



MONROE COUNTY

Florida



AFFORDABLE WORKFORCE HOUSING SUPPORT STUDY FOR NON-RESIDENTIAL DEVELOPMENT

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PREPARED BY
CLARION

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I. OVERVIEW AND EXECUTIVE SUMMARY

A. INTRODUCTION

1. Background

There is a workforce housing affordability problem in Monroe County. The reason at the most basic level is that wages have remained static over the past decade, while housing prices have recovered and appear to be increasing annually since the downturn after the Great Recession. The Monroe County Comprehensive Plan, the State of the County yearly report, and the work and findings of the Affordable Housing Advisory Committee, all recognize the problem. The plan establishes the planning principle (i.e., goal) of ensuring affordable housing is available for the workforce. More specifically:

Goal 601 in the Monroe County Year 2030 Comprehensive Plan states:

Monroe County shall adopt programs and policies to facilitate access by residents to adequate and affordable housing that is safe, decent, and structurally sound, and that meets the needs of the population based on type, tenure characteristics, unit size and individual preference.

Policy 601.1.13 states:

Monroe County shall maintain land development regulations on inclusionary housing and shall evaluate expanding the inclusionary housing requirements to include or address nonresidential and transient development and redevelopment based on specific data and analysis.

State of the County 2015/16, a report prepared for the Monroe County Board of County Commissioners, emphasizes the housing affordability problem, and identifies some of the reasons for the problem.

....the quadruple impact of high land values, land limited by geographic and environmental features, housing supply limited by the controlled Rate of Growth Ordinance, and a tourism economy with a prevalence of lower paying service-sector employment.

State of the County 2015/16, at page 14.

A study conducted by the United Way of Florida, *Asset Limited, Income Constrained, Employed: Study of Financial Hardship (ALICE November 2014)* indicates that nearly half of Monroe County households, including many above the federal poverty line, still struggle to afford basic expenses, including housing. *ALICE*, at page 173.

The County's Affordable Housing Advisory Committee, including a Board of County Commissioners approved stakeholder assessment effort conducted by the Consensus Center at Florida State University, in April 2015 concluded housing affordability had become a crisis in the County:

This stakeholder assessment report confirms that there is wide agreement that Monroe County is facing a significant and growing workforce housing crisis with shortages for both affordable rental and ownership units. There is also agreement that no single strategy will solve the workforce housing crisis in Monroe County. Instead the challenge ahead is to craft a balanced package of

targeted options that have been refined through discussion and debate and that can serve as a consensus framework for addressing and implementing solutions.

The Monroe County Board of County Commissioners agreed. In November 2015, they adopted Resolution No. 393-2015, deeming housing affordability not only a problem, but a “crisis.”

The housing affordability issue is one that encompasses the full Monroe County market, including incorporated and unincorporated areas. People move and hire without necessarily considering municipal lines. The County is both the smallest geographic unit for which relevant economic data is consistently available and the appropriate unit for measuring the housing market. The nature of this Study is that it will provide guidance for County government for the policies it enacts and the actions it chooses to take, particularly where it has more direct land use control in the unincorporated parts of the county, but the analysis diagnosing the issue is countywide unless otherwise indicated.

2. Purpose of Affordable Workforce Housing Support Study for Non-Residential Development

This *Affordable Workforce Housing Support Study for Non-Residential Development* (“the Study”) is prepared to provide the technical support and necessary analysis so the County can take action to address the workforce housing affordability problem by implementing the comprehensive plan goal of expanding the inclusionary requirements within the unincorporated county to non-residential development. The Study supports this goal by determining the need non-residential development creates for affordable workforce housing in the County. Such analyses establish the appropriate basis for the County to then ask the non-residential development creating the need to mitigate their impacts on a proportionate and fair basis.

Initially, the Study identifies the affordable workforce housing problem in Monroe County. It then provides the technical documentation and analyses needed to establish whether and the extent to which non-residential development creates a need for affordable workforce housing. This is done by evaluating the linkage between (1) employment generated by the construction of non-residential development, and (2) the employment that occurs at non-residential development after the construction is completed (post-construction activities). Because the analysis demonstrates there is a need created by non-residential development for affordable workforce housing, the Study quantifies the need both in terms of affordable workforce housing units (or a fraction thereof) and monetary housing assistance that could address the need for workforce housing.

The Study is based on the assumption that an affordable housing unit for households in the local workforce costs no more than 30 percent of annual household income, regardless of whether a home is rented or owner-occupied. This Study focuses on the costs to develop and purchase an owner-occupied housing unit; however, the 30 percent household income affordability threshold is applicable to rental properties as well.

The Study includes three parts:

- a. This Section 1: Overview and Executive Summary, provides a summary of the Study. It also describes the policy direction in the Monroe County Comprehensive

Plan that directs the County to address the housing affordability problem, and explains how this Study provides the technical support to implement these policies.

- b. Section 2: Problem Description, outlines the current workforce housing affordability problem in Monroe County. It shows that while employment in the County has grown over the past decade, wages have remained flat while housing prices have increased since the downturn after the Great Recession, and appear to be increasing on an annual basis. It also demonstrates that housing is not affordable to much of the County's workforce.
- c. Section 3: Need for Affordable Workforce Housing Created by Non-Residential Development, assesses the need for affordable housing created by non-residential development (both expansions and new construction). It also outlines the methodology and calculations that determine the need for affordable workforce housing created by non-residential development. Finally, the section quantifies the need both in terms of affordable workforce housing units (or a fraction thereof) that could be built to address the need, and funding shortages (housing assistance) that could be provided to address the need.

B. PROBLEM DESCRIPTION

1. Housing Sales Prices and Housing Affordability: Comparison of Median Single Family Sales Prices and Household Income

Like many resort communities, the price of housing in Monroe County over the past nine years has increased since the downturn after the Great Recession, while incomes and wages have remained basically static. The result is a workforce housing affordability problem in the County. Typically, housing affordability is evaluated by comparing the price of housing in a local real estate market to prevailing wage and salary incomes. A national benchmark for evaluating affordability is whether median household incomes are at the level where the household could afford a median priced home. Typically, housing affordability of owner-occupied housing is defined as the owner spending no more than 30 percent of annual household income on annual housing costs. The maximum price of an affordable unit under this definition is calculated as 3.33 times (333 percent) the annual median household income. (See Appendix A: Calculating the Affordability Threshold, for a detailed explanation of this calculation.)

As Table I-1: Comparison of Median Household Incomes, Median Sales Prices, and Housing Affordability, by House Type, Monroe County (2008-2016), demonstrates, the gap between median household incomes and median housing costs in the County is not affordable to households earning the area median income. In 2008, the median sales price of all types of housing units (\$430,000) was about two and one-half times the price affordable to a median household income (\$52,443). There were some fluctuations during and after the Great Recession, but by 2016, the median sales price (\$485,000) was again over two and one-half times the price that was affordable to a median household income (\$62,355). See also Figure I-1: Median Sales Prices and Prices Affordable to Median Family Income, Monroe County (2008-2016).

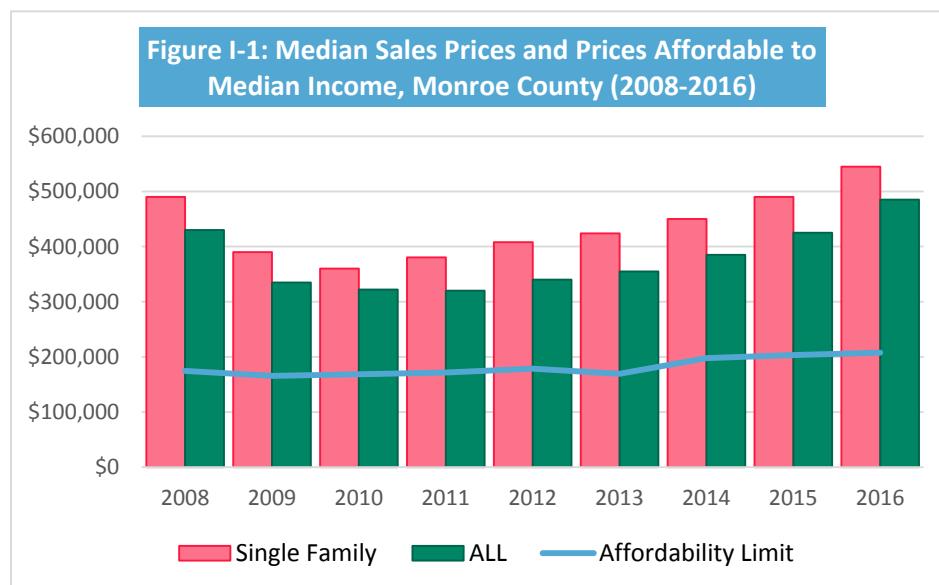
Table I-1: Comparison of Median Household Incomes, Median Sales Prices, and Housing Affordability by Home Type, Monroe County (2008 – 2016)

Year	Median Household Income	Median Sales Price		Affordable Housing price at 333 Percent of Median Household Income	Ratio of Median Sales Price and Affordable Housing Price at 333 Percent of Median Household Income		Median Sales Price as Percentage of Median Income	
		Single-Family Home	All Units ¹		Single-Family Home	All Units ¹	Single-Family Home	All Units ¹
2008	\$52,443	\$490,000	\$430,000	\$174,635	2.806	2.462	934.35	819.94
2009	\$49,721	\$390,000	\$335,000	\$165,571	2.355	2.023	784.38	673.76
2010	\$50,619	\$360,000	\$322,000	\$168,561	2.136	1.910	711.20	636.12
2011	\$51,524	\$380,500	\$320,000	\$171,575	2.218	1.865	738.49	621.07
2012	\$53,637	\$408,000	\$340,000	\$178,611	2.284	1.904	760.67	633.89
2013	\$50,838	\$424,000	\$355,000	\$169,291	2.505	2.097	834.02	698.30
2014	\$59,388	\$450,000	\$385,000	\$197,762	2.275	1.947	757.73	648.28
2015	\$61,020	\$490,000	\$425,000	\$203,197	2.411	2.092	803.02	696.49
2016 ²	\$62,355	\$545,000	\$485,000	\$207,642	2.625	2.336	874.03	777.80

¹“All Units” includes sales labeled as Single Family, Condominium, Townhouse, Duplex, Half-Duplex, Multi-Units, and Mobile Homes

²2016 Median Household Income is preliminary. Final datum is not yet available.

Sources: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017; Multiple Listing Service (MLS) for Monroe County, 2008-2016



Sources: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017; Multiple Listing Service, Monroe County, (2008-2016); Table I-1

It is clear there is a workforce housing affordability problem in Monroe County, to the point that only a few members of the workforce can reasonably afford market-priced housing.

C. NEED FOR AFFORDABLE WORKFORCE HOUSING CREATED BY NON-RESIDENTIAL DEVELOPMENT

The need to provide affordable workforce housing is created by development that demands labor (employees). Because non-residential development creates a demand for labor (employees), the need for affordable workforce housing it creates is determined in this Study. Non-residential development includes governmental, industrial, institutional, office, retail & restaurant, tourist/recreation, hotel/motel, and other development. Non-residential development creates a need for labor (the workforce) in two ways: (1) employees who construct the building(s), and (2) employees who work at the building after construction (post construction employees). Construction employees construct the non-residential buildings. All different types of employees work at the buildings after they are complete, depending on the type of business.

The analysis shows that wages and salaries earned by a significant portion of Monroe County's workforce that constructs the buildings or works in the businesses and related entities that make up non-residential development are insufficient to allow these employees to obtain market housing at a price they can reasonably afford. After determining the number and type of employees that serve non-residential development (construction and post-construction), and how many of these employees cannot reasonably afford housing in Monroe County, the Study then identifies the quantity of workforce housing need created by non-residential development.

Based on this analysis, Table I-2: Summary of Affordable Workforce Housing Needs and Assistance Created By Non-Residential Development, outlines the workforce housing need generated by different types of non-residential development, both in terms of the need for workforce housing units (or a fraction thereof), and for monetary workforce housing assistance (in lieu fees).

**TABLE I-2: SUMMARY OF AFFORDABLE WORKFORCE HOUSING NEEDS
AND ASSISTANCE CREATED BY NON-RESIDENTIAL DEVELOPMENT**

Land Use	Construction	Post-Construction	Totals	
	Workforce Housing Units Needed Per 1,000 Sq. Ft. ¹	Workforce Housing Units Needed Per 1,000 Sq. Ft. ²	Workforce Housing Units Needed Per 1,000 Sq. Ft. ³	Workforce Housing Assistance Needed Per 1,000 Sq. Ft. ⁴
Governmental	0.020	0.408	0.427	\$38,285
Industrial	0.020	0.206	0.226	\$24,397
Institutional	0.020	0.317	0.337	\$36,284
Office	0.020	0.684	0.704	\$78,492
Other⁵	0.020	0.624	0.644	\$99,838
Retail & Restaurant	0.020	0.396	0.416	\$66,722
Tourist/ Recreation	0.020	0.594	0.614	\$204,691
Hotel/Motel	0.020	0.276	0.295	\$49,947

¹See Table III-1: Non-Residential Construction Employment and Housing Need, Monroe County

²See Table III-11: Post Construction Employees Need for Housing, by Land Use Category, Per 1,000 Square Feet, Monroe County

³See Table III-13: Total Housing Needs for Workforce Housing Created by Non-Residential Development (Per 1,000 Square Feet)

⁴See Table III-15: Assistance Needed for Workforce Housing Need Created by Non-Residential Development (Per 1,000 Square Feet)

⁵"Other" land commonly included unidentified uses. The source data from the State of Florida provides 99 individual categories of property use. Examples of those not meeting another category and also being placed in "Other" include Military, Forests, parks and recreational areas, Airport, marine or bus terminal, and Gas and utility lines.

Because the workforce housing need generated by non-residential development is based on the size and type of the non-residential development, a formula for the appropriate land use will need to be applied to each non-residential development, individually, based on its size (square footage). A table of requirements is found in III.B.3. Summary of Needs for Affordable Workforce Housing Created by Non-Residential Development.

II. PROBLEM DESCRIPTION

A. HOUSING SALES PRICES AND HOUSING AFFORDABILITY

As stated in Section I. Overview and Executive Summary, housing that is affordable to the workforce is one of the most challenging problems facing Monroe County today.

1. Comparison of Median Single Family and Condominium Sales Prices and Household Income

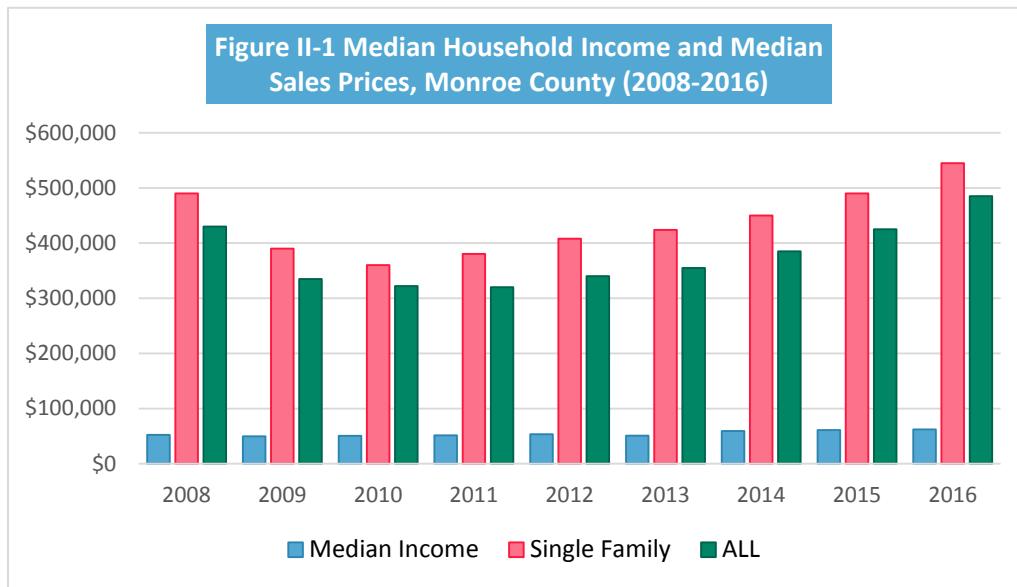
Based on a review of the housing, real estate, and income data for Monroe County it is clear that the price of market rate housing in the County over the past nine years has exceeded what the workforce can reasonably afford – and the problem appears to be getting worse. Incomes and wages have remained basically static. However, housing prices have increased since the Great Recession of 2007-2009, outstripping the workforce's ability to purchase them. Table II-1: Comparison of Median Household Income and Median Home Sales Prices, Monroe County (2008-2016), and Figure II-12: Median Household Income and Median Sales Prices, Monroe County (2008-2016), illustrate this phenomenon between 2008 and 2016.

Table II-1 : Comparison of Median Household Income and Median Home Sales Prices, Monroe County (2008-2016)

Year	Median Income	Median Home Sales Prices			
		Median Single Family	Percent of Median Income	Median All Types	Percent of Median Income
2008	\$52,443	\$490,000	934.3	\$430,000	819.9
2009	\$49,721	\$390,000	784.4	\$335,000	673.8
2010	\$50,619	\$360,000	711.2	\$322,000	636.1
2011	\$51,524	\$380,500	738.5	\$320,000	621.1
2012	\$53,637	\$408,000	760.7	\$340,000	633.9
2013	\$50,838	\$424,000	834.0	\$355,000	698.3
2014	\$59,388	\$450,000	757.7	\$385,000	648.3
2015	\$61,020	\$490,000	803.0	\$425,000	696.5
2016	\$62,355	\$545,000	874.0	\$485,000	777.8

“All Types” includes sales labeled as Single Family, Condominium, Townhouse, Duplex, Half-Duplex, Multi-Units, and Mobile Homes

SOURCES: Bureau of the Census, American Community Survey, 1-Year Estimates: Median Income for Households via American Fact Finder, 2017; Multiple Listing Service, Monroe County, 2008-2016.



Sources: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017; Multiple Listing Service, Monroe County, 2008-2016; Table II-1

In 2008, the median sales price of a single family home (\$490,000) was nearly ten times the median household income (\$52,443) and nearly three times the affordable housing price for a median household income (\$174,675). In 2010, the low point for housing prices in the County since the Great Recession, the median sales price for a single family home was \$360,000, still twice the affordable housing price for a median household income (\$168,561). From that time forward, the median housing prices have increased, and appear to be on an upward trajectory. Wages and income, however, basically remains static, when adjusted for inflation. In 2016, the median sales price for a single-family home was \$545,000, over two and one-half times what a median household income could afford (\$207,642). See Table II-2: Housing Affordability, Monroe County (2008-2016).

In addition, while non-single family unit prices have generally been lower than the price of single family homes, they have followed a pattern similar to that of single family homes. Since 2008 the median sales price has substantially exceeded the affordability level for the period. By 2016 the median sales price of all units (\$485,000) was over twice the price affordable to the median household income (\$207,642). See Table II-2: Housing Affordability, Monroe County (2008-2016).

Table II-2 : Housing Affordability, Monroe County (2008-2016)				
Year	Median Household Income	Affordability Threshold Price	Median Selling Price Single Family	Median Selling Price All Units
2008	\$52,443	\$174,635	\$490,000	\$430,000
2009	\$49,721	\$165,571	\$390,000	\$335,000
2010	\$50,619	\$168,561	\$360,000	\$322,000
2011	\$51,524	\$171,575	\$380,500	\$320,000
2012	\$53,637	\$178,611	\$408,000	\$340,000
2013	\$50,838	\$169,291	\$424,000	\$355,000
2014	\$59,388	\$197,762	\$450,000	\$385,000
2015	\$61,020	\$203,197	\$490,000	\$425,000
2016	\$62,355	\$207,642	\$545,000	\$485,000

“All Units” includes sales labeled as Single Family, Condominium, Townhouse, Duplex, Half-Duplex, Multi-Units, and Mobile Homes

Source: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017;Multiple Listing Service, Monroe County, 2008-2016

2. Assessing Housing Affordability

As summarized in Section I. Overview and Executive Summary, typically, housing affordability is evaluated by comparing the price of housing for a local real estate market to prevailing wages and salaries incomes. A national benchmark for evaluating affordability is whether median household incomes are at the level where the household could afford a median priced home. Typically, housing affordability of owner-occupied housing is defined as the owner spending no more than 30 percent of annual household income on annual housing costs. The maximum price of an affordable unit under this definition is calculated as 3.33 times (333 percent) the annual median household income. For an explanation of how the Affordability Threshold Price is calculated, see Appendix A: Calculating the Affordability Threshold.

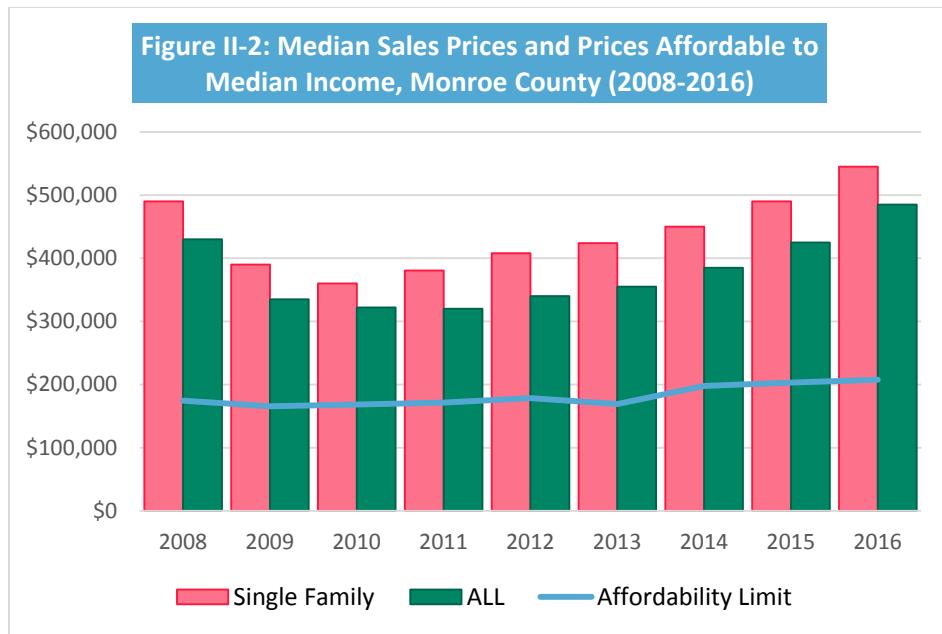
As Table II-3: Comparison of Median Household Incomes, Median Sales Prices, and Housing Affordability by Home Type, Monroe County (2008 – 2016), demonstrates, the price of housing in Monroe County over the past nine years has exceeded what the workforce can reasonably afford, and the gap appears to be increasing as the real estate market has recovered from the Great Recession, while income and wages have remained static.

Table II-3: Comparison of Median Household Incomes, Median Sales Prices, and Housing Affordability by Home Type, Monroe County (2008 – 2016)								
Year	Median Household Income	Median Sales Price		Affordable Housing price at 333 Percent of Median Household Income	Ratio of Median Sales Price and Affordable Housing Price at 333 Percent of Median Household Income		Median Sales Price as Percentage of Median Income	
		Single-Family Home	All Units		Single-Family Home	All Units	Single-Family Home	All Units
2008	\$52,443	\$490,000	\$430,000	\$174,635	2.806	2.462	934.35	819.94
2009	\$49,721	\$390,000	\$335,000	\$165,571	2.355	2.023	784.38	673.76
2010	\$50,619	\$360,000	\$322,000	\$168,561	2.136	1.910	711.20	636.12
2011	\$51,524	\$380,500	\$320,000	\$171,575	2.218	1.865	738.49	621.07
2012	\$53,637	\$408,000	\$340,000	\$178,611	2.284	1.904	760.67	633.89
2013	\$50,838	\$424,000	\$355,000	\$169,291	2.505	2.097	834.02	698.30
2014	\$59,388	\$450,000	\$385,000	\$197,762	2.275	1.947	757.73	648.28
2015	\$61,020	\$490,000	\$425,000	\$203,197	2.411	2.092	803.02	696.49
2016	\$62,355	\$545,000	\$485,000	\$207,642	2.625	2.336	874.03	777.80

"All Units" includes sales labeled as Single Family, Condominium, Townhouse, Duplex, Half-Duplex, Multi-Units, and Mobile Homes

Sources: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017; Multiple Listing Service (MLS) for Monroe County, 2008-2016

Figure II-2 : Comparison of Median Sales Prices and Prices Affordable to Median Income, Monroe County, (2008 – 2016), graphically illustrates the relationship between median sales prices of single family homes and all homes in Monroe County, and the price of a home that is reasonably affordable to a family with a median household income (333 percent of median household income).



Sources: American Community Survey 1-Year Estimates: Median Income for Households, via American Fact Finder, 2017; Multiple List Service, Monroe County, (2008-2016); Table II-1

Contrasting income and housing price data assumes that only those residents of Monroe County are bidding for housing. When those that do not reside in Monroe County are willing to bid higher, the market responds to these bids, resulting in a significant market inconsistency. Based on a review of the data, this is happening in Monroe County; many non-residents bid for and purchase Monroe County housing because of the attractiveness and quality of life of the Florida Keys – and they are willing to pay higher prices than residents can afford. There is also a cap on the total number of new units that can be built. The Rate of Growth Ordinance (ROGO) has been used by Monroe County since 1992 to ensure growth in the county does not exceed the ability of residents to evacuate in the case of a hurricane or other natural disaster, according to the scientific models used when the policy was implemented. A limited number of building permits are issued each year which may further limit the market response to the demand for housing.

B. GROWTH IN WAGES

As is highlighted in the previous section and Section I. Overview and Executive Summary, wages for the Monroe County workforce have remained static, when adjusted for inflation, while housing costs have increased as the real estate market has recovered from the Great Recession. The data show that even with some employment growth, the Monroe County workforce is finding it increasingly difficult to find housing they can reasonably afford in the marketplace. This is due in part because a significant portion of employment growth is in the accommodation and food service, and retail trade sectors, the two highest growth sectors. Growth of these sectors of the economy increases the housing affordability problem because of the low wages earned by their employees. This is outlined below in more detail.

Monroe County's local economy can be organized into the general sectors identified in Table II-4: Employment by Industry, Monroe County (2016). The largest industry is Accommodation and Food Services, making up 33.8 percent of local employment, followed by Retail Trade at 15.2 percent. Both of these components are related to the tourism industry. Also see Figure II-3: Employment by Industry, Monroe County (2016).

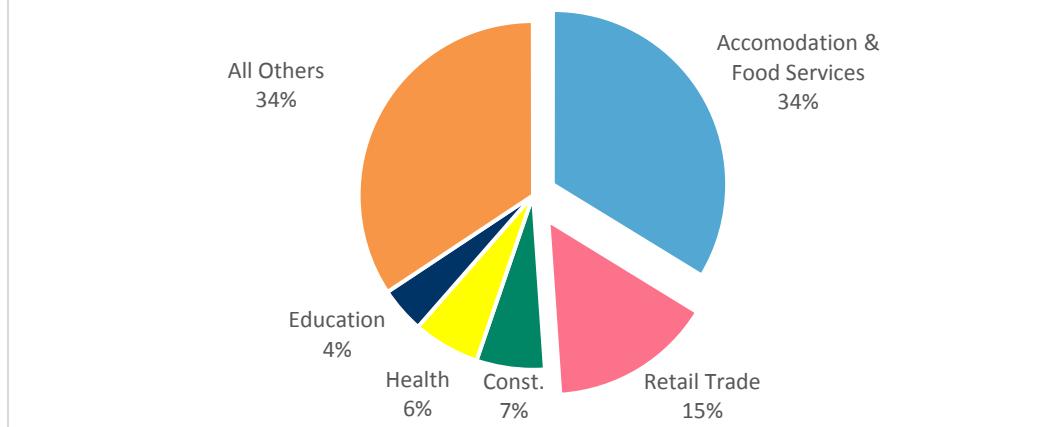
Table II-4 : Employment by Industry, Monroe County (2016)

Industry	Number of Employees	Percent of County Employment
Construction	2,584	6.3
Durable Goods Manufacturing	108	0.3
Nondurable Goods Manufacturing	245	0.6
Wholesale Trade	582	1.4
Retail Trade	6,179	15.2
Finance and Insurance	712	1.7
Real Estate and Rental and Leasing	1,475	3.6
Educational Services	1,729	4.2
Health Care and Social Assistance	2,524	6.2
Leisure and Hospitality		
Arts, Entertainment, and Recreation	1,319	3.2
Accommodation and Food Services	13,763	33.8
Public Administration	3,016	7.4
Other	6,536	16.0
Total, All Industries	40,772	100

Note: The most recent data available was appropriate for this table. Data from part of 2016 was used. Numbers will vary from Table III-4 where a full year of data was appropriate and 2015 was used.

Source: FL Dept. of Economic Opportunity, <http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>

Figure II-3: Employment by Industry, Monroe County (2016)



Source: FL Dept. of Economic Opportunity, <http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>; See Table II-4 for a further breakdown of the "All Others" category

The data show that between 2008 and 2015, while there was some employment growth, wages increased very little in relationship to inflation, in part because the number of employees in the accommodation and food service, and retail trade sectors increased relative to other sectors of the economy. See Table II-5: Growth in Employment and Earnings, Monroe County (2008-2015)

Table II-5 : Growth by Employment and Earnings, Monroe County (2008-2015)

	2008			2015			Change In			
	Total Wages	Employment	Avg. Wage	Total Wages	Employment	Avg. Wage	Total Wages	Employment	Avg. Wage	Avg Wage after Inflation
Total, All Industries	\$1,347,164,150	36,818	\$36,590	\$1,582,136,540	40,772	\$38,804	\$234,972,390	3,954	\$2,215	-\$6
Construction	\$99,779,086	2,788	\$35,789	\$104,271,815	2,584	\$40,353	\$4,492,729	-204	\$4,564	\$5
Durable Goods Manufacturing	\$4,875,571	110	\$44,323	\$15,426,850	NA					
Nondurable Goods Manufacturing	\$4,419,931	143	\$30,909	\$7,954,066	245	\$32,466	\$3,534,135	102	\$1,557	-\$6
Wholesale Trade	\$24,848,930	489	\$50,816	\$26,513,862	582	\$45,556	\$1,664,932	93	-\$5,259	-\$43
Retail Trade	\$151,107,533	5,349	\$28,250	\$177,550,667	6,179	\$28,735	\$26,443,134	830	\$485	-\$9
Finance and Insurance	\$64,757,328	1,243	\$52,098	\$45,275,280	712	\$63,589	-\$19,482,048	-531	\$11,491	\$27
Real Estate and Rental and Leasing	\$45,045,899	1,189	\$37,886	\$55,473,805	1,475	\$37,609	\$10,427,906	286	-\$276	-\$17
Educational Services	\$82,079,436	1,955	\$41,984	\$76,982,596	1,729	\$44,524	-\$5,096,840	-226	\$2,540	-\$6
Health Care and Social Assistance	\$100,071,378	2,410	\$41,523	\$124,831,788	2,524	\$49,458	\$24,760,410	114	7,935	\$17
Leisure and Hospitality										
Arts, Entertainment, and Recreation	\$40,765,606	1,475	\$27,638	\$42,807,699	1,319	\$32,455	\$2,042,093	-156	\$4,817	\$9
Accommodation and Food Services	\$272,253,703	10,058	\$27,068	\$413,347,072	13,763	\$30,033	\$141,093,369	3,705	\$2,965	\$2
Public Administration	\$156,462,203	2,985	\$52,416	\$175,466,212	3,016	\$58,178	\$19,004,009	31	\$5,762	\$3

Note: The most recent data available was appropriate for this table. Data from part of 2016 was used. Numbers will vary from Table III-4 where a full year of data was appropriate and 2015 was used.

Sources: FL Dept. of Economic Opportunity, <http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>

What Table II-5: Growth by Employment and Earnings, Monroe County (2008-2015) shows is that the two industries that generated the most growth in employment, Accommodation and Food Service, and Retail Trade, had the lowest annual earnings.¹ See also Appendix B: Economic Growth in Monroe County (2007-2016).

C. SUPPLY OF AFFORDABLE HOUSING

Finally, separating out the number of housing sales annually that are affordable to those with median household incomes further supports the notion there is a lack of affordable workforce housing in Monroe County. Table II-6: Sales of Housing Affordable to the Workforce, Monroe County (2008-2016), shows that between 2008 and 2016, few sales were affordable to those with a median household income, and in all years the median sale price of housing was between one and one-half and two and one-half times higher than what the workforce could reasonably afford. That figure increased right after the aftermath of the recession occurred—but even then only a small amount of the homes sold (just over 17 percent) were affordable to median income households. As the economy recovered in 2012 and 2013, housing prices began to rise, and the percent of housing available to median income households began to decrease to very low numbers (only 7.36 percent of sales in 2016 were affordable to median income households), again demonstrating the seriousness of the housing affordability problem in the County.

Table II-6: Sales of Housing Affordable to the Workforce, Monroe County (2008-2016)					
Year	Median Household Income	Affordability Limit	Median Selling Price	Price as Percent of Limit	Affordable as % of Total
2008	\$52,443	\$174,635	\$430,000	246.2	5.69
2009	\$49,721	\$165,571	\$335,000	202.3	12.92
2010	\$50,619	\$168,561	\$322,000	191.0	12.71
2011	\$51,524	\$171,575	\$320,000	186.5	17.31
2012	\$53,637	\$178,611	\$340,000	190.4	16.91
2013	\$50,838	\$169,291	\$355,000	209.7	12.86
2014	\$59,388	\$197,762	\$385,000	194.7	12.85
2015	\$61,020	\$203,197	\$425,000	209.2	9.70
2016	\$62,355	\$207,642	\$485,000	233.6	7.36

Source: Multiple Listing Service, Monroe County

Clearly, housing that is affordable to the workforce is a problem in Monroe County.

¹ Accommodation and food services added the most employees (5,322). It is also the second lowest ranking sector in terms of annual earnings, \$30,033 a year. The lowest wage industry, retail trade, added 586 jobs at average earnings of \$28,735.

III. NEED FOR AFFORDABLE HOUSING CREATED BY NON-RESIDENTIAL DEVELOPMENT

A. BACKGROUND

The need to provide affordable housing for the workforce is created by development that demands labor (employees). Because non-residential development creates a demand for labor (employees), the need for affordable workforce housing it creates is determined in this Study. As outlined in Part II: Problem Description, non-residential development includes accommodation and food service, retail trade, real estate and rental and leasing, construction, finance and insurance, education, and health care employment among others. Non-residential development creates a need for labor (the workforce) in two ways:

- Employees who construct the building(s); and
- Employees who work at the building (post construction employees).

Construction employees construct the non-residential buildings. Different types of employees (as noted above), work at the buildings after they are completed, depending on the type of business. Because of their wage levels and existing housing prices, the construction, expansion or renovation of non-residential development creates a need for affordable workforce housing. The analysis that demonstrates this need is outlined below.

B. DEMAND FOR WORKFORCE HOUSING UNITS

1. Need for Affordable Workforce Housing for Construction Employees

The construction, expansion, or renovation of buildings requires the employment of contractors and construction workers to do the work. The method used to assess the need for affordable workforce housing created by the construction of non-residential development involves the following. Initially, the amount of construction authorized and built in Monroe County from 2012-2015 (measured in square feet) was determined from annual property appraiser records. Records show a total of 1,006,217 square feet of non-residential floor area was built during that period of time. Next, the number of construction employees that were required to build this non-residential development was estimated based on construction employment data (ES-202) that show the construction required 1,537 construction employee years to build the 1,006,217 square feet of non-residential development (this is measured in employee years' worth of work, and not the number of individual construction workers involved).² This equates to 655 square feet of non-residential development constructed for each construction employee year (1,006,216/1,537=655). See Table III-1: Non-Residential Construction Employment and Housing Need, Monroe County.

² There is construction activity in reconstructing or redeveloping non-residential development in Monroe County. The redeveloped or reconstructed properties do not appear as new development in Monroe County property records, but require construction employees. Only construction workers employed in the construction of new non-residential buildings were used to calculate the ratio of construction workers to floor area added.

Table III-1: Non-Residential Construction Employment and Housing Need, Monroe County

Non-Residential Floor Area Constructed Between 2012-15	1,006,217
Employee Years Worked to Construct Non-Residential Floor Area Between 2012-15	1,537
Square Feet of Non-Residential Floor Area Constructed per Construction Employee Year of Labor	655
Construction Employees Required to Build 1,000 Square Feet of Non-Residential Development	1.527
Adjusted Construction Employees Required to Build 1,000 Square Feet of Non-Residential Development (Over 40 Year Career)	0.038
Employees per Household	1.332
Construction Employee Housing Needs from Construction of 1,000 Square Feet of Non-Residential Development (Over 40 year Career and With Other Employees in Household) (By Unit)	0.029
Percent in Need of Assistance ¹	69.58
Housing Units Needed per 1,000 SF	0.020

Note

¹This number is the percent in need of assistance for a typical household. For the calculation, see Table III-10 in the Post-Construction Employee section.

Sources: Monroe County Property Appraiser, Florida Department of Economic Opportunity (<http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>), See also Appendix C

It is assumed the average construction employee will work many years over their work life (career). For purposes of this Study, it is estimated that a construction employee works 40 years over their career. Therefore, to ensure the employee need for housing created by constructing a certain amount (square feet) of non-residential development is proportionate, it is also necessary to divide the employee years it takes to construct a square foot of non-residential development by 40 (adjusted employee years). Finally, and to account for the fact that many employees in Monroe County reside in a household that also includes other wage earning employees, the adjusted employee years it takes to build a certain amount of non-residential development is also divided by the number of employed persons in an economically active household in Monroe County (1.332 employees per household³).⁴

³ Based on the American Community Survey. See Appendix C: Employment By Household and Income by Industry.

⁴ Finally, and as discussed in more detailed in Section III-B.2(p.21), based on the real estate sales data reviewed (MLS sales between 2008-2016), it is appropriate and reasonable to expect that some market sales each year will be affordable to some construction worker households; in addition to this small percentage (eight percent) of free market housing units that will be available and affordable to employees in median income households, there will also be free market housing units that are affordable to construction employee households whose incomes are substantially above the median (since 50 percent of all construction employee households have incomes higher than the median). In determining the need for affordable workforce housing, this must also be considered. As shown in Table III-9: Percent of Households Above and Below Affordability Level, this phenomena is accounted for and factored into the need determined for each of the land use categories for post construction employee needs for housing.

Table III-2: Non-Residential Construction Employment, Monroe County shows the number of construction employee years that would be required to construct various sized non-residential buildings.

Table III-2: Non-Residential Construction Employment, Monroe County			
Feet Constructed	Employee Years to Construct	Adjusted Employees to Construct (over 40 Year Career)	Construction Employee Housing Needs from Construction of Different Amounts of Non-Residential Development (By Unit)
500	0.764	0.019	0.014
750	1.145	0.029	0.022
1,000	1.527	0.038	0.029
1,500	2.291	0.057	0.043
2,000	3.055	0.076	0.057
2,500	3.818	0.095	0.072
3,000	4.582	0.115	0.086
3,500	5.345	0.134	0.100
4,000	6.109	0.153	0.115
4,500	6.873	0.172	0.129
5,000	7.636	0.191	0.143

Based on the number of employees in the average construction employee household in the County, Tables III-1 and 2 set out the need for construction employee workforce housing, for non-residential land uses (without factoring in the employees who household incomes are sufficiently high to be able to reasonably afford market units – something that is done in Table III-9). Specifically, Table III-1, shows, for example, that it takes 1.527 construction employee worker years to build 1,000 square feet of non-residential development; and that when factoring in the 40 year career of the employee 0.038 of an employee year is required. Given there is on average 1.332 employees that live in a construction worker household, the construction of 1,000 square feet of office or retail space creates a need for 0.029 of an affordable workforce housing unit.

2. Need for Affordable Workforce Housing for Post-Construction Employees

The employment impacts of non-residential development, once the building is constructed, comes from the employees that work at the businesses/land uses that occupy the buildings. In determining the need for affordable workforce housing created by non-residential development, post-construction, the following analysis was conducted:

First, all non-residential development was categorized into seven land use categories, as defined by the Florida Department of Revenue codes. Each of the seven land use categories, and the general uses included in the definition of each category are set out below.

- a. **Retail & Restaurant uses** includes stores, department stores, supermarkets, shopping centers, restaurants, financial institutions, repair service shops, service stations, auto sales and repair, parking lots, and wholesale outlets.
- b. **Office uses** includes professional and non-professional office buildings, professional services buildings, and insurance company offices.
- c. **Industrial uses** include light manufacturing, lumber yards, warehousing and distribution terminals, equipment and materials storage facilities, and other similar uses.
- d. **Tourist/Recreational uses** include theatres, auditoriums, nightclubs, bowling alleys, tourist attractions, camps, race tracks, golf courses, hotels, and motels.
While not a land use as such, hotels and motels are broken out as a sub-category of Tourist/Recreational uses.
- e. **Institutional uses** include churches, private schools, colleges, daycares, privately owned hospitals, homes for the aged, orphanages, clubs, cultural organizations, and similar uses.
- f. **Governmental uses** include military facilities, parks and recreational areas, governmental office buildings, public schools, and other publicly owned facilities.
- g. **Other uses** include utility, gas, and electric uses, mining, and sewage disposal facilities.

Second, the employment and average household earnings in the County was assigned to one of the seven land use categories, by first assigning each industrial sector in which employment and household earnings are categorized to one of the seven land use categories. This is done because the employment and wage data is categorized into the following industrial sectors, which need to be better correlated to land use: Natural Resources and Construction; Manufacturing; Wholesale Trade; Retail Trade; Trade, Transportation and Utilities; Information (e.g., printing, publishing, TV, etc.); Financial Activities; Professional and Business Services; Education and Health Services; Leisure and Hospitality; Other Services (which includes operation and maintenance employees); and Government.

The industrial sectors were assigned to the seven land use categories based on the description of employment activities related to land uses and related principles found in the *Standard Industrial Classification Manual* (published by the US Government Printing Office); the classic *Land Use Information Systems* (Clawson and Stewart, by Resources for the Future, 1965); *Planner's Estimating Guide: Projecting Land-Use and Facility Needs* (A. C. Nelson, Chicago: Planners Press, 2004); and *Standard Land Use Coding Manual*, (Urban Renewal Administration and Bureau of Public Roads, Government Printing Office, 1965). The percentage assignment of employment for each industry to the corresponding land use categories is set out in Table III-3: Percentage Assignment of Industries to Land Use Categories, Monroe County.⁵

⁵ It should be noted that some employees, like construction workers, do not work at specific locations. These employees are assigned to the "No Location" category.

Table III-3: Percentage Assignment of Industries to Land Use Categories, Monroe County

Land Use*	Govern-mental	Indus-trial	Institu-tional	Office	Other	Retail & Rest.	Tourist/Recreational	No Location
Natural Resource & Construction¹		15.0		10.0	15.0			60.0
Manufacturing		75.0		15.0	10.0			
Wholesale Trade²		70.0		10.0		20.0		
Retail Trade³						90.0	10.0	
Finance & Insurance		10.0	30.0	50.0		10.0		
Real Estate, Rental & Leasing				100.0				
Trade, Transport & Utilities	15.0	50.0		15.0	10.0	10.0		
Information		35.0		35.0	10.0	10.0		10.0
Educational Services	30.0		30.0	30.0	10.0			
Prof. & Business Services		15.0	15.0	60.0		5.0		5.0
Health Care & Social Assistance	30.0		30.0	25.0		15.0		
Leisure & Hospitality					10.0	20.0	70.0	
Other Services			10.0	10.0	10.0		10.0	60.0
Government	90.0			10.0				

Notes:

¹ For historical data, The Florida Department of Economic Opportunity

² Wholesale trade is broken out from the broader category of Trade, Transport & Utilities. See Appendix C: Employment by Household and Income by Industry.

³ Retail Trade is broken out from the broader category of Trade, Transport & Utilities. See Appendix C: Employment by Household and Income by Industry.

*

Third, using the percentage assignments of industry employment to land use categories, the number of employees for each industry was translated into employees for each land use category. See Table III-4: Estimated Industry Employment by Land Use Categories, Monroe County. Average household earnings were then calculated for each land use category by multiplying the number of employees per land use times the 2016 estimated household earnings based upon the industry in which the employee is working⁶, and then dividing the product by the number of workers estimated for that land use (See Table III-4).

⁶ See Appendix C: Employment by Household and Income by Industry.

Table III-4: Estimated Industry Employment by Land Use Categories, Monroe County

	Governmental	Industrial	Institutional	Office	Other	Retail & Rest.	Tourist/Recreational	No Location	Total
Nat'l Resources & Construction	0	431	0	287	431	0	0	1,725	2874
Manufacturing	0	277	0	55	37	0	0	0	369
Wholesale Trade	0	348	0	50	0	99	0	0	497
Retail Trade	0	0	0	0	0	5,337	593	0	5930
Finance & Insurance	0	72	215	358	0	72	0	0	717
Real Estate and Rental and Leasing	0	0	0	1,411	0	0	0	0	1411
Trade, Transport & Utilities	247	823	0	247	165	165	0	0	1647
Information	0	153	0	153	44	44	0	44	438
Educational Services	535	0	535	535	178	0	0	0	1783
Pro & Bus Services	0	472	472	1,889	0	157	0	157	3147
Health Care and Social Assistance	754	0	754	628	0	377	0	0	2513
Leisure & Hospitality	0	0	0	0	1,600	3,201	11,203	0	16004
Other Services	0	0	145	145	145	0	145	871	1451
Government	2,792	0	0	310	0	0	0	0	3102
TOTAL	4,328	2,576	2,121	6,068	2,600	9,452	11,941	2,797	41883

Note: This table requires a full year of data for appropriate analysis. 2015 data was used. Totals will vary from tables II-4 and II-5 where representative data from a portion of 2016 was used.

Source: Standard Industrial Classification Manual by the U.S. Government Printing Office. Land Use Information Systems by Clawson and Stewart, published by Resources for the Future in 1964. Planner's Estimating Guide: Projecting Land-Use and Facility by A.C. Nelson.

Fourth, the amount of building space (in square feet) provided, on average, for each employee, was determined for each land use category using data obtained from the Monroe County Property Appraiser on the amount of development built (in square feet) within each land use category. The aggregate square feet of space in the County for each land use category was determined, from 2013-2016. This data was then compared over time to the number of employees in each land use category (See Table III-4: Estimated Industry Employment by Land Use Categories, Monroe County) to determine the amount of floor area (in square feet) on average, provided for each employee by each land use category. This analysis is outlined in Table III-5: Square Feet of Space Provided for Post Construction Employees by Land Use Category, Monroe County (2013-2016).

Table III-5: Square Feet of Space for Post Construction Employees by Land Use Category, Monroe County (2013-2016)						
Industry	Square Feet per Employee			Employees per 1,000 Square Feet		
	2013	2016	Used	2013	2016	Used
Governmental	1,090	1,024	1,024.000	0.917	0.976	0.917
Industrial	1,049	973	972.714	0.953	1.028	0.953
Institutional	681	630	630.316	1.468	1.587	1.468
Office	323	306	306.325	3.100	3.265	3.100
Other	432	371	370.840	2.315	2.697	2.315
Retail & Restaurant	699	614	613.867	1.431	1.629	1.431
Tourist/Recreational	485	371	370.779	2.062	2.697	2.062
Hotel/Motel*		1,046	1,046.000		0.956	0.956

*Hotel/motel is a subset of Tourist/Recreational but is broken out here due to the importance of those activities.

Sources: Monroe County Property Appraiser, Tax Parcels 2012-16, Florida Department of Economic Opportunity, <http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/quarterly-census-of-employment-and-wages>; Table III-3: Percentage Assignment of Industries to Land Use Categories.

Fifth, and based on the previous analyses, the demand for workforce housing units created by a specific amount of floor area of non-residential development (1,000 square feet) was determined, by land use category. This was done in the following way. Initially, the number of employees per 1,000 square feet of space was determined, by land use category (see Table III-5: Square Feet of Space Provided Per Post Construction Employee by Land Use Category, Monroe County (2013-2016), see “Employees Per 1,000 Square Feet of Floor Area” column). Next, and because data indicates each economically active household in the County includes 1.332 employees, on average, the actual number of affordable housing units needed per 1,000 square feet of non-residential development, by land use category, and per square foot, was determined -- by dividing the number of employees by 1.332 (“Housing Units Needed....” columns in Table III-6). This analysis is outlined in Table III- 6: Post-Construction Employees and Housing Units Needed Per Square Feet of Non-Residential Development, Monroe County.

Table III-6 : Post-Construction Employees and Housing Units Needed per Square Foot of Non-Residential Development, by Land Use Category

Land Use	Employees per 1000 Square Feet	Average Employees Per Household	Housing Units per 1000 Square feet	Housing Units Per Square Foot
Governmental	0.917	1.332	0.688	0.000688
Industrial	0.953	1.332	0.715	0.000715
Institutional	1.468	1.332	1.102	0.001102
Office	3.100	1.332	2.327	0.002327
Other	2.315	1.332	1.738	0.001738
Retail & Restaurant	1.431	1.332	1.074	0.001074
Tourist/Recreational	2.062	1.332	1.548	0.001548
Hotel/Motel	0.956	1.332	0.718	0.000718

Source: Table III-1: Non-Residential Construction Employment and Housing Need, Monroe County; Table III-6: Square Feet of Space for Post Construction Employees by Land Use Category, Monroe County (2013-2016)

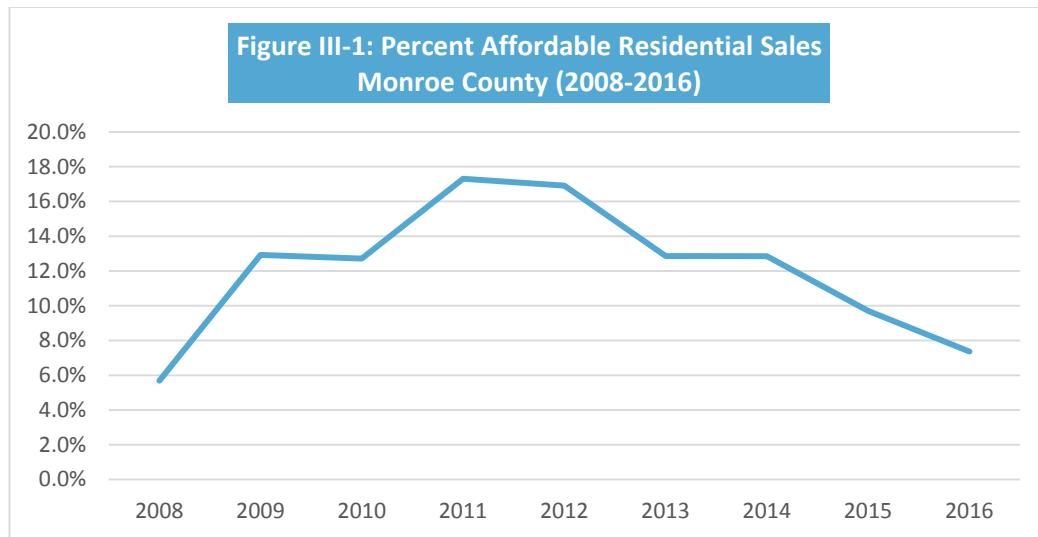
While housing generally is not affordable to most post-construction employee households, there are some housing units that have sold at prices that are affordable to median income households, and there are some employees earning more than the average or median income that can afford market housing. An analysis of historic residential sales shows that there have been 1,990 sales at affordable prices over the past nine years (from 2008-2016). This equates to an average of 211 housing units sold on an annual basis that are affordable to those with median household incomes. See Table III- 7: Sale of Housing Units at or Below Price Affordable to Median Income Households, Monroe County (2008-2016).

Table III-7: Sale of Housing Units at or Below Price Affordable to Median Income Households, Monroe County (2008-2016)					
Year	Median Household Income	Price at Which Housing Unit Affordable to Median Income Households	Units Sold		Affordable Housing Units Sold as Percent of Total
			Housing Units Sold That Were Affordable to Median Income Households	Total Housing Units Sold	
2008	\$52,443	\$174,635	59	1,037	5.69
2009	\$49,721	\$165,571	175	1,354	12.92
2010	\$50,619	\$168,561	196	1,542	12.71
2011	\$51,524	\$171,575	297	1,716	17.31
2012	\$53,637	\$178,611	307	1,815	16.91
2013	\$50,838	\$169,291	272	2,115	12.86
2014	\$59,388	\$197,762	291	2,265	12.85
2015	\$61,020	\$203,197	233	2,402	9.70
2016	\$62,355	\$207,642	160	2,174	7.36
Totals			1,990	16,420	12.12

Source: Multiple Listing Service, Monroe County

More specifically, Table III-7 shows the number and percentage of all housing unit sales that are at or below prices that are affordable to those with median household incomes, as well as all sales. Figure III-1: Percent Affordable Residential Sales, Monroe County (2008-2016), graphically portrays this data. Not surprisingly, the percentage of units sold that are affordable to those with median household incomes was very low at the height of the run-up of housing prices before the Great Recession; trended upward after the Great Recession, but then began to trend downward again as the real estate market recovered.

Looking toward the future, the expectation is that the number of free market housing units available at prices that are affordable to median income households will continue to decline both in number and as a percentage of all sales; however, it is unlikely to go to zero since many of the sales are of existing homes, which will continue to be resold in the future. While it is impossible to know what portion of all future housing sales in the County will be at prices that are affordable to median income households, it is appropriate and reasonable to expect that some sales will be affordable, even though that percentage will be relatively minor. Over the nine years of sales data evaluated, right before the Great Recession, six percent of all sales were affordable to those with median household incomes; that figure increased to as high as 17 percent after the recession, but in recent years has decreased down to seven percent. Given this historical data, and the general conditions of the real estate economy in the County, this analysis assumes that eight percent of the future free market housing sales will be affordable to those with median household incomes.



In addition to this small percentage (eight percent) of free market housing units that will be available and affordable to employees in median income households, there will also be free market housing units that are affordable to employee households whose incomes are substantially above the median (since 50 percent of all employee households have incomes higher than the median). In determining the need for affordable workforce housing, this must also be considered. Table III-8: Percent of Households Above and Below Affordability Level, applies national household income distribution patterns to Monroe County. The median national household income was \$56,515 in 2016.⁷ The Monroe County median household income was \$62,355, so the national distribution pattern was shifted upward to be consistent with the Monroe County median. The 2016 median sales price for all dwellings in Monroe County was \$485,000. A household would need an income of \$163,664 for it to be reasonably affordable. On the other hand, the selling price of non-single-family homes (duplex, triplex, quadraplex, and mobile homes) was \$375,000; it would require a household income of \$112,613 to be reasonably affordable. Applying national income distribution norms to the situation in Monroe County indicates that 22.42 percent of the households in Monroe County would have household incomes at or above \$112,613.⁸

⁷ Source: U.S. Census Bureau, Current Population Survey, 2016 Annual Social and Economic Supplement.

⁸ Source: U.S. Census Bureau, Current Population Survey, 2016 Annual Social and Economic Supplement.

Table III-8: Percent of Post Construction Households Above and Below Affordability Level, Monroe County	
Median Household Income	\$62,355
Percent Under Median Household Income	50.00
Percent Median to Affordable Limit	27.58
Percent Above Affordable Limit	22.42
<i>Source: U.S. Census Bureau, Current Population Survey, 2016 Annual Social and Economic Supplement.</i>	

This suggests that 22.42 percent of households should be able to afford market housing in Monroe County. This percentage applies to the typical or median household. It would be expected that some industry groups or land use categories would have a greater ability to afford housing than others. Table III-9: Percent of Post Construction Employee Households Able to Afford Market Housing, by Land Use Category, Monroe County, shows median household income by land use category, and estimates the expected percentage of employee households in the land use category that would have the income to afford the median price residential unit.

Table III-9: Percent of Post Construction Employee Households Able to Afford Market Housing, by Land Use Category, Monroe County		
	Median Income	Percent of Households Able to Afford Market Housing
Typical Household	\$62,355	22.42
Median Household Income by Land Use Category		
Governmental	\$67,246	32.80
Industrial	\$61,755	30.12
Institutional	\$61,692	30.09
Office	\$60,304	29.42
Other	\$46,832	22.84
Retail & Restaurant	\$44,987	21.94
Tourist/Recreational	\$42,020	20.50
Hotel/Motel	\$42,020	20.50

Employees with above median household incomes should be able to acquire market housing in the proportions shown above. Additionally, and as discussed earlier, housing sales data show that we should also expect that eight percent of market sales of housing units annually will be at or below prices that are affordable to median income households. Adding these two components together results in the estimated portion of employee households that should be able to acquire market housing in Monroe County. Based on this calculation, the percent of employee households needing assistance can be determined. This is summarized in Table III-10: Total Percent of Post Construction Employee Households Needing Assistance, by Land Use Category, Monroe County

Table III-10: Total Percent of Post Construction Employee Households Needing Assistance, by Land Use Category, Monroe County					
	Median Household Income	Percent of Households With Income Levels Able to Afford Market Housing	Percent of Sales at Prices Affordable to Median Income Households	Total Percent of Sales That are Affordable	Percent of Households in Need of Assistance
Typical Household	\$62,355	22.42	8.00	30.42	69.58
Median Household Income by Land Use					
Governmental	\$67,246	32.80	8.00	40.80	59.20
Industrial	\$61,755	30.12	8.00	38.12	61.88
Institutional	\$61,692	30.09	8.00	38.09	61.91
Office	\$60,304	29.42	8.00	37.42	62.58
Other	\$46,832	22.84	8.00	30.84	69.16
Retail & Restaurant	\$44,987	21.94	8.00	29.94	70.06
Tourist/Recreational	\$42,020	20.50	8.00	28.50	71.50
Hotel/Motel	\$42,020	20.50	8.00	28.50	71.50

Table III-11: Post Construction Employees Need for Housing, by Land Use Category, Per 1,000 Square Feet, Monroe County, shows the need for affordable workforce housing units (or a portion thereof) created by 1,000 square feet of the different types of non-residential land use categories, for post construction employees. This is calculated by first identifying the amount of post construction employees per 1,000 square feet, for each land use category (Table III-6), and dividing that by the average number of employees in each household (1.332 employees per household). That number is then multiplied by the percent of employees that are estimated to be in need of housing assistance to determine the employees in need of housing assistance.

Table III-11: Post Construction Employees Need for Housing, by Land Use Category, Per 1,000 Square Feet, Monroe County				
Industry	Employees per 1,000 Square Feet	Employee Households per 1,000 Square Feet	Percent of Employees in Need of Housing Assistance	Need for Housing, per 1,000 Square Feet (by Unit)
Governmental	0.917	0.688	59.20	0.408
Industrial	0.953	0.715	61.88	0.443
Institutional	1.468	1.102	61.91	0.682
Office	3.100	2.327	62.58	1.457
Other	2.315	1.738	69.16	1.202
Retail & Restaurant	1.431	1.074	70.06	0.753
Tourist/Recreational	2.062	1.548	71.50	1.107
Hotel/Motel ¹	0.956	0.718	71.50	0.513

¹Hotel/motel is a subset of Tourist/Recreational but is broken out here due to the importance of those activities.

Table III-12: Post Construction Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development, shows the need for affordable workforce housing units (or a portion thereof) created by different amounts of development for the different types of non-residential land use categories (1,000 square feet, 3,000 square feet, 5,000 square feet, 10,000 square feet, and 20,000 square feet).

Table III-12: Post Construction Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development				
Governmental				
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed	
1,000	0.688	59.20		0.408
3,000	2.064	59.20		1.223
5,000	3.440	59.20		2.038
10,000	6.880	59.20		4.075
20,000	13.760	59.20		8.151
Industrial				
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed	
1,000	0.332	61.88		0.206
3,000	0.997	61.88		0.617
5,000	1.662	61.88		1.028
10,000	3.324	61.88		2.057
20,000	6.647	61.88		4.113

Table III-12: Post Construction Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development			
Institutional			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	0.512	61.91	0.317
3,000	1.537	61.91	0.951
5,000	2.561	61.91	1.586
10,000	5.122	61.91	3.171
20,000	10.244	61.91	6.342
Office			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	1.094	62.58	0.684
3,000	3.281	62.58	2.053
5,000	5.468	62.58	3.422
10,000	10.935	62.58	6.844
20,000	21.870	62.58	13.687
Other			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	0.902	69.16	0.624
3,000	2.707	69.16	1.872
5,000	4.512	69.16	3.120
10,000	9.023	69.16	6.240
20,000	18.047	69.16	12.480
Retail & Restaurant			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	0.565	70.06	0.396
3,000	1.695	70.06	1.188
5,000	2.825	70.06	1.979
10,000	5.650	70.06	3.958
20,000	13.769	70.06	9.646
Tourist/Recreational			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	0.831	71.50	0.594
3,000	2.493	71.50	1.783
5,000	4.155	71.50	2.971
10,000	8.310	71.50	5.942
20,000	16.620	71.50	11.884

Table III-12: Post Construction Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development			
Hotel/Motel			
Square Feet	Housing Units Needed	Percent Needing Assistance	Affordable Workforce Housing Units Needed
1,000	0.385	71.50	0.276
3,000	1.156	71.50	0.827
5,000	1.927	71.50	1.378
10,000	3.853	71.50	2.755
20,000	7.706	71.50	5.510

3. Summary of Needs for Affordable Workforce Housing Created by Non-Residential Development

Based on the analysis conducted in this Part III, Table III-13: Total Housing Needs for Workforce Housing Created by Non-Residential Development (By 1,000 Square Feet), summarizes the total need for affordable workforce housing units created by non-residential development, for construction and post-construction employees.

	Governmental	Industrial	Institutional	Office	Other	Retail & Restaurant	Tourist/Recreational	Hotel/Motel*
Employees per 1,000 SF								
Construction	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038
Post Construction	0.917	0.443	0.682	1.457	1.202	0.753	1.107	0.513
Total	0.955	0.481	0.720	1.495	1.240	0.791	1.145	0.551
Households per 1,000 SF								
Construction	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029
Post Construction	0.688	0.332	0.512	1.094	0.902	0.565	0.831	0.385
Subtotal	0.717	0.361	0.541	1.122	0.931	0.594	0.860	0.414
Percent in Need of Assistance								
Construction	69.58	69.58	69.58	69.58	69.58	69.58	69.58	69.58
Post Construction	59.20	61.88	61.91	62.58	69.16	70.06	71.50	71.50
Housing Units Needed								
Construction	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Post Construction	0.408	0.206	0.317	0.684	0.624	0.396	0.594	0.276
Total Housing Need per 1,000 SF	0.427	0.226	0.337	0.704	0.644	0.416	0.614	0.295

Table III-14: Total Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development			
Governmental			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.408	0.427
3,000	0.060	1.223	1.282
5,000	0.100	2.038	2.137
10,000	0.199	4.075	4.275
20,000	0.399	8.151	8.550
Industrial			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.206	0.226
3,000	0.060	0.617	0.677
5,000	0.100	1.028	1.128
10,000	0.199	2.057	2.256
20,000	0.399	4.113	4.512
Institutional			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.317	0.337
3,000	0.060	0.951	1.011
5,000	0.100	1.586	1.685
10,000	0.199	3.171	3.370
20,000	0.399	6.342	6.741
Office			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.684	0.704
3,000	0.060	2.053	2.113
5,000	0.100	3.422	3.522
10,000	0.199	6.844	7.043
20,000	0.399	13.687	14.086
Other			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.644	0.664
3,000	0.060	1.932	1.992
5,000	0.100	3.220	3.320
10,000	0.199	6.440	6.639
20,000	0.399	12.879	13.278

Table III-14: Total Employees Need for Housing, by Land Use Category, For Different Amounts of Non-Residential Development			
Retail & Restaurant			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.396	0.416
3,000	0.060	1.188	1.247
5,000	0.100	1.979	2.079
10,000	0.199	3.958	4.158
20,000	0.399	7.917	8.316
Tourist/Recreational			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.594	0.614
3,000	0.060	1.783	1.842
5,000	0.100	2.971	3.071
10,000	0.199	5.942	6.141
20,000	0.399	11.884	12.283
Hotel/Motel			
Square Feet	Housing Units Needed, Construction	Housing Units Needed, Post- Construction	Affordable Workforce Housing Units Needed
1,000	0.020	0.276	0.295
3,000	0.060	0.827	0.886
5,000	0.100	1.378	1.477
10,000	0.199	2.755	2.955
20,000	0.399	5.510	5.909

4. Assistance to Address Affordable Workforce Housing Need

The last step in evaluating the need for affordable workforce housing created by non-residential development, is to determine the amount of assistance needed to make the workforce housing needs created by non-residential development affordable for the employees that construct and serve non-residential development. In determining the assistance needed, it is first necessary to determine the cost of the prototypical housing unit that could reasonably be expected to serve workforce housing needs. This was the subject of the RRC Memorandum provided to Monroe County. The method and basis for determining the type and size of the prototypical housing unit is explained in Appendix D: Workforce Housing Prototype Cost Estimates. It also explains how the costs for construction and land were calculated to arrive at the average cost for the prototypical unit -- \$311,712, or \$326.40 per square foot.

Once the cost for a prototypical workforce housing unit is determined, the next step is to identify the amount of assistance that an employee household requires to be able to reasonably afford a prototypical unit based on their household income. This requires estimating the assistance needed for construction employees and post construction employees.

This analyses is summarized in Table III-15: Assistance Needed for Workforce Housing Need Created by Non-Residential Development (Per 1,000 Square Feet).

Table III-15: Assistance Needed for Workforce Housing Need Created by Non-Residential Development (Per 1,000 Square Feet)

	Govern-mental	Industrial	Institu-tional	Office	Other	Retail & Restaurant	Tourist/Recrea-tional	Hotel/Motel*
Household Earnings								
Construction	\$53,902	\$53,902	\$53,902	\$53,902	\$53,902	\$53,902	\$53,902	\$53,902
Post Construction	\$67,246	\$61,755	\$61,692	\$60,304	\$46,832	\$44,987	\$42,020	\$42,020
Weighted Household Income	\$66,713	\$61,132	\$61,279	\$60,140	\$47,050	\$45,417	\$42,416	\$42,842
Affordability Limit	\$222,154	\$203,569	\$204,060	\$200,266	\$156,676	\$151,240	\$141,245	\$142,665
Cost of Affordable Unit	\$311,712	\$311,712	\$311,712	\$311,712	\$311,712	\$311,712	\$311,712	\$311,712
Shortfall	\$89,558	\$108,143	\$107,652	\$111,446	\$155,036	\$160,472	\$170,467	\$169,047
Total Housing Need per 1,000 FT ²	0.427	0.226	0.337	0.704	0.644	0.416	0.614	0.295
Shortfall per 1,000 FT ²	\$38,285	\$24,397	\$36,284	\$78,492	\$99,838	\$66,722	\$104,691	\$49,947

Initially, the median household income is determined for each land use category, using a weighted average of the incomes for the proportionate number of construction employees who would have constructed, and post-construction employees that would work at 1,000 square feet of the land use (for the Governmental Land Use Category -- \$67,713). Next, and based on the weighted household income, the maximum amount the household could reasonably afford to spend on housing is determined (\$222,154 for

the Governmental Land Use Category). Next, the difference between the cost of the prototypical workforce housing unit (\$311,712) and the maximum housing cost that the employees can reasonably afford (\$222,154 for the Governmental Land Use Category) is determined (\$89,558). Finally, and because the housing need created by 1,000 square feet of non-residential development does not equal the need for one housing unit, the amount of housing needed by 1,000 square feet of development is multiplied times the needed assistance to make the costs of the housing unit reasonable (0.427 of a housing unit in the Governmental Land Use category). This results in the assistance or in-lieu fee needed to make the costs of housing unit reasonably affordable (\$38,285 in the Governmental land Use category ($\$89,558 \times 0.427 = \$38,285$)⁹).

Table III-16: Assistance Needed for Workforce Housing Need Created by Different Amounts of Non-Residential Development, shows the needed assistance (in-lieu fee) for affordable workforce housing units) created by different amounts of development for the different types of non-residential land use categories (1,000 square feet, 3,000 square feet, 5,000 square feet, 10,000 square feet, and 20,000 square feet).

Table III-16: Assistance Needed for Workforce Housing Need Created by Different Amounts of Non-Residential Development

Governmental		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$38,285	\$38,285
3,000	\$38,285	\$114,854
5,000	\$38,285	\$191,424
10,000	\$38,285	\$382,847
20,000	\$38,285	\$765,695
Industrial		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$24,397	\$24,397
3,000	\$24,397	\$73,190
5,000	\$24,397	\$121,984
10,000	\$24,397	\$243,967
20,000	\$24,397	\$487,935
Institutional		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$36,284	\$36,284
3,000	\$36,284	\$108,851
5,000	\$36,284	\$181,418
10,000	\$36,284	\$362,837
20,000	\$36,284	\$725,673

⁹ Rounding in the reporting accounts for apparent discrepancy in arithmetic.

Table III-16: Assistance Needed for Workforce Housing Need Created by Different Amounts of Non-Residential Development		
Office		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$78,492	\$78,492
3,000	\$78,492	\$235,475
5,000	\$78,492	\$392,459
10,000	\$78,492	\$784,917
20,000	\$78,492	\$1,569,835
Other		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$99,838	\$99,838
3,000	\$99,838	\$299,513
5,000	\$99,838	\$499,188
10,000	\$99,838	\$998,377
20,000	\$99,838	\$1,996,753
Retail & Restaurant		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$66,722	\$66,722
3,000	\$66,722	\$200,166
5,000	\$66,722	\$333,610
10,000	\$66,722	\$667,220
20,000	\$66,722	\$1,334,441
Tourist/Recreational		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$104,691	\$104,691
3,000	\$104,691	\$314,074
5,000	\$104,691	\$523,456
10,000	\$104,691	\$1,046,912
20,000	\$104,691	\$2,093,824
Hotel/Motel		
Square Feet	Assistance Needed per 1,000 Square Feet	Total In Lieu Fee
1,000	\$49,947	\$49,947
3,000	\$49,947	\$149,841
5,000	\$49,947	\$249,735
10,000	\$49,947	\$499,470
20,000	\$49,947	\$998,941

APPENDIX A: CALCULATING THE AFFORDABILITY THRESHOLD

The Affordability Threshold Price is defined as annual household costs that are not more than 30% of annual household income. Housing costs include mortgage payments, mortgage insurance, property taxes, and property insurance. In determining what price home a household can afford based upon their spending 30% of annual income on housing, one multiplies annual income by 3.33. Table A-1: Price to Income Ratio for Affordability Threshold Price, shows this relationship. The mathematical equation that demonstrates this relationship follows the table.

Table A-1: Price to Income Ratio for Affordability Threshold Price

Income	Price	Mortgage	PI*	Taxes**	Insurance	Total	Percent of Income	Price to Income Ratio
\$50,000	\$166,650	\$166,650	\$11,182	\$2,024	\$2,000	\$15,205	30%	3.333
\$60,000	\$199,980	\$199,980	\$13,418	\$2,300	\$2,400	\$18,118	30%	3.333
\$70,000	\$233,310	\$233,310	\$15,655	\$2,576	\$2,800	\$21,030	30%	3.333
\$80,000	\$266,640	\$266,640	\$17,891	\$2,852	\$3,200	\$23,943	30%	3.333
\$90,000	\$299,970	\$299,970	\$20,127	\$3,129	\$3,600	\$26,856	30%	3.333
\$100,000	\$333,300	\$333,300	\$22,364	\$3,405	\$4,000	\$29,768	30%	3.333
\$110,000	\$366,630	\$366,630	\$24,600	\$3,681	\$4,400	\$32,681	30%	3.333
\$120,000	\$399,960	\$399,960	\$26,837	\$3,957	\$4,800	\$35,593	30%	3.333
\$130,000	\$433,290	\$433,290	\$29,073	\$4,233	\$5,199	\$38,506	30%	3.333
\$140,000	\$466,620	\$466,620	\$31,309	\$4,510	\$5,599	\$41,418	30%	3.333
\$150,000	\$499,950	\$499,950	\$33,546	\$4,786	\$5,999	\$44,331	30%	3.333
\$160,000	\$533,280	\$533,280	\$35,782	\$5,062	\$6,399	\$47,244	30%	3.333
\$170,000	\$566,610	\$566,610	\$38,019	\$5,338	\$6,799	\$50,156	30%	3.333
\$180,000	\$599,940	\$599,940	\$40,255	\$5,615	\$7,199	\$53,069	29%	3.333
\$190,000	\$633,270	\$633,270	\$42,491	\$5,891	\$7,599	\$55,981	29%	3.333
\$200,000	\$666,600	\$666,600	\$44,728	\$6,167	\$7,999	\$58,894	29%	3.333
\$210,000	\$699,930	\$699,930	\$46,964	\$6,443	\$8,399	\$61,806	29%	3.333
\$220,000	\$733,260	\$733,260	\$49,200	\$6,719	\$8,799	\$64,719	29%	3.333
\$230,000	\$766,590	\$766,590	\$51,437	\$6,996	\$9,199	\$67,632	29%	3.333
\$240,000	\$799,920	\$799,920	\$53,673	\$7,272	\$9,599	\$70,544	29%	3.333
\$250,000	\$833,250	\$833,250	\$55,910	\$7,548	\$9,999	\$73,457	29%	3.333
\$260,000	\$866,580	\$866,580	\$58,146	\$7,824	\$10,399	\$76,369	29%	3.333
\$270,000	\$899,910	\$899,910	\$60,382	\$8,101	\$10,799	\$79,282	29%	3.333
\$280,000	\$933,240	\$933,240	\$62,619	\$8,377	\$11,199	\$82,194	29%	3.333
\$290,000	\$966,570	\$966,570	\$64,855	\$8,653	\$11,599	\$85,107	29%	3.333
\$300,000	\$999,900	\$999,900	\$67,092	\$8,929	\$11,999	\$88,020	29%	3.333
\$310,000	\$1,033,230	\$1,033,230	\$69,328	\$9,205	\$12,399	\$90,932	29%	3.333
\$320,000	\$1,066,560	\$1,066,560	\$71,564	\$9,482	\$12,799	\$93,845	29%	3.333
\$330,000	\$1,099,890	\$1,099,890	\$73,801	\$9,758	\$13,199	\$96,757	29%	3.333
\$340,000	\$1,133,220	\$1,133,220	\$76,037	\$10,034	\$13,599	\$99,670	29%	3.333
\$350,000	\$1,166,550	\$1,166,550	\$78,273	\$10,310	\$13,999	\$102,582	29%	3.333
\$360,000	\$1,199,880	\$1,199,880	\$80,510	\$10,587	\$14,399	\$105,495	29%	3.333

Table A-1: Price to Income Ratio for Affordability Threshold Price								
Income	Price	Mortgage	PI*	Taxes**	Insurance	Total	Percent of Income	Price to Income Ratio
\$370,000	\$1,233,210	\$1,233,210	\$82,746	\$10,863	\$14,799	\$108,407	29%	3.333
\$380,000	\$1,266,540	\$1,266,540	\$84,983	\$11,139	\$15,198	\$111,320	29%	3.333
\$390,000	\$1,299,870	\$1,299,870	\$87,219	\$11,415	\$15,598	\$114,233	29%	3.333
\$400,000	\$1,333,200	\$1,333,200	\$89,455	\$11,691	\$15,998	\$117,145	29%	3.333
\$410,000	\$1,366,530	\$1,366,530	\$91,692	\$11,968	\$16,398	\$120,058	29%	3.333

Notes

*Includes mortgage insurance

**Based on unincorporated Monroe County property tax rates
(ad valorem and non-ad valorem)

Assumptions

Downpayment of 0%
Mortgage Interest Rate of 4.25%
Mortgage Insurance Rate of 0.75%
Tax Rate
 Ad Valorem of 0.98% of 85% of the Sales Value
 Non-Ad Valorem Median of \$642.50
 Insurance Rate of 1.20% (outside of V Zone)

Sources

- Mortgage Rates - Bloomberg.com
- Ad Valorem Tax Rates - Monroe County Property Appraisers, website <http://www.mcpafl.org/pdf/Millage2016.pdf>
- Non-Ad Valorem Tax Rate - Examination of a sampling of individual residential properties on Property Appraisers' website

The mathematical equations that arrive at this result are as follows:

$$\text{Affordability Threshold Price} = \text{Household Income} / 30\%$$

$$\text{Affordability Threshold Price} = \text{Household Income} / 0.30$$

$$\text{Affordability Threshold Price} = \text{Household Income} * (1/0.30)$$

$$\text{And} \quad (1/0.30) = 3.33$$

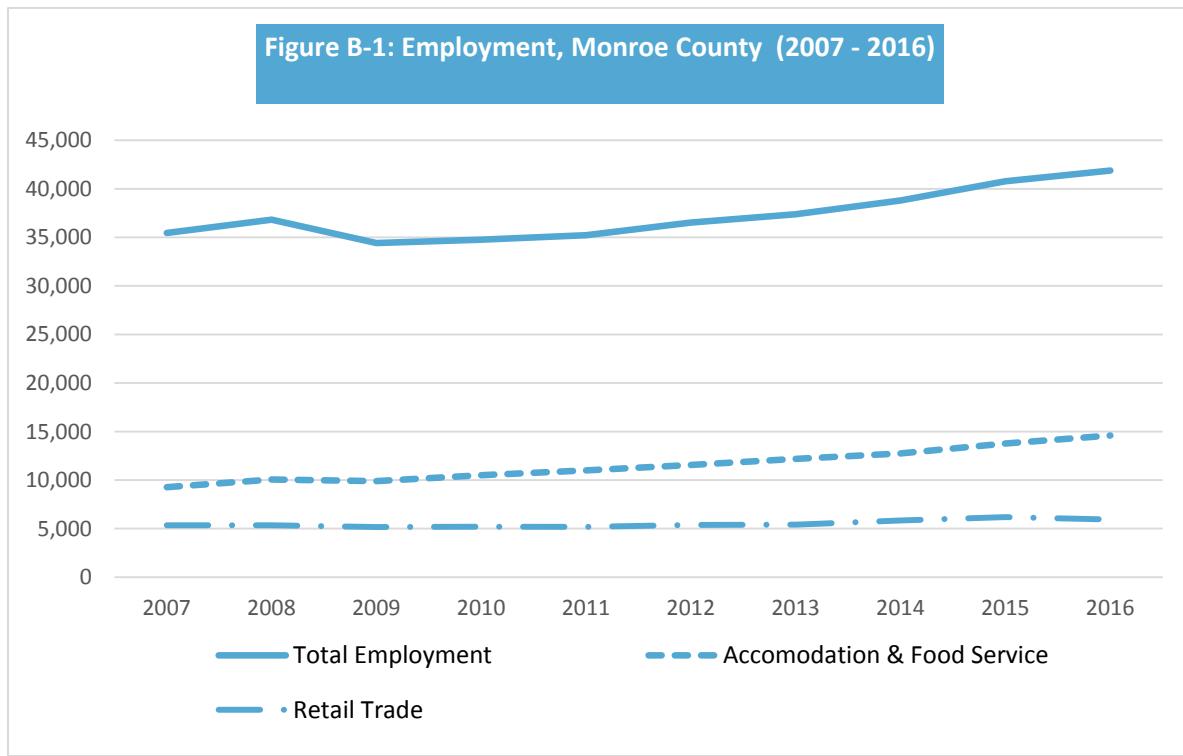
$$\text{Then} \quad \text{Affordability Threshold Price} = \text{Household Income} * 3.33$$

$$\text{Or} \quad \text{Affordability Threshold Price} = \text{Household Income} * 333\%$$

APPENDIX B: ECONOMIC GROWTH IN MONROE COUNTY (2007-2016)

During the period 2007-2016, economic growth in the county fluctuated significantly due to the heightened economic boom of the early 2000s and the Great Recession that followed. Correspondingly, the difference between 2007 and 2009 employment and wage statistics shows a decrease in employment due to the recession, while growth occurred during the early and mid-2010s.

The data in Figure B-1: Employment, Monroe County (2007-2016) show that the growth industry¹⁰ in Monroe County is Accommodations and Food Service, or more generally, a part of tourism-related industries. It grew at an annual rate of 5.3 percent per year, as contrasted with 1.9 percent for total employment and 1.2 percent for retail trade. All other industries grew by only 0.3 percent per year, showing the increasing reliance on tourism.



¹⁰ "Accommodation & Food Service" and "Retail Trade" industries are described using their formal name given by the North American Standard Industrial Classification Manual.

APPENDIX C: EMPLOYMENT BY HOUSEHOLD AND INCOME BY INDUSTRY

Households will have different incomes depending in the employment of the individual and the number of employed persons in a household. Table C-1, Employed Persons per Household, Monroe County, shows the number of employed persons in Monroe County economically active households.¹¹ These data show that there are 1.332 employed persons in the average economically active household. These data also show that overall household income will be greater than the income earned by the subject of this Study by the amount of the other employed person in the household.

Table C-1 : Employed Persons per Household, Monroe County	
Total Households	28,910
Households with Earnings	21,489
Households without Earnings	7,421
Labor Force	41,991
Employed Persons	38,504
Workers per Household	1.452
Employed Workers per Household	1.332
Sources: U.S. Census Bureau, 2011-2015; American Community Survey 5-Year Estimates; https://www.factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP03&prodType=table	

The average wage in 2016 was \$39,294. The “other” income for the average economically active household would be \$13,040 ($\$39,294 * .332$). Table C-2: Employment and Household Earnings by Industry, Monroe County (2008-2016) shows individual and housing income by industry for Monroe County in 2016.

¹¹ An economically active household is one with earned income.

Table C-2: Employment and Household Earnings by Industry, Monroe County (2008-2016)					
INDUSTRY	Employment	Avg. Wage 2008	Avg. Wage 2016	Other's Wages	Household Earnings 2016
Total, All Industries	40,772	\$36,590	\$39,294	\$13,040	\$52,334
Construction	2,584	\$35,789	\$40,862	\$13,040	\$53,902
Manufacturing	245	\$30,909	\$32,875	\$13,040	\$45,915
Wholesale Trade	582	\$50,816	\$46,131	\$13,040	\$59,171
Retail Trade	6,179	\$28,250	\$29,097	\$13,040	\$42,137
Finance and Insurance	712	\$52,098	\$64,391	\$13,040	\$77,431
Real Estate and Rental and Leasing	1,475	\$37,886	\$38,084	\$13,040	\$51,124
Educational Services	1,729	\$41,984	\$45,086	\$13,040	\$58,126
Health Care and Social Assistance	2,524	\$41,523	\$50,082	\$13,040	\$63,122
Leisure and Hospitality					
Arts, Entertainment, and Recreation	1,319	\$27,638	\$32,864	\$13,040	\$45,904
Accommodation and Food Services	13,763	\$27,068	\$30,412	\$13,040	\$43,452
Public Administration	3,016	\$52,416	\$58,912	\$13,040	\$71,952
Source: FL Dept. of Economic Opportunity, http://www.floridajobs.org/labor-market-information/ data-center/statistical-programs/quarterly-census-of-employment-and-wages					
*Estimated by increasing 2015 wages by the 2015-16 change in the Consumer Price Index					

APPENDIX D: WORKFORCE HOUSING PROTOTYPE COST ESTIMATES

Calculation of a prototypical affordable workforce housing unit was the major subject of the RRC Memorandum within the Support Study process. The memorandum informs this appendix.

A. NATURE AND SIZE OF PROTOTYPICAL AFFORDABLE WORKFORCE HOUSING UNIT IN MONROE COUNTY

One of the most important considerations in determining the need for affordable workforce housing in the County is to define just what is a prototypical affordable workforce housing unit. In other words, what size and type of affordable workforce housing unit will need to be built when need is determined. The prototypical workforce housing unit was determined by compiling the data on existing affordable workforce housing units built within the last decade, for which the County had information on size (square feet), the number of bedrooms, and the costs to build the units. These selected units are reasonably dispersed throughout the Keys, and consist of nine different developments of varying size totaling 554 units.¹² The developments include:

1. A multi-unit land trust development – Middle Keys;
2. A multi-unit modular development – Upper Keys;
3. Meridian West (Harbor Bay Investments) – Lower Keys;
4. Tradewinds Hammocks Phase 1 – Upper Keys;
5. Blue Water – Upper Keys;
6. A multi-unit townhome development – Lower Keys
7. A multi-unit apartment development built in 2016 – Middle Keys;
8. A multi-unit senior living apartment development – Upper Keys; and
9. A multi-unit apartment development under construction in 2017 – Middle and Lower Keys.

These affordable workforce housing developments include a varying number of bedrooms that serve families of different sizes. Not surprisingly, the majority of the units (56 percent) are two bedrooms. The nine developments are identified in Table D-1: Affordable Workforce Housing Developments, Monroe County, along with the number of units they include, the size of the units (in square feet), and the number of bedrooms in each unit.

¹² There are 824 existing affordable workforce housing units in the County.

Table D-1: Affordable Workforce Housing Developments, Monroe County					
	Number of Units	Square Feet per Unit			Total Square Feet in Development
		3 BR	2 BR	1 BR	
1. Multi-Unit Land Trust Apartments					
	16	1,109			17,744
2. Multi-Unit Modular Apartments					
	72		1,120		80,640
	6		750		4,500
	2	1,364			2,728
	30	1,364			40,920
3. Meridian West (Harbor Bay Investments)					
	17			600	10,200
	68		817		55,556
	17	1,034			17,578
4. Tradewinds Hammocks (Phase 1)					
	11			700	7,700
	35		890		31,150
	20	1,050			21,000
5. Blue Water					
	2			660	1,320
	24		801		19,224
	10	1,165(4BR)			11,650
6. Multi-Unit Townhome Development					
	40		1,150		46,000
	49	1,275			62,475
7. Multi-Unit Apartment (Built 2016)					
	16			710	11,360
	27		950		25,650
	8	1170			9,360
8. Multi-Unit Senior Living Apartment					
	28			695	19,460
	14		757		10,598
	0	0			0
9. Multi-Unit Apartment (Under Construction 2017)					
	6			710	4,260
	22		950		20,900
	14	1170			16,380
TOTALS	554				548,353
Source: Monroe County Planning and Environmental Resources Department, and data from individual builder/developers of affordable housing developments.					

To determine the average affordable workforce housing unit from this information, the following analysis was conducted. First, the size (in square feet) of the average unit was determined by totaling the area (in square feet) of each of the units identified in Table D-1, and dividing the total area of the units by the total number of units – resulting in an average unit size of 990 square feet. Next, the number of bedrooms for the average unit was determined by adding the total number of bedrooms in these units, and dividing the total number of bedrooms by the total number of units – resulting in an average bedroom size of 2.2 bedrooms for the average unit. See Table D-2: Affordable Workforce Housing Average Unit Size and Number of Bedrooms, Monroe County.

Table B-2: Affordable Workforce Housing Average Unit Size and Number of Bedrooms, Monroe County		
Average Size of Workforce Housing Units		
Total Square Footage Workforce Housing Units Table 1	548,353	
Total Number of Workforce Housing Units Table 1	554	
Average Size (in square feet) of Workforce Housing Units		990 Sq.Ft.
Average Number of Bedrooms Per Workforce Housing Unit		
Total Number of Bedrooms Workforce Housing Units Table 1	1204	
Total Number of Workforce Housing Units Table 1	554	
Average Number of Bedrooms Workforce Housing Unit		2.2 Bedrooms per Unit
Source: Table D-1: Affordable Workforce Housing Developments. Monroe County		

Because the prototypical unit should be a complete buildable unit, instead of using the average of 2.2 bedrooms per unit and an average size taken from units with different numbers of bedrooms, we suggest the prototypical unit should be set at 2 bedrooms per unit and calculated specifically from the population of 2 bedroom units identified in Table D-1 – resulting in a size for the prototypical affordable workforce housing unit of 955 square feet. See Table D-3: Size Prototypical Affordable Workforce Housing Unit, Monroe County.

Table D-3: Size of Prototypical Affordable Prototypical Affordable Workforce Housing Unit, Monroe County			
Development¹	Number of 2 Bedroom Units	Size of 2 Bedroom Units (Square Feet)	Total Square Footage of 2 Bedroom Units
Multi-Unit Modular Apartments			
smaller floorplan	6	750	4,500
larger floorplan	72	1,120	80,640
Meridian West (Harbor Bay Investments)	68	817	55,556
Tradewinds Hammocks (Phase I)	35	890	31,150
Blue Water	24	801	19,224
Multi-Unit Townhome Development	40	1,150	46,000
Multi-Unit Apartment Built 2016	27	950	25,650
Multi-Unit Senior Living Apartment	14	757	10,598
Multi-Unit Apartment Under Construction 2017	22	950	20,900
TOTAL	308		294,218
Average Size of 2 Bedroom Unit (Square Feet)		955	

Source: Table D-1: Affordable Workforce Housing Developments, Monroe County

In sum, and based on a review of the data on existing affordable workforce housing units built within the last decade, for which the County had information on size (square feet), the number of bedrooms, and the costs to build the units, the prototypical affordable workforce housing unit has 2 bedrooms and is 955 square feet in area. See Table D-4: Prototypical Workforce Housing Unit, Monroe County.

Table D-4: Prototypical Affordable Workforce Housing Unit, Monroe County

Number of Bedrooms	2
Size of Unit (in square feet)	955

SOURCE: Analysis in Tables B-1, B-2 and B-3.

B. COSTS OF WORKFORCE HOUSING

The costs of the prototypical unit are based on the square foot costs of building affordable workforce housing. The square foot costs are based on six affordable workforce housing developments for which development costs information was available through a survey of local builders/developers. The total costs of these projects are shown in Table D-5: Costs to Construct Affordable Workforce Housing Developments, Monroe County. The total building and land cost of the 350 units where data was available was \$118,824,593.¹³ The total square footage of the affordable workforce housing units built in these projects was 376,655 square feet.

¹³ This number addresses and includes land costs for one project where the land was provided by a land trust, but the true costs of a unit will include both building and land costs.

Table D-5: Costs to Construct Affordable Workforce Housing Developments, Monroe County

Development	Location	Type of Construction	Number of Units	Total Project Units Area (in Square Feet)	Total Project Cost				Project Cost per Foot
					Building ¹	Building Adjusted to 2017	Land	Total	
Multi-Unit Land Trust Apartments Built 2007 ²	Middle Keys	Modular Attached	16	17,744	\$3,918,936	\$4,175,944	\$1,039,528	\$5,215,473	\$293.93
Multi-Unit Modular Apartments Built 2010	Upper Keys	Modular Attached	110	128,788	\$24,461,352	\$25,374,846	\$5,000,000	\$30,374,846	\$235.85
Multi-Unit Townhome Built 2015	Lower Keys	Modular Attached	89	108,475	\$31,105,831	\$32,231,782	\$8,900,000	\$41,131,782	\$379.18
Multi-Unit Apartment Built 2016 ³	Middle Keys	Conventional Attached	51	50,050	\$15,265,341	\$15,265,341	\$2,100,000	\$17,365,341	\$346.96
Multi-Unit Senior Living Apartment Built 2017 ³	Upper Keys	Conventional Attached	42	30,058	\$7,811,110	\$7,811,110	\$771,668	\$8,582,778	\$285.54
Multi-Unit Apartment Under Construction 2017	Middle and Lower Keys	Conventional Attached	42	41,540	\$13,654,373	\$13,654,373	\$2,500,000	\$16,154,373	\$388.89
TOTALS			350	376,655	\$96,216,943	\$98,513,396	\$20,311,196	\$118,824,593 ⁴	\$326.40 ⁵

Source: Data provided by Monroe County affordable housing developers, December 2016 and March 2017.

NOTES: ¹Building costs include the costs of design, engineering, contingencies, site preparation, utilities, and mark-up.

²The Multi-Unit Land Trust Apartments Built 2007 was built in conjunction with a land trust and had no land costs. Land costs this project is included even though the land was provided by a land trust, because land costs are costs that should be included in determining the cost to build affordable workforce housing. Land costs for the project was estimated by taking the land costs of the Multi-Unit Townhome Built 2015 and the Multi-Unit Modular Apartments Built 2010 and dividing the land costs by the total square footage of the other two projects to establish an average land costs per square foot. This was then multiplied by the total square footage of the land trust project.

³These developments were reported with significant communal or office areas. Costs were adjusted to account for the proportion of the project in actual residences.

⁴This number addresses and includes land costs for one project where the land was provided by a land trust. See note 2.

⁵The cost per foot is the result of eliminating the high and the low costs per foot of floor area.

Based on the total costs of building 376,655 square feet of affordable workforce housing at a cost of \$118,824,593, the simple average square foot costs of an affordable workforce housing unit is \$321.73. Costs range from a low of \$235.80 to a high of \$388.89. Table D-6

shows several different ways to look at costs per foot of floor area. A simple average gives great weight to lower or higher values. A weighted average gives more consideration to larger versus smaller projects. A median is just that, a mid-point between the extremes. The last alternative is to drop the highest and lowest costs and then calculate the average of the remainder. Among the various methods, it is recommended that the last, dropping the highest and the lowest per square foot costs, be used as the typical costs of a workforce housing unit. Note should be taken that costs are all inclusive; it includes land, site preparation, hard buildings costs, soft costs, utility extensions and connections, and a reasonable return to the builder/developer.

Table D-6: Project Costs per Foot

Simple Average	\$321.73
Median	\$320.45
Weighted Average	\$315.47
Average, Excluding High and Low Per Square Foot Costs	\$326.40
Average Square Foot Costs Used	\$326.40

Based on a per square foot costs of \$326.40, the costs to build a prototypical unit of affordable workforce housing is \$311,712. See Table D-7: Costs to Build Prototypical Workforce Housing Unit, Monroe County.

Table D-7: Costs to Build Prototypical Workforce Housing Unit, Monroe County

Average Cost per Square Foot	\$326.40
Size of Unit (in square feet)	955
TOTAL COST OF UNIT	\$311,712

Source: Analysis in Tables D-4, D-5, and D-6