THE IMPACT OF WORK FROM HOME ON MUNICIPAL INCOME TAXES IN OHIO

Prepared on October 12, 2021

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Executive Summary

- The advent of work from home ("WFH") will have significant impacts on municipal income tax collections for Ohio's cities.

- While there is a great deal of uncertainty over the magnitude of WFH and the timing of when businesses will return to their offices, the boundaries of the potential outcomes are becoming increasingly clear.

- The vast majority of firms across the country and in Ohio have implemented or plan to implement some form of hybrid staffing for their office-type employees. The predominant models are 2-days in office with 3-days WFH (2/3) or 3-days in the office with 2-days WFH (3/2).

- Based on our ten-city sample, this means that WFH will affect between 24% of the workforce in Strongsville to as much as 39% of the workforce in Columbus, with an average impact of 33%.

- The potential impacts on Ohio's cities also depends upon a number of other factors including: (a) the degree to which their budgets depend upon income taxes and (b) the volume of workers who commute into the cities from their surrounding suburbs.

- Table E1 summarizes the potential impacts for our set of 10 Ohio cities.

Table E1. Summary of Likely Impacts of WFH on Income Tax Collections by Ohio Cities $ Millions (All Fund)

City	*High*	*Medium*	*Low*
Akron	$20.0	$11.8	$7.8
Cincinnati	$43.0	$24.5	$15.7
Columbus	$110.3	$62.9	$40.2
Dayton	$21.9	$12.6	$8.2
Elyria	$4.8	$3.0	$2.0
Fairfield	$1.6	$1.0	$0.6
Kettering	$6.4	$3.9	$2.7
Springfield	$4.0	$2.3	$1.5
Strongsville	$2.2	$1.4	$1.0
Toledo	$15.8	$9.2	$6.1

- To better scale these results, Table E2 presents the impacts in terms of the consequence for municipal income taxes as a percent of their general fund FY 2020 totals.

Table E2. Summary of Likely Impacts of WFH on Income Tax Collections by Ohio Cities as Percent of Tax Collections (General Fund Only)

City	*High*	*Medium*	*Low*
Akron	7%	4%	3%
Cincinnati	12%	7%	5%
Columbus	12%	7%	4%
Dayton	17%	10%	6%
Elyria	14%	9%	6%
Fairfield	15%	9%	6%
Kettering	12%	7%	5%
Springfield	10%	6%	4%
Strongsville	6%	4%	3%
Toledo	6%	3%	2%

- Unsurprisingly, the results vary substantially by scenario and by city. Nevertheless, it is highly likely that many Ohio cities will be negatively impacted by WFH under Ohio's current municipal income tax laws.

- It is important to note that these results provide a very conservative analysis of the impact that WFH will have on municipal income tax collections for Ohio's cities for a variety of reasons including the following.

    - Our results focus only on the direct impact of WFH on personal income and thereby on the personal component of the municipal income tax.
    - WFH will have significant economic impacts as fewer employees work at their companies' offices during a typical workweek, thereby depressing their spending on goods and services proximate to their offices. This will reduce employment, incomes and business profits further depressing municipal income tax collections.
    - WFH has already caused a noticeable increase in office vacancy rates across the U.S. and in Ohio's cities. Over time office vacancy rates will continue to escalate depressing the values of office buildings and reducing ad valorem tax revenues.
    - Lower municipal income tax revenues will compromise the ability of cities to provide public services eroding the attractiveness of living and working in cities causing additional economic harm.

THE IMPACT OF WORK FROM HOME ON MUNICIPAL INCOME TAXES IN OHIO

1.0 Assignment and Overview

1.1 Assignment

The Ohio Mayors' Alliance ("OMA") commissioned this study to quantify the impacts of work from home ("WFH") staffing patterns on municipal income taxes. More specifically, OMA asked PFM to provide a high-level estimate of the amount of revenue that is at risk with continuing WFH practices for a 10-city sample: Akron, Cincinnati, Columbus, Dayton, Elyria, Fairfield, Kettering, Springfield, Strongsville, and Toledo. While the sample cities do not cover every community OMA represents, it does provide a good cross section for how the fiscal impact of continuing WFH practices will impact Ohio's urban communities.

1.2 Overview of Report

Section 2 introduces the issues. The scope and importance of Ohio's municipal income taxes for cities is highlighted here.

Section 3 provides a survey of the literature on WFH. There is a large volume of published research on WFH impacts that is reviewed first. In addition, many news articles illuminating various aspects of the evolving nature of WFH and plans about WFH have been published. The most salient are discussed. Finally, we report on our Ohio survey of economic development experts.

Section 4 discusses the data and methodology used for our analysis. The methodology combines data on employment by occupation, income levels and commuting patterns to estimate the impacts of WFH.

Results of the analysis are included in Section 5 followed by our conclusions in Section 6.

2.0 Introduction

2.1 Overview

OMA is a bipartisan coalition of Mayors from Ohio's 30 largest urban and suburban communities. Based on the tax structure created by State law, those communities rely on municipal income tax revenue[1] to fund daily operations, repay debt obligations, improve assets like roads and parks, and meet other needs.

While the OMA represents the State's largest communities, the municipal income tax is widely used throughout Ohio. According to a survey by the Ohio Department of Taxation, 642 municipalities used an income tax ranging from 0.5% to 3.0% in 2018. The tax generated $2.2 billion for Ohio's six largest cities; between $10 million and $100 million for another 118 municipalities; and $1 million to $10 million for another 221 municipalities.

The ramifications for changing the municipal income tax extend far beyond OMA's 30 member cities and the people living in them. The municipal income tax is fundamental to local government finance and operations across Ohio, so any changes in how the tax is applied will have far reaching consequences for all Ohio residents.

When the novel coronavirus, COVID-19, hit in March 2020, the State issued an order requiring Ohio residents to stay home unless engaged in essential work. Individual communities issued their own stay-home orders to mitigate the virus' spread, and many businesses and organizations directed their employees to work from home until it was safe to return to their place of employment.

In March 2020, the Ohio General Assembly responded to this unique situation by passing HB 197 clarifying where people would pay their municipal income tax during the WFH period. The law provides that "any day on which an employee performs personal services at a location, including the employee's home, to which the employee is required to report for employment duties because of the [emergency declaration] shall be deemed to be a day performing personal services at the employees' principal place of work." This provision allowed municipalities to collect municipal income taxes from people working from home as if they were still commuting.

The public health situation has since improved, and the State of Ohio has lifted many of the restrictions put in place early in the pandemic. On June 18, 2021, Governor Mike DeWine issued an Executive Order declaring an end to the state of emergency. Under HB 197 of 2020, that declaration started a 30-day period after which the ability for municipalities to tax residents still working from home and outside their borders would have ended.

[1] This municipal Income tax includes the tax on residents; non-residents earning income or net profits in that municipality; and businesses that have net profits sitused or apportioned to that municipality. The fiscal impacts presented later in this report focus on the first two categories and do not include any potential impact on the business net profit withholding.

Before that 30-day sunset period ended, the State passed its 2022-23 budget bill. That legislation authorized residents to apply for a refund on municipal income taxes paid during 2021 if they are still working from home. Practically, the refund only benefits workers whose home municipality has a lower municipal income tax rate than the municipality where their employer is located. Residents also do not automatically receive this refund. They must file for one in early 2022 when they are preparing their 2021 income tax returns.[2]

The refund structure created in the State budget bill raises questions about how residents will apply for the refund; who will verify claims of past or continuing WFH status; and how refund claims will account for municipalities' varying tax credit provisions. Some communities offer their residents 100% credit for municipal income taxes paid elsewhere. Some municipalities offer a partial credit (i.e. 50%), and others do not offer any credit at all.

Separate from these issues related to the 2021 tax refund process, there are bigger questions about how evolving and expanded WFH practices will impact municipal budgets beyond this year. What will happen to municipal income tax revenues if employees are slow to return to their office, if they only return for a few days a week, or if they do not return at all? How much municipal income tax revenue is at risk to shift away from Ohio's cities and for how long?

Locally elected leaders need insight on these issues, even if those answers evolve as WFH practices do. Most Ohio municipalities will soon start working on their 2022 budget, and that process starts by projecting how much revenue they will have available. Projecting how the largest revenue source could change in 2022 and beyond is critical to that question. State leaders also need to understand the potential fiscal impact, because they have the authority to change the local tax system. Already, there are calls to do so.

2.2 What's the potential impact of WFH on Ohio city budgets?

The impact of WFH on municipal income tax revenues will be very different for each community. Some may see a net increase in revenue if they are home to large numbers of residents who both: (a) work in occupations that lend themselves to telecommuting and WFH and (b) commute out from their home community into a different community. However, most of Ohio's urban communities are likely to experience significant declines in municipal income taxes because they have many employees who both: (a) work in occupations that lend themselves to telecommuting and WFH, and (b) commute into the urban community that they work in from their home community.

To explore these issues, OMA asked PFM to provide a high-level estimate of the amount of revenue that is at risk with continuing WFH practices for a 10-city sample. The cities are Akron, Cincinnati, Columbus, Dayton, Elyria, Fairfield, Kettering, Springfield, Strongsville, and Toledo.

[2] There are also multiple lawsuits contesting cities' ability to collect income taxes from people working outside of those cities during 2020 and 2021.

Eight of the 10 communities have municipal income tax rates of 2.00% or higher. This year Cincinnati's rate dropped from 2.10% to 1.80% when Hamilton County voters approved changing the method for funding public transit from a 0.30% municipal income tax to a 0.8% countywide sales tax. While Cincinnati's income tax rate dropped by 0.3%, Toledo's rate increased from 2.25% to 2.50% with the resulting revenue designated for road improvements. The rest of the communities have had the same tax rates shown in the table to the right since at least 2018.

	2021 Tax Rate
Akron	2.50%
Dayton	2.50%
Columbus	2.50%
Toledo	2.50%
Springfield	2.40%
Elyria	2.25%
Kettering	2.25%
Strongsville	2.00%
Cincinnati	1.80%
Fairfield	1.50%

Cities levy the municipal income tax on wages, salaries, commissions, and other compensation paid to non-residents working in their borders. The tax rate also applies to net proceeds of business operations and to income earned by residents. Most cities[3] give residents who commute to another municipality for work full credit for municipal income tax paid elsewhere, up to the 100% of the home city's tax rate.

The table below shows how this impacts someone making $50,000 a year who does not work from home. In all three scenarios, the resident pays $1,250 but to whom the tax is paid varies.

	Tax bill at work	Tax bill at home	Total bill
Scenario 1: Limited commuter	Resident works in a city with a 2.5% tax rate and pays $1,250/year (2.5% x $50,000)	The resident lives and works in the same municipality. The tax payment is withheld by his employer.	$1,250 to City
Scenario 2: In-commuter	Resident works in a city with a 2.5% tax rate and pays $1,250/year (2.5% x $50,000)	Resident lives in a suburb with a 2.0% tax rate that offers full credit on taxes paid elsewhere. Because the amount paid at work is more than the amount due in the home municipality, there is no additional tax liability.	$1,250 to City + $0 to suburb
Scenario 3: Out-commuter	Resident works in a suburb with a 2.0% tax rate and pays $1,000/year (2.0% x $50,000).	Resident lives in a city with a 2.5% tax rate. The resident gets credit for the $1,000 paid where he works and then pays the remaining 0.5% tax to his home city.	$1,000 to suburb + $250 to City

[3] Two cities in our sample group offer residents partial credit for taxes paid elsewhere. Springfield has a 50% credit and Strongsville a 75% credit.

Like many Ohio municipalities, the 10 cities evaluated all rely heavily on the municipal income tax to balance their budgets. For all 10 cities, the municipal income tax generated more than half of the revenue that pays for municipal services like police patrol, fire protection and financial administration. Most sample cities received more than three-quarters of their General Fund revenue from this one source in 2019.

	2019 General Fund ($)	% of 2019 General Fund
Columbus	$711.1	75.6%
Cincinnati	$288.8	69.8%
Toledo	$189.4	70.8%
Dayton	$133.6	69.4%
Akron	$94.5	57.0%
Kettering	$51.5	79.4%
Springfield	$36.9	80.9%
Strongsville	$33.7	81.9%
Fairfield	$24.4	76.7%
Elyria	$22.8	79.2%

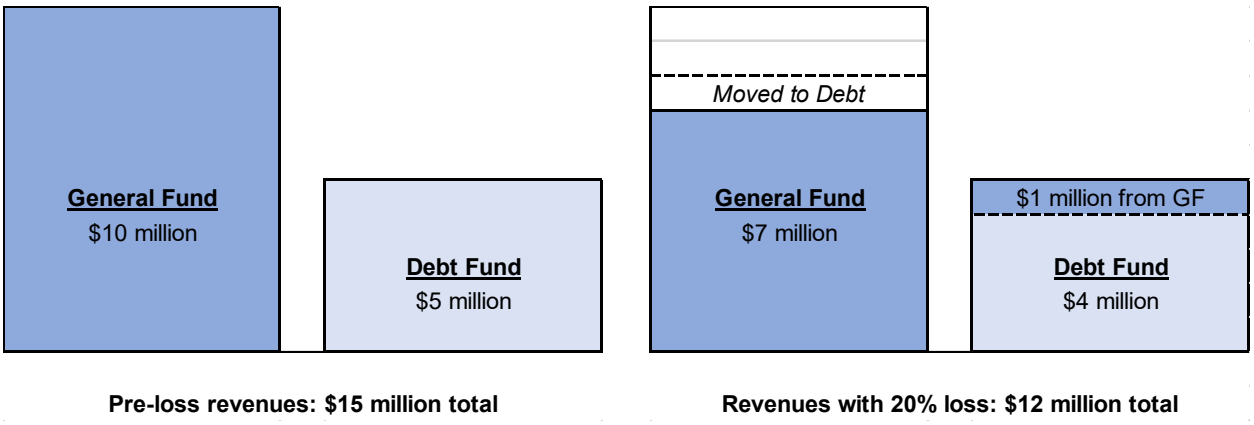
As much revenue as the municipal income tax generates for cities' General Funds, the table to the right understates the tax's full impact. Seven of the 10 cities receive additional income tax revenue outside of the General Fund.[4] Six of the 10 designate a portion of the municipal income tax to pay for capital projects and associated debt.

This fund distinction is important, because the full impact of any reduction in municipal income tax revenue goes beyond direct losses in the General Fund. Cities are obligated to make their full debt payments, even if the municipal income tax revenue intended to cover those debt payments drops.

Unless a community has legal and practical access to alternate revenue sources, the city may have to move money (again most of which comes from the municipal income tax) away from operations to cover shortfalls in the debt service fund. For these communities, the General Fund absorbs two hits – one from the loss of income tax revenue in the General Fund itself and a second one when money is diverted to cover expenses in other funds.

The diagram below shows this dynamic for a hypothetical community that receives $10 million in municipal income tax revenue in its General Fund plus $5 million in a separate Debt Fund. If the community loses 20% of this tax revenue, the General Fund loses $2 million and the Debt Fund loses $1 million. Since the community must make its full debt payments, it shifts $1 million from the General Fund to the Debt Fund. The hit to the General Fund then is $3 million, not just the original $2 million.

[4] Dayton and Kettering receive and spend all municipal income tax revenue in their General Fund. Toledo receives all municipal income tax in its General Fund and then transfers it to funds designated for capital/debt, public safety and streets.



Other commonly designated uses of municipal income tax revenue are street and infrastructure maintenance (eight cities); public safety (five cities); and education (two cities).[5] For example, Dayton and Springfield explicitly tied the request for voter-approved increases in the municipal income tax rate to hiring more police officers. If municipal income tax revenue falls, cities would have to either reduce the level of activity and services in these areas or find another way to backfill the loss.

[5] Dayton uses a portion of the municipal income tax fund to support Universal Pre-Kindergarten. Akron uses a portion to pay for debt related to its Community Learning Center joint initiative with the Akron Public Schools.

3.0 Survey of the Literature on Work from Home

3.1 Overview

There is a large and growing literature discussing WFH staffing patterns, trends since March 2020, projections, and estimated impacts. The literature can be usefully categorized as published studies and news reports. To augment the existing literature PFM conducted surveys of business groups in Ohio. A synthesis of these materials is provided next.

3.2 Published Studies

McKinsey Global Institute published the most comprehensive study, The Future of Work after COVID-19.[6] McKinsey concludes that the massive, global disruption caused by COVID-19 will have enduring effects on consumer behavior and business models. McKinsey made the following key findings concerning the impact on WFH staffing patterns.

(1) The physical dimension of work is a newly important factor that will shape the future of work because of health and safety considerations.

(2) Labor turnover will accelerate, and the share of low-wage jobs will decline due to automation and Ecommerce expansion.

(3) The growth in Ecommerce and delivery of all manner of goods will continue to accelerate disrupting jobs especially in retailing and restaurants.

(4) Companies learned that they could adapt by increasing use of automation and artificial intelligence substituting for labor in customer support, repetitive physical jobs, supply chain management, and routine administrative functions.

(5) Work from home worked for employees and for employers. Hybrid remote work will become the norm for most office-type occupations

Subsequent surveys and studies by McKinsey confirmed these findings. In their latest survey of employers, McKinsey found that 30% said that their office personnel would be in the office fewer than two days each month and 50% planned to adopt hybrid staffing plans requiring workers to be in the office 2-4 days each week. Only 20% expect their office workforce to return to the office full time.[7]

[6] McKinsey Global Institute (February 2021).
[7] McKinsey (May 2021), page 2.

McKinsey also points out that WFH is having additional knock-on effects. Firms are shrinking their footprints as leases come up for renewal, impacting office rents. Some are considering more distributed footprints with smaller satellite offices closer to where people live. There are already measurable effects on migration patterns. People are moving out of higher costs city centers to suburban locations, smaller towns, and resort areas.[8]

McKinsey's findings are consistent with an earlier survey conducted by PwC.[9] PwC surveyed 133 US executives and 1,200 office workers between November 24 and December 5, 2020. All respondents were from large public and private companies. PwC found that remote work was an overwhelming success for both employees and employers. More than 80% of firms have shifted to hybrid staffing on a permanent basis for their office staff. A plurality plan for WFH 2-to-3 days per week.

A July 2021 survey by Wakefield Research of 1,000 office workers who have recently returned to work found that 70% reported that they enjoyed their return more than they had anticipated.[10] However, 77% said that they want a hybrid staffing pattern with only 23% interested in returning full-time to their offices.

Barrero, Bloom, Davis, and Ramani have recently published a series of empirically based studies of WFH illuminating how WFH will affect staffing patterns and migration. Based on their surveys of 30,000 Americans each month starting in May 2020, Barrero et al. determined that hybrid staffing for most all office-type work has already become a permanent feature of business staffing.[11] Their survey data found that 20% of full workdays will be from home compared to less than 5% pre-pandemic.

They identified five key reasons explaining this dramatic shift to WFH.

(1) Work from home worked far better than expected. Both employees and employers benefitted substantially. Productivity increased significantly and worker satisfaction rose markedly.

(2) New investments in physical and human capital coupled with rapid advances in remote meeting technology accelerated WFH and improved productivity. Productivity increased by nearly 5% as a result.

(3) The COVID-19 lockdown forced business to pivot to WFH. As a result, historic inertia resisting changes in staffing patterns and the stigma associated with WFH was demolished.

(4) Lingering concerns about crowds and contagion risks support WFH for employees and employers.

[8] McKinsey (May, 2021a), page 3.
[9] PwC (January 12, 2021).
[10] Wakefield Research (July 2021)
[11] Barrero, et al. (April 21, 2021)

(5) The pandemic accelerated technological changes that were already underway. Ecommerce sales surged and home-delivery of all manner of goods further support WFH.

In their July 2021 survey, Barrero et al. found that workers' desire for WFH has soared.[12] They found that 40% of those who currently WFH at least one day a week would quit and seek another job if their employers required full-time return to the office. Additionally, most employees would willingly accept a new job that offers the same pay but allows the option to WFH 2-to-3 days per week. As a result, these employee preferences are pushing employers to permanently alter their staffing patterns. Barrero et al. report that, as of June 2021, employers plan for employees to spend 1.2 full days per week working from home permanently. This represents a 23% increase from prior plans by employers. The recent upsurge in quits and job openings to near historic levels reflect a massive resorting of workers triggered in part by a newly important job attribute, the scope of remote working opportunity.

The latest survey of staffing patterns by Henry conducted in September and recently published found that 30% of the entire U.S. workforce will be working from home multiple days each week on a permanent basis.[13] This translates into nearly 90% of all office personnel working remotely. These results are very consistent with the latest survey results from Barrero.[14] As of August 2021, 82% of employers reported that they plan to continue WFH permanently for their staffs who are currently WFH. In other words, most employers who have moved to WFH plan to continue this staffing program.

A very large and growing list of companies have already shifted to hybrid staffing for their office personnel including: all of the major tech companies, most large finance and insurance companies, all of the major accounting firms, and many major manufacturers including Ford, Stellantis (Fiat-Chrysler), Hitachi, Siemens, and Pratt & Whitney.[15]

These forces already have promoted important impacts on migration patterns and real estate markets within and across U.S. cities. Using data from the U.S. Postal Service and Zillow, Ramani and Bloom identified two key results.[16] First, within large U.S. cities households and businesses have moved from dense, central business districts towards lower density, suburban zip-codes. Second, they did not find major reallocations across cities. Therefore, there is less evidence for large-scale movement of businesses or households from large U.S. cities to smaller regional centers, towns, or resort areas. This is likely the case, because staffing patterns are likely to be hybrid requiring commuting to the office expected from 1-4 days per week. As a result, near-by suburbs become more attractive since regular commuting to the office will still be necessary for most employees.

[12] Barrero (July 18, 2021), page 1.
[13] Henry (October 2, 2021), page 1.
[14] Barrero (September 2021).
[15] Henry (October 2, 2021)
[16] Ramani (May 21, 2021), pages 1-6.

Finally, as these forces settle into equilibrium over the next few years, there will be important economic impacts on cities that will also affect their municipal income tax collections. For example, with higher levels of WFH, the volume of inward commuting will be substantially reduced. As these workers cut back on commuting, they will spend less on food, shopping, entertainment, and personal services near their workplaces. Barrero[17] estimates that spending could drop 10%. In addition, there will be knock-on effects on employment and incomes in the cities as a result. The out migration from urban cores coupled with reduced demands for office space will impact ad valorem tax revenues.

3.3 News Reports

There are literally hundreds of news reports about WFH and its implications. For the purposes of this study the three most relevant reports are discussed.

Many firms have recently announced delays in their plans to start their return to the office, because of the surge in Covid-19 infections according to a recent *Wall Street Journal* report.[18] Return dates have been postponed repeatedly. Companies including Apple, Chevron, Prudential, Wells Fargo, Lyft, Amazon, and Facebook have all pushed back their schedules for any return to the office with many pushing the dates into 2022. That means that many workers will have remained away from their offices for about 24 months.

This has raised concerns that the longer people WFH and stay completely away from their offices, the harder and more disruptive it will be to eventually bring them back, even using the expected hybrid staffing pattern. Furthermore, the longer workers remain out of the office, their enthusiasm for remote work increases. In a new survey released by PwC on August 22, 2021, 41% of workers said they want to remain fully remote and not return to the office ever. This is an increase from 29% posted in January.

All of this is tempered somewhat by employees' desires to return to their offices periodically under hybrid staffing, according to a recent *New York Times* report.[19] In a national survey of over 950 workers by Morning Consult for the *Times*, 31% said they wanted to work from home full time, and 24% opted for hybrid WFH going to the office a few days per week. The remaining 25% wanted to work in their offices on a full-time basis.

A recent story in *The Columbus Dispatch* was particularly interesting.[20] Based on a survey from the Columbus Capital Crossroads Special Improvement District, as of May 2021 about 34% of downtown's office workers had returned with just 68% expected by the end of this year.

[17] Barrero (April 21, 2021), page 31.
[18] *Wall Street Journal* (August 23, 2021).
[19] *New York Times* (August 23, 2021).
[20] *The Columbus Dispatch* (July 6, 2021).

The survey also found that more than half of the respondents said they expect to use a hybrid staffing pattern when they return to the office while 34% were still unsure how they would staff. These results are consistent with the national surveys. Finally, given the expected level of WFH in Columbus, it is not surprising that the demand for office space has declined, and the downtown office vacancy rate has jumped to 20% already.

A survey by *Crain's Cleveland Business* confirms that WFH is having impacts across Ohio's major cities.[21] Seventy-nine firms responded to the August 2021 survey. Less than 10% of the private-sector firms reported that they are or will be back to full-time in the office with 90% moving to hybrid staffing. Of these, the vast majority expect their staffing pattern to be 2/3 or 3/2 for the mix of in-office and WFH. Interestingly, most of the government and nonprofit entities will or have returned on a full-time basis. The reason for this wide gap is because most entities requiring full-time staffing are public school districts, colleges, and hospitals. For the most part their work is not amenable to WFH.

3.4 Ohio Surveys

To supplement the findings from the published surveys and news reports, PFM conducted a series of interviews with the Ohio Chamber of Commerce, Columbus Partnership, and REDI Cincinnati. These interviews highlighted the significant differences across Ohio's cities in terms of size, economic composition, growth trajectories, demographic trends, and fiscal strength. That said, the surveys confirmed the trends and analyses at the national level for the most part. Most analysts expect that hybrid WFH staffing will become the norm in their region and across Ohio. The exception may be in Cincinnati, with its large cohort of Fortune 500 companies, many of whom have expressed a desire to have more workers back in the office full time.

We also heard strong concerns over the impact of WFH on the ability and burden that firms face in updating their income tax withholding systems. Under current Ohio law, WFH complicates withholding for income tax purposes since firms would have to track and measure the volume of work conducted at the office and at the employees' remote location.

[21] *Crain's Cleveland Business* (August 29, 2021)

4.0 Methodology to Estimate the Impact of WFH on Municipal Income Tax Collections for Ohio Cities

4.1 Overview

The methodology to estimate the impact of WFH on municipal income tax collections springs from the literature review, surveys, and news reports discussed in Section 3. These sources point to a methodology based on the occupations of the labor force instead of the traditional focus on industry sectors. Office-type occupations (management, accounting, etc.) are much more amenable to WFH than production-type occupations (auto assembly, carpentry, etc.) or occupations requiring direct person-to-person contact (medicine, education, etc.).

In addition, the impact of WFH depends upon where employees live and where they work. Employees who work and live in the same city are less likely to move with WFH staffing. So, if they WFH 2-4 days per week, they are still working in the same city where their office is located.

Employees commuting into a city are far more likely to WFH from their home outside the city. WFH for these employees will result in lower city income taxes. By contrast, employees commuting out of the city to work will tend to work more from the city where they live with WFH. This will result in higher city income taxes.

PFM can quantify the estimated net impact of these forces by using data for the types of occupations of those employed in each city, the average income for the occupations, and commuting patterns. Since the degree of WFH and the ultimate staffing patterns that will emerge are still in flux, we provide a range of likely results.

4.2 Data Sources

Data on commuting patterns is available from the U.S. Census Bureau, OnTheMap Application, and LEHD Origin-Destination Employment Statistics. These data provide information at the city level of geography for employment, commuting patterns, and residence locations.

The Census Bureau also provides data on employment by broad categories for occupations at the city level in its American Community Survey ("ACS") program. We used the ACS data to check the reliability of the commuting data. Table DP03 contains the employment data. In all cases the commuting data for employment closely tracks the ACS totals.

The ACS only provides employment data for broad occupational categories, and ACS does not provide data for incomes by occupation. However, these data are available from the U.S. Department of Labor's Occupational Employment and Wage Statistics ("OEWS") Survey.

The OEWS data are not available at the city level, but they are published for Ohio's metropolitan statistical areas ("MSAs"). Since the core cities dominate their MSAs, the OEWS data will be reliable and representative for the cities.

The occupational detail in OEWS is far greater than the occupational categories from the ACS. To provide the best estimates for the composition of occupational employment and for income levels by occupational category, PFM used the following definitions. For the category *management, business, science, and arts occupations,* we collected the OEWS data for the following categories: management; business and financial operations; computer and mathematical; architecture and engineering; legal and related; and arts, design, and media. For the category *sales and office occupations*, we used the OEWS data for office and administrative support occupations; telemarketers; and sales agents in advertising, travel, financial products, wholesale trade, and real estate[22].

We did not include other occupations. We explicitly did not include the following occupations because there are not particularly amenable to WFH: Life, Physical, and Social Science Occupations, Community and Social Service Occupations, Educational Instruction and Library Occupations, Healthcare Support Occupations, and Healthcare Practitioners and Technical Occupations.

For the smaller cities where the OEWS data are not available, we used the OEWS data from the closest Ohio MSA. Since the average incomes reported by OEWS by occupation do not vary dramatically across the Ohio MSAs where OEWS data are available, this procedure will be reliable for the purposes of this study. For Strongsville, PFM used income data from OEWS for North-Northeastern Ohio nonmetro areas given its location.

4.3 Methodological Steps to Estimate the Impact of WFH on Municipal Income Tax Collections for Ohio Cities

The best way to explain the methodology is to use the data for one of the cities in our ten-city sample. The methodology was uniformly applied to each city. The example below is for the City of Columbus.

The commuting information from the Census shows that in 2018 employment in the City of Columbus totaled 519,892. Of these 59% commuted into Columbus while the remaining 41% lived in Columbus. In addition, 196,737 workers who live in Columbus commute to a job outside the City.

The ACS data for Columbus tells us that 191,059 were employed in management, business, science, and arts occupations and 105,363 were employed in sales and office occupations. These are the broad occupations most affected by WFH.

[22] In some instances, the OEWS data noted that there are positions for a particular job type in an MSA but estimates on the number of positions are not available (i.e. no estimate for the number of telemarketers in Toledo MSA). In those cases, we added an estimate to avoid underrepresenting those positions.

The OEWS data has more detail than the ACS on employment by occupation and it shows that 21% of the workforce is employed in management occupations and 17% in sales and office occupations. The average income was $88,174 for management workers and $41,845 for sales and office workers. Thus, approximately $21 billion in annual income is potentially at risk.

The next step is to estimate the range of impacts that WFH will have on staffing patterns and how that translates into the effect on full time equivalent WFH and work from the office. The literature, surveys, and news reports indicate that most have or will implement WFH, hybrid, staffing patterns for their office-type occupations. We think that at least 70% of firms to as many as 90% of firms will move to WFH, hybrid, staffing patterns for their office-type occupations based on the latest survey data. Hybrid models range from 1-day in the office and 4-days WFH to 4-days in the office and 1-day WFH. The most reported pattern is 3/2 or 2/3.

To bound the problem, we developed a "High" scenario[23] combining 90% using WFH with a 1/4 staffing pattern with 1 day in the office each week. This means that the full-time equivalent staff in the office each week ("FTE") will be 26%. For the "Low" scenario[24] we assumed 70% of firms utilize WFH for their office staffs using a 2/3 staffing pattern with 2 days in the office. This results in an FTE of 58%. The middle scenario produces a 48% FTE.

Finally, we need to address the probability that WFH will affect in-commuting workers differently than out-commuting workers and those who work and live in the city. When offered WFH, in-commuters will probably embrace the opportunity and thereby cause a reduction in municipal income tax collections. For out-commuters the situation is somewhat different. While many will embrace WFH and thereby increase tax collections, some may choose to move out of the city to be closer to their jobs. Similarly, some of those who now live and work in the city will decide to move out of the city into the surrounding suburbs resulting in lower income tax revenue. As noted above, the literature has already documented a limited volume of these types of moves out of cities.

For in-commuting workers we have assumed that the impact of WFH for them will track the adoption rates of their employers. So, if 90% of employers utilize the High scenario of WFH, so will their employees. For out-commuting workers we have assumed that the impact of WFH on the city's income tax collections will be less than the in-commuters. WFH for out-commuters will produce an increase in city income tax revenues as more of them WFH in their city of residence. Finally, for those who both live and work in the city, WFH will have a smaller effect as a small percentage choose to leave the city and WFH in a new residence in the suburbs.

[23] The high scenario has 90% of applicable jobs working from home four days a week and the remaining 10% working from home one day a week.
[24] The low scenario has 70% of applicable jobs working from three days a week and the remaining 30% working in the office full time.

Table 1 summarizes the results for the City of Columbus. The commuting data report that 304,508 commute into Columbus; 196,737 commute out; and 215,384 both live and work in Columbus.

The next two panels divide these flows into two occupational groups: (1) management and related occupations and (2) sales and office occupations. Each category is then divided into the three scenarios for WFH (high, medium, low). With this information the net impact on FTE staffing is determined for each of the two occupational groups. These totals are the sum of the effects from in-commuters less out-commuters plus those who live and work in the city.

As noted above, each group is affected by WFH somewhat differently. The impact on incomes is the product of the FTE impact by occupation times the average income for the occupation. From this we can then calculate the estimated impact on total taxable income. Applying the tax rate results in the estimate for the impact of WFH on municipal tax collections. For Columbus WFH is projected to reduce income tax revenues across all funds between $40 million and $110 million with $63 million being the most likely. On a percentage basis, the potential reduction just in the General Fund is between 4% and 12% with a mid-point of 7%.

Table 1. Results for the City of Columbus

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations	
Employed in the Selection Area but Living Outside	304,508	64,675	52,659	
Living in the Selection Area but Employed Outside	196,737	41,786	34,022	
Living and Employed in the Selection Area	215,384	45,746	37,246	
Management, business, science, and arts occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	64,675	52,387	41,392	31,691
Living in the Selection Area but Employed Outside	41,786	11,282	6,686	2,925
Living and Employed in the Selection Area	45,746	6,176	3,660	1,601
Sales and office occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	52,659	42,654	33,702	25,803
Living in the Selection Area but Employed Outside	34,022	9,186	5,443	2,382
Living and Employed in the Selection Area	37,246	5,028	2,980	1,304
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		34,988	19,950	12,754
Sales and office occupations		28,487	16,244	10,384

Impact on Income				
Management, business, science, and arts occupations		$3,084,993,026	$1,759,103,415	$1,124,581,251
Sales and office occupations		$1,328,084,110	$757,290,948	$484,130,265
Total Impact on Income		$4,413,077,136	$2,516,394,363	$1,608,711,516
Impact on Income Tax Revenue				
General Fund	1.88%	$82,745,196	$47,182,394	$30,163,341
Total	2.50%	$110,326,928	$62,909,859	$40,217,788
General Fund Income Tax FY2020	$710,261,000	12%	7%	4%

5.0 Results and Analysis

5.1 Results

The full results for each of the ten cities are contained in the exhibits. Table 2 provides a summary of the results. The potential impacts of WFH vary significantly by city and by scenario. Potential impacts range from over $110 million in Columbus to $600,000 in Fairfield.

Table 2. Summary of Results
Impact on Municipal income Tax Collections in $Millions (All Funds)

City	*High*	*Medium*	*Low*
Akron	$20.0	$11.8	$7.8
Cincinnati	$43.0	$24.5	$15.7
Columbus	$110.3	$62.9	$40.2
Dayton	$21.9	$12.6	$8.2
Elyria	$4.8	$3.0	$2.0
Fairfield	$1.6	$1.0	$0.6
Kettering	$6.4	$3.9	$2.7
Springfield	$4.0	$2.3	$1.5
Strongsville	$2.2	$1.4	$1.0
Toledo	$15.8	$9.2	$6.1

The ten cities vary widely in the sizes of their budgets, employment totals, and occupational mixes. This was by design to explore the potential impact on WFH on a representative sample of Ohio cities. Table 3 provides a more meaningful assessment of the impacts by expressing the impact on income tax collections as a percentage of each city's general fund. Results again vary significantly depending upon the WFH scenario. However,

looking across the cities, the expected impact as a percentage of general fund revenues is arrayed more tightly within each WFH scenario. For example, in the Medium scenario the impacts range from a low of 3% for Toledo to a high of 10% for Dayton.

Table 3. Summary of Results
Impact as a Percent of the
General Fund Income Tax Revenue

City	*High*	*Medium*	*Low*
Akron	7%	4%	3%
Cincinnati	12%	7%	5%
Columbus	12%	7%	4%
Dayton	17%	10%	6%
Elyria	14%	9%	6%
Fairfield	15%	9%	6%
Kettering	12%	7%	5%
Springfield	10%	6%	4%
Strongsville	6%	4%	3%
Toledo	6%	3%	2%

As noted earlier, most of the cities in this sample receive municipal income tax revenues outside their general fund. The most common use for income tax revenue collected outside the General Fund is debt repayment (6 of 10 cities). Unless a community has legal and practical access to alternate revenue sources, the city may have to move money (again most of which comes from the municipal income tax) away from operations to cover shortfalls in the debt service fund.

We also note that the percentage impacts on Akron and Toledo shown in the prior table are lower than other cities because they receive or direct a larger percentage of their municipal income tax revenue outside the General Fund. Akron receives 42% of its municipal income tax revenue outside its General Fund while Toledo receives all its municipal income tax revenue in its General Fund and then transfers 40 percent to other funds.

5.2 Analysis

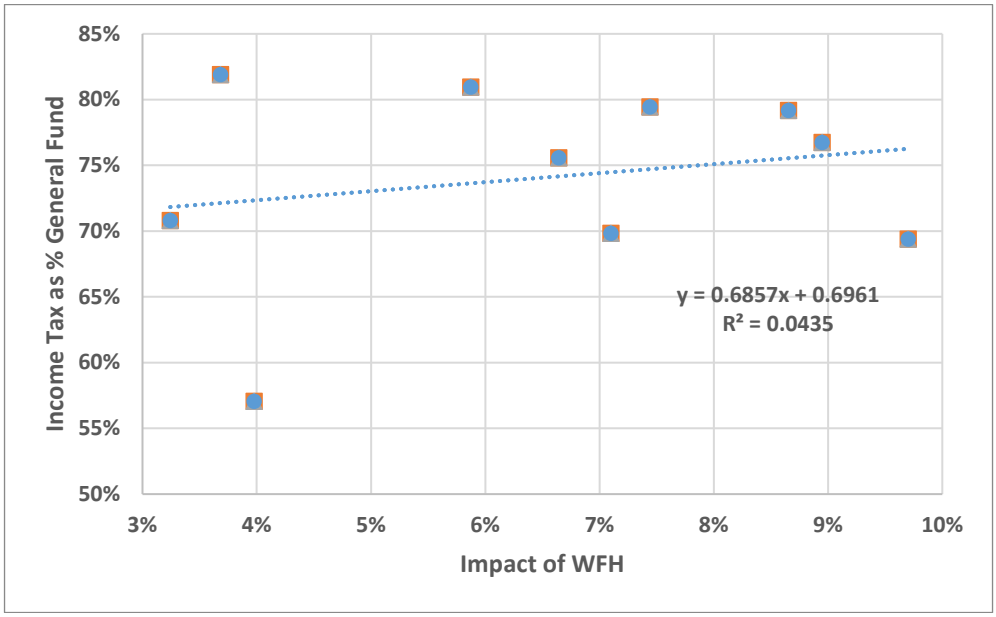
The ultimate impact of WFH is difficult to gauge at this juncture given the substantial uncertainties surrounding decisions by employers and employees as they adapt to shifting conditions. All of this is further complicated by the current surge in infections caused by the Delta variant, which has delayed employer decisions about when and how to return to the office. As noted above, many firms have pushed off this decision until 2022. Survey data demonstrate that the longer employees are working from home, the more entrenched this staffing pattern will become. Therefore, the “Low” scenario estimates that at least 70%

of all firms will move to hybrid staffing for their office staffs. That said, the purpose of developing the ranges is to attempt to bound the uncertainty.

Ohio's cities are very diverse in size, age, demographic trends, employment composition, occupational mix, income tax rates, budget composition, and budget sizes. Therefore, whatever the impact of WFH will be, it will have varying impacts on Ohio's cities. Even so, based on the results for this group of cities, WFH is likely to have a significant impact on most cities' budgets.

Income taxes are a significant component of most cities' general fund revenue. As previously noted, income taxes generated between about 60% to more than 80% of general fund revenues for this group of ten cities. As Figure 1 shows, using the Medium scenario, the higher the contribution of income taxes to the general fund, the larger the impact from WFH is likely to be. While there is a substantial amount of variance, the positive relationship between the impact of WFH and the contribution of income taxes to general fund revenues is clear. The slope of the fitted line measuring 1.6 means that for each 1% increase in income tax as a percentage of general fund revenue, impact of WFH goes up by 1.6%.

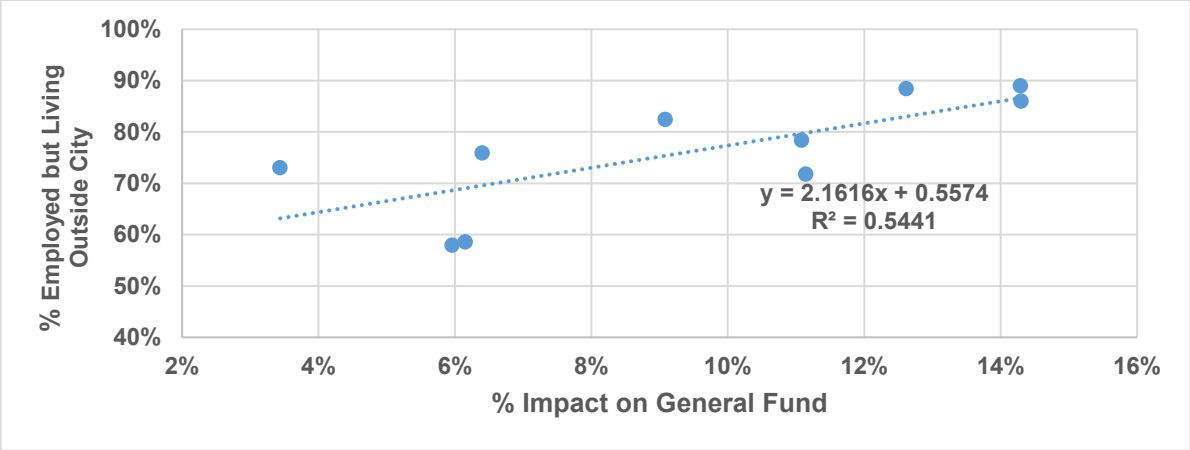
Figure 1. Expected Impact of WFH v. Income Tax as a Percentage of General Fund Revenue



The implication of this relationship is that large WFH impacts will result in substantial effects on those cities more dependent upon income taxes for their general funds. No surprise with this result, but it does confirm empirically the expected direction of impacts from WFH on income tax collections.

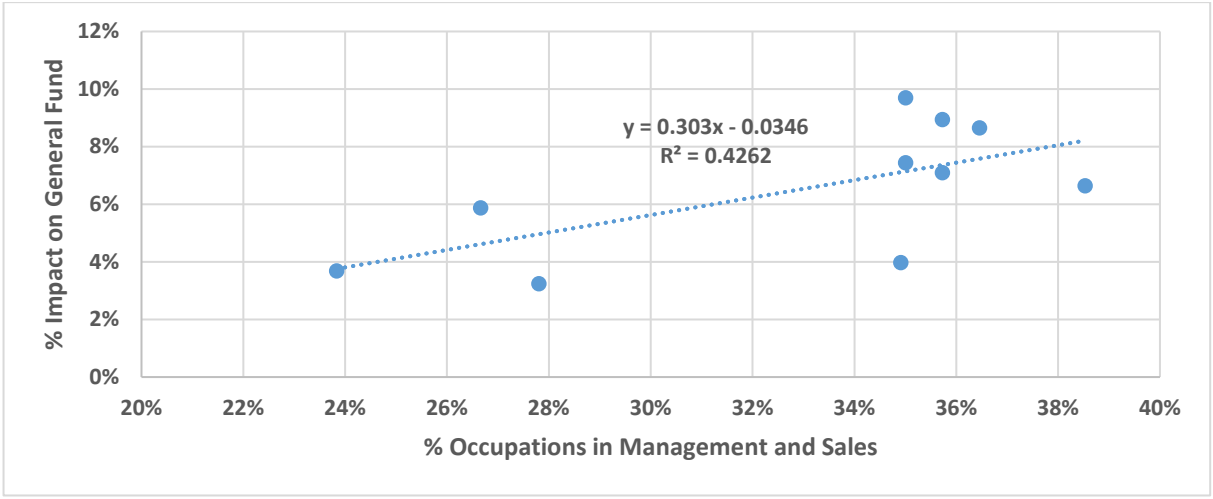
Another factor affecting the potential impact of WFH on municipal income taxes is commuting patterns. Those cities with higher in-commuting are likely to experience higher impacts from WFH. Figure 2 illustrates this relationship using the Medium WFH scenario. While there is substantial variation across our ten-city sample, the positive relationship between in-commuting and projected impact of WFH is clear. The fitted line has a slope of 2.2 meaning that for every 1% increase in in-commuting volume the impact of WFH will increase by 2.2%.

Figure 2. Higher In-Commuting Produces Bigger WFH Impacts



Another obvious but interesting relationship is between the concentration of employment in occupations amenable to WFH and the consequential impacts on income tax revenues. For every 1% increase in management or sales occupations the impact on a city's general fund rises by 0.3%.

Figure 3. Higher Concentration in Management and Sales Occupations Produces Greater Impacts on Municipal Tax Revenue



6.0 Conclusions and Recommendations

6.1 Conclusions

There is significant uncertainty surrounding the magnitude of WFH impacts on staffing patterns and ultimately on income tax collections. The recent surge in infections caused by the Delta variant has further delayed decisions by employers concerning the timing of their return to the office and their staffing patterns. Surveys demonstrate that the longer the delay, the more entrenched WFH becomes. These forces are pushing the likely results towards the medium or high range of our estimates. Regardless, there is no doubt that WFH will have significant impacts on staffing patterns in Ohio and knock-on effects for income tax collections by Ohio's cities.

The analyses presented here are conservative in that they do not incorporate other potential negative impacts of WFH on income tax collections. The higher the levels of WFH, the larger the impacts on spending in cities. As more employees WFH, their spending on goods and services proximate to their offices will decline. Estimates range as high as 10%. In addition, there is mounting evidence that with WFH some who work and live in cities will choose to move to the surrounding suburbs. This will magnify potential impacts of WFH on municipal income tax collections, because approximately 15% of municipal income tax collections are generated from business income for business conducted in the city.

WFH impacts will be significantly different for Ohio's cities. Some may enjoy an increase in municipal income taxes with WFH. Those cities that have high levels of out-commuting may benefit. However, most cities are likely to experience significant declines in income tax revenues in the 6% or greater range. Furthermore, the risk is on the downside with higher impacts more likely than lower impacts.

Lower levels of municipal income taxes compromise the ability of Ohio's cities to provide necessary public services thereby making living and working in cities less attractive. These indirect impacts will magnify the economic harm.

Finally, WFH will impose significant administrative burdens and costs on Ohio's employers. It will prove ever more difficult for them to properly account for and withhold income taxes when employees can increasingly WFH. The more flexible WFH policies are, the more difficult this task will become.

6.2 Recommendations

WFH has and will continue to impact the staffing patterns of firms and the locations where employees work. A substantial amount of work for office-type occupations will occur at employees' home, not at their office. This is a fundamental structural change in staffing patterns for office-type occupations, and the impact is more than just short-term. While the degree to which employees work from home and firms will use hybrid schedules will certainly evolve, both are likely here to stay.

All 10 of the Ohio cities we've reviewed here will likely see a drop in the municipal income tax revenue that accounts for more than half of the revenues in their primary operating fund. It is less likely that those cities can easily adjust their spending up and down to match frequent or large fluctuations in tax revenues. While we have not considered service levels and expenditures here, large parts of a municipal government's spending are dictated by costs that are already fixed or cannot be easily scaled back.

Employees may choose to travel to the office less frequently and reduce their tax liability. Cities cannot decide to pave or plow a proportional number of roads that the remaining commuters and residents will still use. An office building may sit partially empty on any given day. The City cannot send home a commensurate portion of the fire department or finance department to match the drop in revenue.

As a result, WFH will have substantial negative impacts on the budgets for several Ohio cities. In the near term, City officials will shoulder the responsibility for responding to this financial impact, beginning with the 2022 budget and the task of balancing spending against a smaller amount of revenues.

Beyond that, local and State officials should come together to discuss this issue since any significant changes in the tax structure will have to occur at the State level. Those discussions should address the types and mix of taxes that Ohio communities use to fund local government services and the nexus for where employees are taxed.

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EXHIBITS

AKRON

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	99,437	100.0%
Living in the Selection Area	83,496	84.0%
Net Job Inflow (+) or Outflow (-)	15,941	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	83,496	100.0%
Living and Employed in the Selection Area	26,773	32.1%
Living in the Selection Area but Employed Outside	56,723	67.9%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	99,437	100.0%
Employed and Living in the Selection Area	26,773	26.9%
Employed in the Selection Area but Living Outside	72,664	73.1%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	56,723	100.0%
Workers Aged 29 or younger	16,782	29.6%

Workers Aged 30 to 54	28,505	50.3%
Workers Aged 55 or older	11,436	20.2%
Workers Earning $1,250 per month or less	16,639	29.3%
Workers Earning $1,251 to $3,333 per month	22,972	40.5%
Workers Earning More than $3,333 per month	17,112	30.2%
Workers in the "Goods Producing" Industry Class	9,308	16.4%
Workers in the "Trade, Transportation, and Utilities" Industry Class	12,868	22.7%
Workers in the "All Other Services" Industry Class	34,547	60.9%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	72,664	100.0%
Workers Aged 29 or younger	14,265	19.6%
Workers Aged 30 to 54	39,251	54.0%
Workers Aged 55 or older	19,148	26.4%
Workers Earning $1,250 per month or less	12,606	17.3%
Workers Earning $1,251 to $3,333 per month	20,277	27.9%
Workers Earning More than $3,333 per month	39,781	54.7%
Workers in the "Goods Producing" Industry Class	8,911	12.3%
Workers in the "Trade, Transportation, and Utilities" Industry Class	10,587	14.6%
Workers in the "All Other Services" Industry Class	53,166	73.2%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	26,773	100.0%
Workers Aged 29 or younger	5,931	22.2%
Workers Aged 30 to 54	13,613	50.8%
Workers Aged 55 or older	7,229	27.0%

Workers Earning $1,250 per month or less	6,605	24.7%
Workers Earning $1,251 to $3,333 per month	10,859	40.6%
Workers Earning More than $3,333 per month	9,309	34.8%
Workers in the "Goods Producing" Industry Class	3,093	11.6%
Workers in the "Trade, Transportation, and Utilities" Industry Class	3,380	12.6%
Workers in the "All Other Services" Industry Class	20,300	75.8%

ACS Employment Data	**2019**
Worked from home	2,597
Civilian employed population 16 years and over	92,363
Management, business, science, and arts occupations	26,224
Service occupations	21,311
Sales and office occupations	22,332
Natural resources, construction, and maintenance occupations	5,916
Production, transportation, and material moving occupations	16,580

Income

May 2020 OEWS Estimates

Akron, MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	311,480	100%	$51,220
Management, business, science, and arts occupations	53,710	17%	$86,646
Sales and office occupations	55,040	18%	$45,093

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	72,664	90%	80%	70%
Living in the Selection Area but Employed Outside	56,723	30%	20%	10%
Living and Employed in the Selection Area	26,773	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	26,224	90%	80%	70%
Sales and office occupations	22,332	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	72,664	12,530	12,840
Living in the Selection Area but Employed Outside	56,723	9,781	10,023
Living and Employed in the Selection Area	26,773	4,617	4,731

Management, business, science, and arts occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	12,530	10,149	8,019	6,140
Living in the Selection Area but Employed Outside	9,781	2,641	1,565	685
Living and Employed in the Selection Area	4,617	623	369	162

Sales and office occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	12,840	10,400	8,218	6,292
Living in the Selection Area but Employed Outside	10,023	2,706	1,604	702
Living and Employed in the Selection Area	4,731	639	378	166
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		6,017	3,548	2,359
Sales and office occupations		6,166	3,636	2,417
Impact on Income				
Management, business, science, and arts occupations		$521,376,917	$307,436,718	$204,392,599
Sales and office occupations		$278,060,388	$163,961,945	$109,006,524
Total Impact on Income		$799,437,306	$471,398,663	$313,399,123
Impact on Income Tax Revenue				
General Fund	1.46%	$11,671,785	$6,882,420	$4,575,627
Total	2.50%	$19,985,933	$11,784,967	$7,834,978
General Fund Income Tax FY2020	$173,137,360	7%	4%	3%

CINCINNATI

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	232,699	100.0%
Living in the Selection Area	137,197	59.0%
Net Job Inflow (+) or Outflow (-)	95,502	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	137,197	100.0%
Living and Employed in the Selection Area	56,081	40.9%
Living in the Selection Area but Employed Outside	81,116	59.1%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	232,699	100.0%
Employed and Living in the Selection Area	56,081	24.1%
Employed in the Selection Area but Living Outside	176,618	75.9%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	81,116	100.0%
Workers Aged 29 or younger	25,227	31.1%

Workers Aged 30 to 54	40,756	50.2%
Workers Aged 55 or older	15,133	18.7%
Workers Earning $1,250 per month or less	23,307	28.7%
Workers Earning $1,251 to $3,333 per month	28,263	34.8%
Workers Earning More than $3,333 per month	29,546	36.4%
Workers in the "Goods Producing" Industry Class	10,081	12.4%
Workers in the "Trade, Transportation, and Utilities" Industry Class	19,020	23.4%
Workers in the "All Other Services" Industry Class	52,015	64.1%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	176,618	100.0%
Workers Aged 29 or younger	35,918	20.3%
Workers Aged 30 to 54	98,954	56.0%
Workers Aged 55 or older	41,746	23.6%
Workers Earning $1,250 per month or less	29,183	16.5%
Workers Earning $1,251 to $3,333 per month	44,253	25.1%
Workers Earning More than $3,333 per month	103,182	58.4%
Workers in the "Goods Producing" Industry Class	19,627	11.1%
Workers in the "Trade, Transportation, and Utilities" Industry Class	20,023	11.3%
Workers in the "All Other Services" Industry Class	136,968	77.6%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	56,081	100.0%
Workers Aged 29 or younger	14,849	26.5%
Workers Aged 30 to 54	29,217	52.1%
Workers Aged 55 or older	12,015	21.4%

Workers Earning $1,250 per month or less	13,097	23.4%
Workers Earning $1,251 to $3,333 per month	18,986	33.9%
Workers Earning More than $3,333 per month	23,998	42.8%
Workers in the "Goods Producing" Industry Class	4,342	7.7%
Workers in the "Trade, Transportation, and Utilities" Industry Class	5,111	9.1%
Workers in the "All Other Services" Industry Class	46,628	83.1%

ACS Employment Data	**2019**
Worked from home	6,777
Civilian employed population 16 years and over	146,749
Management, business, science, and arts occupations	62,363
Service occupations	28,660
Sales and office occupations	29,226
Natural resources, construction, and maintenance occupations	6,805
Production, transportation, and material moving occupations	19,695

Income

Cincinnati, OH-KY-IN

Cincinnati, MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	1,028,260	100%	$53,650
Management, business, science, and arts occupations	193,800	19%	$90,021
Sales and office occupations	173,600	17%	$48,052

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	176,618	90%	80%	70%
Living in the Selection Area but Employed Outside	81,116	30%	20%	10%
Living and Employed in the Selection Area	56,081	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	62,363	90%	80%	70%
Sales and office occupations	29,226	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations	
Employed in the Selection Area but Living Outside	176,618	33,288	29,818	
Living in the Selection Area but Employed Outside	81,116	15,288	13,695	
Living and Employed in the Selection Area	56,081	10,570	9,468	
Management, business, science, and arts occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	33,288	26,963	21,304	16,311
Living in the Selection Area but Employed Outside	15,288	4,128	2,446	1,070
Living and Employed in the Selection Area	10,570	1,427	846	370

Sales and office occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	29,818	24,153	19,084	14,611
Living in the Selection Area but Employed Outside	13,695	3,698	2,191	959
Living and Employed in the Selection Area	9,468	1,278	757	331
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		17,954	10,246	6,557
Sales and office occupations		16,083	9,178	5,873
Impact on Income				
Management, business, science, and arts occupations		$1,616,248,520	$922,350,788	$590,228,288
Sales and office occupations		$772,800,002	$441,016,763	$282,214,286
Total Impact on Income		$2,389,048,521	$1,363,367,552	$872,442,574
Impact on Income Tax Revenue				
General Fund	1.55%	$37,030,252	$21,132,197	$13,522,860
Total	1.80%	$43,002,873	$24,540,616	$15,703,966
General Fund Income Tax FY2020	$297,701,000	12%	7%	5%

COLUMBUS

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	519,892	100.0%
Living in the Selection Area	412,121	79.3%
Net Job Inflow (+) or Outflow (-)	107,771	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	412,121	100.0%
Living and Employed in the Selection Area	215,384	52.3%
Living in the Selection Area but Employed Outside	196,737	47.7%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	519,892	100.0%
Employed and Living in the Selection Area	215,384	41.4%
Employed in the Selection Area but Living Outside	304,508	58.6%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	196,737	100.0%
Workers Aged 29 or younger	59,242	30.1%

Workers Aged 30 to 54	103,541	52.6%
Workers Aged 55 or older	33,954	17.3%
Workers Earning $1,250 per month or less	47,312	24.0%
Workers Earning $1,251 to $3,333 per month	70,330	35.7%
Workers Earning More than $3,333 per month	79,095	40.2%
Workers in the "Goods Producing" Industry Class	20,589	10.5%
Workers in the "Trade, Transportation, and Utilities" Industry Class	47,390	24.1%
Workers in the "All Other Services" Industry Class	128,758	65.4%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	304,508	100.0%
Workers Aged 29 or younger	66,090	21.7%
Workers Aged 30 to 54	172,075	56.5%
Workers Aged 55 or older	66,343	21.8%
Workers Earning $1,250 per month or less	58,336	19.2%
Workers Earning $1,251 to $3,333 per month	82,780	27.2%
Workers Earning More than $3,333 per month	163,392	53.7%
Workers in the "Goods Producing" Industry Class	26,380	8.7%
Workers in the "Trade, Transportation, and Utilities" Industry Class	63,747	20.9%
Workers in the "All Other Services" Industry Class	214,381	70.4%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	215,384	100.0%
Workers Aged 29 or younger	58,811	27.3%
Workers Aged 30 to 54	116,017	53.9%
Workers Aged 55 or older	40,556	18.8%

Workers Earning $1,250 per month or less	47,545	22.1%
Workers Earning $1,251 to $3,333 per month	76,738	35.6%
Workers Earning More than $3,333 per month	91,101	42.3%
Workers in the "Goods Producing" Industry Class	14,048	6.5%
Workers in the "Trade, Transportation, and Utilities" Industry Class	37,625	17.5%
Workers in the "All Other Services" Industry Class	163,711	76.0%

ACS Employment Data	**2019**
Worked from home	20,271
Civilian employed population 16 years and over	467,347
Management, business, science, and arts occupations	191,059
Service occupations	82,098
Sales and office occupations	105,363
Natural resources, construction, and maintenance occupations	22,391
Production, transportation, and material moving occupations	66,436

Income

Columbus, OH

Columbus, MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	1,026,540	100%	$54,160
Management, business, science, and arts occupations	218,030	21%	$88,174
Sales and office occupations	177,520	17%	$46,621

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	304,508	90%	80%	70%
Living in the Selection Area but Employed Outside	196,737	30%	20%	10%
Living and Employed in the Selection Area	215,384	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	191,059	90%	80%	70%
Sales and office occupations	105,363	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	304,508	64,675	52,659
Living in the Selection Area but Employed Outside	196,737	41,786	34,022
Living and Employed in the Selection Area	215,384	45,746	37,246

Management, business, science, and arts occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	64,675	52,387	41,392	31,691
Living in the Selection Area but Employed Outside	41,786	11,282	6,686	2,925
Living and Employed in the Selection Area	45,746	6,176	3,660	1,601

Sales and office occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	52,659	42,654	33,702	25,803
Living in the Selection Area but Employed Outside	34,022	9,186	5,443	2,382
Living and Employed in the Selection Area	37,246	5,028	2,980	1,304
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		34,988	19,950	12,754
Sales and office occupations		28,487	16,244	10,384
Impact on Income				
Management, business, science, and arts occupations		$3,084,993,026	$1,759,103,415	$1,124,581,251
Sales and office occupations		$1,328,084,110	$757,290,948	$484,130,265
Total Impact on Income		$4,413,077,136	$2,516,394,363	$1,608,711,516
Impact on Income Tax Revenue				
General Fund	1.88%	$82,745,196	$47,182,394	$30,163,341
Total	2.50%	$110,326,928	$62,909,859	$40,217,788
General Fund Income Tax FY2020	$710,261,000	12%	7%	4%

DAYTON

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	83,583	100.0%
Living in the Selection Area	50,518	60.4%
Net Job Inflow (+) or Outflow (-)	33,065	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	50,518	100.0%
Living and Employed in the Selection Area	14,642	29.0%
Living in the Selection Area but Employed Outside	35,876	71.0%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	83,583	100.0%
Employed and Living in the Selection Area	14,642	17.5%
Employed in the Selection Area but Living Outside	68,941	82.5%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	35,876	100.0%
Workers Aged 29 or younger	10,537	29.4%

Workers Aged 30 to 54	18,243	50.9%
Workers Aged 55 or older	7,096	19.8%
Workers Earning $1,250 per month or less	11,032	30.8%
Workers Earning $1,251 to $3,333 per month	14,808	41.3%
Workers Earning More than $3,333 per month	10,036	28.0%
Workers in the "Goods Producing" Industry Class	5,409	15.1%
Workers in the "Trade, Transportation, and Utilities" Industry Class	7,675	21.4%
Workers in the "All Other Services" Industry Class	22,792	63.5%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	68,941	100.0%
Workers Aged 29 or younger	12,187	17.7%
Workers Aged 30 to 54	38,005	55.1%
Workers Aged 55 or older	18,749	27.2%
Workers Earning $1,250 per month or less	11,594	16.8%
Workers Earning $1,251 to $3,333 per month	20,165	29.2%
Workers Earning More than $3,333 per month	37,182	53.9%
Workers in the "Goods Producing" Industry Class	8,668	12.6%
Workers in the "Trade, Transportation, and Utilities" Industry Class	8,828	12.8%
Workers in the "All Other Services" Industry Class	51,445	74.6%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	14,642	100.0%
Workers Aged 29 or younger	3,167	21.6%
Workers Aged 30 to 54	7,713	52.7%
Workers Aged 55 or older	3,762	25.7%

Workers Earning $1,250 per month or less	3,796	25.9%
Workers Earning $1,251 to $3,333 per month	5,796	39.6%
Workers Earning More than $3,333 per month	5,050	34.5%
Workers in the "Goods Producing" Industry Class	2,207	15.1%
Workers in the "Trade, Transportation, and Utilities" Industry Class	1,443	9.9%
Workers in the "All Other Services" Industry Class	10,992	75.1%

ACS Employment Data	**2019**	
Worked from home	1,909	
Civilian employed population 16 years and over	57,405	
Management, business, science, and arts occupations	16,960	30%
Service occupations	14,372	
Sales and office occupations	11,646	20%
Natural resources, construction, and maintenance occupations	3,837	
Production, transportation, and material moving occupations	10,590	

Income

Dayton, OH			
Dayton, MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	357,650	100%	$53,820
Management, business, science, and arts occupations	73,550	21%	$88,414
Sales and office occupations	51,650	14%	$44,205

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	68,941	90%	80%	70%
Living in the Selection Area but Employed Outside	35,876	30%	20%	10%
Living and Employed in the Selection Area	14,642	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	16,960	90%	80%	70%
Sales and office occupations	11,646	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	68,941	14,178	9,956
Living in the Selection Area but Employed Outside	35,876	7,378	5,181
Living and Employed in the Selection Area	14,642	3,011	2,115

Management, business, science, and arts occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	14,178	11,484	9,074	6,947
Living in the Selection Area but Employed Outside	7,378	1,992	1,180	516
Living and Employed in the Selection Area	3,011	406	241	105

Sales and office occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	9,956	8,064	6,372	4,878
Living in the Selection Area but Employed Outside	5,181	1,399	829	363
Living and Employed in the Selection Area	2,115	285	169	74
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		7,325	4,230	2,745
Sales and office occupations		5,144	2,970	1,928
Impact on Income				
Management, business, science, and arts occupations		$647,607,772	$373,964,847	$242,704,020
Sales and office occupations		$227,378,258	$131,300,888	$85,214,569
Total Impact on Income		$874,986,030	$505,265,735	$327,918,589
Impact on Income Tax Revenue				
General Fund	2.50%	$21,874,651	$12,631,643	$8,197,965
Total	2.50%	$21,874,651	$12,631,643	$8,197,965
General Fund Income Tax FY2020	$130,194,000	17%	10%	6%

ELYRIA

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	25,054	100.0%
Living in the Selection Area	24,837	99.1%
Net Job Inflow (+) or Outflow (-)	217	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	24,837	100.0%
Living and Employed in the Selection Area	5,412	21.8%
Living in the Selection Area but Employed Outside	19,425	78.2%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	25,054	100.0%
Employed and Living in the Selection Area	5,412	21.6%
Employed in the Selection Area but Living Outside	19,642	78.4%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	19,425	100.0%
Workers Aged 29 or younger	4,962	25.5%

Workers Aged 30 to 54	9,992	51.4%
Workers Aged 55 or older	4,471	23.0%
Workers Earning $1,250 per month or less	4,955	25.5%
Workers Earning $1,251 to $3,333 per month	7,416	38.2%
Workers Earning More than $3,333 per month	7,054	36.3%
Workers in the "Goods Producing" Industry Class	3,867	19.9%
Workers in the "Trade, Transportation, and Utilities" Industry Class	4,205	21.6%
Workers in the "All Other Services" Industry Class	11,353	58.4%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	19,642	100.0%
Workers Aged 29 or younger	4,441	22.6%
Workers Aged 30 to 54	9,823	50.0%
Workers Aged 55 or older	5,378	27.4%
Workers Earning $1,250 per month or less	5,088	25.9%
Workers Earning $1,251 to $3,333 per month	6,451	32.8%
Workers Earning More than $3,333 per month	8,103	41.3%
Workers in the "Goods Producing" Industry Class	4,113	20.9%
Workers in the "Trade, Transportation, and Utilities" Industry Class	3,486	17.7%
Workers in the "All Other Services" Industry Class	12,043	61.3%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	5,412	100.0%
Workers Aged 29 or younger	1,132	20.9%
Workers Aged 30 to 54	2,699	49.9%
Workers Aged 55 or older	1,581	29.2%

Workers Earning $1,250 per month or less	1,452	26.8%
Workers Earning $1,251 to $3,333 per month	2,113	39.0%
Workers Earning More than $3,333 per month	1,847	34.1%
Workers in the "Goods Producing" Industry Class	1,399	25.8%
Workers in the "Trade, Transportation, and Utilities" Industry Class	541	10.0%
Workers in the "All Other Services" Industry Class	3,472	64.2%

ACS Employment Data	**2019**	
Worked from home	476	
Civilian employed population 16 years and over	24,908	
Management, business, science, and arts occupations	6,552	26%
Service occupations	5,815	
Sales and office occupations	5,147	21%
Natural resources, construction, and maintenance occupations	2,202	
Production, transportation, and material moving occupations	5,192	

Income

Cleveland OH			
Elyria specific not available used Cleveland MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	982,240	100%	$54,620
Management, business, science, and arts occupations	184,470	19%	$91,433
Sales and office occupations	173,680	18%	$47,197

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	19,642	90%	80%	70%
Living in the Selection Area but Employed Outside	19,425	30%	20%	10%
Living and Employed in the Selection Area	5,412	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	6,552	90%	80%	70%
Sales and office occupations	5,147	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	19,642	3,689	3,473
Living in the Selection Area but Employed Outside	19,425	3,648	3,435
Living and Employed in the Selection Area	5,412	1,016	957

Management, business, science, and arts occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	3,689	2,988	2,361	1,808
Living in the Selection Area but Employed Outside	3,648	985	584	255
Living and Employed in the Selection Area	1,016	137	81	36

Sales and office occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	3,473	2,813	2,223	1,702
Living in the Selection Area but Employed Outside	3,435	927	550	240
Living and Employed in the Selection Area	957	129	77	33
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		1,584	966	667
Sales and office occupations		1,491	910	628
Impact on Income				
Management, business, science, and arts occupations		$144,807,939	$88,362,585	$60,972,890
Sales and office occupations		$70,376,507	$42,944,124	$29,632,761
Total Impact on Income		$215,184,446	$131,306,709	$90,605,651
Impact on Income Tax Revenue				
General Fund	1.50%	$3,227,767	$1,969,601	$1,359,085
Total	2.25%	$4,841,650	$2,954,401	$2,038,627
General Fund Income Tax FY2020	$22,762,355	14%	9%	6%

FAIRFIELD

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	31,657	100.0%
Living in the Selection Area	24,019	75.9%
Net Job Inflow (+) or Outflow (-)	7,638	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	24,019	100.0%
Living and Employed in the Selection Area	3,488	14.5%
Living in the Selection Area but Employed Outside	20,531	85.5%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	31,657	100.0%
Employed and Living in the Selection Area	3,488	11.0%
Employed in the Selection Area but Living Outside	28,169	89.0%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	20,531	100.0%
Workers Aged 29 or younger	5,137	25.0%

Workers Aged 30 to 54	10,661	51.9%
Workers Aged 55 or older	4,733	23.1%
Workers Earning $1,250 per month or less	4,554	22.2%
Workers Earning $1,251 to $3,333 per month	6,887	33.5%
Workers Earning More than $3,333 per month	9,090	44.3%
Workers in the "Goods Producing" Industry Class	3,307	16.1%
Workers in the "Trade, Transportation, and Utilities" Industry Class	4,647	22.6%
Workers in the "All Other Services" Industry Class	12,577	61.3%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	28,169	100.0%
Workers Aged 29 or younger	6,302	22.4%
Workers Aged 30 to 54	15,472	54.9%
Workers Aged 55 or older	6,395	22.7%
Workers Earning $1,250 per month or less	4,939	17.5%
Workers Earning $1,251 to $3,333 per month	9,686	34.4%
Workers Earning More than $3,333 per month	13,544	48.1%
Workers in the "Goods Producing" Industry Class	5,209	18.5%
Workers in the "Trade, Transportation, and Utilities" Industry Class	8,216	29.2%
Workers in the "All Other Services" Industry Class	14,744	52.3%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	3,488	100.0%
Workers Aged 29 or younger	817	23.4%
Workers Aged 30 to 54	1,787	51.2%
Workers Aged 55 or older	884	25.3%

Workers Earning $1,250 per month or less	742	21.3%
Workers Earning $1,251 to $3,333 per month	1,370	39.3%
Workers Earning More than $3,333 per month	1,376	39.4%
Workers in the "Goods Producing" Industry Class	689	19.8%
Workers in the "Trade, Transportation, and Utilities" Industry Class	755	21.6%
Workers in the "All Other Services" Industry Class	2,044	58.6%

ACS Employment Data	**2019**	
Worked from home	463	
Civilian employed population 16 years and over	22,456	
Management, business, science, and arts occupations	7,553	34%
Service occupations	3,898	
Sales and office occupations	5,311	24%
Natural resources, construction, and maintenance occupations	1,650	
Production, transportation, and material moving occupations	4,044	

Income

Cincinnati, OH-KY-IN			
Fairfield specific not available - use Cincinnati	Jobs	Share of Total	Avg. Annual Income
All Occupations	1,028,260	100%	$53,650
Management, business, science, and arts occupations	193,800	19%	$90,021
Sales and office occupations	173,600	17%	$48,052

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	28,169	90%	80%	70%
Living in the Selection Area but Employed Outside	20,531	30%	20%	10%
Living and Employed in the Selection Area	3,488	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	7,553	90%	80%	70%
Sales and office occupations	5,311	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	28,169	5,309	4,756
Living in the Selection Area but Employed Outside	20,531	3,870	3,466
Living and Employed in the Selection Area	3,488	657	589

Management, business, science, and arts occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	5,309	4,300	3,398	2,601
Living in the Selection Area but Employed Outside	3,870	1,045	619	271
Living and Employed in the Selection Area	657	89	53	23

Sales and office occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	4,756	3,852	3,044	2,330
Living in the Selection Area but Employed Outside	3,466	936	555	243
Living and Employed in the Selection Area	589	79	47	21
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		2,475	1,472	989
Sales and office occupations		2,217	1,319	885
Impact on Income				
Management, business, science, and arts occupations		$222,786,583	$132,536,053	$88,987,383
Sales and office occupations		$106,524,133	$63,371,357	$42,548,809
Total Impact on Income		$329,310,715	$195,907,410	$131,536,192
Impact on Income Tax Revenue				
General Fund	1.20%	$3,951,729	$2,350,889	$1,578,434
Total	1.50%	$1,597,862	$950,570	$638,232
General Fund Income Tax FY2020	$26,275,895	15%	9%	6%

KETTERING

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	30,837	100.0%
Living in the Selection Area	28,023	90.9%
Net Job Inflow (+) or Outflow (-)	2,814	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	28,023	100.0%
Living and Employed in the Selection Area	4,311	15.4%
Living in the Selection Area but Employed Outside	23,712	84.6%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	30,837	100.0%
Employed and Living in the Selection Area	4,311	14.0%
Employed in the Selection Area but Living Outside	26,526	86.0%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	23,712	100.0%
Workers Aged 29 or younger	5,768	24.3%

Workers Aged 30 to 54	12,192	51.4%
Workers Aged 55 or older	5,752	24.3%
Workers Earning $1,250 per month or less	5,301	22.4%
Workers Earning $1,251 to $3,333 per month	7,979	33.6%
Workers Earning More than $3,333 per month	10,432	44.0%
Workers in the "Goods Producing" Industry Class	3,291	13.9%
Workers in the "Trade, Transportation, and Utilities" Industry Class	4,636	19.6%
Workers in the "All Other Services" Industry Class	15,785	66.6%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	26,526	100.0%
Workers Aged 29 or younger	6,371	24.0%
Workers Aged 30 to 54	13,984	52.7%
Workers Aged 55 or older	6,171	23.3%
Workers Earning $1,250 per month or less	5,622	21.2%
Workers Earning $1,251 to $3,333 per month	9,229	34.8%
Workers Earning More than $3,333 per month	11,675	44.0%
Workers in the "Goods Producing" Industry Class	2,192	8.3%
Workers in the "Trade, Transportation, and Utilities" Industry Class	2,787	10.5%
Workers in the "All Other Services" Industry Class	21,547	81.2%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	4,311	100.0%
Workers Aged 29 or younger	1,072	24.9%
Workers Aged 30 to 54	2,129	49.4%
Workers Aged 55 or older	1,110	25.7%

Workers Earning $1,250 per month or less	1,095	25.4%
Workers Earning $1,251 to $3,333 per month	1,689	39.2%
Workers Earning More than $3,333 per month	1,527	35.4%
Workers in the "Goods Producing" Industry Class	406	9.4%
Workers in the "Trade, Transportation, and Utilities" Industry Class	430	10.0%
Workers in the "All Other Services" Industry Class	3,475	80.6%

ACS Employment Data	**2019**	
Worked from home	1,219	
Civilian employed population 16 years and over	28,077	
Management, business, science, and arts occupations	12,044	43%
Service occupations	4,407	16%
Sales and office occupations	6,613	24%
Natural resources, construction, and maintenance occupations	1,656	6%
Production, transportation, and material moving occupations	3,357	12%

Income

Dayton, OH			
Kettering specific not available used Dayton	Jobs	Share of Total	Avg. Annual Income
All Occupations	357,650	100%	$53,820
Management Occupations	73,550	21%	$88,414
Office and Administrative Support Occupations	51,650	14%	$44,205

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	26,526	90%	80%	70%
Living in the Selection Area but Employed Outside	23,712	30%	20%	10%
Living and Employed in the Selection Area	4,311	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	12,044	90%	80%	70%
Sales and office occupations	6,613	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management Occupations	Office and Administrative Support Occupations
Employed in the Selection Area but Living Outside	26,526	5,455	3,831
Living in the Selection Area but Employed Outside	23,712	4,876	3,424
Living and Employed in the Selection Area	4,311	887	623

Management Occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	5,455	4,419	3,491	2,673
Living in the Selection Area but Employed Outside	4,876	1,317	780	341
Living and Employed in the Selection Area	887	120	71	31

Office and Administrative Support Occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	3,831	3,103	2,452	1,877
Living in the Selection Area but Employed Outside	3,424	925	548	240
Living and Employed in the Selection Area	623	84	50	22
Impact of Staffing Pattern = Loss of FTE Employment				
Management Occupations		2,384	1,447	992
Office and Administrative Support Occupations		1,674	1,016	697
Impact on Income				
Management Occupations		$210,779,132	$127,899,037	$87,733,725
Office and Administrative Support Occupations		$74,005,585	$44,905,978	$30,803,740
Total Impact on Income		$284,784,717	$172,805,014	$118,537,465
Impact on Income Tax Revenue				
General Fund	2.25%	$6,407,656	$3,888,113	$2,667,093
Total	2.25%	$6,407,656	$3,888,113	$2,667,093
General Fund Income Tax FY2020	$52,260,000	12%	7%	5%

SPRINGFIELD

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	30,640	100.0%
Living in the Selection Area	24,112	78.7%
Net Job Inflow (+) or Outflow (-)	6,528	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	24,112	100.0%
Living and Employed in the Selection Area	8,648	35.9%
Living in the Selection Area but Employed Outside	15,464	64.1%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	30,640	100.0%
Employed and Living in the Selection Area	8,648	28.2%
Employed in the Selection Area but Living Outside	21,992	71.8%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	15,464	100.0%

Workers Aged 29 or younger	4,174	27.0%
Workers Aged 30 to 54	7,908	51.1%
Workers Aged 55 or older	3,382	21.9%
Workers Earning $1,250 per month or less	4,003	25.9%
Workers Earning $1,251 to $3,333 per month	6,018	38.9%
Workers Earning More than $3,333 per month	5,443	35.2%
Workers in the "Goods Producing" Industry Class	3,646	23.6%
Workers in the "Trade, Transportation, and Utilities" Industry Class	3,482	22.5%
Workers in the "All Other Services" Industry Class	8,336	53.9%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	21,992	100.0%
Workers Aged 29 or younger	5,300	24.1%
Workers Aged 30 to 54	11,407	51.9%
Workers Aged 55 or older	5,285	24.0%
Workers Earning $1,250 per month or less	5,479	24.9%
Workers Earning $1,251 to $3,333 per month	7,919	36.0%
Workers Earning More than $3,333 per month	8,594	39.1%
Workers in the "Goods Producing" Industry Class	1,968	8.9%
Workers in the "Trade, Transportation, and Utilities" Industry Class	5,668	25.8%
Workers in the "All Other Services" Industry Class	14,356	65.3%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	8,648	100.0%
Workers Aged 29 or younger	2,046	23.7%
Workers Aged 30 to 54	4,388	50.7%

Workers Aged 55 or older	2,214	25.6%
Workers Earning $1,250 per month or less	2,292	26.5%
Workers Earning $1,251 to $3,333 per month	3,919	45.3%
Workers Earning More than $3,333 per month	2,437	28.2%
Workers in the "Goods Producing" Industry Class	1,147	13.3%
Workers in the "Trade, Transportation, and Utilities" Industry Class	1,249	14.4%
Workers in the "All Other Services" Industry Class	6,252	72.3%

ACS Employment Data	**2019**	
Worked from home	777	
Civilian employed population 16 years and over	24,713	
Management, business, science, and arts occupations	5,826	23.6%
Service occupations	5,850	23.7%
Sales and office occupations	5,133	20.8%
Natural resources, construction, and maintenance occupations	1,716	6.9%
Production, transportation, and material moving occupations	6,188	25.0%

Income

Springfield, OH			
Springfield MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	45,040	100%	$44,360
Management Occupations	5,120	11%	$80,201
Office and Administrative Support Occupations	6,890	15%	$40,458

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	21,992	90%	80%	70%
Living in the Selection Area but Employed Outside	15,464	30%	20%	10%
Living and Employed in the Selection Area	8,648	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	5,826	90%	80%	70%
Sales and office occupations	5,133	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management Occupations	Office and Administrative Support Occupations
Employed in the Selection Area but Living Outside	21,992	2,500	3,364
Living in the Selection Area but Employed Outside	15,464	1,758	2,366
Living and Employed in the Selection Area	8,648	983	1,323

Management Occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	2,500	2,025	1,600	1,225
Living in the Selection Area but Employed Outside	1,758	475	281	123
Living and Employed in the Selection Area	983	133	79	34

Office and Administrative Support Occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	3,364	2,725	2,153	1,648
Living in the Selection Area but Employed Outside	2,366	639	378	166
Living and Employed in the Selection Area	1,323	179	106	46
Impact of Staffing Pattern = Loss of FTE Employment				
Management Occupations		1,245	727	477
Office and Administrative Support Occupations		1,676	978	642
Impact on Income				
Management Occupations		$99,887,493	$58,276,400	$38,276,971
Office and Administrative Support Occupations		$67,809,132	$39,561,230	$25,984,516
Total Impact on Income		$167,696,625	$97,837,630	$64,261,487
Impact on Income Tax Revenue				
General Fund	2.16%	$3,622,247	$2,113,293	$1,388,048
Total	2.40%	$4,024,719	$2,348,103	$1,542,276
General Fund Income Tax FY2020	$35,985,420	10%	6%	4%

STRONGSVILLE

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	22,985	100.0%
Living in the Selection Area	23,009	100.1%
Net Job Inflow (+) or Outflow (-)	-24	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	23,009	100.0%
Living and Employed in the Selection Area	2,663	11.6%
Living in the Selection Area but Employed Outside	20,346	88.4%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	22,985	100.0%
Employed and Living in the Selection Area	2,663	11.6%
Employed in the Selection Area but Living Outside	20,322	88.4%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	20,346	100.0%
Workers Aged 29 or younger	3,903	19.2%

Workers Aged 30 to 54	10,515	51.7%
Workers Aged 55 or older	5,928	29.1%
Workers Earning $1,250 per month or less	3,756	18.5%
Workers Earning $1,251 to $3,333 per month	4,666	22.9%
Workers Earning More than $3,333 per month	11,924	58.6%
Workers in the "Goods Producing" Industry Class	2,759	13.6%
Workers in the "Trade, Transportation, and Utilities" Industry Class	3,926	19.3%
Workers in the "All Other Services" Industry Class	13,661	67.1%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	20,322	100.0%
Workers Aged 29 or younger	6,102	30.0%
Workers Aged 30 to 54	9,654	47.5%
Workers Aged 55 or older	4,566	22.5%
Workers Earning $1,250 per month or less	5,739	28.2%
Workers Earning $1,251 to $3,333 per month	7,019	34.5%
Workers Earning More than $3,333 per month	7,564	37.2%
Workers in the "Goods Producing" Industry Class	3,358	16.5%
Workers in the "Trade, Transportation, and Utilities" Industry Class	6,575	32.4%
Workers in the "All Other Services" Industry Class	10,389	51.1%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	2,663	100.0%
Workers Aged 29 or younger	713	26.8%
Workers Aged 30 to 54	1,125	42.2%
Workers Aged 55 or older	825	31.0%

Workers Earning $1,250 per month or less	949	35.6%
Workers Earning $1,251 to $3,333 per month	826	31.0%
Workers Earning More than $3,333 per month	888	33.3%
Workers in the "Goods Producing" Industry Class	388	14.6%
Workers in the "Trade, Transportation, and Utilities" Industry Class	451	16.9%
Workers in the "All Other Services" Industry Class	1,824	68.5%

ACS Employment Data	**2019**	
Worked from home	1,518	
Civilian employed population 16 years and over	23,174	
Management, business, science, and arts occupations	11,339	49%
Service occupations	3,138	
Sales and office occupations	5,297	23%
Natural resources, construction, and maintenance occupations	1,086	
Production, transportation, and material moving occupations	2,314	

Income

North Northeastern Ohio nonmetropolitan area (noncontiguous)			
Strongsville specific data not available used the above	Jobs	Share of Total	Avg. Annual Income
All Occupations	311,820	100%	$44,060
Management, business, science, and arts occupations	32,250	10%	$75,675
Sales and office occupations	42,070	13%	$40,084

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	20,322	90%	80%	70%
Living in the Selection Area but Employed Outside	20,346	30%	20%	10%
Living and Employed in the Selection Area	2,663	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	11,339	90%	80%	70%
Sales and office occupations	5,297	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management, business, science, and arts occupations	Sales and office occupations
Employed in the Selection Area but Living Outside	20,322	2,102	2,742
Living in the Selection Area but Employed Outside	20,346	2,104	2,745
Living and Employed in the Selection Area	2,663	275	359

Management, business, science, and arts occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	2,102	1,702	1,345	1,030
Living in the Selection Area but Employed Outside	2,104	568	337	147
Living and Employed in the Selection Area	275	37	22	10

Sales and office occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	2,742	2,221	1,755	1,343
Living in the Selection Area but Employed Outside	2,745	741	439	192
Living and Employed in the Selection Area	359	49	29	13
Impact of Staffing Pattern = Loss of FTE Employment				
Management, business, science, and arts occupations		867	536	375
Sales and office occupations		1,131	699	489
Impact on Income				
Management, business, science, and arts occupations		$65,602,889	$40,551,469	$28,358,108
Sales and office occupations		$45,330,038	$28,020,102	$19,594,779
Total Impact on Income		$110,932,927	$68,571,571	$47,952,886
Impact on Income Tax Revenue				
General Fund	1.75%	$1,941,271	$1,199,968	$839,152
Total	2.00%	$2,218,659	$1,371,431	$959,058
General Fund Income Tax FY2020	$32,578,160	6%	4%	3%

TOLEDO

DATA

Inflow/Outflow Report

Selection Area Labor Market Size (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	127,744	100.0%
Living in the Selection Area	118,479	92.7%
Net Job Inflow (+) or Outflow (-)	9,265	-

In-Area Labor Force Efficiency (All Jobs)

	2018	
	Count	**Share**
Living in the Selection Area	118,479	100.0%
Living and Employed in the Selection Area	53,710	45.3%
Living in the Selection Area but Employed Outside	64,769	54.7%

In-Area Employment Efficiency (All Jobs)

	2018	
	Count	**Share**
Employed in the Selection Area	127,744	100.0%
Employed and Living in the Selection Area	53,710	42.0%
Employed in the Selection Area but Living Outside	74,034	58.0%

Outflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
External Jobs Filled by Residents	64,769	100.0%
Workers Aged 29 or younger	19,526	30.1%

Workers Aged 30 to 54	32,644	50.4%
Workers Aged 55 or older	12,599	19.5%
Workers Earning $1,250 per month or less	18,746	28.9%
Workers Earning $1,251 to $3,333 per month	24,269	37.5%
Workers Earning More than $3,333 per month	21,754	33.6%
Workers in the "Goods Producing" Industry Class	12,169	18.8%
Workers in the "Trade, Transportation, and Utilities" Industry Class	15,924	24.6%
Workers in the "All Other Services" Industry Class	36,676	56.6%

Inflow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Outside Workers	74,034	100.0%
Workers Aged 29 or younger	16,302	22.0%
Workers Aged 30 to 54	38,779	52.4%
Workers Aged 55 or older	18,953	25.6%
Workers Earning $1,250 per month or less	16,110	21.8%
Workers Earning $1,251 to $3,333 per month	20,360	27.5%
Workers Earning More than $3,333 per month	37,564	50.7%
Workers in the "Goods Producing" Industry Class	14,601	19.7%
Workers in the "Trade, Transportation, and Utilities" Industry Class	12,013	16.2%
Workers in the "All Other Services" Industry Class	47,420	64.1%

Interior Flow Job Characteristics (All Jobs)

	2018	
	Count	**Share**
Internal Jobs Filled by Residents	53,710	100.0%
Workers Aged 29 or younger	13,672	25.5%
Workers Aged 30 to 54	27,807	51.8%
Workers Aged 55 or older	12,231	22.8%

Workers Earning $1,250 per month or less	15,065	28.0%
Workers Earning $1,251 to $3,333 per month	20,413	38.0%
Workers Earning More than $3,333 per month	18,232	33.9%
Workers in the "Goods Producing" Industry Class	9,239	17.2%
Workers in the "Trade, Transportation, and Utilities" Industry Class	7,565	14.1%
Workers in the "All Other Services" Industry Class	36,906	68.7%

ACS Employment Data	**2019**	
Worked from home	2,443	
Civilian employed population 16 years and over	122,540	
Management, business, science, and arts occupations	33,975	28%
Service occupations	26,389	
Sales and office occupations	26,634	22%
Natural resources, construction, and maintenance occupations	8,434	
Production, transportation, and material moving occupations	27,108	

Income

Toledo, OH

Toledo, MSA	Jobs	Share of Total	Avg. Annual Income
All Occupations	274,370	100%	$49,100
Management Occupations	35,630	13%	$82,708
Office and Administrative Support Occupations	40,670	15%	$43,404

KEY ASSUMPTIONS

WFH estimates are projected staffing patterns for office occupations of the firms

	High	Medium	Low
% Firms Providing for Some Type of WFH for office occupations	90%	80%	70%
Firms Work from Home Staffing Pattern in office days/not in office	1/4	2/3	2/3

Impact on FTE Employment		20%	40%	40%
Remaining % Firms Not Providing for full WFH		10%	20%	30%
Staff Pattern for Remaining Firms not Providing WFH		80%	80%	100%
Weighted Overall Impact on FTE Employment		26.00%	48.00%	58.00%
Employment Base Inflow/Outflow	Volume	Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	74,034	90%	80%	70%
Living in the Selection Area but Employed Outside	64,769	30%	20%	10%
Living and Employed in the Selection Area	53,710	15%	10%	5%
		Probability of WFH if WFH Available		
Management, business, science, and arts occupations	33,975	90%	80%	70%
Sales and office occupations	26,634	90%	80%	70%

ANALYSIS

Employment Base Calculations	Total	Management Occupations	Office and Administrative Support Occupations
Employed in the Selection Area but Living Outside	74,034	9,614	10,974
Living in the Selection Area but Employed Outside	64,769	8,411	9,601
Living and Employed in the Selection Area	53,710	6,975	7,961

Management Occupations		Probability of WFH if WFH Available		
Employed in the Selection Area but Living Outside	9,614	7,787	6,153	4,711
Living in the Selection Area but Employed Outside	8,411	2,271	1,346	589
Living and Employed in the Selection Area	6,975	942	558	244

Office and Administrative Support Occupations			Probability of WFH if WFH Available	
Employed in the Selection Area but Living Outside	10,974	8,889	7,023	5,377
Living in the Selection Area but Employed Outside	9,601	2,592	1,536	672
Living and Employed in the Selection Area	7,961	1,075	637	279
Impact of Staffing Pattern = Loss of FTE Employment				
Management Occupations		4,779	2,790	1,834
Office and Administrative Support Occupations		5,455	3,185	2,093
Impact on Income				
Management Occupations		$395,258,698	$230,749,722	$151,672,288
Office and Administrative Support Occupations		$236,766,410	$138,222,849	$90,854,176
Total Impact on Income		$632,025,108	$368,972,571	$242,526,463
Impact on Income Tax Revenue				
General Fund	1.50%	$9,480,377	$5,534,589	$3,637,897
Total	2.50%	$15,800,628	$9,224,314	$6,063,162
General Fund Income Tax FY2020	$170,675,920	6%	3%	2%