Estimating the Potential Economic Effects of a Broward County Living Wage Ordinance Expansion at Broward County's Fort Lauderdale/Hollywood International Airport

Research Institute on Social and Economic Policy at
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Executive Summary

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Findings:

Worker Impacts

The LWO expansion would directly impact 1,710 workers under airport leases and service contracts, 88 percent of all workers. These workers will typically experience an hourly wage increase of $3.24 in order to bring their hourly wage to $11.68. The indirect impact of the LWO will affect 228 workers, 11.7 percent of all workers. The typical raise for workers experiencing an indirect impact is $0.24. About 7 workers, 0.3 percent of all workers, will not be affected by the LWO expansion. The increased wages from the LWO expansion will reduce the high rate of economic hardships and government assistance reliance reported by workers.

Business Impacts

We estimate that the direct impact on weekly wage costs for all airport leases and service contracts is a total increase of $221,335.13 and the direct impact on annual wage costs is an increase of $11,509,427. Likewise, we estimate the indirect impact on weekly wage costs is an increase of $2,203.91 and the indirect impact on annual wage costs is an increase of $114,603. However, a considerable portion of the wage bill will be absorbed through a combination of the following: 1) benefits in reduced absenteeism, lower turnover and training costs, and higher productivity; 2) higher prices; 3) allocation of a share of the revenues generated by economic growth to cover increased costs; and 4) redistribution of overall revenues within the business.

FLL Labor Market

The LWO expansion has the potential of compressing the FLL wage distribution and reducing overall wage inequality by reducing the prevalence of low-wages at the airport. The estimated economic impacts of the proposed LWO expansion to airport leases and service contracts are heavily influenced by the existing labor market characterized by a large share of low-skilled and low-wage workers. However, the LWO expansion, over time, may raise both the skill level and the wage level at FLL as employment with concessions and airport tenant service contract vendors becomes increasingly competitive. As such, the LWO expansion may serve as policy initiative that improves the FLL labor market and increases spending in the Broward County communities where workers reside.

Acknowledgements

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Introduction

This report analyzes the potential economic effects of expanding the Broward County Living Wage Ordinance (LWO) to cover Broward County's Fort Lauderdale/Hollywood International Airport's (FLL) airport leases and service contracts such as security, passenger services, baggage, janitorial, waste disposal, and fueling services. We estimate the living wage policy's impact, direct and indirect, on FLL's workers and businesses, and the airport labor market.

This report was commissioned by the Broward County Board of County Commissioners. Except for help to obtain data sets, the Broward County Board of County Commissioners has not been involved in any other aspects of the report, which was performed entirely and independently by RISEP.

The Research Institute on Social and Economic Policy (RISEP) at the Center for Labor Research and Studies at Florida International University has more than 10 years of experience performing social and economic research and has produced numerous economic impact reports across Florida and the U.S.

Living Wage Ordinances

Living wage ordinances are enacted by local governments to raise wage and benefit standards for workers at firms that do business with a city or county and/or are recipients of public funding. About 140 communities across the U.S. have passed living wage ordinances since their inception in Baltimore, MD in 1994 (see Appendix A for a list of selected living wage ordinances). It was estimated in 2005 that nearly 20 percent of the U.S. population was living in a locality covered by a living wage law, almost 40 percent of residents of large cities (Brenner

and Luce 2005). As a result, a long record exists on the numerous ways living wage ordinances are written and implemented.

Additionally, numerous government, private, and scholarly studies have discussed the effect on living wage ordinances on wages, employment, taxes, and poverty since 1994. Much of the evidence shows that living wage ordinances raise wages for low-income workers, boost local economies, and decrease poverty with few if any measurable negative effects on either employment or taxes (Lester and Jacobs 2010; Clain 2008; Reich et al. 2005). However, living wage ordinances have been and remain a contentious topic among policymakers and academics.

Local governments spend billions of tax dollars every year with private businesses on service contracts, lease and concession agreements, and economic development incentives and subsidies. Increasingly, local policymakers are asking businesses to deliver tangible economic benefits to their communities in exchange for government spending. Living wage ordinances are an effective policy tool that improve local economies by raising wage and benefit standards. By targeting low-wage workers, living wage ordinances increase the incomes of those in or near poverty despite working. The increased incomes result in additional consumer spending at the community level, which benefits local businesses, and in lower poverty rates, which benefit the community as a whole.

The living wage, often pegged as a percentage above the federal poverty level, is intended to be high enough to allow a full-time worker to make enough to be able to live out of poverty. Many living wage ordinances also include inflation adjustments that prevent the value of the living wage from eroding due to inevitable cost of living increases. Additionally, living wage ordinances often address job standards beyond a basic wage, like health insurance coverage

and/or earned sick time. Lastly, some living wage ordinance make the enforcement and compliance mechanisms explicit to ensure that the law has its intended effect.

Broward County LWO

In 2002, the Broward County Board of County Commissioners adopted the Broward County Living Wage Ordinance (LWO). The Board, like many city and county governments across the U.S., learned that sub-poverty level wages negatively impact local economic growth and increase the cost demand of social services. As businesses benefit from low wages taxpayers subsidize the cost of living of low-wage workers through government spending on food stamps, emergency medical services, housing, childcare, energy assistance, and other social services that workers rely on to support themselves and their families. In 2008, the Board amended the LWO to clarify the ordinance's applicability to service contracts, further define the provision of health care benefits, and allow for limited exemptions.

The LWO applies to part-time or full-time benefit-eligible County employees and to new contracts, renewals, and extensions that provide services to the County. As of January 1, 2015, the LWO requires that employers pay a minimum hourly wage of $11.68 with health care benefits or a minimum wage of $13.20 without health care benefits. Qualifying health benefits must amount to at least $.52 per hour. The living wage and health care benefits payment are annually indexed to inflation using the Miami PMSA Consumer Price Index for all Urban Consumers (CPI-U), calculated by the United States Department of Commerce. However, inflation adjustments are limited to a maximum of three percent for any given year and an annual increase cannot exceed the compensation increase provided to unrepresented County employees. Between January 1, 2013 and January 1, 2015 the LWO increased by 1.9 percent, 22 cents an hour for workers with health care benefits and 25 cents for workers without health care benefits.

FLL and the Broward County LWO

In 2014, the LWO was amended to include retail, food, and beverage concession contracts at FLL's airport terminal complex and car rental center (see Appendix B). Airport terminal complex means all passenger terminal buildings located at the Airport, whether now existing or developed in the future. Rental Car Center means the facility located within the Airport terminal roadway system designated for rental car concession operations and for pick-up and delivery of customers by nonconcessionaire rental car companies and by airport users, including any future modifications to this facility.

On September 19, 2014 the Broward County Office of Management and Budget provided the Board with a memorandum stating that "Since there is no pass through of expenses with the Airport Terminal Complex and Car Rental Center concessionaires, there is anticipated to be no direct fiscal impact to the Broward County Aviation Department as a result of this ordinance." (see Appendix B). On October 14, 2014 the Broward County Commission held a public hearing where they voted 7-0 to amend Section 26-101 of the LWO and implement the LWO for retail, food, and beverage concession contracts at FLL's terminals and car rental center. The amendment became effective on October 15, 2014.

The 2014 amendment provides that service contractors and their subcontractors pay a living wage to their employees only if their contracts are entered into, renewed, or extended after the effective date of the amendment. The amendment does not compel businesses with existing contracts to extend the LWO wage rates to their employees but does provide businesses to opt-in

voluntarily. At the time of writing four car rental vendors are under the LWO and no business has voluntarily opted-in to the LWO.

Nearly 12,500 people are employed directly at FLL. In addition to traditional aviation industry employees, such as pilots, technicians, and flight attendants, the airport workforce includes ground-based, non-managerial workers including customer service personnel, ramp workers, baggage handlers, screeners, cabin cleaners, security personnel, restaurant, and retail workers. Most of the ground-based workers are paid less than the LWO ($11.68 with health care benefits or $13.20 without health care benefits). Many earn wages close to the Florida minimum wage of $8.05 per hour, as of January 1, 2015.

Recognizing the problems caused by low-wage jobs—for airport workers, their communities, and the traveling public—the Board is contemplating extending the LWO to include airport leases and service contracts. The proposed amendment would apply the LWO to services performed either directly for, or through a contract or subcontract with, an airport business (such as air carriers or lessees) for many ground-based services, such as security, passenger services, baggage, janitorial, and waste disposal, and fueling services.

Overview of Report

The LWO has the potential of substantially impacting the labor market of FLL if it is extended to cover more workers. As such, this study examines the existing and potential impacts of the LWO at FLL. In the following sections, we review recent research on living wage impacts; explain our methodological approach to economic impact analysis; place the FLL labor market in context; and estimate direct and indirect economic impacts on FLL and its workers and businesses.

Literature Review

Since the inception of living wage ordinances in 1994, and its subsequent expansion to about 140 communities throughout the U.S., numerous government, private, and scholarly studies have discussed the effect on living wage ordinances on wages, employment, taxes, and poverty. Much of the evidence shows that living wage ordinances raise wages for low-income workers, boost local economies, and decrease poverty with few if any measurable negative effects on either employment or taxes (Lester and Jacobs 2010; Clain 2008; Reich et al. 2005). Nonetheless, it is important to parse out the likely reported benefits and costs associated with living wage ordinances.

Benefits

The benefits of living wage ordinances are mainly targeted at low-wage employees and their communities by design. By raising wage and benefit standards living wage ordinances increase the incomes of those in the bottom distribution of wage earners. The additional income that working households receive from living wage ordinances ultimately reduce their likelihood of being in or near poverty and therefore reduce their consumption of income assistance programs like publicly-funded social services. In turn, increased incomes and the subsequent cost reduction of publicly-funded social services boost local economies. Unsurprisingly, living wage ordinances have been found to reduce poverty and benefit local communities (Clain 2008).

Additionally, increased wages and benefits are associated with lower turnover (Dale-Olsen 2006, 99). Lower turnover translates into more experienced workers, with more opportunities for training and learning on the job, which can lead to better work performance

(Reich et al. 2003). Therefore, living wage ordinances, while targeted to benefit low-wage workers, may also benefit their employers.

However, the benefit of raising wages may have substantial costs to the same population it benefits as well as to employers. The basic law of demand in economics states that raising the price of anything will reduce the demand for that thing, all else being equal. It follows that an increase in the minimum wage will generate employment losses for low-wage workers, all else being equal. This means that while living wage ordinances increase the minimum wage for low-wage workers it may also reduce the amount of job opportunities for those same workers.

It is critical to recognize here that, all else being equal, if businesses want to reduce employment and cut their workforce due to a minimum wage increase then they may impair their capacity to sustain or improve their existing level of operations and retain or expand their customer base. We assume that businesses have an aversion to scale back operations in light of a wage increase. As such, reducing their workforce is not likely to be the preferred adjustment option for most businesses that aspire to compete effectively and expand. Additionally, we assume that businesses are also averse to reducing their profit rate in response to a minimum wage increase. These are the reasons why businesses are likely to be motivated to consider the prospects for reducing turnover, raising prices and drawing on a share of their increased revenues from growth to absorb their higher labor costs before they resort to cutting their workforce or reducing profitability.

Some researchers have examined the alternative adjustment options firms have pursued in response to minimum wage increases such as living wage ordinances (Pollin et al. 2008; Pollin and Wicks-Lim 2015). There are four primary ways for businesses to adjust to wage increases other than reducing employment: 1) offset cost through benefits in reduced absenteeism, lower

turnover and training costs, and higher productivity; 2) raise prices; 3) allocate a share of the revenues generated by economic growth to cover increased costs; and 4) redistribute overall revenues within the business through investing in new equipment to reduce their employment requirements relative to their overall level of operation; or through cutting back on other business expenses to cover the increased wage bill.

Evidence of significant wage benefits with little downside to employers is found throughout much of the empirical research literature. For example, Lester and Jacobs (2010) compare 15 cities with effective living wage laws to a comparable group of cities without them. The authors tested 14 different industry subsectors and concluded the living wage had no measurable impact on overall employment levels or employment growth. Additionally, there was no evidence of reduced employment when analyzing affected occupations.

In a more contextualized study of the U.S. fast-food industry, Pollin and Wicks-Lim (2015) find that the fast-food industry could fully absorb a proposed minimum wage increase to $15 per hour through a combination of turnover reductions; trend increases in sales growth; and modest annual price increases without lowering their average profit rate during the adjustment period. Pollin and Wicks-Lim argue that the fast-food industry's reliance on a high concentration of low-wage workers for essential operations offers broader implications to the impact of minimum wage increases in other industries. This means that businesses with airport leases and service contracts that rely on a high concentration of low-wage workers for essential operations will likely have similar experiences absorbing the LWO as the predicted minimum wage increase on fast-food businesses.

The most convincing evidence of businesses absorbing a minimum wage increase without a reduction in profitability or employment is the Reich et al. (2005) study on San

Francisco International Airport's (SFO) combined living wage and health benefits policies. Reich et al. conduct a contextualized analysis with rich data on the worker and business population affected by an increase in wage and benefit standards in a relatively closed labor market. This study closely resembles the aim of our study but the methodology differs substantially. Reich et al.'s study incorporated years of worker and business data before and after the living wage ordinance was implemented while our study is based on a simulation model using a data sample of the population of workers that will be impacted by the LWO.

Evidence from SFO indicates that the cost of raising wage and benefits standards is small and can be passed through from airports and airlines to customers without compromising passenger volumes. Estimates from SFO indicate that the cost of raising wages, even if it were all passed on to passengers and no savings were realized from lower turnover and greater productivity, would be $1.42 per person in 2000 dollars ($1.97 in 2015 dollars). An increase in fares of $1.97 is only 1.35 percent of the $291.30 average total domestic round-trip price in 2014 (Airlines for America 2015a).

The aggregate research on living wage ordinance implementations and minimum wage increases reflect the similar trend of improving wages with little to no negative economic impacts to employment levels and employers. Schmitt and Rosnick (2011) analyze the effect of minimum wage increases on employment in fast food restaurants, food services, retail trade, and other low-wage and small establishments across San Francisco, Santa Fe, and Washington, D.C. Schmitt and Rosnick compare wages and employment before and after the city minimum wage increases with changes over the same period in wages and employment in comparable

establishments in nearby areas unaffected by the citywide minimum wage. They find that city minimum wage increases do not negatively affect employment levels. Moreover, the lack of an employment response held for three full years after the implementation of the measures, allaying concerns that the shorter time periods examined in some of the earlier research on the minimum wage was not long enough to capture the true disemployment effects. Their research is consistent with earlier findings by Card and Krueger's (1994, 2000) study of the 1992 New Jersey state minimum- wage increase as well as the research of Dube et al. (2010), and others who have found – at the federal and state level – that minimum wage increases that raise wages of low-wage workers have no significant negative effects on the employment of low-wage workers (see Dube et al. 2006; Potter 2006).

Costs

Opponents of living wage ordinances argue that rising labor costs from increased minimum wages cause a loss of jobs (or a slowdown in job growth) and/or that the increased operating costs from increased minimum wages will lead to increased taxes. First, in a series of separate papers, Neumark and Adams examine the effects of living wage laws by comparing the experience of the lowest-paid workers in cities with living wage laws to those in cities without such laws (Adams and Neumark 2005, 2004, 2003; Neumark 2002). In each of their studies, Neumark and Adams report that the workers in living wage cities have experienced positive wage effects, but negative effects on employment relative to workers in non-living wage cities, their research is based on a study of 36 cities with living wage laws. Neumark estimates that a 50 percent increase in the living wage would reduce the employment rate for workers in the bottom tenth of the skill distribution by seven percent. Therefore, the increase in unemployment

caused by living wage ordinances, disemployment effects, offset the positive effects of living wage laws on the wages of low-wage workers. Many researchers claim that the findings from Neumark and Adams' studies are faulty because they use large aggregate worker surveys that have an inadequate number of respondents for the cities analyzed (Lester and Jacobs 2010; Pollin et al. 2008).

Additionally, it is possible that increased minimum wages may decrease employment as businesses invest in new equipment that could enable them to rely less on employing low-wage workers to maintain their desired scale of operations. Essentially, businesses substitute workers with technologies and machinery that perform similar functions. Such technological adjustments may take place as a result of a minimum wage increase in the fast-food industry, but that the effects of such adjustments on overall fast-food employment are negligible.

The criticism that living wage ordinances increase taxes requires some explanation. Some researchers believe that increased minimum wages to municipal contractors will increase operating costs that will raise the cost of future service contracts. The increased costs of future service contracts will necessitate municipal governments to increase taxes in order cover the increase service costs. As a result, the wage increase of low-wage service contract workers is passed on to local residents and businesses who pay higher taxes and not the service contractors. Furthermore, these critics believe that increased tax rates at the local level will force businesses to move their operations to localities where taxes are lower, thereby lowering employment. Galles (2002) and Malanga (2003) provide research that exemplifies a downward economic spiral after the implementation of a living wage ordinance. However, the theoretical assumptions and methods associated with these studies are not widely held as valid.

Context

After reviewing the likely reported benefits and costs associated with living wage ordinances it is important to keep in mind that living wage ordinances are not all created equal. Living wage ordinances may be written and implemented in numerous different ways with significant consequences on their potential impact. As such, the lack of uniformity among living wage ordinances and their implementation does question whether all industries, municipalities, and employers will be impacted the same way. This study is richly contextualized and is the economic impact estimates are based on survey data from a random sample of respondents of the population that will be affected. Therefore, the findings of this study provide a more appropriate estimate of the potential economic impacts of the LWO than other living wage ordinance studies report. Furthermore, this study is influenced mainly by prior contextualized studies, such as Reich et al. 2005, that focus on the economic impact of detailed living wage ordinances on specific locations as opposed to studies that report aggregate impacts on a collection of cities.

Methodology

To estimate the economic impact of a minimum wage increase to $11.68 with health care benefits or a minimum wage of $13.20 without health care benefits for workers under airport leases and service contracts such as security, passenger services, baggage, janitorial, and waste disposal, and fueling services, we need to answer the following three questions: 1) How many workers would get raises due to the LWO? 2) How big would these raises be? and 3) What is the total cost of raises due to the LWO?

In order to answer these three questions it is necessary to identify the workers that will be impacted directly and indirectly. Direct impact: workers that receive raises to at least the new minimum wage rate. Direct impact estimates how employers will change wages to meet the LWO standard. Indirect impact: workers that receive raises above the newly-mandated minimum wage. Indirect impact estimates how employers provide raises in order to maintain a wage hierarchy after the new minimum wage has been enacted, also known as ripple-effect raises (Wicks-Lim 2008). According to Reich et al. (2005), ripple effects from a LWO mandated wage increase at the San Francisco International Airport extended to wages about 40 percent above the new wage floor. (see also Fairris et al. 2005; Brenner and Luce 2008).

The LWO currently covers a small number of businesses and workers at FLL. As a result, in order to identify the workers that will be impacted directly and indirectly and perform the economic impact analysis we rely on an ex ante simulation of the effects of the LWO at FLL. Ex ante simulations model the economic impacts of wage increases before they've taken place. As a result, these simulations rely on data describing a given labor market and on research-based assumptions about the typical responses of firms and workers to a given wage increase (see Tolley et al. 1999; Sander and Williams 2005; Pollin et al. 2008; Pollin and Wicks-Lim 2015). Numerous sources of data are used to describe

and contextualize the FLL labor market within Broward County and the broader transportation industry.

Simulation Model

Our simulation model estimates the size of raises that would occur for workers at all points across the existing wage distribution when the LWO is implemented. The model is based on predicted wage responses to a minimum wage change for a given population (see Appendix C). This model is appropriate for this study because the expansion of the LWO to workers under airport leases and service contracts is essentially replacing the Florida minimum wage of $8.05 per hour that structures the wages of these workers with the LWO minimum wage of $11.68 per hour. The model assumes that a given wage increase has a compression effect on the distribution of wages and that the magnitude of raises for workers already earning above the LWO is relatively small (Reich et al. 2005; Pollin et al. 2008; Pollin and Wicks-Lim 2015). As a result, the model further assumes that the majority of workers impacted by the LWO, as well as those experiencing the greatest impact, will be the workers that experience direct impacts as their wages are raised considerably to meet the new minimum wage under the LWO if the current wage distribution consists mainly of workers earning wages below the LWO.

Once applied to a sample distribution of workers under airport leases and service contracts the simulation model predicts how each worker in the existing wage distribution will respond to the LWO minimum wage. The findings of this model can be extrapolated to estimate 1) the number of workers that would get raises due to the LWO; and 2) the size of each of their raises. In order to determine 3) the total cost of raises due to the LWO we multiply the predicted wage increases with industry data on the average hours worked per week and on the average weeks worked per year by workers under airport leases and service contracts to estimate the total annual cost of the predicted hourly wages.

Data Sources

This report relies on three main data sources: FLL labor market data, Broward County labor market data, and transportation industry labor market data.

1) FLL labor market data: provides labor market characteristics of workers at FLL.

a) FLL worker survey: a random-sample of workers under airport leases and service contracts such as security, passenger services, baggage, janitorial, and waste disposal, and fueling services. The survey of 301 workers represents the total population of approximately 1,944 workers under airport leases and service contracts. The survey includes data on hourly wages, occupation, employer, job tenure, benefits, age, race, ethnicity, sex, nativity, educational attainment, marital status, household income, and other characteristics (see Appendix D for a copy of the survey).

b) FLL security badge data: all workers under airport tenant service contracts with access to terminal require security badges. FLL collects certain information from workers with security badges such as employer, occupation, badge issue date, age, race, and sex.

c) U.S. Census Longitudinal Employer-Household Dynamics (LEHD): a work area profile of the census block in which FLL is located. The profile provides data on jobs located at FLL: job count by sector, worker earnings, age, race, ethnicity, sex, educational attainment, and home to work commute distance and direction.

d) U.S. Census Zip Code Business Patterns (ZCBP): a profile of businesses in the zip code in which FLL is located. The profile lists the number of establishments by sector, employment, and payroll.

e) FLL employer survey: a survey of businesses under airport leases and service contracts was attempted but not used as part of this study due to a lack of respondents. The survey asked respondents to provide information about total employment, average wages by occupation,

perceived LWO impact on business and employee performance, and likely financial and employment responses to the LWO expansion.

2) Broward County labor market data: provides labor market characteristics of workers in Broward County.

a) U.S. Census American Community Survey (ACS): survey data on workers and households residing in Broward County. The data includes information on incomes, employment, age, race, ethnicity, sex, nativity, educational attainment, and other characteristics.

b) U.S. Census Longitudinal Employer-Household Dynamics (LEHD): a work area profile of Broward County. The profile provides data on jobs located in the county: job count by sector, worker earnings, age, race, ethnicity, sex, educational attainment, and home to work commute distance and direction.

3) Transportation industry labor market data: provides labor market characteristics of workers in in the transportation industry and subsets of industries and occupations.

a) U.S. Bureau of Labor Statistics Occupational Employment Statistics (OES): survey data on transportation occupations in Florida by wage, wage percentiles, and total employment.

b) U.S. Census American Community Survey (ACS): survey data on transportation workers in Florida by wage, hours worked, age, race, ethnicity, sex, nativity, educational attainment, and other characteristics.

Airport Context

Broward County's FLL is ranked 21st in the U.S. in total passenger traffic, 13th in domestic origin and destination passengers, and 40th in total cargo volume transported. FLL averages 621 commercial flights per day on 30 airlines. Low cost carriers comprise 62 percent of the market share of flights at the airport. There are also 125 private flights. Each day over 67,000 travelers pass through the airport's four terminals. In 2014, FLL's enplanements totaled 11,987,607, an increase of 3.9 percent from the previous year (FAA 2015). FLL's enplanements are similar to Baltimore/Washington International Thurgood Marshall (BWI) and to a lesser extent, LaGuardia (LGA) and Washington Dulles International (IAD).

FLL's economic impact on the local and regional economies is significant. Direct impacts stemming from tenants or businesses located at the airport exceed $1.6 billion. Private employers include 30 airlines, 48 airline service firms and 41 passenger service concessions. Indirect impacts associated with spending from visitors who arrive in the area via commercial and general aviation aircraft exceeds $4.5 billion. In total, the airport's economic significance to the region's economy includes supporting more than 139,000 jobs, payroll expenditures of $3.9 billion and total economic output of $13.2 billion.

Like most airports in the U.S., FLL is a public entity owned by the county and regulated by the FAA amongst other agencies (Graham 2004). FLL (the Broward County Aviation Department) is a self-supporting enterprise fund agency and does not use any Broward County tax revenue to support its operations, maintenance, or capital improvements. FLL, like other airports, generates revenue through aeronautical fees—for example landing, terminal, hangar rental, and fuel fees—and non-aeronautical concessionaires such as retail, parking, and other rentals at the airport. There are also external sources of revenue for airports such as bonds, Airport

Improvement Program (AIP) grants, and Passenger Facility Charges (PFCs) which are utilized to fund capital improvement projects.

The FAA requires that airports operate on a 'revenue neutral' basis—they cannot make a profit on aviation, but should also charge enough to cover the costs of operation. Airports are also prohibited from using airport revenues for non-airport purposes, known as the 'revenue diversion' requirement (Graham 2004). This means that cities and communities surrounding the airport cannot draw airport revenue. The residual lease agreements that FLL has with its signatory air carriers makes airports much more financially stable than airlines (Borenstein 2011).

Airport Cost Structure

At FLL, as at many other airports, most of the gates are secured by long-term agreements, at least five year agreements. Long-term tenancy is desirable both from the point of view of the airports (it provides guaranteed revenue streams against which airports can borrow) and the airlines (it secures preferential gate access with the Airport). This long-term agreement represents three to 4 percent of operating expenses for passenger airlines. The main factors shaping profit and cost margins for airlines are labor and fuels costs, 28.6 percent and 20.6 percent of operating expenses respectively (Airlines for America 2015b). Because airlines cannot easily control fuel costs, airlines attempt to maintain flexibility in light of continuously changing market conditions by making labor more elastic.

Many airlines turned to outsourcing of airline service positions to reduce labor costs, increasing labor market segmentation (Dietz et al. 2013). Employees of airline service firms receive lower wages and benefits and have fewer long-term career prospects than direct airline employees (Ibid).

Outsourcing can develop for efficiency reasons. For example, there may be scale economies in having one specialized firm provide services to a number of companies simultaneously. However, outsourcing can also develop for cost-saving reasons that are profitable but are not efficiency- based, such as when contractors can pay lower wages to workers but do not improve productivity. This type of outsourcing is especially relevant in services that are performed by relatively less-skilled workers. This cost-savings-based outsourcing is typical for relatively lower-skilled services (Dube and Kaplan 2010; Reich et al. 2003). The latter is evident in how airlines outsource ground-based airport services.

Airport Employment and Pay

Traditionally, airlines directly hired many of the people who worked in airports. Skycaps, wheelchair attendants, ticketing and gate agents, baggage handlers, plane fuelers, de-icers, and mechanics were usually hired by airlines. Since the 1980s these positions have increasingly been contracted out to other companies, even though some of these workers may wear airline uniforms (McGee 2012; Rubery et al. 2003).

Direct employment at airlines (Air Transportation) fell by 160,000 workers, a quarter of the workforce, but outsourced employment increased (Support Activities for Air Transportation_ by 20,000 between 2001 and 2011 (QCEW 2013). Over the same period, passenger traffic among major U.S. airlines grew by more than 30 million, an increase of 6 percent. To some extent this change reflects changes in airline management that achieved greater economies of scale, for example by flying fuller, larger planes.

In general, wages for outsourced workers are lower than wages for directly-hired workers in the same occupations. Between 2002 and 2012, the declining wages within both the directly-hired and the outsourced groups, combined with an increase in the share of work

outsourced, resulted in a sharp decline in average wages for the occupations as a whole. Across all of the occupations analyzed, airport workers saw their hourly wages fall by an average of 15 percent from 2002 to 2012. Although we cannot control for a host of other factors that influence wages, within the occupations analyzed there is a strong negative correlation between the increase in outsourcing and the change in average wage.

Because airports themselves tend to be in high-cost metro areas, low-wage airport workers face particular difficulties making ends meet. Many of these workers are also supporting families; almost 80 percent of airport cleaning and baggage workers live in family households with children or a spouse, and 70 percent are over age 30. Half have high school diplomas or the equivalent, and another 32 percent have a year of college or more (ACS 2013). Yet many find themselves and their families relying on public safety net programs to fill the gaps left by low wages and poor benefits.

FLL Employment and Pay

FLL provides job opportunities for a diverse group of residents. In many respects, the airport labor market constitutes a geographically distinct yet representative microcosm of many urban labor markets. The total airport workforce includes 1,061 public sector employees who work directly for the city, county, and federal agencies with a permanent presence at the airport, and

8,311 private sector employees as of 2012 (LEHD). According to the U.S. Census ZCBP employer survey more than 12,000 workers were employed by over 800 private firms that do business at FLL in 2013. The firms include different passenger and cargo airlines, companies that provide services to airlines-- such as security, fueling and maintenance, and in-flight catering; and companies that provide services to airport passengers—food and other retail concessions, parking, and rental cars. The jobs at the airport vary considerably with respect to pay, skill levels, training, worker voice and other conditions of employment.

When comparing FLL with the broader Broward County workforce and with the workforce of Baltimore/Washington International Thurgood Marshall (BWI), a similarly sized airport based on enplanements, we focus only on private sector jobs. The only data source that allows for comparable labor market data across differently sized spatial areas is the U.S. Census Longitudinal Employer-Household Dynamics (LEHD). This comparison shows that the age distribution of workers at FLL is very similar to that of the County (see table 1). The BWI age distribution consists of fewer young workers and more older workers compared to FLL. Workers at FLL, and more so at BWI, are more likely to be male when compared to the County.

Table 1: Broward County and FLL Labor Market by Age and Sex: 2012

		Age			Sex	
Area	**Jobs**	**Age 29 or younger**	**Age 30 to 54**	**Age 55 or older**	**Male**	**Female**
Broward County	633,342	22.4%	56.8%	20.9%	51.3%	48.7%
FLL	8,311	20.4%	58.9%	20.7%	60.4%	39.6%
BWI	7,624	13.1%	57.6%	29.3%	69.5%	30.5%

Source: LEHD 2015

The labor force at the County, FLL, and BWI have relatively similar racial compositions (see table 2). The labor forces consist of mostly white workers and a black/African American

minority. FLL and the County have similar shares of Hispanic workers while BWI has a significantly smaller Hispanic population.

Table 2: Broward County and FLL Labor Market by Race and Ethnicity: 2012

	Race						Ethnicity	
Area	**White Alone**	**Black or African American Alone**	**American Indian or Alaska Native Alone**	**Asian Alone**	**Native Hawaiian or Other Pacific Islander Alone**	**Two or More Race Groups**	**Not Hispanic or Latino**	**Hispanic or Latino**
Broward County	71.4%	23.6%	0.4%	3.2%	0.1%	1.2%	73.6%	26.4%
FLL	68.9%	27.0%	0.5%	2.2%	0.2%	1.2%	73.7%	26.3%
BWI	71.4%	22.1%	0.3%	5.1%	0.1%	1.0%	96.8%	3.2%

Source: LEHD 2015

The educational attainment levels at FLL are generally lower than those observed in the County (see table 3). FLL employs a greater share of non-high school graduates and high school graduates and fewer workers with Bachelor's or advanced degrees when compared to the County. This signals that the type of work conducted at FLL is likely to consist of low-skilled, non-technical labor relative to the County. Conversely, BWI employs vastly more workers with Bachelor's or advanced degrees and fewer non-high school graduates when compared to FLL and the County. This is likely due to the fact that BWI houses some large-scale manufacturing employers that hire highly skilled workers.

Table 3: Broward County and FLL Labor Market by Educational Attainment: 2012

Area	**Less than high school**	**High school or equivalent, no college**	**Some college or Associate degree**	**Bachelor's degree or advanced degree**	**Educational attainment not available (workers aged 29 or younger)**
Broward County	13.7%	19.9%	24.1%	20.0%	22.4%
FLL	15.8%	22.8%	24.9%	16.1%	20.4%
BWI	6.0%	20.6%	27.4%	32.9%	13.1%

Source: LEHD 2015

The distribution of worker earnings at FLL is slightly lower than the distribution of worker earnings of the County (see table 4). The latter is likely a reflection of FLL's greater

share of workers with low educational attainment levels that tend to receive lower wages than their more highly education counterparts. Likewise, the large share of high earning workers at BWI reflects the high levels of educational attainment from most workers at BWI.

Table 4: Broward County and FLL Labor Market by Earnings: 2012

Area	$1,250 per month or less	$1,251 to $3,333 per month	More than $3,333 per month
Broward County	26.8%	41.6%	31.6%
FLL	25.8%	38.8%	35.4%
BWI	6.6%	12.7%	80.6%

Source: LEHD 2015

The firm age structure at FLL closely resembles that of the County (see table 5). Most firms at FLL and the County are older than 10 years but younger firms also have a presence. Firms at FLL tend to employ 500 or more workers while firms in the County exhibit greater stratification according size. However, BWI's firm age structure is almost exclusively concentrated in firms older than 10 years that also employ 500 or more workers.

Table 5: Broward County and FLL Labor Market by Firm Characteristics: 2012

	Jobs by Firm Age			Jobs by Firm Size				
Area	**0-3 Years**	**4-10 Years**	**11+ Years**	**0-19 Employees**	**20-49 Employees**	**50-249 Employees**	**250-499 Employees**	**500+ Employees**
Broward County	10.0%	17.6%	72.3%	21.6%	8.4%	13.2%	5.4%	51.3%
FLL	10.2%	14.8%	75.0%	10.3%	5.1%	11.4%	0.6%	72.6%
BWI	1.0%	1.2%	97.8%	1.3%	1.0%	4.1%	0.4%	93.2%

Source: LEHD 2015

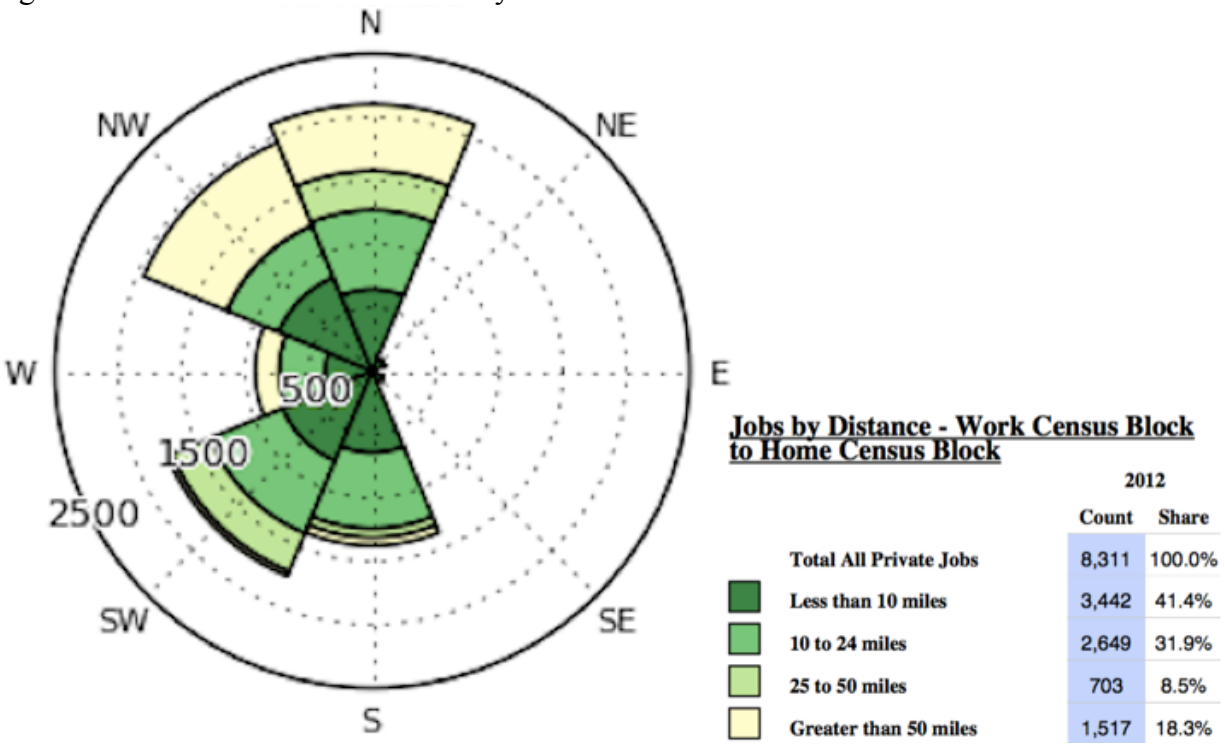
In 2012, the County experienced a net job outflow of 14,718 jobs (LEHD 2015). This means that 14,718 working residents of the County were employed outside the County, that's 2.3 percent of the 648,060 working residents. Data show that FLL is mainly a local employer. The majority of FLL workers, 73.3 percent, live within 24 miles of FLL and are therefore local residents. Figure 1 shows that FLL's local workers live across many communities near FLL because they are not concentrated in one direction. Hardly any workers live East of FLL because

John U. Lloyd Beach State Park is located immediately East of FLL. The majority of workers that commute 25 miles or more to FLL tend to live North and Northwest of FLL.

Table 6: Job Shares in Home Blocks by Distance to FLL: 2012				
Area	**Less than 10 miles**	**10 to 24 miles**	**25 to 50 miles**	**Greater than 50 miles**
FLL	41.4%	31.9%	8.5%	18.3%

Source: LEHD 2015

Figure 1: Job Shares in Home Blocks by Distance to FLL: 2012



Source: LEHD 2015

The largest employing sectors at FLL are transportation and warehousing followed by accommodation and food services, wholesale trade, and retail trade (see table 7). Unlike most employing sectors at FLL the transportation and warehousing sector at FLL represents a large of that sector's total employment in the County. This means that FLL carries weight in influencing the transportation and warehousing labor market at the county level. The next section takes a closer look at the labor market characteristics of workers under FLL's under airport leases and

service contracts.

Table 7: FLL Main Employing Sectors: 2012			
Sector	**Jobs**	**Share of FLL Jobs**	**Share of Broward Industry**
Wholesale Trade	950	11.4%	2.1%
Retail Trade	879	10.6%	0.9%
Transportation and Warehousing	2,813	33.8%	13.0%
Accommodation and Food Services	1,427	17.2%	1.9%

Source: LEHD 2015

FLL Airport Tenant Service Contracts Labor Market

According to security badge data provided by FLL authorities 1,944 workers are employed by businesses with airport tenant service contracts. These workers are mostly male, black or African American, and have an average age of 41 (see table 8). It is important to note that this report makes the strong assumption that the security badge data accurately reflects the number of workers employed by businesses with airport leases and service contracts. As such, all of the analysis that follows is based on the worker counts and occupational and employer distributions provided by the security badge data. The survey data used in this report consists of 301 survey respondents. The survey reflects a racial composition that is slightly less diverse and more female than the reported population. The age distribution closely resembles that of the reported population. The survey data is a valid representation of the airport leases and service contracts worker population and the results of the following analysis are accurate to the population studied.

Table 8: FLL Worker Data Source Comparison: 2015

Source	Respondents	Avg. Age	Share Male	Avg. Tenure (months)	White	Black or African American	Asian	American Indian	Unknown/ Other
Badge Data	1,944	41	67.7%	7.3	33.0%	64.8%	1.3%	0.1%	0.9%
Survey Data	301	41	58.2%	52.5	20.5%	78.5%	0.3%	0.0%	0.7%

Source: FLL security badge data and worker survey

Security badge data show that most workers are concentrated in one of 15 occupations and employed by one of 15 airport tenant service contract vendors (see tables 9 and 10). The main employing occupations of airport leases and service contracts at FLL are ramp agent, skycap, wheelchair, and agent; these occupations each employ at least 5 percent of all workers. The main employing vendors of airport leases and service contracts at FLL are Swissport USA, ASMO, ASIG, Bags Inc., Airserv Corp., Direct Airline Services, and G2 Secure Staff; each of

these vendors employ at least 7 percent of all workers. The wage distribution of these high employing occupations and vendors significantly influences the overall wage distribution of workers under airport tenant service contract.

Table 9: Main Service Occupations at FLL: 2015

Occupation	Total	Share of all workers
Ramp agent	197	10.1%
Skycap	172	8.8%
Wheelchair	114	5.9%
Agent	100	5.1%
Passenger service	83	4.3%
Cabin service	77	4.0%
Detailer	74	3.8%
CSA	73	3.8%
Fueler	69	3.5%
Baggage handler	61	3.1%
Supervisor	47	2.4%
Cargo agent	46	2.4%
Cleaner	41	2.1%
Cabin cleaner	40	2.1%
Customer service	35	1.8%
Total	1,229	63.2%

Source: FLL security badge data

Table 10: Main Service Vendors at FLL: 2015

Vendor	Total	Share of all workers
Swissport USA	227	11.7%
ASMO	189	9.7%
ASIG	150	7.7%
Bags Inc.	141	7.3%
Airserv Corp.	136	7.0%
Direct Airline Services	136	7.0%
G2 Secure Staff	136	7.0%
Quick Flight	100	5.1%
Menzies Aviation	97	5.0%
Ready Jet	93	4.8%
DAL Global	65	3.3%
Bags To Go	52	2.7%
Gate Safe	45	2.3%
Prime Flight	42	2.2%
Triangle Services	40	2.1%
Total	1,649	84.8%

Source: FLL security badge data

The worker survey includes reliable salary data for the majority of the main employing occupations and vendors under airport tenant service contracts at FLL. According to survey data, skycaps earn the lowest average hourly wage while cabin cleaners, baggage, queue/checkpoint, and wheelchair workers earn wages slightly above the Florida minimum hourly wage of $8.05 (see table 11). It must be noted that the low, under the $8.05 state minimum wage, average hourly wages of skycaps, wheelchair workers, and other occupations is due to the high share of tipped workers employed in these occupations. Florida provides employers with a wage credit of $3.02 per hour for workers who earn tips. While tipped workers earn tips in addition to their hourly wages at the end of each shift their wages, including tips, must average at least $8.05 per hour according to Florida law. In the occasion that a worker's wage, including tips, is less than

$8.05 per hour during a given shift it is the employer's responsibility to pay the difference to increase the worker's wage to the $8.05 per hour minimum.

Table 11: Compensation for Selected Occupations at FLL: 2015		
Occupation	**Avg. wage**	**Share Tipped**
Baggage	$8.27	51.6%
Cabin Cleaner	$8.24	0.0%
Cargo Agent	$11.10	0.0%
Fueler	$11.84	0.0%
Janitor	$12.03	0.0%
Passenger Service / CSA	$8.71	0.0%
Queue / Checkpoint	$8.20	9.1%
Ramp Agent	$9.36	0.0%
Skycap	$5.12	98.3%
Wheelchair	$8.38	80.0%

Source: Worker survey

Additionally, the worker survey shows that some high employing vendors employ a mostly tipped workforce (see table 12). As a result, vendors such as Prime Flight, Direct Airline Services, Airserv Corp., and Bags Inc. pay average wages below the $8.05 state minimum wage. The reliance on a tipped workforce is a crucial observation that heavily influences how the LWO extension to airport leases and service contracts affects workers and vendors. The LWO, in its current state, does not provide exemptions or wage credits to employers of tipped workers. As such, vendors currently paying wages below the Florida minimum wage due to the state's tip wage credit will have to pay the LWO minimum wage like all other vendors with airport leases and service contracts. For example, Prime Flight, who currently pays an average hourly wage of $5.22 an hour, will raise hourly wages to the LWO minimum of $11.68 an hour, assuming health care benefits, a 123.8 percent increase.

Not all employers will experience the same wage increases as Prime Flight because some vendors already pay wages above the $8.05 state minimum wage. For example, ASIG pays an

average hourly wage of $11.77. This means that the LWO will have a negligible impact on ASIG because their average wages are already above the LWO minimum of $11.68 an hour.

A detailed explanation of why ASIG is able to pay an average hourly wage of $11.77 while Prime Flight pays an average hourly wage of $5.22 an hour is beyond the scope of this analysis. However, much of the average wage differences among vendors is due to the type of services that they provide to FLL and the particularities of vendor business models. Some airport vendors employ higher skilled workers than others and/or are willing to pay higher wages to minimize turnover and maximize worker productivity. Additionally, some employers like Prime Flight rely mainly on a low-wage tipped workforce while others like ASIG employ workers in occupations that are traditionally unionized.

Table 12: Compensation for Selected Vendors at FLL: 2015

Vendor	Avg. wage	Share Tipped
Airserv Corp.	$7.25	66.7%
ASIG	$11.77	0.0%
ASMO	$8.73	10.6%
Bags Inc.	$8.02	66.7%
Direct Airline Services	$5.91	83.6%
G2 Secure Staff	$7.75	66.1%
Menzies Aviation	$9.61	0.0%
PrimeFlight	$5.22	100.0%
Quick Flight	$9.53	0.0%
Swissport USA	$9.08	0.0%

Source: Worker survey

The preponderance of low wages among airport tenant service contract workers at FLL have clear consequences. According to the worker survey, 83.2 percent of workers rely on some form of government assistance to make ends meet, e.g. food stamps, Temporary Assistance for Needy Families (TANF), housing subsidies, child care subsidies, etc. (see table 13). Likewise, 84.2 of workers reported experiencing an economic hardship in the recent past. It is important to note that these experiences are not unique to tipped workers. In fact, only 38.3 percent of workers report earning tips. This means that even vendors that do not rely on tipped workers tend

to pay wages at or near the Florida minimum wage of $8.05 per hour. It is also worth noting that 74.9 percent of workers reported going in to work while sick. This signals that many workers do not have the luxury of calling out sick because their financial responsibilities necessitate that they work, even while sick.

Non-wage benefits among airport tenant service contract workers are relatively sparse. Only 59.5 percent of workers reported having health care coverage, 42 percent reported having paid time off, and 11.5 percent reported having paid sick leave. The scarcity of non-wage benefits at FLL is likely tied to vendors' tendency of paying low wages. Additionally, there is a large share of foreign workers, married workers, and childless workers at FLL.

Table 13: Selected Worker Characteristics at FLL: 2015

Characteristic	Share of Workers	Characteristic	Share of Workers
Share Native to the U.S.	20.0%	Share with Health Care Coverage	59.5%
Share Married	82.5%	Share with Paid Vacation	42.0%
Share with Children	30.2%	Share with Paid Sick Leave	11.5%
Share with Government Assistance	83.2%	Share that Worked Sick	74.9%
Share with Economic Hardship	84.2%	Share Tipped	38.3%

Source: Worker survey

According to the worker survey the majority of airport tenant service contract workers at FLL have low levels of educational attainment (see table 14). Only 29.8 percent of workers reported have some college level education or college degree, the majority of workers, 60.8 percent, have high school diplomas or GEDs. The preponderance of low-skilled workers at FLL is likely a key factor influencing the wage distribution for workers. The wage distribution is heavily skewed towards wages at or below the Florida minimum wage of $8.05 per hour (see table 15). Only about a quarter of workers earn hourly wages above $9.00. The average airport tenant service contract worker earns an hourly wage of $8.35. It is important to note that workers earning wages below $8.05 per hour are tipped workers with variable tip earnings.

Table 14: Educational Attainment Distribution for Workers at FLL: 2015	
Less than high school	9.4%
High school diploma/GED	60.8%
Some college	19.8%
Associate's degree	9.0%
Bachelor's degree or higher	1.0%

Source: Worker survey

Table 15: Wage Distribution for Workers at FLL: 2015	
Percentile	Hourly Wage
10th	$4.91
20th	$5.38
30th	$7.93
40th	$8.00
50th	$8.00
60th	$8.23
70th	$8.50
80th	$9.50
90th	$13.20
Average	$8.35

Source: Worker survey

The low-wages paid at FLL are observed in the distribution of annual household incomes reported by workers in the worker survey. Most workers report annual household incomes below $26,000, 92.8 percent (see table 16). This means that FLL workers generally low household incomes even when they combine their wages with the wages of other workers within their household. The reporting of low wages and low household incomes makes it evident that FLL workers are more than likely the main wage earners for their households and are not supplementing the incomes of a higher earning spouse or parent.

Table 16: Household Income Distribution for Workers at FLL: 2015	
Income Group	Share of Workers
Less than $10,000	30.0%
$10,000 - $15,999	32.7%
$16,000 - $19,999	9.5%
$20,000 - $25,999	20.5%
$26,000 - $29,999	2.7%
$30,000 - $35,999	1.5%
$36,000 - $39,000	0.8%
$40,000 - $45,999	0.4%
$46,000 - $49,999	0.4%
$50,000 and over	1.5%

Source: Worker survey

Impact Analysis

As discussed in the earlier methodology section, the focus of this report is to answer the following: 1) How many workers would get raises due to the LWO? 2) How big would these raises be? and 3) What is the total cost of raises due to the LWO?

This section explains the results of our simulation model by detailing the size estimates of raises that would occur for workers at all points across the existing wage distribution when the LWO is implemented. The model is based on predicted wage responses to a minimum wage change for the airport tenant service contract population outlined in the security badge data. Specifically, we estimate the economic impact of a minimum wage increase to $11.68. We assume that vendors provide health care benefits in lieu of paying a minimum wage of $13.20 without health care benefits. Additionally, we assume that the indirect impacts, ripple effects, from a LWO mandated wage increase extended to wages about 40 percent above the new wage floor (Reich et al. 2005; Fairris et al. 2005; and Brenner and Luce 2008).

The impacts, both direct and indirect, are explained in three parts: impact on workers, businesses, and the FLL labor market.

Workers

Direct Impact

Workers experiencing direct impact are those that receive raises to at least the new minimum wage rate. Our model shows that all workers currently earning less than $11.68 will receive raises to bring them to the new minimum wage of $11.68. This affects 1,710 workers, 88 percent of all workers. These workers will typically experience an hourly wage increase of $3.24 in order to bring their hourly wage to $11.68.

Table 17: LWO Direct and Indirect Impacts for Workers at FLL: 2015		
Impact Type	**Share of Workers Covered**	**Estimated Total Workers**
Direct impact	88.0%	1,709.9
Indirect impact	11.7%	227.6
Not affected	0.3%	6.5
Total	100%	1,944.0

Source: author simulation based on FLL security badge data and worker survey

These estimates are based on adjustments to the wages of bottom half of the existing wage distribution (see table 17). The bottom half of the existing wage distribution ranges from $4.89 per hour to the median of $8.00 per hour. While these workers report earning wages below the Florida minimum wage of $8.05 they do not actually earn less than $8.05.

Table 18: Adjusted Worker Wage Distribution for Workers at FLL: 2015			
Percentile	**Hourly Wage**	**Estimated Wage Increase**	**Estimated % Wage Increase**
10th	$8.05	$3.63	45.1%
20th	$8.05	$3.63	45.1%
30th	$8.05	$3.63	45.1%
40th	$8.05	$3.63	45.1%
50th	$8.05	$3.63	45.1%
60th	$8.23	$3.45	41.9%
70th	$8.50	$3.18	37.4%
80th	$9.50	$2.18	29.8%
90th	$13.20	$0.24	22.9%
Average	$9.04	$2.88	1.8%

Source: author simulation based on FLL security badge data and worker survey

As mentioned in the previous section, Florida provides employers with a wage credit of $3.02 per hour for workers who earn tips. While tipped workers earn tips in addition to their hourly wages at the end of each shift their wages, including tips, must average at least $8.05 per hour according to Florida law. In the occasion that a worker's wage, including tips, is less than $8.05 per hour during a given shift it is the employer's responsibility to pay the difference to increase the worker's wage to the $8.05 per hour minimum.

As a result, it can be assumed that all workers reporting hourly wages below $8.05 per hour do actually earn hourly wages at or above $8.05 per hour. It can be further assumed that the

irregular nature of tipped work causes employers to forgo the Florida tip wage credit of $3.02 per hour and pay workers wages at or near $8.05 per hour. Given these assumptions, our model adjusts the wages of all workers in the bottom half of the wage distribution to at least $8.05 per hour.

Furthermore, our model assumes that because workers earning wages below $11.68 must get raises (receive a direct impact on their wage due to the LWO) then employers will raise wages of these workers to the mandated minimum of $11.68 and not higher. The logic here is intuitive. Employers currently paying workers less than $11.68 per hour are currently doing so because they don't want to pay workers $11.68 per hour, for numerous reasons. If the LWO mandates that the new minimum wage is $11.68 then they will increase wages to $11.68 and not more because they didn't want to pay $11.68 per hour in the first place.

Indirect impact

Unlike workers experiencing direct impacts, the workers experiencing indirect impact already earn more than the LWO mandated minimum wage of $11.68 per hour. This is likely due to their higher skills and/or experience. Nonetheless, these workers receive raises above the newly-mandated minimum wage because employers make an effort to maintain a wage hierarchy after the new minimum wage has been enacted, also know as ripple-effect raises (Wicks-Lim 2008). The indirect impact of the LWO will affect 228 workers, 11.7 percent of all workers (see table 17). The typical raise for workers experiencing an indirect impact is $0.24.

According to evidence from a San Francisco International Airport (SFO) living wage ordinance implementation study, the effect of ripple-effect raises extends to wages about 40 percent above the new wage floor (Reich et al. 2005). The SFO provides evidence that ripple-

effect raises are often small and becoming smaller as you move along the higher end of the wage distribution. The preponderance of low wages across the wage distribution make indirect impacts particularly small in this study. Based on the $11.68 per hour LWO minimum age, the 40 percent cutoff for indirect impacts will be $16.35 per hour. This threshold for indirect impacts only excludes 6.5 workers, 0.3 percent of all workers, due to the general low-wage nature of the worker wage distribution at FLL.

Businesses

Direct impact

After simulating the LWO's impact on workers, the LWO's impact on businesses becomes clear. Assuming that employment levels do not change and that all employers voluntarily adopt the LWO we estimate that the direct impact on weekly wages is an increase of $221,335.13 and the direct impact on annual wages is an increase of $11,509,427 (see table 19). These estimates were achieved by extending our simulation to incorporate Florida-based estimates on the weekly hours usually worked, 40 hours, and on reported weeks worked in the past year, 52 weeks for 85.4 percent of workers, for the air transportation industry in the American Community Survey.

Table 19: LWO Direct and Indirect Impacts for Workers at FLL: 2015

Impact Type	Estimated Hourly Wage Increase	Estimated Weekly Wage Increase	Estimated Annual Wage Increase
Direct impact	$5,533.38	$221,335.13	$11,509,426.64
Indirect impact	$55.10	$2,203.91	$114,603.08
Not affected	$0.00	$0.00	$0.00
Total	$5,588.48	$223,539.03	$11,624,029.72

Source: author simulation based on FLL security badge data and worker survey

It is important to note that these estimates are based on stylized assumptions that enable the modeling of aggregate impacts on a given airport worker population. Contracts for airport leases and services usually last five years and at time of this report the average contract at FLL would be active for another 33 months. This means that, on average, vendors would not need to adjust to the LWO until they renew or extend their leases or contracts 33 months from now. During that time, it is possible that wages may increase drastically due to federal and/or state minimum wage increases and from broader economic growth. Nonetheless, these estimates inform us about the increase in payroll costs after the LWO expansion to the group of airport tenant service contract vendors at FLL. Likewise, these estimates inform use about the increased spending that local communities in the County may look forward to after the LWO expansion.

Indirect impact

Continuing to assume that employment levels do not change and that all employers voluntarily adopt the LWO we estimate that the indirect impact on weekly wages is an increase of $2,203.91 and the indirect impact on annual wages is an increase of $114,603 (see table 19). The relative small scale of indirect impacts is in large part to the prevalence of low-wage work at FLL. As previously noted, indirect impacts only apply to businesses with workers that are currently being paid $11.68 per hour or more.

FLL Labor Market

The Airport Tenant Service FLL labor market is generally characterized as a low-skill and low-wage labor market (see tables 3 and 4). However, the LWO expansion, over time, may

raise both the skill level and the wage level at FLL as employment with concessions and airport tenant service contract vendors becomes increasingly competitive.

The LWO expansion has the potential of compressing the FLL wage distribution by raising the wages of many low-wage workers with varying levels of low wages. It is estimated that 88 percent of all airport tenant service contract workers will now have the same wage of $11.68 per hour. The remaining 12 percent of workers will have wages above $11.68 per hour. The LWO expansion, and the subsequent compression of the wage distribution, will reduce wage inequality at FLL. As more workers earn higher wages the gap between the highest and lowest wage earners at FLL will be diminished. Looking at the hourly wage distribution for airport tenant service contract workers the current pay gap between the lowest and highest decile is $5.15. That same pay gap declines to $1.76 after the expansion of the LWO (see table 20).

Table 20: Estimated LWO Worker Wage Distribution at FLL: 2015

Percentile	Current Hourly Wage	Estimated Hourly Wage	Estimated Hourly Wage Increase per Worker	Estimated Weekly Wage Increase per Worker	Estimated Annual Wage Increase per Worker
10th	$8.05	$11.68	$3.63	$145.20	$7,550.40
20th	$8.05	$11.68	$3.63	$145.20	$7,550.40
30th	$8.05	$11.68	$3.63	$145.20	$7,550.40
40th	$8.05	$11.68	$3.63	$145.20	$7,550.40
50th	$8.05	$11.68	$3.63	$145.20	$7,550.40
60th	$8.23	$11.68	$3.45	$138.00	$7,176.00
70th	$8.50	$11.68	$3.18	$127.20	$6,614.40
80th	$9.50	$11.68	$2.18	$87.20	$4,534.40
90th	$13.20	$13.44	$0.24	$9.60	$499.20

Source: author simulation based on FLL security badge data and worker survey

Conclusion

This report provides a contextual economic impact analysis to the proposed expansion of the LWO to workers under airport tenant service contracts. Assuming that employment levels do not change and that all employers voluntarily adopt the LWO, we estimate that the direct impact on wage costs for airport leases and service contracts is an increase of $221,335.13 and the direct impact on annual wage costs is an increase of $11,509,427. Likewise, we estimate the indirect impact on weekly wage costs is an increase of $2,203.91 and the indirect impact on annual wage costs is an increase of $114,603. The LWO would directly impact 1,710 workers, 88 percent of all workers. These workers will typically experience an hourly wage increase of $3.24 in order to bring their hourly wage to $11.68. The indirect impact of the LWO will affect 228 workers, 11.7 percent of all workers. The typical raise for workers experiencing an indirect impact is $0.24. Furthermore, the LWO expansion has the potential of compressing the FLL wage distribution and reducing overall wage inequality at the airport. The estimated economic impacts of the proposed expansion of the LWO to workers under airport leases and service contracts are heavily influenced by the existing labor market characterized by a large share of low-skilled and low-wage workers.

An explanation of how businesses affected by potential LWO expansion will adjust to the wage increase is beyond the scope of this report but empirical research provides four possible ways that increased labor costs may be absorbed: 1) offset cost through benefits in reduced absenteeism, lower turnover and training costs, and higher productivity; 2) raise prices; 3) allocate a share of the revenues generated by economic growth to cover increased costs; and 4) redistribute overall revenues within the business through investing in new equipment to reduce

their employment requirements relative to their overall level of operation; or through cutting back on other business expenses to cover the increased wage bill.

Lastly, it is important to note that these estimates are based on stylized assumptions that enable the modeling of aggregate impacts on a given airport worker population. Contracts for airport leases and services usually last five years and at time of this report the average contract at FLL would be active for another 33 months. This means that, on average, vendors would not need to adjust to the LWO until they renew or extend their leases or contracts 33 months from now. During that time, it is possible that wages may increase drastically due to federal and/or state minimum wage increases and from broader economic growth. Nonetheless, these estimates inform us about the increase in payroll costs after the LWO expansion to the group of airport tenant service contract vendors at FLL. Likewise, these estimates inform us about the increased spending that local communities in the County may look forward to after the LWO expansion.

Appendix A: List of Selected Living Wage Ordinances

Location	State	Year Enacted (Amended)	Mandated Living Wage (+Benefits Supplements) as of Nov 1, 2013	% Four -person Family Poverty Line (for 1 FT worker)
San Francisco	CA	2000	$12.43	110%
Long Beach	CA	2012	$13.00	115%
Port of Oakland	CA	2002	$13.75	121%
Los Angeles	CA	1999 (multiple)	$15.67	138%
Santa Cruz	CA	2000	$16.13	142%
Santa Cruz County	CA	2001 (2013)	$16.13	142%
Santa Barbara	CA	2006	$16.39	145%
Denver	CO	2000	$11.32	100%
New Haven	CT	1997	$15.67	138%
Hartford	CT	1999 (2010)	$22.00	194%
Washington	DC	2006	$12.50	110%
Broward County	FL	2002	$12.95	114%
Miami	FL	2006	$13.70	121%
Miami-Dade County	FL	1999 (2009)	$14.01	124%
Chicago	IL	1998	$11.32	100%
Cook County	IL	1998	$14.15	125%
Boston	MA	1998 (2001)	$13.76	122%
Baltimore	MD	1994	$11.07	98%
Prince George's County	MD	2003	$13.05	115%
Montgomery County	MD	2002	$13.95	123%
Macomb County	MI	2005	$12.21	108%
Washtenaw County	MI	2001	$13.65	121%
Detroit	MI	1998	$14.15	125%
Warren	MI	2000	$14.15	125%
Ingham County	MI	2003	$14.15	125%
Lansing	MI	2003	$14.15	125%
Wayne County	MI	2006	$14.72	130%
Minneapolis	MN	1997 (2005)	$14.72	130%
St. Paul	MN	1997 (2007)	$14.72	130%
St. Louis	MO	2000 (2002)	$15.92	141%
Buffalo	NY	1999	$12.15	107%
Rochester	NY	2001	$12.41	110%
Westchester County	NY	2002	$13.00	115%
Suffolk County	NY	2001	$13.12	116%
Syracuse	NY	2005	$14.68	130%
Nassau County	NY	2005	$15.21	134%
Cincinnati	OH	2002	$12.82	113%
Dayton	OH	2003	$13.59	120%
Toledo	OH	2000	$14.72	130%
Seatac**	WA	2013	$15.00	132%
Milwaukee (City)	WI	1995	$9.39	83%
Dane County	WI	1999	$11.33	100%
Madison	WI	1999	$12.45	110%

Source: COWS 2013

Appendix B: Broward County 10/14/2014 Public Hearing Summary and Fiscal Memo

Broward County Commission Public Hearing **12.**

Meeting Date: 10/14/2014
Director's Name: Joni Armstrong Coffey
Department: County Attorney

Requested Action

MOTION TO CONSIDER enactment of an Ordinance, the title of which is as follows:

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF BROWARD COUNTY, FLORIDA, PERTAINING TO THE BROWARD COUNTY LIVING WAGE ORDINANCE; AMENDING SECTION 26-102 OF THE BROWARD COUNTY CODE OF ORDINANCES ("CODE") TO PROVIDE THAT THE REQUIREMENTS OF THE LIVING WAGE ORDINANCE ALSO APPLY TO CERTAIN CONCESSION CONTRACTS AT THE AIRPORT TERMINAL COMPLEX AND RENTAL CAR CENTER; AND PROVIDING FOR SEVERABILITY, INCLUSION IN THE CODE, AND AN EFFECTIVE DATE.

(Sponsored by Commissioner Kristin Jacobs)

ACTION: (T-3:35 PM) Filed proof of publication and enacted the Ordinance to become effective as provided by law. Commissioner Klar requested being a co-sponsor to this item. (Refer to minutes for full discussion.)

VOTE: 7-0. Vice Mayor Ryan was out of the room during the vote. Commissioner LaMarca was not present.

ACTION: (T-3:47 PM) Vice Mayor Ryan requested being shown voting in the affirmative.

VOTE: 8-0.

Why Action Is Necessary

A Resolution directing the County Administrator to publish notice of public hearing to consider enactment of the Ordinance was adopted by the Board of County Commissioners at its meeting of September 23, 2014.

What Action Accomplishes

Amends the Code to provide that the requirements of the Living Wage Ordinance also apply to certain concession contracts at the Airport Terminal Complex and Rental Car Center.

Is this Action Goal Related

Previous Action Taken

Summary Explanation/Background

Currently, the Broward County Living Wage Ordinance does not apply to food and beverage and retail concessions at the Fort Lauderdale-Hollywood Airport ("Airport"). The proposed amendment to Section 26-101 of the Broward County Code of Ordinances expands the coverage of the Living Wage Ordinance to provide that service contractors and their subcontractors, including food and beverage concessionaires and certain retail concessionaires, pay a living wage to their employees when conducting business with Broward County at the Airport. This amendment will apply to contracts entered into after the effective

Exhibit 2

BROWARD COUNTY
FLORIDA

OFFICE OF MANAGEMENT AND BUDGET
115 S. Andrews Avenue, Room 404 • Fort Lauderdale, Florida 33301 • 954-357-6345 • FAX 954-357-6364

MEMORANDUM

September 19, 2014

TO: Board of County Commissioners

FROM: Kayla Olson, Director
Office of Management and Budget

SUBJECT: Fiscal Impact Statement Re: Proposed Ordinance Amending Section 26-101 of the Broward County Code of Ordinances, Relating to the Living Wage Ordinance CAO Files: 14-026.08 & 14-420.00

Summary

The proposed ordinance amends section 26-101 of the Broward County Code of Ordinances to provide that the requirements of the living wage ordinance also apply to certain concession contracts at the airport terminal complex and rental car center.

Fiscal Impact

Since there is no pass through of expenses with the Airport Terminal Complex and Car Rental Center concessionaires, there is anticipated to be no direct fiscal impact to the Broward County Aviation Department as a result of this ordinance.

KO:mcs

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Appendix C: Simulation Model

Simulation model equation:
P_i: Random variable for the wage of observation i if move from current to proposed wage floor
a_i: Observed wage for observation i
o: current wage floor
β_0, β_1: unknown model parameters
ϵ: error term, assumed to be random normal with mean 0 and standard deviation 1

$$\ln(P_i - a_i) = \beta_0 + \beta_1 * \left(\frac{a_i}{o}\right) + \epsilon$$

Prediction equation:
p_i: prediction for observation i if move from current to proposed wage floor
β_0, β_1:: model parameters estimated from sample data

$$p_i = a_i + e^{\widehat{\beta}_0} * e^{(\widehat{\beta}_1 * (\frac{a_i}{o}))}$$

Appendix D: Worker Survey Questionnaire

1. Did you work at the airport in the LAST WEEK?
    a. Yes
    b. No
2. What is the name of the company that employed you in the LAST WEEK at the airport?
3. What was the main job you did for [EMPLOYER] in the LAST WEEK? This is the job I will be asking questions about throughout the survey.
4. In what month and year did you first start working for [EMPLOYER]?
5. How much did you get paid per hour for your job at the airport LAST WEEK, not including tips?
6. Did you receive any tips at your job with [EMPLOYER] in the LAST WEEK?
    a. Yes
    b. No
7. About how much in tips did you take home in the LAST WEEK?
8. Does [EMPLOYER] give you paid vacation days?
9. Does [EMPLOYER] give you paid sick days?
10. Have you ever come to work for [EMPLOYER] even though you were sick?
11. Do you have health insurance?
12. If YES, how do you get health insurance?
13. Are you currently married or living with a partner?
    a. Married
    b. Living with a partner
    c. Neither

14. How many children do you have?

15. Last year, what was your total household income?

16. Do you or your family receive public or government assistance for any of the following?

    a. Food Stamps

    b. Housing

    c. Child care/WIC

    d. Cash assistance/TANF

    e. Gas/electric

    f. Other, please specify: _____

17. Do you ever have trouble paying your bills?

18. Sex:

    a. Male

    b. Female

19. How old are you?

20. In what country were you born?

21. What is your zip code?

22. How would you best describe your race or ethnicity?

23. What is the highest level of education you have completed in the U.S. or abroad?

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