82,343	Over \$82,344
Elementary School Teachers			X			
Secondary School Teachers			X			
Fire Fighters					X	
Police and Sheriff Patrol Officers					X	
Registered Nurses					X	
Leading Occupations - Broward County 2017						
Retail Salespersons	X					
Customer Service Representatives		X				
Food Preparation and Serving Workers, Including Fast Food	X					
Registered Nurses					X	
Waiters and Waitresses	X					
Stock Clerks and Order Fillers	X					
Janitors and Cleaners	X					
Sales Representatives, Wholesale and Manufacturing			X			
Laborers and Freight, Stock, and Material Movers	X					
Accountants and Auditors				X		

Source: State of Florida Department of Economic Opportunity, 2018. Table and calculations by FIU Metropolitan Center.

Table 3.6 shows the projections for employment growth in the occupation categories. Many low-wage occupations are projected to experience double digit growth by 2026. For example, employment in food preparation and serving, education, and personal care and service occupations is projected to increase by approximately 11 percent. Employment in building/ground occupations is likely to increase by 13 percent and Sales workers will increase by almost 8 percent. However, the projections also suggest double-digit increases in many of the high-wage categories – Management (11.7%), Business/ Financial Operations (12.9%), and Computer and Mathematical (15.8%), for example. But the workforce employed in these occupations is generally smaller than the service occupations.

Table 3.6: Occupation Groups and Projected Employment, 2018 & 2026

Occupation Groups- Broward County 2018	Estimated Employment		Percent Change
	2018	2026	
Management	40,249	44,948	11.7%
Business/ Financial Operations	51,085	57,659	12.9%
Computer and Mathematical	24,222	28,051	15.8%
Architecture and Engineering	8,609	9,618	11.7%
Life/ Physical/ Social Science	3,626	4,065	12.1%
Community/ Social Services	12,621	14,285	13.2%
Legal	11,470	12,246	6.8%
Education	41,567	46,198	11.1%
Arts/Entertainment/ Sports/ Media	12,804	13,680	6.8%
Healthcare Practitioners and Technical	57,982	66,012	13.8%
Healthcare Support	22,839	27,034	18.4%
Protective Service	24,754	26,136	5.6%
Food Preparation and Serving	82,593	91,453	10.7%
Building/ Grounds	34,321	38,846	13.2%
Personal Care and Service	31,005	34,486	11.2%
Sales	130,086	140,293	7.8%
Office / Admin Support	167,169	175,597	5.0%
Farming, Fishing and Forestry	978	1,035	5.8%
Construction and Extraction	46,725	52,257	11.8%
Installation/ Maintenance	42,305	46,410	9.7%
Production	27,304	28,223	3.4%
Transportation and Material Moving	53,864	59,615	10.7%

Source: State of Florida Department of Economic Opportunity, 2018; Table created by the FIU Metropolitan Center.

The following affordability analysis by household median income categories applies the same methodology described above. It is important to note that affordability is calculated at the high end of each household income category, thus the analysis provides a generally favorable gap analysis within the broad range of each income category. As previously discussed, housing affordability is defined as housing costs that do not exceed 30 percent of monthly gross income. Given the current restrictive lending underwriting criteria that generally requires a minimum 20 percent down payment and FICO scores (credit scoring model) of 800 or greater, a conservative affordability computation was utilized that limits an affordable home purchase at a 3:1 median home value-to-median household income ratio. Debt ratios and other cost variables are not factored into the housing affordability calculations.

When current residential prices are applied to the five (5) household income categories used for this study, it is evident that affordability gaps exist for all

household income categories for single-family homes and for households earning less than 80 percent of the median income for condominiums (Table 3.7). The affordability gaps for single-family homes are extreme for households earning less than 150 percent of Broward County’s median household income. Significantly, the purchase of the median priced single-family home is virtually unattainable for these household income groups. Likewise, the purchase of the median priced condominium is unattainable for households earning less than 80 percent AMI.

Table 3.7: Owner Affordability Levels for Household Income Categories

Income Range % of Median HH Income	Annual Household Income	Monthly Household Income	Affordable Single Family/ Condo Home Price	Median Selling SF Price	SF Affordability Gap/Surplus	Median Selling Condo Price	Condo Affordability Gap/Surplus
Very Low Income: <50%	\$27,448	\$2,287	\$82,343	\$350,000	\$267,658	\$160,000	\$77,658
Low Income: <80%	\$43,916	\$3,660	\$131,748		\$218,252		\$28,252
Moderate Income: <100%	\$54,895	\$4,575	\$164,685		\$185,315		\$4,685
Workforce Income: <120%	\$65,874	\$5,490	\$197,622		\$152,378		\$37,622
Middle Income: <150%	\$82,343	\$6,862	\$247,028		\$102,973		\$87,028

Source: MIAMI Association of Realtors, US Census, 2017 ACS. Table and calculations by the FIU Metropolitan Center.

An affordability gap analysis of market rate rental units indicates substantial gaps for “very low” (\$1,157), “low” (\$745), “moderate” (\$471), and “workforce” (\$196) income households (Table 3.8).

Table 3.8: Renter Affordability Levels for Household Income Categories

Income Categories % of Median HH Income	Household Income	Affordabl e Rent	Mean Rental Price	Affordability Gap/Surplus
Very Low Income: <50%	\$27,448	\$686	\$1,843	\$1,157
Low Income: <80%	\$43,916	\$1,098		\$745
Moderate Income: <100%	\$54,895	\$1,372		\$471
Workforce Income: <120%	\$65,874	\$1,647		\$196
Middle Income: <150%	\$82,343	\$2,059		\$216

Source: U.S. Census, 2017 ACS; 3Q 2018 Reinhold P. Wolff Economic Research, Inc.

Total Nexus Costs

This step of the nexus analysis combines the numbers of new worker households for each household income category associated with the (7) seven workplace building prototypes shown in Chapter 3 - Table 3.1 with the affordability gap analysis provided in this chapter. The affordability gap analysis consists of two steps: 1) a determination of affordability based on household income category as detailed in Tables 3.7 & 3.8 above; followed by 2) a determination of the affordability gap applying affordable home price/rent limits to actual development scenarios by way of development pro forma computations based on actual unit production costs.

The development pro forma presented are based on estimated prevailing land and construction costs for residential development types in Broward County. Estimated land and project costs (direct and indirect) were calculated against projected income generated from sales or rental income based on the affordability levels of each household income group to determine the surplus/gap for each development type by unit cost.

Development Model Selection Rationale

Four development models were selected as typical and representative of the housing product most likely to be built in Broward County over the next ten years given household sizes, land availability, construction costs, and consumer preferences. The prototype development products are:

- 1) A 3-story, 20-unit multifamily housing project, built as a single building, with surface parking at 2 spaces per unit (Table 3.9);
- 2) A 10-story, 100-unit multi-family building, also constructed as a single building, with surface parking at 2 spaces per unit (Table 3.10).
- 3) A 10-story, 100-unit multi-family building, with an adjacent 200 space, free-standing parking garage. The land acreage for this prototype was optimized due to its smaller footprint than prototype 2.
- 4) A 10-story, 100-unit multi-family building, with an adjacent 100 space, free-standing parking garage. The land acreage for this prototype was optimized due to its smaller footprint than prototypes 2 and 3.

The assumptions used for the development pro-forma are as follows.

Prototype Unit Size

The prototypical unit size selected for the study is a 1,000 square-foot, 2-bedroom condo/apartment unit. There are any number of possible housing units that are developed in the Broward market. Modeling the cost to produce all possible units is impractical. The goal of the nexus analysis is to develop an estimate of unit housing cost that best represents the possible average housing cost required to house new

workers created by new commercial development. The prototype unit size represents the best estimate of an average housing unit cost, and was selected based on the following considerations:

- Family Size: 71 percent of all households in Broward County are 2 or more persons in size. Three or more person households represent 39 percent of all households in Broward County. In addition, the average size of all households in the County is 2.77 persons, and the average family household size in Broward County is 3.47 persons. From 2013 to 2017 the number of one person households shrank by 4,364 units;
- The odds that the household containing a new worker is two or three persons or more is therefore high;
- The U.S. Department of Housing and Urban Development (HUD) occupancy guidelines direct that housing units should have one bedroom for every two people in a household, so that a three-person household requires a minimum of two bedrooms;
- According to the U.S. Census Bureau Housing Survey, the median size of all occupied housing units in the urban centers of the Miami Metropolitan Area is 1,150 square feet. Housing units from 750 to 1,499 square feet in size are 44 percent of the Broward housing market;
- New two-bedroom units represent the largest share of new housing units produced in the County from 2013 to 2017 — accounting for 30 percent of the gain in total units for the period. The gain of two, three, and four-bedroom units accounted for 81 percent of the gain in units from 2013. During the same timeframe, Broward County lost 2,986 one-bedroom units, or 81 percent of the loss of housing units; and
- Multi-family housing units comprise 59 percent of the entire Broward County occupied housing inventory.

Land Costs

Average per acre land purchase prices were developed using a survey of recent raw land transactions in Broward County. While land costs can vary widely, the average cost of \$585,931 per acre is a best estimate current price snapshot of a range of real estate transactions.

Construction Costs

Construction costs were estimated using the latest (2019, Q1) RS Means Square foot cost survey data for the Fort Lauderdale / Broward County area. The estimate includes a 25% contractor overhead and profit, as well as typical fixtures, fittings and

furnishings for new units of these types. Cost estimates were also reviewed by a small sample of local developers and builders in the field.

Soft Costs

Soft cost estimates, including the Developer Fee and Financing Costs are typical for development projects of these types, based on the research team’s experience, a review of similar recent projects, and professional review. In addition, Licenses and Permits, Impact Fees, and Property Taxes have been estimated using Broward County’s most recent schedule of permit fees (for Unincorporated Broward County), School and Transportation Concurrency fees, and property tax millage rates.

Unit Density and Parking Requirements

The County zoning code allows a maximum development density of 30 Dwelling Units per Acre (DUA) housing units per acre. A small set of municipalities allow higher unit density, but only in select locations. The 30 DUA is most representative of the maximum allowable density across the County, and was selected as the unit density for the development pro-forma.

Similarly, the County code requires 2 parking spaces per dwelling unit for all multi-family housing developments in unincorporated Broward, and therefore represents the most likely parking requirement to be applied to new multi-family housing development. However, the additional prototype models tested the use of structured parking, rather than surface parking, using 2 spaces per unit, and 1 space per unit. Prototypes 3 and 4, using adjacent structured parking, require significantly less land area to develop.

Unit Rents (for Apartment Unit Estimates)

Apartment rents are based on the previous affordability calculations (Table 3.8: Renter Affordability Levels for Household Income Categories).

Rental Unit Operating Costs

Operating costs for the apartment rental units were estimated using the *2018 National Apartment Association Survey of Income & Expenses in Rental Communities* — a survey representing data from 2,967 market-rent properties containing 807,810 units and 511 subsidized properties containing 83,697 units, broken out by region, and review by a small sample of experienced local affordable apartment owner/operators. The Maximum supportable mortgage cost assumes that the maximum affordable debt service on apartment operating costs at uses a Debt Service Coverage Ratio of 1.2, as recommended by HUD and underwriting guidelines, and assumes a 4.25% interest rate, 30-year fixed repayment term.

Model Results

The results of the Pro-Forma analysis and gap analysis for both purchase and rental options by prospective worker households are shown next.

Table 3.9: Development Scenario 1 (3-story, 20-unit multifamily)

Development Scenario: 3-Story Multi-Family Building	
Development Assumptions	
Land Area (Acres)	0.7
Total Units (All 2-Bedroom):	20
Density (Units per Acre)	30
Unit Size (SF)	1,000
Parking Spaces Per Unit	2.0
Land Purchase:	\$390,621
Per Unit Cost	\$19,531
Hard Costs:	\$3,764,867
Per Unit Cost:	\$188,243
PSF Cost:	\$164
Total Soft Costs:	\$975,981
Architecture & Eng.	\$301,189
Survey	\$25,000
Licenses & Permits	\$86,592
Impact Fees (School & Concurrency)	\$25,248
Legal, Accounting	\$50,000
Builder's Risk Insurance	\$30,119
Marketing & Advertising	\$60,000
Property Taxes	\$7,393
Sales Commission	\$164,685
Project Contingency	\$225,755
Development Fee	\$359,203
Financing Costs	\$340,422
Construction Interest	\$230,608
Financing Fees & Closing Costs	\$109,813
Total Development Cost	\$5,831,093
Per Unit	\$291,555

Gap Analysis - Purchase Model	
Total Development Cost	\$5,831,093
Per Unit	\$291,555
Affordable Moderate Income Purchase Price:	\$164,685
Gap/Surplus per Unit:	(\$126,870)
Affordable Workforce Income Purchase Price:	\$197,622
Gap/Surplus per Unit:	(\$93,933)
Affordable Middle Income Purchase Price:	\$247,028
Gap/Surplus per Unit:	(\$44,527)

Gap Analysis - Rent Model	
Total Development Cost	\$5,831,093
Per Unit	\$291,555
Affordable Very Low Income Monthly Rent:	\$686
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$90,052
Gap/Surplus per Unit:	(\$201,503)
Affordable Low Income Monthly Rent:	\$1,098
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$131,927
Gap/Surplus per Unit:	(\$159,628)

Table 3.10: Development Scenario 2 (10-story, 100-unit multi-family)

Development Scenario: 10-Story Multi-Family Building	
Development Assumptions	
Land Area (Acres)	3.3
Total Units (All 2-Bedroom):	100
Density (Units per Acre)	30
Unit Size (SF)	1,000
Parking Spaces Per Unit	2.0
Land Purchase:	\$1,953,103
Per Unit Cost	\$19,531
Hard Costs:	\$22,756,421
Per Unit Cost:	\$227,564
PSF Cost:	\$198
Total Soft Costs:	\$4,759,085
Architecture & Eng.	\$1,365,385
Survey	\$50,000
Licenses & Permits	\$523,398
Impact Fees (School & Concurrency)	\$117,600
Legal, Accounting	\$50,000
Builder's Risk Insurance	\$182,051
Marketing & Advertising	\$300,000
Property Taxes	\$36,964
Sales Commission	\$823,425
Project Contingency	\$1,310,262
Development Fee	\$2,062,803
Financing Costs	\$1,954,948
Construction Interest	\$1,324,319
Financing Fees & Closing Costs	\$630,628
Total Development Cost	\$33,486,360
Per Unit	\$334,864

Gap Analysis - Purchase Model	
Total Development Cost	\$33,486,360
Per Unit	\$334,864
Affordable Moderate Income Purchase Price:	\$164,685
Gap/Surplus per Unit:	(\$170,179)
Affordable Workforce Income Purchase Price:	\$197,622
Gap/Surplus per Unit:	(\$137,242)
Affordable Middle Income Purchase Price:	\$247,028
Gap/Surplus per Unit:	(\$87,836)

Gap Analysis - Rent Model	
Total Development Cost	\$33,486,360
Per Unit	\$334,864
Affordable Very Low Income Monthly Rent:	\$686
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$90,052
Gap/Surplus per Unit:	(\$244,812)
Affordable Low Income Monthly Rent:	\$1,098
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$131,927
Gap/Surplus per Unit:	(\$202,937)

Table 3.11: Development Scenario 3 (10-story, 100-unit multi-family building, with an adjacent 200 space, free-standing parking garage)

Development Scenario: 10-Story Multi-Family Building With Free-Standing Adjacent Parking Garage, 2 Spaces Per Unit	
Development Assumptions	
Land Area (Acres)	0.8
Total Units (All 2-Bedroom):	100
Density (Units per Acre)	118
Unit Size (SF)	1,000
Parking Spaces Per Unit	2.0
Land Purchase:	\$497,692
Per Unit Cost	\$4,977
Hard Costs:	\$25,964,238
Per Unit Cost:	\$259,642
PSF Cost:	\$226
Total Soft Costs:	\$5,197,061
Architecture & Eng.	\$1,557,854
Survey	\$50,000
Licenses & Permits	\$597,177
Impact Fees (School & Concurrency)	\$117,600
Legal, Accounting	\$50,000
Builder's Risk Insurance	\$207,714
Marketing & Advertising	\$300,000
Property Taxes	\$9,419
Sales Commission	\$823,425
Project Contingency	\$1,483,871
Development Fee	\$2,216,129
Financing Costs	\$2,100,257
Construction Interest	\$1,422,755
Financing Fees & Closing Costs	\$677,502
Total Development Cost	\$35,975,377
Per Unit	\$359,754

Gap Analysis - Purchase Model	
Total Development Cost	\$35,975,377
Per Unit	\$359,754
Affordable Moderate Income Purchase Price:	\$164,685
Gap/Surplus per Unit:	(\$195,069)
Affordable Workforce Income Purchase Price:	\$197,622
Gap/Surplus per Unit:	(\$162,132)
Affordable Middle Income Purchase Price:	\$247,028
Gap/Surplus per Unit:	(\$112,726)

Gap Analysis - Rent Model	
Total Development Cost	\$35,975,377
Per Unit	\$359,754
Affordable Very Low Income Monthly Rent:	\$686
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$90,052
Gap/Surplus per Unit:	(\$269,702)
Affordable Low Income Monthly Rent:	\$1,098
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$131,927
Gap/Surplus per Unit:	(\$227,827)

Table 3.12: Development Scenario 4 (10-story, 100-unit multi-family building, with an adjacent 100 space, free-standing parking garage)

Development Scenario: 10-Story Multi-Family Building With Free-Standing Adjacent Parking Garage, 1 Space Per Unit	
Development Assumptions	
Land Area (Acres)	0.8
Total Units (All 2-Bedroom):	100
Density (Units per Acre)	118
Unit Size (SF)	1,000
Parking Spaces Per Unit	2.0
Land Purchase:	\$497,692
Per Unit Cost	\$4,977
Hard Costs:	\$24,084,674
Per Unit Cost:	\$240,847
PSF Cost:	\$209
Total Soft Costs:	\$4,923,491
Architecture & Eng.	\$1,445,080
Survey	\$50,000
Licenses & Permits	\$553,948
Impact Fees (School & Concurrency)	\$117,600
Legal, Accounting	\$50,000
Builder's Risk Insurance	\$192,677
Marketing & Advertising	\$300,000
Property Taxes	\$9,419
Sales Commission	\$823,425
Project Contingency	\$1,381,341
Development Fee	\$2,065,410
Financing Costs	\$1,957,419
Construction Interest	\$1,325,993
Financing Fees & Closing Costs	\$631,425
Total Development Cost	\$33,528,685
Per Unit	\$335,287

Gap Analysis - Purchase Model	
Total Development Cost	\$33,528,685
Per Unit	\$335,287
Affordable Moderate Income Purchase Price:	\$164,685
Gap/Surplus per Unit:	(\$170,602)
Affordable Workforce Income Purchase Price:	\$197,622
Gap/Surplus per Unit:	(\$137,665)
Affordable Middle Income Purchase Price:	\$247,028
Gap/Surplus per Unit:	(\$88,259)

Gap Analysis - Rent Model	
Total Development Cost	\$33,528,685
Per Unit	\$335,287
Affordable Very Low Income Monthly Rent:	\$686
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$90,052
Gap/Surplus per Unit:	(\$245,235)
Affordable Low Income Monthly Rent:	\$1,098
Affordable Per Unit Debt Service/ Mortgage at Rent Level	\$131,927
Gap/Surplus per Unit:	(\$203,360)

The above affordability gap calculations based on actual development scenarios are then applied to the total number of new worker households by income category that is estimated to be generated by each of the seven (7) workplace building prototypes to determine the nexus cost per square foot for each non-residential development. The calculation is based on the total number of new household units (new housing demand) times the affordability gap, divided by median square foot commercial building type in Broward County (Tables 3.13 – 3.16).

The nexus costs per sq. ft. vary from the 2014 study in all building prototypes due to differences in all of the variables included in the calculations. The 2014 study

used two scenarios: 300 unit condominium townhouse development in consisting of 1,200 square foot 2-bedroom units, and a 150 unit garden style rental complex consisting of 1,000 square foot 2-bedroom units. In the current 2019 study, four development models were selected as typical and representative of the housing product most likely to be built in Broward County over the next ten years given household sizes, land availability, construction costs, and consumer preferences. Given the multi-step process entailed in the final nexus cost calculations, there are also other variables which affect the results, including employment density, workspace use, business composition, occupational employment and wages, household size and commuter patterns and others.

Table 3.13: Nexus Costs per Square Foot (Scenario 1)

Income Category	Affordability Gap	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Very Low	\$201,503	\$3.72	\$49.31	\$443.92	\$177.91	\$18.18	\$8.84	\$69.21
Low	\$159,628	\$234.71	\$257.23	\$0.17	\$99.95	\$108.99	\$353.20	\$69.76
Moderate	\$126,870	\$14.75	\$6.85	\$1.09	\$1.93	\$10.90	\$136.32	\$1.25
Workforce	\$93,933	\$23.83	\$8.92	\$3.83	\$4.41	\$3.52	\$57.84	\$4.95
Middle	\$44,527	\$1.49	\$0.00	\$0.11	\$0.47	\$14.07	\$0.44	\$1.17
Total Costs:		\$279	\$322	\$449	\$285	\$156	\$557	\$146

Source: FIU Metropolitan Center, 2019

Table 3.14: Nexus Costs per Square Foot (Scenario 2)

Income Category	Affordability Gap	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Very Low	\$244,812	\$4.52	\$59.91	\$539.34	\$216.15	\$22.09	\$10.74	\$84.08
Low	\$202,937	\$298.39	\$327.02	\$0.22	\$127.07	\$138.56	\$449.02	\$88.69
Moderate	\$170,179	\$19.78	\$9.19	\$1.46	\$2.59	\$14.62	\$182.85	\$1.68
Workforce	\$137,242	\$34.82	\$13.04	\$5.59	\$6.44	\$5.14	\$84.51	\$7.23
Middle	\$87,836	\$2.94	\$0.00	\$0.21	\$0.93	\$27.76	\$0.87	\$2.30
Total Costs:		\$360	\$409	\$547	\$353	\$208	\$728	\$184

Source: FIU Metropolitan Center, 2019

Table 3.15: Nexus Costs per Square Foot (Scenario 3)

Income Category	Affordability Gap	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Very Low	\$269,702	\$4.98	\$66.00	\$594.17	\$238.13	\$24.34	\$11.84	\$92.63
Low	\$227,827	\$334.98	\$367.13	\$0.24	\$142.65	\$155.55	\$504.10	\$99.57
Moderate	\$195,069	\$22.68	\$10.53	\$1.67	\$2.97	\$16.76	\$209.59	\$1.93
Workforce	\$162,132	\$41.14	\$15.40	\$6.60	\$7.60	\$6.07	\$99.84	\$8.55
Middle	\$112,726	\$3.78	\$0.00	\$0.27	\$1.19	\$35.63	\$1.12	\$2.96
Total Costs:		\$408	\$459	\$603	\$393	\$238	\$826	\$206

Source: FIU Metropolitan Center, 2019

Table 3.16: Nexus Costs per Square Foot (Scenario 4)

Income Category	Affordability Gap	Manufacturing	Retail/ Wholesale	Hotel/ Accommodation	Entertainment	Medical/ Educational	Warehousing	Office
Very Low	\$245,235	\$4.53	\$60.02	\$540.27	\$216.52	\$22.13	\$10.76	\$84.22
Low	\$203,360	\$299.01	\$327.70	\$0.22	\$127.33	\$138.85	\$449.96	\$88.87
Moderate	\$170,602	\$19.83	\$9.21	\$1.46	\$2.60	\$14.66	\$183.30	\$1.68
Workforce	\$137,665	\$34.93	\$13.08	\$5.61	\$6.46	\$5.15	\$84.77	\$7.26
Middle	\$88,259	\$2.96	\$0.00	\$0.21	\$0.93	\$27.90	\$0.87	\$2.32
Total Costs:		\$361	\$410	\$548	\$354	\$209	\$730	\$184

Source: FIU Metropolitan Center, 2019