

An Economic Impact Study of the Marathon Port of Entry



Manuel S. Santos

Professor and James L. Knight Chair

Department of Economics

University of Miami

May 14, 2012

ABOUT THE AUTHOR

Dr. Santos is Professor and James L. Knight Chair of the Department of Economics, and visiting scholar of the Saint Louis Fed. His areas of expertise are macroeconomics, monetary and fiscal policy, finance and managerial incentives. Dr. Santos has an extensive teaching experience, and his research has been published in all major economic journals. He has served in the editorial board of several top journals, and has held positions as Professor of Universidad Carlos III de Madrid, ITAM (Mexico City), University of Minnesota, and Arizona State University, as well as a visiting Professor of the University of Chicago and UCLA. Dr. Santos earned a Ph.D. in economics from the University of Chicago in 1984.

EXECUTIVE SUMMARY

This study provides an Economic Analysis of the proposed development of Marathon Port of Entry to be located at the Florida Keys Marathon Airport. The economic analysis quantifies the increase in visitor expenditures as a result of a more convenient access to the Middle Keys for foreign sea and air travelers. The table below provides a general summary of the estimated increase in total final demand.

Total Final Demand of Marathon Port of Entry

Economic Aggregate	Total Final Demand (Rounded)
Total output	\$38.7 million
Total earnings	\$9.6 million
Total employment	346.5 jobs

Total output is defined as the annual value of total production, total earnings are defined as the annual value of household earnings and proprietors' income, and jobs are defined as permanent jobs in the economic area. Therefore, Marathon Port of Entry would generate \$38.7 million as increased annual production, \$9.6 million as increased household earnings, and 346.5 permanent jobs.

Regional Impact on household earnings, greater demand for business services, retail trade, maintenance and repair, air and water transportation, hotel and food services, and recreational activities

Direct investments and jobs have a multiplier effect in the economic area. For instance, hotel workers generate regular living expenses and would need many other services such as schools and health centers. Tourists bring about a variety of other expenses. It is important to note that this study renders conservative results because the analysis is supported on hard evidence for the multiplier effects:

1. The analysis is based on the Input-Output Table for the Nation, and regional data for Monroe County. Economic effects are known to be bigger for a broader area.
2. The Input-Output analysis considers a "static equilibrium" and hence it imposes strict conditions that provide conservative figures for the impact of the project on sectors such as education and health services.

3. The methodology only estimates the average impacts on various sectors of observed aggregate linkages. As an illustration, in an Input-Output analysis, the impact on the arts, entertainment, and recreation sector are very limited (particularly when considering the impact of the hotel and food services).

All computations stem from the RIMS II multipliers for Monroe County. The analysis contemplates the impact on total demand (output), household earnings, job creation, and value added over 21 NAICS industries that include several types of business services, utilities, maintenance and repair, hotel and food services, recreational activities, water and air transportation.

The tourism industry in the Middle Keys accounts for about \$900 million dollars in regional domestic product. The Middle Keys would capture a greater fraction of the booming tourism industry in South Florida if the local authorities were able to offer a more convenient access to these islands. The analysis finds that the Marathon Port of Entry should be the first step to revitalize the City Marina and the Airport, and to boost the demand for hotel services, restaurants, and recreational activities.

The above figures for job creation refer to direct jobs and indirect jobs. The industries that benefit from direct job creation are: Hotel Services (51 jobs), Food Services and Drinking Places (101 jobs), Recreational Activities (52 jobs), and Transportation (49 jobs). The industries that benefit the most from indirect job creation are: Utilities, Real Estate and Rental and Leasing, Retail Trade, Finance and Insurance, Professional and Technical Services, Administrative and Waste Management Services, Other Services, and Health Care.

The increase in total demand refers to static effects documented by the Input-Output table of the Nation. This straitjacket methodology does not take into account other dynamic factors that should be brought up in conjunction with the present study:

- (i) Persistent growth is expected in the tourism industry in Florida. Further, this growth has the potential to flow into Marathon Port of Entry as other locations such as the Miami Port of Entry and the Key West Port of Entry continue to be saturated.
- (ii) The possibilities for travel between Marathon and the Caribbean seem substantial, including the high prospects of unrestricted opening of the Cuban border for US tourists.
- (iii) Marathon Port of Entry (and induced increase in total demand) would be quite appealing to a domestic air carrier. The added convenience to domestic travelers of a domestic air carrier will generate over 76 additional jobs, and would be very convenient for domestic residents.

- (iv) Hotels and recreational companies in the Middle Keys may now organize international charter flights. For high-class tourists, reputational considerations advise not to organize these trips when the airport is not conveniently located.
- (v) Supply-driven growth in the tourism industry should occur as a result of the construction of modern upscale resorts and recreational facilities to accommodate the above increase in final demand; and
- (vi) Supply-driven growth should also occur as a result of some companies willing to use the services (maintenance and repair, provision and shipment of goods) surrounding the Airport and the City Marina.

As of now, (i)-(vi) cannot be supported by solid data, and have been discarded from the analysis. But (i)-(vi) should be additional important considerations to support Marathon Port of Entry. Hence, this economic study uses a sound analysis and reports some modest, realistic figures for economic growth in the Middle Keys. These figures, however, are non-negligible. Indeed, Marathon Port of Entry would represent increases in production and employment for the Middle Keys of about 4 percent.

Economic Assumptions

- **Economic Region:** The economic impact of Marathon Port of Entry will mainly be realized in the following areas: District 2 (Big Pine Key & the Lower Keys), District 3 (The Marathon Area), and District 4 (the Islamorada Area). This study refers to these three districts as the Middle Keys.
- **Economic Impact:** The analysis seeks to estimate static effects for interrelated industries. Still, the economic impact of Marathon Port of Entry is estimated to increase total demand and employment in the Middle Keys by about 4 percent.
- **Excess Capacity:** The Middle Keys can readily accommodate the increase in total demand generated by Marathon Port of Entry. The Marathon City Marina and the Airport are underutilized. Marathon Port of Entry will also bring about an expansion of hotels, restaurants, and marinas to accommodate the increased demand.
- **Demand Conditions for the Tourism Industry:** Recently, the tourism industry, in both Europe and the US has experienced substantial growth, and it seems quite resilient to the current economic crisis. The tourism industry in South Florida is estimated to grow at about 5 percent over the medium term. A number of global factors may benefit the tourism industry in South Florida: (i) Well known population trends in the US such as retirement of baby boomers, (ii) Prospects for economic growth in Latin America, (iii) A low dollar attracting European tourists, (iv) A growing Asian tourism into the US.

- **Economic Policy:** Economic policy is necessary to boost the tourism industry in the Middle Keys, and to benefit from global visitor trends. As discussed below, it is of paramount importance to provide better access for sea and air travelers to the Middle Keys. Local authorities should also enhance infrastructure, and promote the construction of modern hotels, restaurants, and marinas so that tourists can enjoy unparalleled weather, ocean views, and amenities. Marathon Port of Entry plays a key role in this development process.
- **Economic Conditions of Marathon and Surroundings:** Marathon is located in Monroe County, which is a rural area. Median income per household in Marathon is higher than in the State of Florida. Income distribution, however, displays some inequality stemming from over representation of bottom and top income earners. The cost of living in Marathon is over 21.8 percent higher than the national average. Marathon is located in the 33050 Zip Code. Actually, most of the population in the 33050 Zip Code belong to Marathon.

Technical Assumptions

- **Methodology:** Economic impact is measured by the Regional Industrial Multiplier System (RIMS), Type II (2002-2007) for the economic area of the county of Monroe. RIMS was originally developed in the 1970s by the Bureau of Economic Analysis (BEA) of the US Department of Commerce. It breaks out almost 500 industries. This study has followed closely the *User Handbook for the RIMS II*.
- **Calculation of Generated Jobs:** The computation of jobs generated in this study come from the increase in production in the tourism industry as a result of better access to the Middle Keys, and of induced developments in the local water and air transportation industries. The increase in the tourism industry is broken down into Hotel, Restaurant Services, Recreational Sports Activities, and Water and Air Transportation.
- **Constant Prices of Base Year 2007:** Multipliers are based on the 2002 Benchmark Input-Output Table of the Nation, and 2007 regional data. Consequently, final demand is adjusted for inflation to prices of the year 2007. Values are reported in 2007 dollars.
- **Price Elasticity:** This study assumes a price-elasticity equal to one for the tourism industry in the Middle Keys. Under a unitary price elasticity revenues are unchanged to price increases, and hence there is a constant income share for tourism expenditures. Again, this is a conservative estimate to describe demand conditions for the tourism industry in which visitors may have strong preferences for certain locations.

THE MIDDLE KEYS

The purpose of this study is to evaluate the potential economic impacts of the proposed development of a Port of Entry in Marathon, Florida, a key city in the iconic Florida Keys.¹ The Florida Keys are a group of islands located at the southeastern tip of the Florida peninsula, approximately 15 miles south of Miami. This archipelago, or group of islands, divides the Atlantic Ocean to the east and the Gulf of Mexico to the west. These islands are geographically configured into four sections: The Upper Keys, the Middle Keys, the Lower Keys, and the Outlying Islands.

Marathon is located in Knight's Key, an island in the Middle Keys, and is connected to Little Duck Key in the Lower Keys by the Seven Mile Bridge. Marathon serves as one of the largest cities in Monroe County where basic governmental functions are performed. Monroe County was established in 1823, and named for President James Monroe, fifth President of the US. Monroe County is considered a rural area. Most of Monroe's population lives in the Keys. Much of the population is concentrated in a few areas of much higher density, such as the City of Key West, which has 32 percent of the total population of the Florida Keys. According to census data, population count in Monroe County went from 79,589 in 2000, to 75,750 in 2005, and to 73,090 in 2010.

This study is concerned with the economic impact of Marathon Port of Entry. Economic impact is measured by the Regional Industrial Multiplier System (RIMS), Type II (2002-2007) for the County of Monroe. Multipliers are based on the 2002 Benchmark Input-Output Table of the Nation, and 2007 regional data. As discussed below, Marathon Port of Entry will mainly affect the Middle Keys. That is, the area extending from mile marker 90.5 of the Overseas Highway (Tavernier Creek Bridge) to mile marker 21 (Cudjoe Key). This part of the Florida Keys comprises: District 2 (Big Pine Key & the Lower Keys), District 3 (The Marathon Area), and District 4 (the Islamorada Area).

The Florida Keys Marathon Airport is a public airport located along the Overseas Highway in Marathon approximately at mile marker 51. The airport boasts a \$9 million terminal complete with ample space for parking, a passenger lounge, car rental agencies, taxi stands and shuttle buses. The airport extends over 190 acres (77 ha) with one runway of 5008 feet (1527 meters) long and two overruns of 400 feet (122 meters) long. Given current environmental regulations, it does not seem plausible to build any other airport of such size in the Florida Keys. The Key West Airport is the other main airport located at the very tip of the Florida Keys.

¹ According the United States Census Bureau, Marathon, the third largest city Florida Keys, is inhabited by 8,297 residents. (<http://quickfacts.census.gov/qfd/states/12/1236375.html>)



Marathon is the heart of the Keys, and hence it has various location advantages over Key West. For instance, when it comes to sea travel both the City of Marathon and Key West are at about 137 miles from Havana (Cuba). But for many Caribbean destinations like Bahamas, Marathon is much closer. Besides, Key West is 50 miles further away from Miami and all nearby cities in South Florida. Once Marathon becomes Port of Entry, the possibilities for travel between Marathon and the Caribbean seem substantial, including the high prospects of unrestricted opening of the Cuban border for US tourists.

This locational advantage is also evident when it comes to air travel. The Florida Keys Marathon Airport is 110 miles southwest of the Miami International Airport, and 133 miles of the Fort Lauderdale-Hollywood International Airport. Many areas of the Keys are better served by the Miami International Airport than by the Key West International Airport. Roughly, the dividing line is Islamorada. That is, by road it takes exactly the same time (one hour and thirty minutes) to travel from the Key West International Airport to Islamorada than to travel from the Miami International Airport to Islamorada. Therefore, air travelers to the Florida Keys north of Islamorada usually land at the Miami International Airport.

Location, however, is not the only advantage of the Florida Keys Marathon Airport over the Key West International Airport. The runway of the Florida Keys Marathon Airport can be stretched to 5,800 feet long, whereas the runway of the Key West International Airport is

approximately 4,800 feet long. There are conflicting views as to how the airline industry will develop. For some experts, increasing problems of congestion and fuel costs will lead towards larger aircrafts. Airbus believes that aircraft size will increase over 25 percent for all seat categories --- from smaller regional aircraft to very large aircraft. Jim Banke of the NASA Aeronautics Research Mission Directorate supports Boeing's flexible market strategies. He visualizes engines that require less power on takeoff for a quieter flight and runways of about 5,000 feet long (on average) to increase operational capacity and efficiency. NASA is focused on the development of aeronautic technologies that can be applied to a broad range of aircraft and operating scenarios for the greatest public benefit --increased energy efficiency and reduced environmental impact.

Regardless of the technological challenges and goals of the aircraft industry, there does not seem to be any other place in the Florida Keys to build a comparable airport. Incidentally, a long runway in the Florida Keys is vital to monitor foreign aircraft overflying US soil, flight emergencies, and refueling.



The Subsonic Ultra Green Aircraft Research, or SUGAR. *NASA/ Boeing*

Therefore, the Florida Keys Marathon Airport offers a great location with unmatched facilities. Similar considerations apply to sea travelers. Around one third of all Key West visitors come by cruise ships and ferries but Key West has significantly lower participation rates in water-based activities than the Middle Keys all year long. Marathon offers well-kept public beaches, and some of the best fishing, diving, snorkeling and water sports anywhere in the world. Many marine activities are centered on Boot Key Harbor, a sheltered cove in the center of the Island that is home to the City Marina as well as other commercial marinas.

VISITORS TRENDS AND POPULATION

Monroe County Tourist Development Council

Total Annual Visitors by District	2009	2010
District 1: Key West	2,231,000	2,503,500
District 2: Big Pine Key & the Lower Keys	223,000	223,400
District 3: Marathon Area	336,000	497,800
District 4: Islamorada Area	262,000	319,000
District 5: Key Largo Area	282,000	232,300
Total	3,334,000	3,786,000

According to Monroe County Tourist Development Council, around 3.8 million visitors per year are estimated to travel to the Florida Keys. This makes up for about 3 percent of the Florida visitors, and for over 4 percent of total revenue. Direct revenues from the tourism industry for the Florida Keys can be estimated to be of the order of \$2.5 billion (Source: Florida Department of Revenue).

The United Nations, which commemorated the birth of the world's seven billionth baby last October, is predicting the arrival of the one billionth tourist later this year. That is, over one billion people will cross international borders as tourists this year. According to the latest statistics released by the UN World Tourism Organization (UNWTO), tourist arrivals have increased from 674 million in 2000 to 939 million in 2010 and 980 million in 2011. Recent forecasts by UNWTO and local agencies [e.g., VISITFLORIDA] indicate that tourism in Florida can be increasing over the medium term at annual rates of about 5 percent. With an adequate infrastructure and entry access the Florida Keys should be able to capture a greater fraction of this increasing mass of Florida visitors.

The travel industry has shown to be uniquely resilient with an inherent capacity to overcome challenges. Travel is no longer a privilege as it once was. The top spenders were led by emerging source markets. China (plus 38 percent), Russia (plus 21 percent), Brazil (plus 32 percent) and India (plus 32 percent), followed by traditional markets with a growth in visitor expenditures from Germany (plus 4 percent) and the United States (plus 5 percent), according to UNWTO.

Historic visitor numbers in Florida have kept up with these general trends. Thus, according to VISITFLORIDA the number of Florida visitors was estimated to be 58.9 million in 1999, and 85.9 million in 2011. Florida total tourism spending was \$47.2 billion in 1999, and it is estimated to be \$65 billion in 2011. About 15 percent of these Florida visitors are coming from overseas and Canada.

About one million visitors stay in the Middle Keys (see above table) with total expenditures of about \$900 million. While good prospects lie ahead for the global and Florida tourism industry, the Middle Keys will be facing important challenges because of current economic conditions surrounding the hotel and financial industries. Over the past 10 years the tourism industry has experienced limited growth in the Middle Keys. Certainly, the current economic recession has stopped investment in modern hotels and infrastructures. To promote investment in modern upscale hotels and amenities, it seems necessary to allow better access to the Middle Keys by both sea and air. The Marathon Port of Entry would be located at the airport, and it would be a very convenient way of clearing customs for sea and air travelers arriving to the Middle Keys.

The following economic evidence indicates that the lack of new construction and renewed facilities has hampered output growth in the Florida Keys --- its tourism has not kept in pace with global markets. Since most of the modern tourism is concentrated in coastal areas close to mainland, the Florida Keys have the upside potential of capturing a larger fraction of the tourism industry in Florida.

FACT 1 (SMALL GROWTH IN THE NUMBER OF VISITORS): ACCORDING TO A SURVEY PERFORMED IN 1996 AROUND 2.5 MILLION PEOPLE VISITED THE FLORIDA KEYS. VISITOR COUNT INCHED UP TO 3.4 MILLION IN 2003, AND TO 3.8 MILLION IN 2010. VISITOR GROWTH IN THE STATE OF FLORIDA HAS BEEN SLIGHTLY HIGHER.

Hence, the Florida Keys tourism sector appears to grow below potential output. According to the Caribbean Tourism Organization the number of visitors in most Caribbean Islands is roughly the same as in 2003. Indeed, there has been some sort of shift to cheaper coastal locations. The Florida Keys, however, should take advantage of their proximity to mainland.

Population trends provide the most clear evidence that the tourism industry has not expanded in the Florida Keys.

FACT 2 (DECLINING POLUPATION IN MONROE COUNTY): ACCORDING TO CENSUS FIGURES, IN 2000 THERE WERE 79,589 RESIDENTS IN MONROE COUNTY. IN 2010 THERE WERE ONLY 73,090 RESIDENTS.

There are approximately 54,470 jobs in the Florida Keys. Accommodation and food services make for almost 20 percent of those jobs, retail trade makes for 11.5 percent, and government and government enterprises make for 14.1 percent. Hence, the Florida Keys economy is based on private employment originating from the tourism industry.

FACT 3 (TRAVELERS BY MODE OF ACCESS): IN FLORIDA, AIR VISITORS ACCOUNT FOR 52.8 PERCENT OF TOTAL VISITORS, AND NON-AIR VISITORS ACCOUNT FOR 47.2 PERCENT. IN THE FLORIDA KEYS, AIR VISITORS ACCOUNT FOR LESS THAN 6 PERCENT OF TOTAL VISITORS.

MOREOVER, ABOUT 95 PERCENT OF THE AIR VISITORS IN THE FLORIDA KEYS STAY IN KEY WEST.

Hence, the Key West International airport serves travelers to Key West but seems of little relevance for those travelers staying in the Middle Keys. A similar situation is found for sea travelers.

FACT 4 (CRUISE AND FERRY PASSENGERS): ALMOST ALL OF THE CRUISE AND FERRY PASSENGERS ARRIVE TO KEY WEST. BETWEEN 2003 AND 2011 THE ANNUAL NUMBER OF SEA TRAVELERS HAS HOVERED AROUND 850,000.

Therefore, Key West port of entry seems to be essential to serve cruise and ferry passengers. Around one third of all Key West visitors come by cruise ships and ferries. Key West, however, has significantly lower participation rates in water-based activities than the Middle Keys all year long. The fraction of foreign visitors to the Florida Keys is actually slightly higher than in the State of Florida.

FACT 5 (FRACTION OF FOREIGN VISITORS): AROUND 15 PERCENT OF ALL FLORIDA VISITORS COME FROM OVERSEAS AND CANADA. AROUND 20 PERCENT OF ALL SUMMER FLORIDA KEYS VISITORS COME FROM OVERSEAS AND CANADA. THIS LATTER PERCENTAGE GOES DOWN TO 15 PERCENT IN WINTER.

Canadian and Latin American visitors make up for a large fraction of winter visitors, whereas European visitors conform the largest summer group. The interchange of seasonal tourists means that both visitors and workers remain quite stable over the various seasons.

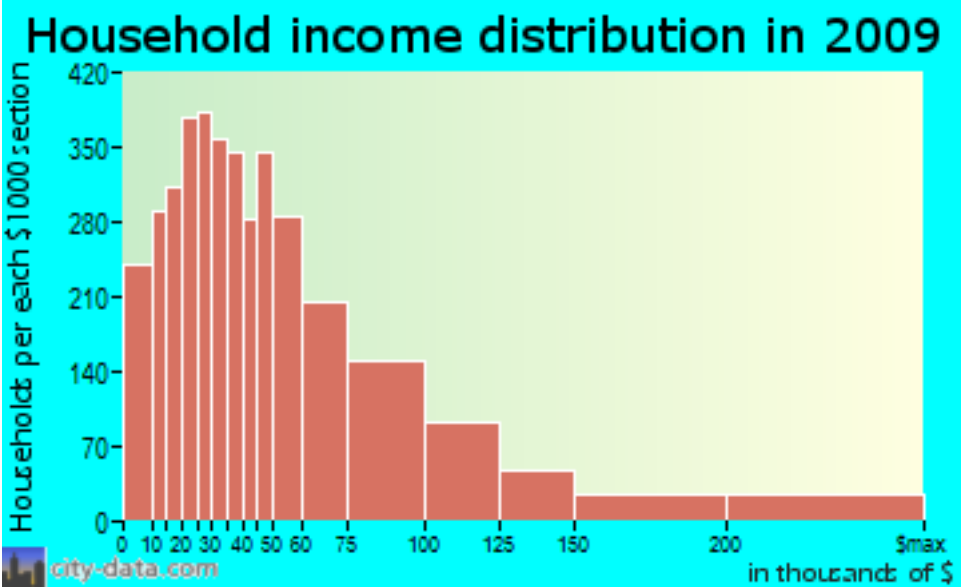
FACT 6 (SEASONAL OCCUPANCY AND LABOR): MONTHLY OCCUPANCY RATES ESSENTIALLY RANGE BETWEEN 55 TO 85 PERCENT, WHEREAS EMPLOYMENT REMAINS QUITE STABLE. OCCUPANCY RATES ARE QUITE HIGH OVER TEN MONTHS OF THE YEAR. OCCUPANCY DROPS IN SEPTEMBER AND OCTOBER BECAUSE OF HURRICANE HIGHER RISKS

From a statistical point of view the standard deviation of visitors is of the order of 15 percent, whereas the standard deviation of employment is of the order of 5 percent. This is a great advantage of the Florida Keys because employment and general activity in most touristic destinations just concentrates on a few months per year.

In summary, the Middle Keys can benefit from increasing global tourism trends in South Florida. It is then of paramount importance to gain better access to these islands, and to enhance modern infrastructure, resorts, and marinas. Local authorities should consider to revitalize the airport and marinas. These public investments may also trigger the construction of modern upscale resorts to attract South Florida tourists to enjoy a great weather, unparalleled ocean views, and amenities.

ECONOMIC CONDITIONS

As is typical in many ocean/vacation locations, household average income is high, and the income distribution has a positive excess kurtosis from heavier tails. More precisely, the estimated household median income is \$49,720 in Monroe county, and \$44,736 in Florida. Income distribution reflects existence of pronounced heavy tails from low and top income earners.



Total Private Employment in Monroe County	46,777
Construction	3,426
Retail Trade	6,188
Transportation and Warehousing	1,294
Finance and Insurance	1,974
Real State and Rental Leasing	4,424
Professional and Technical Services	2,631
Administrative and Waste Services	3,294
Health Care and Social Assistance	3,024
Accommodation and Food Services	10,444
Arts, Entertainment and Recreation	2,450
Other Services	3,715
Other Jobs	3,913

There are 54,470 jobs in Monroe county. Public employment comprises 7,693 jobs, and private employment comprises 46,777 jobs. Public employment is distributed over Federal, military, and state and local. Private employment is mainly driven by the tourism industry. Accommodation and food services make for 19.2 percent of all jobs, retail trade makes for 11.4 percent, and construction makes for 6.3 percent. Average yearly wages have remained stable over the last four years.

According to www.bestplaces.net/marathon/florida, the median home cost in Marathon is \$398,150. Home appreciation over the past three years has been a negative 33 percent. This is in line with current trends in the US. Marathon's cost of living is estimated to be over 21.8 percent higher than the U.S. average (e.g., see www.bestplaces.net/marathon/florida).

Monroe county gross sales went from \$3.8 billion in 2007 to \$3.4 in 2010. Hence, the recession has had a moderate negative impact on the economy. The hardest-hit sector has been the construction industry. While there were 538 construction permits issued in Monroe County in 2005, there were only 116 permits issued in 2009, and 271 in 2010. This is consistent with trends in South Florida and the US. Indeed, the number of construction permits issued in Florida went from 287,250 in 2005 to 38,679 in 2010. Hence, Florida is still tracking a much higher unemployment than the national average. The State shed 380,000 jobs --- cutting the construction industry by more than half, and the recovery in the industry is expected to be slow. Foreclosures have affected equally both Monroe County and the State of Florida. Hence, the housing bust and related implosion of construction have been the single biggest burden holding down any robust recovery.

The inventory of lodging accommodations in Monroe County has declined due to hurricane related damage, or more often, the sale of hotels/motels to residential condominium or condominium hotel developers. From 2002 to 2004, four properties with 227 units underwent conversion to condominium ownership. This number dramatically increased from December 2004 to April 2006, when nearly 40 properties underwent conversion to condominium use. This equates to a total of 2,345 units or 24 percent of the pre-2004 non-condominium transient lodging inventory. Conversion activity slowed down dramatically after 2006 due to a stagnant housing market, but more importantly because of the ability to finance and sell "condotel" units has all but disappeared. The hope of developing successful condotel projects fueled most of the conversions. Thus, the construction of several planned projects (that would have replaced previous inventory) has been delayed or cancelled.

In the Middle Keys, there are various resort-style, lodging facilities with a total of approximately 1,200 guest rooms: The Indigo Reef Resort Villas & Marina, The Coral Waterfront Resort and Marina, Hawks Cay Resort, Little Palm Island Resort, Cheeca Lodge and Spa, The Moorings Village and Spa, Casa Morada, Holiday Inn-Marathon Marina, The

Banana Bay Resort & Marina, The Tranquility Bay Beach House Resort, The Hampton Inn & Suites Islamorada, and The Days Inn & Suites Key Islamorada. There is, however, a large number of other types of accommodation including vacation rental homes. The number of guest rooms or lodging units (as well as occasional places to stay) could be around 15,000 units for the Middle Keys.

In addition to luxury accommodations and homey resorts, the Middle Keys boast numerous restaurants, ample shopping, and all the conveniences of a modern community including the Fishermen’s Hospital in Marathon and Mariners Hospital in Islamorada. While most of the waters in the Middle Keys are open to fishing, some areas have been set aside purely for eco-tourism and fish viewing by divers and snorkelers. Sombrero Reef, one of the most beautiful sections of North America’s only living coral barrier reef, lies just a few miles offshore and is protected by the Florida Keys National Marine Sanctuary.



Aerial view of Marathon

Marathon is rich in history. At the center of town is Crane Point Hammock, a 64-acre protected area of historic sites, wild flowers, tropical trees, walking trails, and museums. Another historic site is Pigeon Key, a tiny island that was home to those who built Henry Flagler's Overseas Railroad to Key West. It can be reached by walking a little over a mile across the famous Old Seven-Mile Bridge. Marathon is also home to the Dolphin Research Center and the Turtle Hospital, which are working to preserve two of Florida's most famous marine creatures.

The Middle Keys offer well-kept public beaches, and some of the best fishing, diving, snorkeling and water sports anywhere in the world. Many marine activities are centered on Boot Key Harbor, a sheltered cove in the center of the Island that is home to the City Marina as well as other commercial marinas. Islamorada and Marathon are particularly attractive to families who want to stay in a quaint, quiet environment, yet have the shopping and entertainment options offered by middle-sized cities.

The famous Seven-Mile Bridge



THE CITY MARINA AND THE FLORIDA KEYS MARATHON AIRPORT

Marathon is commonly referred as the "Heart of the Keys". This locational advantage is enhanced by the City Marina and the Airport.

The City Marina

Boot Key Harbor is a natural body of water sheltered by Vaca Key and Boot Key in the Atlantic Ocean. The Boot Key Bridge connects Vaca Key with Boot Key to the South. This bridge is currently closed to pedestrian and vehicular traffic. Boot Key Harbor is naturally well protected from severe sea conditions, and it is popular with recreational boaters seeking refuge from storms.

Boot Key Harbor can be accessed by boat via two inlets. The Western inlet has a controlling depth of 6 feet at mean low tide as does the rest of the main channel within the harbor. Sister Creek provides access from the South and has a low-point of 4.2 feet at mean low tide. Larger vessels can anchor safely just outside the harbor entrance.

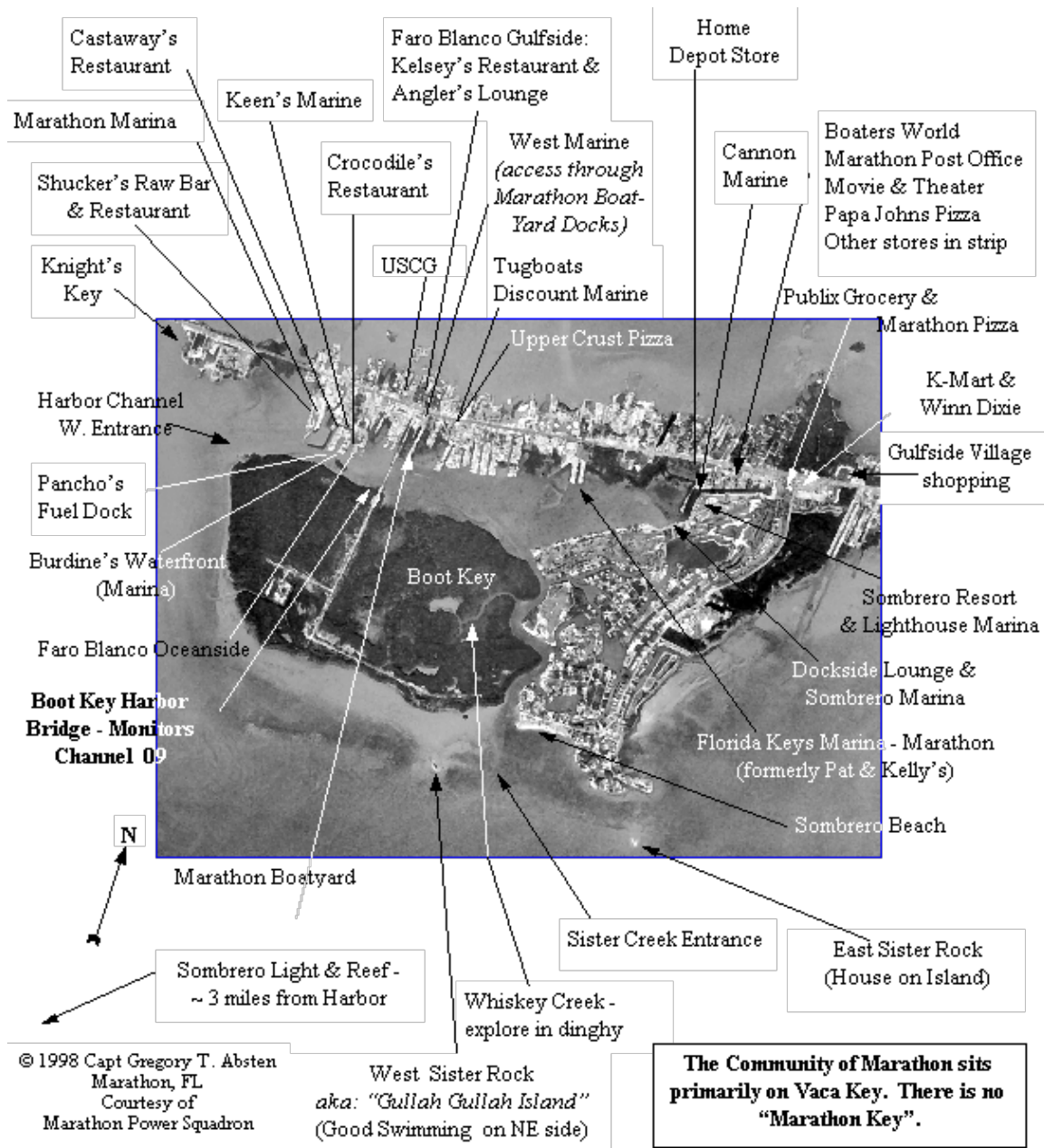
A large portion of Boot Key harbor is occupied by the City Marina: A municipal mooring field administered by the City of Marathon. Currently, Boot Key Harbor City Marina has docking space for 300 vessels up to 90 feet in length. An additional 22 slips are permitted at this time. There are also some privately operated marinas in Boot Key Harbor, which again have the possibility of expanding. Privately owned and operated marinas within the city limits of Marathon offer almost 1,600 slips, and three of these marinas offer dockage for vessels of up to 140 feet in length.

The 360° protection offered in Boot Key Harbor, coupled with the proximity to provisioning stores and boating repair facilities makes it one of the best places in Florida to wait for a weather window to depart or arrive from the return ocean crossing.

Boot Key Harbor City Marina is just two miles away from the Florida Keys Marathon Airport, and hence it is just a convenient location to clear customs from the proposed Marathon Port of Entry at the airport. Currently, cruisers must ride a bus for over an hour each way to Key West to check in and out when arriving from foreign ports.

Sea travel makes for about 40 percent of annual visitors for Key West. Hence, taking a conservative stand it seems reasonable to assume that as a result of Marathon Port of Entry, about 20 percent of all visitors to the Middle Keys will become sea travelers. This means that about 200,000 visitors will access the Middle Keys by boat. In other words, an average of 600 daily sea visitors will be visiting the Middle Keys; these can be accommodated in three to five ferries or other vessels. Most of these vessels could be operated by local private marinas.

As of now, there is no data available from privately owned and operated marinas within the City of Marathon regarding the number of foreign flagged vessels, but it can be estimated that the numbers would be substantial. Boot Key Harbor had over 150 foreign flagged vessels arrive in the past year. Indeed, in terms of cost, congestion and convenience,



Boot Key Harbor

Boot Key Harbor dominates many other ports in South Florida. Thus, according to Dick and Kathy DeGrasse, Seven Seas Cruising Association Commodore's Bulletin, "Boot Key Harbor is the most important staging area in the Florida Keys for vessels voyaging to Cuba, the

eastern and western Caribbean and the Bahamas because many name-brand stores such as Home Depot, Radio Shack, West Marina, Publix, Winn Dixie Supermarkets, as well as the Marathon Boat Yard and many other marine support services are all within walking distance of the dinghy docks.”

In what follows, it is important to realize that the composition of visitors -- sea travelers vs. air and auto travelers – is bound to change in the Middle Keys as a result of Marathon Port of Entry. This economic study is not assuming that the tourism industry in the Middle Keys will be increased by 200,000 visitors. Rather, at present those visitors can access the Middle Keys by sea through Key West, the Port of Miami or some other ports, or by other transportation modes. In other words, with the Marathon Port of Entry, it will be *cheaper* for sea travelers to access the Middle Keys. Hence, there is a potential market of 200,000 visitors that cannot access the Middle Keys directly by sea, but those visitors can use other modes of transportation if interested to reach the Middle Keys. Hence, our economic analysis below will focus on the *price effect*: The convenience of accessing the Middle Keys by sea.

The Airport

The Florida Keys Marathon Airport (MTH) is a public airport with direct access to the Overseas Highway (mile marker 51) in the City of Marathon. MTH was originally constructed by the United States Navy. It was deactivated as a military facility at the end of World War II and transferred to the government of Monroe County as a civilian airport. In the late 1960s Southeast airlines serviced the airport with three flights daily to and from Miami, via Key West. MTH was also served by American Eagle Airlines until 2000. In mid-2006, Delta Airlines announced planned non-stop service to Marathon via its regional subsidiary Atlantic Southeast Airlines. Shortly after the Delta announcement, Continental Airlines announced that it would begin services to Marathon via its Florida subsidiary Gulfstream International. In mid-summer of 2007, Delta announced that it would end service to MTH due to low demand. Continental Airlines ended service in December of 2008.

As already pointed out, MTH extends over 190 acres (77 ha). The runway is 5008 feet long (1526 meters) with two overruns of 400 feet (122 meters) long. This is a considerable advantage for safety purposes over the Key West International Airport whose runway is 4800 feet long. Indeed, when Atlantic Southeast Airlines served the MTH, it used a special 40 seat Canadian CRJ-100 because the performance and takeoff weights of the 50-seat versions would exceed safety margins, given Marathon’s comparative short runway length. Since the runway of the Key West International Airport is even shorter, Key West can only accommodate jet aircraft with short field performance.

As a consequence, most jet aircraft apply for “over flight” waivers that are issued by the Homeland Security (Customs and Immigration) and are generally granted with the approval of the Key West customs agents. While the technical rules governing the requirements to “land and clear at the nearest international designated airport” are rather stringent, the issuance of waiver is largely left to the judgment of the Customs agents at the location of the nearest border crossing; specifically Key West. These waivers seem to be routinely issued when requested (but require the submission of an application) because of safety issues related to a relatively crowded and shorter runway and the inability to depart with maximum weight (aircraft limitations).

Recently, the Monroe County Commission received a study regarding projections of facility usage and revenues associated with the Port of Entry for clearing customs at MTH. The report was prepared by Robin Foster and Bill Ehrhorn and submitted on December 21, 2011. Their study retrieves data on outbound flights from each of the 20 airports representing the majority of flights into the eastern United States. According to this study, the revenue opportunity for Monroe County is significant. If Marathon established a ‘User Fee’ Customs clearance facility and charged a reasonable clearing fee the revenue potential is estimated at \$1,175,390. The Foster-Ehrhorn study considers a \$225 average fee for jet aircraft and \$50 average fee for piston aircraft, which are about the median clearing fees at South Florida international airports that charge a user fee. In their most conservative scenario, Foster and Ehrhorn also estimate that 699,504 fuel gallons will be delivered, with a net revenue for Monroe County of about \$839,404.

The Foster-Ehrhorn study is concerned with annual over flights which are estimated to be 4,602 (or 12.6 daily); hence, this study does not address the potential impact that Marathon Port of Entry could have on local traffic after this area has been revitalized. For instance, some local hotels are planning to arrange charter flights from Canada and other foreign locations to attract more customers.

Currently, in terms of based-operated aircraft, the Marathon airport has 82 single-engine airplanes, 21 multi-engine airplanes, 3 jet airplanes, and 9 helicopters. Historically, the airport reached over 32,000 enplanements in 1995-98. For instance, in 1997 there were 72,500 (enplaned and deplaned) passengers from two airlines with four flights in/out per day.

Regular operations of MTH have been increasing and reached 36,000 in 2010. Air taxi operations were over 3,000. Operating expenses were \$700,000 in 1999, whereas non-operating expenses are of the order of \$350,000. See: <http://www.city-data.com/airports/The-Florida-Keys-Marathon-Airport-Marathon-Florida.html#b>. Several charter services also serve Marathon. The facility is popular for general aviation enthusiasts and corporate jet owners who use the 24-hour, self-service fuel and tie-down

space. New hangars for private planes have been built recently.

Still, by most economic standards MTH is underutilized. The Middle Keys area is even more populated than the broad Key West area (around 26,000 people). Of course, the Key West area has more visitors: There are over one million annual visitors in the Middle Keys and about 2.5 million in Key West. But conditioning for population size and visitors, air traffic is relatively low in Marathon as compared to Key West. Hence, one possible reason is that Key West has a port of entry that may be more appealing to commercial air carriers. The Key West International Airport has approximately 600,000 (enplaned and deplaned passengers) per year. Roughly, 400,000 passengers are tourists, while the remaining 200,000 passengers are residents. Hence, MTH should reach at least 100,000 passengers per year. Because MTH would be attracting less passengers, it seems sensible to assume an equal split between residents and tourists. Currently, MTH is estimated to have about 30,000 passengers. Hence, by conservative accounts, MTH calls for an increase of 70,000 passengers.

Several considerations are in order regarding this conservative figure. First, the presumption that half of the passengers would be visitors whereas the other half would be residents entails that 2.5 percent of the visitors are air travelers in the Middle Keys, whereas 8 percent of the visitors are air travelers in Key West. Second, this presumption also entails that on average a resident in the Middle Keys would make a return trip per year from MTH, whereas a Key West resident makes about 3.5 return trips per year from the Key West International Airport. Of course, in these conservative estimates one should take into account that MTH has a smaller critical mass of passengers (and hence will offer less choices), and it is closer to the Miami International Airport. Besides Key West, common destinations from MTH would be Miami, Fort-Lauderdale/Hollywood, and Fort Meyers.



Estimating the Economic Impacts of the Development of the Port of Entry in Marathon, Florida

METHODOLOGY

An economic Input-Output model (I-O) is a quantitative economic technique that represents the interdependencies between different branches of the national economy or between branches of different, even competing economies. The Russian-American economist Wassily Leontief developed this type of analysis and was awarded the Nobel Memorial Prize in Economic Sciences for the construction of this model. Earlier in the eighteenth century, French economist Francois Quesnay developed a cruder version of this technique called Tableau Économique (the economic table). The Tableau Économique is credited as the "first precise formulation" of interdependent systems in economics and is the origin of the theory of the industry multiplier in economics.

Effective planning for public- and private-sector projects and programs at the State and Local levels requires a systematic analysis of the economic impacts of these projects and programs on affected regions. In turn, systematic analysis of economic impacts must account for the inter-industry relationships within regions because these relationships largely determine how regional economies are likely to respond to project and program changes. Thus, regional I-O multipliers, which account for inter-industry relationships within regions, are useful tools for conducting regional economic impact analysis.

In the 1970s, the Bureau of Economic Analysis (BEA) developed a method for estimating regional I-O multipliers known as RIMS (Regional Industrial Multiplier System). In the 1980s, BEA completed an enhancement of RIMS, known as RIMS II (Regional Input-Output Modeling System), and published a handbook for RIMS II users; see the third edition of the User Handbook for RIMS II, March 1997.

RIMS II is based on the accounting framework of the I-O table. For each industry, an I-O table shows the industrial distribution of inputs purchased and outputs sold. A typical I-O table in RIMS II is derived mainly from two data sources: BEA's national I-O table, which shows the input and output structure of nearly 500 US industries, and BEA's regional economic accounts, which are used to adjust the national I-O table to show a region's industrial structure and trading patterns. RIMS II multipliers can be estimated for any region composed of one or more counties and for any industry, or group of industries, in the national I-O table. The accessibility of the main data sources for RIMS II keeps the cost of estimating regional multipliers relatively low.

ESTIMATED RIMS II MULTIPLIERS (2002/2007)

These multipliers are based upon the 2002 benchmark I-O table for the Nation and 2007 regional data. Because the multipliers are based on 2007 data, the output delivered to the final demand should be in 2007 dollars.

The following multipliers are available:

M1. Multiplier for final demand-output: The total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the primary industry.

M2. Multiplier for final demand-earnings: The total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the primary industry.

M3. Multiplier for final demand-employment: The total change in number of jobs that occurs in all industries for each additional dollar of output delivered to final demand by the primary industry.

M4. Multiplier for final demand-value added: The total dollar change in value added that occurs in all industries for each additional dollar of output delivered to final demand by the primary industry.

M5. Multiplier for direct effect-earnings: The total dollar change in earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the corresponding industry.

M6. Multiplier for direct effect-employment: The total change in number of jobs in all industries for each additional job generated in the primary industry.

ESTIMATING TOTAL FINAL DEMAND FOR MARATHON PORT OF ENTRY

STEP 1: ESTIMATED DIRECT INCREASE IN DEMAND FOR THE TOURISM INDUSTRY FROM SEA TRAVELERS IN 2007 DOLLARS: In 2007 dollars each sea visitor is estimated to spend \$700 over a three-day stay. For a visitor to the Middle Keys, the additional cost (bus fare and inconvenience of travel) of driving from Key West (both ways) is at least \$70, which is a ten percent increase in total expenditure. Assuming unitary price elasticity, the increase in demand for the tourist industry is: $\$ 0.1 \times 700 \times 200,000 = \$14,000,000$. Using expenditures on visitor profiles for Monroe County, this aggregate expenditure is broken down into \$5,000,000 for hotel services, \$5,500,000 for food services and drinking places, and \$3,500,000 for recreational activities.

STEP 2: ESTIMATED DIRECT INCREASE IN DEMAND FOR WATER TRANSPORTATION: Vessels may be operated by local marinas or by external marinas. Local marinas are very active in Marathon. Hence, local marinas would at least gain 25 percent of market share. This is a conservative estimate because certain services such as maintenance and repair and refueling would have to be performed at the City Marina. The average cost of the ferry ticket per passenger is over \$200. Hence, \$50 per sea passenger should accrue to local marinas and maintenance service and repair companies. Therefore, the increase in demand for water transportation is: $\$50 \times 200,000 = \$10,000,000$.

STEP 3: ESTIMATED DIRECT INCREASE IN DEMAND FOR AIR TRANSPORTATION: The Foster-Ehrhorn study estimated an increase in revenue of \$1,175,390, plus \$838,404 for net revenue from fuel gallons delivered. This additional revenue can be saved for operating and non-operating expenses for the airport. Rounding up, the increase in demand for air transportation is considered to be: \$2,000,000.

STEP 4: RIMS II MULTIPLIERS FOR THE COUNTY OF MONROE: Source, Bureau of Economic Analysis, RIMS II Multipliers (2002/2007), County of Monroe, Fl. For the industries in Steps 1-3, the RIMS multipliers are:

RIMS multipliers	M1	M2	M3	M4	M5	M6
Hotel Services:	1.4298	0.4047	13.9857	0.9211	1.4480	1.3875
Recreational Activities:	1.4887	0.3648	19.0806	0.8849	1.5092	1.2289
Food Services and Drinking Places:	1.4344	0.4117	21.7451	0.8041	1.3816	1.2131
Water Transportation:	1.5307	0.3139	6.7661	0.6349	2.0743	1.8888
Air Transportation:	1.5304	0.4720	10.9118	0.7665	1.4970	1.8321

STEP 5: TOTAL EFFECT ON OUTPUT, EARNINGS, AND EMPLOYMENT ON HOTEL SERVICES, FOOD SERVICES AND DRINKING PLACES, AND RECREATIONAL ACTIVITIES: Apply

multipliers to Final Demand. Step 1 yields an aggregate increase in demand: \$14,000,000, which has been broken down as \$5,000,000 for hotel services, \$5,500,000 for food services and drinking places, and \$3,500,000 for recreational activities. Then, application of the above RIMS II multipliers yields:

Economic Aggregate	Total Output	Total earnings	Total employment
Final demand for hotel services	\$7.2 million	\$2 million	70 jobs
Final demand for food services and drinking places	\$7.9 million	\$2.3 million	120 jobs
Final demand for recreational activities	\$5.2 million	\$1.2 million	67 jobs
Total	\$20.3million	\$5.5 million	257 jobs

STEP 6: TOTAL EFFECT ON OUTPUT, EARNINGS, AND EMPLOYMENT ON WATER AND AIR TRANSPORTATION, AND GRAND TOTAL: Apply multipliers to Final Demand. Steps 2-3 yield an aggregate increase in demand of \$10,000,000 for water transportation and \$2,000,000 for air transportation. Then, application of the RIMS II multipliers yields:

Economic Aggregate	Total output	Total earnings	Total employment
Final demand for water transportation	\$15.3 million	\$3.1 million	67.5 jobs
Final demand for air transportation	\$3.1 million	\$1 million	22 jobs
Final demand for hotel/food/recreational services	\$20.3 million	\$5.5 million	257 jobs
Grand Total	\$38.7 million	\$9.6 million	346.5 jobs

Therefore, Marathon Port of Entry would generate 38.7 million dollars in total final demand, 9.6 million dollars in earnings, and 346.5 jobs. Values refer to \$ of 2007. Output refers to annual final production, earnings refer to annual household earnings and proprietors' income, and jobs refer to permanent jobs.

AN APPLICATION OF THE RIMS II MULTIPLIERS: ESTIMATING TOTAL FINAL DEMAND OF MARATHON PORT OF ENTRY WITH A DOMESTIC AIR CARRIER

Please, note that the above computations are rather conservative as they fall into the straitjacket framework of the I-O table. For instance, this economic study does not consider the economic impact to the Middle Keys of opening up the Cuban border, since at this present time there is no hard evidence that could support the analysis. There is however evidence concerning past operations in the MTH. Hence, one could reasonably ask: What will the additional effect on final demand be if as a result of Marathon Port of Entry a domestic air carrier decides to operate in MTH? Note that this extension of the economic study *is not considered* in the final figures provided above in the executive summary (page 3).

STEP 1: ESTIMATED DIRECT INCREASE IN DEMAND FOR THE TOURISM INDUSTRY FROM AIR TRAVELERS IN 2007 DOLLARS: As estimated in the previous section, there would be 25,000 air visitors. That is, 50,000 enplaned and deplaned passengers. Each air visitor spends \$1,500 in the Middle Keys over a five-day stay. For a visitor to the Middle Keys, the additional cost (renting a car and inconvenience of travel) of driving from Miami or Key West (both ways) is at least \$150, which again is a ten percent increase in total expenditure. Assuming a unitary price elasticity, the increase in demand for the tourist industry is: $\$ 0.1 \times 1500 \times 25,000 = \$3,750,000$. Using expenditures on visitor profiles for Monroe County, this aggregate expenditure is broken down into \$1,100,000 for hotel services, \$1,500,000 for food services and drinking places, and \$1,150,000 for recreational activities.

STEP 2: ESTIMATED DIRECT INCREASE IN DEMAND FOR RESIDENT AIR TRAVELERS IN 2007 DOLLARS: As estimated in the previous section, there would be 17,500 new residents accessing the Marathon Airport. That is, 35,000 enplaned and deplaned passengers. For a resident of the Middle Keys, the additional cost (renting a car and inconvenience of travel) of driving from Miami or Key West (both ways) is at least \$100. Hence, total savings for domestic residents because of the convenience of having flights at the Marathon Airport would be: $\$100 \times 17,500 = 1,750,00$.

STEP 3: ESTIMATED DIRECT INCREASE IN DEMAND EXPENSES IN THE MARATHON AIRPORT. As estimated in the previous section, there would be 70,000 new travelers. From comparisons of other airports, and current non-operating expenses of the Marathon airport, each passenger will at least spend \$20. Hence, the increase in aggregate demand is: $\$20 \times 70,000 = 1,400,000$. We have estimated that \$700,000 would go to Food and Drinking Places, and \$700,000 would go to air transportation.

STEP 4: TOTAL EFFECT ON OUTPUT, EARNINGS, AND EMPLOYMENT WITH A DOMESTIC AIR CARRIER: Using the same methods as before the table provides the extra increase in total demand with the addition of an air carrier.

Economic Aggregate	Total output	Total earnings	Total employment
Final demand for hotel and food services	\$4.7 million	\$1.3 million	45 jobs
Final demand for recreational activities	\$1.8 million	\$ 0.7 million	26 jobs
Final demand for water transportation	\$1 million	\$ 0.2 million	5 jobs
Total	\$6.5 million	\$2.2 million	76 jobs

Therefore, if a commercial air carrier were to be established as a result of further policies by the local authorities, Marathon Port of Entry would generate 6.5 additional million dollars in total final demand, 2.2 additional million dollars in earnings, and 76 additional jobs. Note that these estimates do not take into account the convenience to local residents in the Middle Keys to have access to a local air carrier, and assume zero participation in earnings and jobs of local residents in the operation of the domestic air carrier, as well as in the demand for maintenance services and repair, and refueling. It should be stressed that the additional increase in demand with a domestic air carrier is not considered in the final results reported on page 3.

REGIONAL IMPACT ANALYSIS OF MARATHON PORT OF ENTRY OVER 21 NAICS INDUSTRIES

The total demand effects are considered within 21 NAICS industries. Output refers to total demand, jobs refer to job creation, and earnings refer to household earnings. Value added includes household earnings, profits, and gross capital rental payments (net capital payments plus physical capital depreciation). Commonly, macroeconomists refer to increases in total factor productivity as increases in value added that cannot be attributed to the accumulation of capital and labor (the so called Solow Residual). Moreover, gross capital payments are the primary ingredient to determine physical capital investment. Therefore, Tables 1 to 5 display quantitative effects on total demand, household earnings, job creation, and value added over 21 NAICS industries. From these effects, one can analyze the impact on the greater demand for business, utilities, maintenance and repair. Direct effects within the primary industry are highlighted in red. Maintenance and repair fall into Professional and Technical Services, and Other Services. The industries that benefit the most from indirect job creation are: Utilities, Real Estate and Rental and Leasing, Retail Trade, Finance and Insurance, Professional and Technical Services, Administrative and

Waste Management Services, Other Services, and Health Care. Here is a more detailed analysis:

Hotel Services (NAICS 721110). Table 1 reports the economic impact of Marathon Port of Entry for 21 industries regarding output, earnings, jobs, and value added as a result of an increase in demand for hotel services. Note that row 18 replicates direct economic effects for accommodation. The total effect would be 70 jobs. Most of these jobs are direct jobs that fall within the primary industry (accommodation, 51 jobs) with immediate economic impact on the Middle Keys. As it is to be expected, the remaining 19 indirect jobs fall mainly into related industries: Retail Trade, Real Estate and Rental and Leasing, Administrative and Waste Management Services, Health Care, Accommodation, Food Services and Drinking Places, and Other Services. These computations follow from the RIMS II multipliers for Monroe County.

Food Services and Drinking Places (NAICS 722000): Table 2 reports the economic impact of Marathon Port of Entry for 21 industries regarding output, earnings, jobs and value added as a result of an increase in demand for food services and drinking places. Note that row 19 replicates direct economic effects for food services and drinking places. The total effect would be 120 jobs. Most of the jobs are direct jobs that fall within the primary industry (101 jobs). The remaining indirect 19 jobs fall within related industries: Retail Trade, Real Estate and Rental and Leasing, Health Care, and Other Services. As before, these computations follow from the RIMS II multipliers for Monroe County.

Fitness and Recreational Sports Centers (NAICS 713940): Table 3 reports the economic impact of Marathon Port of Entry for 21 industries regarding output, earnings, jobs and value added as a result of an increase in demand for fitness and recreational sports centers. Note that row 17 replicates direct economic effects for arts, entertainment and recreation. The total effect would be 67 jobs. Most of the jobs are direct jobs that fall within the primary industry (52 jobs). The remaining indirect 15 jobs fall mainly within related industries: Real Estate and Rental and Leasing, Retail Trade, Health Care, Accommodation, and Food Services and Drinking Places. As before, these computations follow from the RIMS II multipliers for Monroe County.

Water Transportation (NAICS 483000): Table 4 reports the economic impact of Marathon Port of Entry for 21 industries regarding output, earnings, jobs and value added as a result of an increase in demand for water transportation. Note that row 8 replicates direct economic effects for transportation. The total effect would be 68 jobs. Over half of the jobs are direct jobs that fall within the primary industry (transportation, 36 jobs). The remaining indirect 32 jobs fall mainly within related industries: Real Estate and Rental and Leasing, Retail Trade, Various Types of Professional Services, Health Care, Accommodation,

and Food Services and Drinking Places. As before, these computations follow from the RIMS II multipliers for Monroe County.

Air Transportation (NAICS 48100): Table 5 reports the economic impact of Marathon Port of Entry for 21 industries regarding output, earnings, jobs and value added as a result of an increase in demand for air transportation. Note that row 8 replicates direct economic effects for transportation. The total effect would be 22 jobs. Most of the jobs are direct jobs that fall within the primary industry (transportation, 13 jobs). The remaining indirect 9 jobs fall mainly within related industries already discussed for water transportation.

Appendix

Table 1: Estimating the Economic Impact for the Operation of Hotel Services (NAICS 721110), thousand dollars of 2007

INDUSTRY	OUTPUT	EARNINGS	JOBS	VALUE ADDED
1. Agriculture	0	0	0	0
2. Mining	0	0	0	0
3. Utilities	171	40	0.5	116
4. Construction	57	19	0.5	29
5. Manufacturing	20	5	0.13	7
6. Wholesale Trade	26	8	0.15	18
7. Retail Trade	231	77	4.2	155
8. Transportation and Warehousing	91	46	0.9	63
9. Information	115	31	0.6	60
10. Finance and Insurance	122	30	0.6	80
11. Real Estate and Rental and Leasing	480	36	2.1	357
12. Professional and Technical Services	126	61	1.1	87
13. Management of Companies	65	27	0.34	40
14. Administrative and Waste Mgmt Services	158	53	2.5	90
15. Education Services	14	5	0.22	9
16. Health Care	108	50	1.3	66
17. Arts, Entertainment and Recreation	25	7.5	0.37	15
18. Accommodation	5,000	1,437	51	3,265
19. Food Services and Drinking Places	155	46	2.7	80
20. Other Services	137	39	1.4	67
21. Households	0	29	0.2	30
Total	7,149	2,023	69.92	4,605

Table 2: Estimating the Economic Impact for the Operation of Food Services/Drinking Places (NAICS 722000), thousand dollars of 2007

INDUSTRY	OUTPUT	EARNINGS	JOBS	VALUE ADDED
1. Agriculture	0	0	0	0
2. Mining	0	0	0	0
3. Utilities	160	37	0.4	109
4. Construction	44	15	0.4	22
5. Manufacturing	49	12	0.34	19
6. Wholesale Trade	60	19	0.34	40
7. Retail Trade	280	93	3.9	183
8. Transportation and Warehousing	107	53	1	74
9. Information	98	25	0.5	51
10. Finance and Insurance	129	31	0.65	84
11. Real Estate and Rental and Leasing	700	61	3.7	528
12. Professional and Technical Services	106	51	1	73
13. Management of Companies	68	28	0.34	43
14. Administrative and Waste Mgmt. Services	94	32	1.4	53
15. Education Services	16	5	0.25	9
16. Health Care	122	56	1.5	74
17. Arts, Entertainment and Recreation	31	9	0.5	18
18. Accommodation	51	14	0.5	33
19. Food Services and Drinking Places	5,500	1,693	101	3,900
20. Other Services	141	41	1.47	69
21. Households	0	0	0.01	0
Total	7,893	2,285	119.5	4,422

Table 3: Estimating the Economic Impact for the Operation of Fitness and Recreational Sports Centers (NAICS 713940), thousand dollars of 2007

INDUSTRY	OUTPUT	EARNINGS	JOBS	VALUE ADDED
1. Agriculture	0	0	0	0
2. Mining	0	0	0	0
3. Utilities	132	31	0.36	89
4. Construction	37	12	0.33	18
5. Manufacturing	11	3.1	0.1	4.5
6. Wholesale Trade	19	6	0.1	13
7. Retail Trade	150	51	2.1	98
8. Transportation and Warehousing	46	21	0.46	29
9. Information	71	19	0.37	38
10. Finance and Insurance	120	31.5	0.65	76
11. Real Estate and Rental and Leasing	593	62	3.8	453
12. Professional and Technical Services	93	44	0.91	64
13. Management of Companies	37	15	0.2	23
14. Administrative and Waste Mgmt. Services	99	34	1.5	57
15. Education Services	9	3.2	0.15	5.2
16. Health Care	68	31	0.8	41
17. Arts, Entertainment and Recreation	3,500	850	52	1,907
18. Accommodation	33	9.5	0.33	21
19. Food Services and Drinking Places	68	20	1.2	35
20. Other Services	108	30	1.2	56
21. Households	40	12.1	0.11	12.1
Total	5,210	1,277	66.8	3,097

Table 4: Estimating the Economic Impact for the Operation of Water Transportation (NAICS 483000), thousand dollars of 2007

INDUSTRY	OUTPUT	EARNINGS	JOBS	VALUE ADDED
1. Agriculture	0	0	0	0
2. Mining	0	0	0	0
3. Utilities	140	340	0.3	90
4. Construction	60	20	0.5	30
5. Manufacturing	78	2	0.5	30
6. Wholesale Trade	47	15	0.3	31
7. Retail Trade	390	130	5.5	256
8. Transportation and Warehousing	11,162	2,223	36	3,981
9. Information	127	32	0.6	68
10. Finance and Insurance	236	61	1.3	153
11. Real Estate and Rental and Leasing	1,179	114	7	897
12. Professional and Technical Services	164	78	1.5	112
13. Management of Companies	68	28	0.35	42
14. Administrative and Waste Mgmt. Services	426	133	4.7	247
15. Education Services	23	8	0.34	13
16. Health Care	167	78	2	102
17. Arts, Entertainment and Recreation	29	8	0.4	18
18. Accommodation	54	15	0.5	34
19. Food Services and Drinking Places	143	43	2.6	74
20. Other Services	353	97	2.8	16
21. Households	4	3	0.03	3
Total	15,305	3,140	67.6	6,347

Table 5: Estimating the Economic Impact for the Operation of Air Transportation (NAICS 481000), thousand dollars of 2007

INDUSTRY	OUTPUT	EARNINGS	JOBS	VALUE ADDED
1. Agriculture	1.1	0.4	0.02	0.7
2. Mining	0.5	0.2	0.01	0.3
3. Utilities	23	6	0.6	16
4. Construction	13	4	0.11	6
5. Manufacturing	8	2	0.05	3
6. Wholesale Trade	17	6	0.14	13
7. Retail Trade	113	37	1.6	74
8. Transportation and Warehousing	2,199	718	13.5	987
9. Information	37	8	0.17	20
10. Finance and Insurance	56	14	0.28	36
11. Real Estate and Rental and Leasing	227	18	1	167
12. Professional and Technical Services	33	16	0.3	23
13. Management of Companies	9	4	0.04	5
14. Administrative and Waste Mgmt. Services	73	25	1	43
15. Education Services	7.2	2.3	0.1	4.3
16. Health Care	53	24	0.7	32
17. Arts, Entertainment and Recreation	10	3	0.12	6
18. Accommodation	17	5	0.17	12
19. Food Services and Drinking Places	102	31	1.8	53
20. Other Services	61	17.7	0.7	30.2
21. Households	2.3	1.2	0.01	1.2
Total	3,068	944.1	21.8	1,533