



# **Economic Impact Analysis of The Ohio Police and Fire Pension Fund in 2018**

**Prepared for  
The Ohio Police & Fire Pension Fund**

February 2020

**TABLE OF CONTENTS**

EXECUTIVE SUMMARY ..... 2

INTRODUCTION ..... 4

TERMINOLOGY ..... 7

METHODOLOGY ..... 8

OPERATIONS IMPACTS ..... 10

    Fiscal Impact ..... 11

HOUSEHOLD SPENDING IMPACTS ..... 11

    Economic Impact to Ohio ..... 11

    Economic Impact by Senate and House District ..... 12

    Fiscal Impact ..... 16

CONCLUSION ..... 17

## EXECUTIVE SUMMARY

With total membership as of year-end 2018 of approximately 59,000 active and retired police officers and firefighters, as well as their beneficiaries, the Ohio Police and Fire Pension Fund (OP&F) paid out \$1.17 billion in pension benefits in 2018. More than \$1.00 billion of this total was distributed to members residing throughout Ohio. These distributions, in addition to OP&F's Columbus operations, generated considerable economic activity for Ohio in 2018. As shown in Table 1, total economic impacts to Ohio of OP&F's operations and the household spending resulting from distributions to Ohio residents included \$1.83 billion in output, 14,393 jobs, and more than \$616 million in earnings.

**Table 1: Total Economic Impacts of OP&F to Ohio, 2018**

	Output (2018 \$M)	Jobs	Earnings (2018 \$M)
Direct	\$875.7	7,251	\$286.6
Indirect	\$952.8	7,142	\$329.5
<b>Total</b>	<b>\$1,828.5</b>	<b>14,393</b>	<b>\$616.1</b>

Source: Economics Center calculations using EMSI multipliers.

Household spending by Ohio residents who received pension distributions from OP&F and the resulting economic impacts in 2018 accounted for approximately 93 percent of the total economic output of \$1.83 billion. Direct economic impacts of the household spending included \$811.0 million in spending, 7,098 jobs supported, and \$275.6 million in earnings. The direct spending generated additional indirect impacts to the Ohio economy, including \$870.8 million in spending, 6,885 jobs supported, and \$311.7 million in earnings. The ratio of indirect output to direct output indicates that more than one dollar in indirect spending occurred for every dollar directly spent by OP&F beneficiaries on goods and services in the Ohio economy. The direct and indirect earnings-to-jobs ratios indicate that the jobs that were indirectly supported as a result of household spending paid higher salaries, on average, (approximately \$45,300 per year) than directly supported jobs (approximately \$38,800 per year). Moreover, the economic activity resulting from OP&F's distributions to Ohio residents in 2018 benefited a multitude of local economies across the State: the Economics Center estimates that OP&F beneficiary households spent portions of their pension income in all 33 Ohio Senate Districts and all 99 House Districts.

The Ohio Police and Fire Pension Fund's ongoing operations and capital expenditures also generate millions of dollars of spending and support hundreds of jobs in the Ohio economy. The Ohio Police and Fire Pension Fund paid 149 employees \$10.6 million in earnings in 2018 and spent an additional \$53.0 million on professional services, communications, and other products and services vital to its daily operations. Together with annual capital expenditures of approximately \$1.0 million, OP&F's direct impacts on the Ohio economy in 2018 included \$64.6 million in output, 153 jobs supported, and \$11.0 million in earnings. The direct spending spurred indirect impacts of \$81.9 million in output, 257 jobs supported, and \$17.8 million in earnings. Total economic impacts to Ohio of OP&F's operations and capital expenditures in 2018 included \$146.6 in output, 410 jobs supported, and \$28.7 million in earnings.

The Ohio Police and Fire Pension Fund distributions and operations expenditures generate substantial fiscal benefits for the State of Ohio, as well as Ohio Counties, the City of Columbus, and Ohio Transit Authorities. As shown in Table 2, distributions to Ohio residents, together with earnings paid to OP&F employees, generated approximately \$23.8

million in income tax for the State of Ohio in 2018, while the City of Columbus collected approximately \$338,000 in income tax from OP&F employee earnings. Household spending resulting from the distributions yielded sales tax revenues totaling approximately \$13.8 million for Ohio, \$2.7 million for Ohio Counties, and \$0.7 million for the State’s eight Transit Authorities. Between income tax and sales tax revenues, the total fiscal impact to Ohio in 2018 of OP&F’s member distributions and operations was more than \$41.3 million.

**Table 2: Total Fiscal Impact of OP&F to Ohio, 2018**

Entity	Income Tax (2018 \$M)	Sales Tax (2018 \$M)	Total Tax (2018 \$M)
State of Ohio	\$23.8	\$13.8	\$37.6
Ohio Counties		\$2.7	\$2.7
City of Columbus	\$0.3		\$0.3
Transit Authorities		\$0.7	\$0.7
<b>Totals (\$)</b>	<b>\$24.1</b>	<b>\$17.2</b>	<b>\$41.3</b>

Source: Economics Center calculations using EMSI multipliers.

## INTRODUCTION

The Ohio Police & Fire Pension Fund (OP&F) was created in 1965 by the Ohio General Assembly to provide pension and disability benefits to the state's full-time police officers and firefighters.<sup>1</sup> As of year-end 2018, OP&F's membership comprised approximately 28,815 active members and 28,989 retirees and their beneficiaries.<sup>2</sup>

The Ohio Police and Fire Pension Fund contributes substantially to the Ohio economy each year in the form of business and household spending; employment; employee earnings; and state, county, and local tax revenues. Most of this economic activity occurs as OP&F beneficiaries spend large portions of their pension income on goods and services within the Ohio economy and as these initial expenditures, in turn, create additional spending by businesses and households in Ohio. In 2018, gross payments made by OP&F to recipients worldwide totaled \$1.17 billion, of which \$1.00 billion, or approximately 85 percent of the total, was paid to Ohio residents. Table 3 and Table 4 show the number of beneficiaries and gross benefits paid to these beneficiaries in 2018 by Ohio Senate and House District, respectively.

**Table 3: OP&F Ohio Beneficiaries and Gross Benefits by Senate District, 2018**

Senate District	Beneficiaries in 2018	Gross Benefits (2018 \$M)	Senate District	Beneficiaries in 2018	Gross Benefits (2018 \$M)
1	384	\$12.8	18	1,228	\$52.2
2	829	\$34.5	19	666	\$28.6
3	653	\$30.8	20	881	\$36.6
4	683	\$28.7	21	443	\$19.5
5	489	\$20.3	22	890	\$37.2
6	902	\$40.6	23	1,001	\$42.5
7	623	\$26.7	24	1,677	\$74.3
8	1,096	\$46.0	25	774	\$32.9
9	472	\$19.3	26	599	\$21.0
10	867	\$36.1	27	908	\$38.4
11	952	\$41.7	28	775	\$32.6
12	524	\$19.3	29	609	\$22.2
13	1,024	\$42.7	30	384	\$12.3
14	484	\$17.8	31	649	\$24.6
15	294	\$13.0	32	685	\$25.8
16	776	\$35.1	33	719	\$23.7
17	510	\$16.8			
<b>Total</b>			<b>24,450</b>		<b>\$1,006.4</b>

<sup>1</sup> "About Ohio Police & Fire Pension Fund." *Ohio Police & Fire Pension Fund*. <https://www.op-f.org/information/aboutopf>.

<sup>2</sup> Ohio Police & Fire Pension Fund. *2018 Comprehensive Annual Financial Report*.

**Table 4: OP&F Ohio Beneficiaries and Gross Benefits by House District, 2018**

House District	Beneficiaries in 2018	Gross Benefits (2018 \$M)	House District	Beneficiaries in 2018	Gross Benefits (2018 \$M)
1	159	\$6.7	51	94	\$3.5
2	256	\$9.3	52	81	\$3.6
3	231	\$9.4	53	508	\$21.6
4	165	\$6.4	54	125	\$5.4
5	150	\$4.5	55	444	\$19.9
6	549	\$24.4	56	245	\$9.1
7	561	\$25.2	57	335	\$13.7
8	299	\$13.9	58	279	\$9.2
9	94	\$4.5	59	290	\$10.0
10	182	\$7.9	60	180	\$7.1
11	167	\$7.1	61	684	\$29.7
12	295	\$11.9	62	229	\$9.7
13	108	\$5.1	63	221	\$7.6
14	651	\$27.3	64	187	\$6.3
15	242	\$10.0	65	189	\$7.7
16	567	\$24.7	66	162	\$6.3
17	67	\$3.1	67	265	\$10.9
18	72	\$3.2	68	336	\$14.9
19	328	\$15.4	69	311	\$13.6
20	258	\$12.2	70	323	\$14.3
21	168	\$7.6	71	340	\$14.0
22	65	\$2.8	72	174	\$6.5
23	320	\$14.2	73	265	\$11.6
24	288	\$13.2	74	291	\$12.9
25	83	\$4.1	75	235	\$9.3
26	139	\$5.7	76	309	\$13.2
27	269	\$11.6	77	323	\$15.4
28	233	\$10.0	78	357	\$14.5
29	439	\$19.1	79	311	\$11.6
30	424	\$17.0	80	258	\$11.1
31	162	\$6.8	81	81	\$2.8
32	96	\$3.2	82	143	\$4.5
33	214	\$9.3	83	160	\$5.6
34	203	\$9.1	84	187	\$6.2
35	126	\$5.0	85	172	\$6.7
36	446	\$18.4	86	192	\$7.4
37	399	\$17.8	87	164	\$5.5
38	350	\$14.0	88	243	\$8.1
39	75	\$3.2	89	315	\$12.6
40	376	\$16.7	90	133	\$3.9
41	183	\$8.6	91	140	\$4.6
42	343	\$15.3	92	270	\$9.5
43	156	\$6.1	93	100	\$2.6
44	228	\$10.6	94	151	\$5.1
45	300	\$13.0	95	84	\$2.7
46	424	\$18.1	96	149	\$4.4
47	283	\$12.5	97	201	\$6.7
48	205	\$7.3	98	135	\$4.1
49	227	\$8.5	99	277	\$12.0
50	177	\$6.4			
<b>Totals</b>			<b>24,450</b>		<b>\$1,006.4</b>

This report documents the estimated economic and fiscal impacts to the State of Ohio, as well as its Counties and local jurisdictions, of the OP&F. The remainder of the report is divided into the following sections:

**The Terminology Section** defines key terminology used in this report to describe the economic and fiscal impacts of OP&F.

**The Methodology Section** discusses how input-output models are used to estimate total economic and fiscal impacts of operations and capital spending, as well as household income and spending.

**The Operations Impacts Section** documents the economic and fiscal impacts of spending in 2018 by OP&F.

**The Household Spending Impacts Section** details the economic and fiscal impacts of pension distributions to OP&F members in Ohio and resulting spending within the Ohio economy.

**The Conclusion** summarizes the economic and fiscal impacts of OP&F to the State of Ohio.

## TERMINOLOGY

This report documents the economic and fiscal impacts to the Ohio economy of OP&F's operations and capital projects, as well as expenditures by OP&F beneficiaries. Operations impacts are annually recurring impacts associated with OP&F spending on employee wages and benefits and other non-wage daily operations, such as professional and communications services. Capital impacts are temporary impacts created as a result of OP&F's non-recurring purchases of equipment, such as software and computer system design services. Both development and operations expenditures generate tax revenues, which variably benefit the State of Ohio and the City of Columbus.

OP&F beneficiaries residing in Ohio spend large portions of their pension income on goods and services within the Ohio economy. This household spending supports jobs and associated earnings and yields sales tax revenue for the State of Ohio and Ohio counties. In addition, the pension income generates income tax revenue for the State of Ohio.

Economic impacts are reported in terms of jobs, earnings, and output. Job totals include both full- and part-time employees. Earnings include compensation of employees but exclude personal contributions to Social Security, Medicare, and employee pension plans. Lastly, output refers to expenditures on both intermediate and final goods and services.

Total economic impacts include direct and indirect impacts, after factoring for leakage. Leakage refers to money that no longer circulates in the State economy, as portions of expenditures by industries and households in an economy are met by imports from companies and organizations outside the Ohio economy. By factoring for leakage, total economic impacts include only money that is retained in the State economy.

Direct expenditures affect other industries by increasing demand for intermediate products and services, creating jobs associated with the provision of these products and services, and generating incomes. These are the indirect, or additional, economic impacts that result from inter-industry linkages. Induced impacts result from the increased income and spending of OP&F employees and employees of companies with revenues deriving from beneficiaries' household spending.<sup>3</sup>

Economic Modeling Specialists International (EMSI) maintains an input-output model that produces industry- and region-specific multipliers that quantify the changes in jobs, earnings, and output resulting from a change in economic activity. Multipliers are applied to direct impacts that have been factored for leakage to determine the total economic impact. For example, full-service restaurants in Ohio have a final-demand spending multiplier of 2.0190. If the revenue or direct impact of the restaurant is \$1,000,000, then total economic output of the restaurant is \$2,019,000. The indirect impact is the difference between the total impact and the direct impact, or \$1,019,000 for this example. Similar calculations are used to determine the jobs and earnings impacts. This report further breaks down household spending – and the resulting economic impacts – by Ohio Senate and House District. Multipliers vary region-to-region and, across almost all industries, are higher at the State level than District level.

---

<sup>3</sup> Induced impacts are reported within indirect impacts in this report.



## METHODOLOGY

### Economic Impacts

The Economics Center calculated the economic and fiscal impacts of OP&F's operations and capital expenditures using salary, non-wage expenditure, and capital expenditure data provided. These data, provided by OP&F, were applied to EMSI input-output model multipliers. The EMSI model captures the interdependencies of an economy's various industries, quantifying how direct expenditures on goods or services by a particular industry (or to individuals in the form of wages) yield additional expenditures within that economy. The State of Ohio is the primary geographic area of analysis for this study.

Multipliers are figures expressed in input-output models that represent economic relationships between industries and between households and industries. For every dollar spent by a given organization or household in a particular industry, multipliers reflect how many more dollars will be spent in an economy by other businesses and households, thereby determining the total economic impact of a project or investment. Multipliers also measure how many jobs and the amount of earnings that will be generated in an economy for a given level of expenditure. EMSI ratios of jobs to expenditures and employee earnings to expenditures provide for the calculation of direct effects of spending, and sales, jobs, and earnings multipliers allow for the calculation of total impacts. There are three types of direct effects in this analysis:

- The jobs, associated wages, and non-wage expenditures required for OP&F's ongoing operations.
- Non-recurring capital expenditures by OP&F on hardware, software, and other materials and supplies.
- Expenditures by OP&F member beneficiaries, i.e. household expenditures.

The indirect impacts are the expenditures and employment that are created in the Ohio economy as a result of purchases from industries that are directly impacted through these three expenditure categories.

The largest economic and fiscal impacts associated with OP&F are generated by beneficiaries spending portions of their pension distributions within the Ohio economy. The Economics Center used the Midwest Consumer Expenditure Survey to estimate the portion of pension income spent on goods and services, as well as the share of these goods and services that are subject to sales tax. The Economics Center identified the relevant industry or industries associated with each good and service and applied industry-specific ratios of jobs to sales and earnings to sales for Ohio to calculate the direct jobs and employee earnings deriving from the household expenditures. Industry-specific sales, jobs, and earnings multipliers were then applied to the direct impacts to estimate total impacts to Ohio.

The Economics Center further estimated the economic impacts to individual Ohio Senate and House Districts. First, pension incomes – and resulting spending – were estimated for each District using beneficiaries' home addresses. Next, District- and industry-specific ratios of sales to jobs and sales to earnings were applied to the direct expenditures to calculate direct jobs and employee earnings. Finally, District- and industry-specific sales, jobs, and earnings multipliers were then applied to the direct impacts to estimate total impacts to

each District. Importantly, multipliers are larger at higher geographic levels. Specifically, larger portions of OP&F beneficiaries' spending occurs within the State of Ohio than within individual Districts, since a wider range of industries are present at the State level than the individual District level. In other words, a larger share of households' expenditures – and businesses' purchases of intermediate goods – occurring at the District level than the State level leak out of the local economy. With greater leakage and smaller multipliers at the District level than the State level, total economic impacts summed across Districts are substantially lower than the impacts calculated in the State-level analysis. The expenditures leaking out of each District but still occurring within the State are not accounted for in the District analysis, so District-level impact estimates are conservative.

### **Fiscal Impacts**

OP&F's operations and spending of pension income by OP&F beneficiaries generate income and sales tax revenues for the State of Ohio, as well as Ohio counties, the City of Columbus, and Ohio Transit Authorities. The Economics Center calculated income tax revenue accruing to the State of Ohio from OP&F employee earnings and members' pension incomes by applying appropriate Ohio income tax rates to individuals' incomes. City of Columbus income tax revenues were calculated by multiplying the City's 2.5 percent income tax rate to OP&F employees' earnings. The City of Columbus's income tax rate was at least as high as those of municipalities of residence of all OP&F employees, so no other municipalities collected income tax from these earnings. Pension income cannot be taxed by Ohio municipalities, so no income tax revenue accrued from pension distributions at the municipal level.

Household expenditures generate substantial sales tax revenues for the State of Ohio, as well as Ohio Counties and Transit Authorities. As noted above, beneficiaries' expenditures on goods and services were calculated using data from the Midwest Consumer Expenditure Survey, and the State sales tax rate of 5.75 percent was applied only to taxable expenditures to estimate Ohio sales tax.

As with the District-level economic impact analysis, greater leakage occurs at the County level than the State level. Thus, County-specific sales tax estimates would not account for expenditures occurring in Ohio counties other than the County under analysis. This, in turn, would result in drastically understated County sales tax estimates. To more accurately estimate County sales tax revenues generated by OP&F beneficiaries' household spending, the Economics Center instead estimated counties' contributions to total statewide County sales tax revenues, thereby justifying the use of statewide leakage rates rather than County-specific leakage rates. A blended County sales tax rate was calculated based on counties' total pension payments and respective sales tax rates, and counties' contributions to total statewide County sale tax revenues were assumed to be directly correlated with counties' respective shares of 2018 pension payments. The same methodology was used to estimate sales tax revenues accruing to Ohio Transit Authorities for counties that assess a Transit Authority tax.

## OPERATIONS IMPACTS

The Ohio Police and Fire Pension Fund contributes considerably to the Ohio economy through its wage and non-wage operating expenditures and, to a lesser extent, through capital purchases of equipment and materials. As shown in Table 5, OP&F's direct operations expenditures totaled \$63.6 million in 2018, of which employee wages accounted for \$10.6 million. The Ohio Police and Fire Pension Fund supported 149 direct jobs in 2018. Ohio Police and Fire Pension Fund direct employee wages and non-wage operating expenditures generated an additional \$80.9 million in indirect spending in the Ohio economy, including \$17.5 million in indirect earnings, and 251 indirect jobs, bringing the total economic impact of OP&F operations to \$144.5 million in output, 400 jobs, and more than \$28.1 million in earnings. The output multiplier of 1.27 indicates that, for every dollar spent by OP&F toward operations, an additional \$1.27 was spent in the Ohio economy. Moreover, the respective jobs and earnings multipliers of 1.68 and 1.65 indicate that approximately 1.7 jobs were created in Ohio for every direct OP&F job, and \$1.65 in earnings was paid in indirect earnings for every dollar in direct OP&F employee earnings.

**Table 5: Economic Impacts of OP&F Operations**

	Output (2018 \$M)	Jobs	Earnings (2018 \$M)
Direct	\$63.6	149	\$10.6
Indirect	\$80.9	251	\$17.5
<b>Total</b>	<b>\$144.5</b>	<b>400</b>	<b>\$28.1</b>

Source: Economics Center calculations using EMSI multipliers.

Ohio Police and Fire Pension Fund purchases of computer hardware, software, and network systems are projected to comprise the majority of OP&F's capital expenditures from 2019 to 2021. The Economics Center averaged budgeted capital expenditures over these three years to calculate average annual capital spending because these projected spending levels more accurately reflect typical annual capital spending than 2018 spending. As shown in Table 6, average annual economic impacts to the Ohio economy from OP&F capital expenditures include \$2.1 million in output, 10 jobs, and \$0.6 million in earnings.

**Table 6: Average Annual Economic Impacts of OP&F Capital Expenditures**

	Output (2018 \$M)	Jobs	Earnings (2018 \$M)
Direct	\$1.0	4	\$0.3
Indirect	\$1.1	6	\$0.3
<b>Total</b>	<b>\$2.1</b>	<b>10</b>	<b>\$0.6</b>

Source: Economics Center calculations using EMSI multipliers.

The combined economic impacts of OP&F operations and capital expenditures in 2018<sup>4</sup>, as shown in Table 7, included \$146.5 million in output, 410 jobs, and \$28.7 million in employee earnings. These totals reflect output, jobs, and earnings multipliers of 1.27, 1.68, and 1.62, respectively, which are nearly identical to the multipliers for operations spending.

<sup>4</sup> Operations expenditures were specific to 2018, while capital expenditures reflect average annual expenditures.

**Table 7: Total Economic Impacts of OP&F Operations and Capital Expenditures, 2018**

	Output (2018 \$M)	Jobs	Earnings (2018 \$M)
Direct	\$64.6	153	\$11.0
Indirect	\$81.9	257	\$17.8
<b>Total</b>	<b>\$146.5</b>	<b>410</b>	<b>\$28.8</b>

Source: Economics Center calculations using EMSI multipliers.

### Fiscal Impact

In addition to generating spending, jobs, and employee earnings, OP&F expenditures on employee salaries in 2018 yielded income tax revenues for the State of Ohio and the City of Columbus. All OP&F employees in 2018 were Ohio residents and worked in the OP&F offices in Columbus. Based on individual employee salaries and zip code of residence, the Economics Center calculated income tax revenues accruing to the State of Ohio and City of Columbus in 2018 to be \$338,357 and \$266,164, respectively.

## HOUSEHOLD SPENDING IMPACTS

### Economic Impact to Ohio

The economic impacts of spending by OP&F beneficiary households generated approximately 93 percent of total OP&F impacts to the State of Ohio in 2018, including approximately 92 percent of total output, 97 percent of jobs, and 95 percent of earnings. The Economics Center assumed that OP&F beneficiaries spent approximately 80 percent of their pension income on a wide variety of goods and services, the vast majority of which they purchased in Ohio.<sup>5</sup>

Total distributions to Ohio residents of just more than \$1.00 billion in 2018 yielded spending in Ohio of approximately \$811 million, as shown in Table 8. This estimate of total spending accounted for the amount of initial spending leaking out of the Ohio economy as a result of the unavailability within Ohio of a small portion of goods and services purchased by beneficiaries. Using EMSI ratios of jobs to sales (output) and earnings to sales for those industries in which OP&F beneficiaries conducted their spending, the Economics Center calculated that these direct expenditures supported 7,098 jobs and approximately \$276 million in earnings. Applying EMSI sales, jobs, and earnings multipliers for Ohio to these direct impacts, the Economics Center calculated that these direct expenditures generated an additional \$871 million in indirect spending in the Ohio economy, as well as 6,885 indirect jobs and nearly \$312 million in indirect earnings. Total economic impacts to the State of Ohio in 2018 of household spending resulting from OP&F pension distributions included approximately \$1.68 billion in spending and supported 13,983 jobs with more than \$587 million in earnings.

<sup>5</sup> The Economics Center used the U.S. Bureau of Labor Statistics' Midwest Consumer Expenditure Survey to estimate how beneficiary households allocated their spending across goods and services.

**Table 8: Economic Impact of Household Spending to Ohio, 2018**

	Output (\$M)	Jobs	Earnings (\$M)
Direct	\$811.0	7,098	\$275.6
Indirect	\$870.8	6,885	\$311.7
<b>Total</b>	<b>\$1,681.9</b>	<b>13,983</b>	<b>\$587.3</b>

Source: Economics Center calculations using EMSI multipliers.

### Economic Impact by Senate and House District

While most heavily concentrated in Ohio's population centers, OP&F members reside throughout the State and, as a result, benefit their local economies by spending their pension dollars. The Economics Center calculated the economic impacts to individual Senate and House Districts using District-specific multipliers. It is important to note that these economic impact estimates are conservative. As documented in the Methodology section, not all industries are located in all Districts. The Economics Center subtracted spending in industries not present in Districts, since household spending in those industries occurred outside the beneficiaries' home Districts. Since it is not possible to determine from which Districts households sourced those goods and services that were unavailable in their home Districts, these direct household expenditures do not show up in direct spending estimates presented in Table 9 and Table 10. Estimated total direct household spending across Ohio Senate and House Districts, which are shown in Table 9 and Table 10, respectively, are, therefore, lower than the statewide direct spending estimate provided in Table 8. Similarly, estimated total direct household spending across Senate Districts of approximately \$793 million is higher than estimated household spending across House Districts (approximately \$746 million) because Senate Districts generally cover larger geographic areas than House Districts and, therefore, are subject to lower levels of economic leakage.

Total output, jobs, and earnings multipliers are considerably lower for Senate and House Districts than for Ohio as a whole, thereby further widening the gap between total output, jobs, and earnings estimates for Ohio and respective estimated total impacts across Senate and House Districts. As shown in Table 9, total estimated economic impacts to Ohio Senate Districts in 2018 were approximately \$1.17 billion in output, 10,158 jobs, and more than \$389 million in earnings. Total estimated impacts across House Districts, as shown in Table 10, included more than \$1.00 billion in output, 8,698 jobs, and nearly \$320 million in earnings. The estimated output totals for Senate and House Districts represent approximately 64 percent and approximately 55 percent, respectively, of total estimated output in the statewide analysis, underscoring that the District-level estimates are conservative. However, even these conservative estimates indicate that spending by OP&F beneficiaries in 2018 generated millions of dollars of additional spending across Ohio's local economies. According to these estimates, spending of OP&F pension payments spurred more than \$20 million in total economic activity in 29 of Ohio's 33 Senate Districts, including more than \$50 million in total economic output in five Senate Districts, and total output of more than \$10 million in 44 of Ohio's 99 House Districts.

**Table 9: Economic Impact of Household Spending by Senate District, 2018**

Senate District	Direct Output (\$M)	Direct Jobs	Direct Earnings (\$M)	Total Output (\$M)	Total Jobs	Total Earnings (\$M)
1	\$10.1	110	\$3.4	\$13.6	140	\$4.5
2	\$27.2	265	\$9.1	\$39.8	368	\$13.4
3	\$24.2	194	\$8.1	\$33.8	258	\$11.4
4	\$22.9	199	\$7.7	\$33.3	282	\$11.4
5	\$16.1	155	\$5.4	\$21.0	192	\$7.0
6	\$32.0	284	\$10.7	\$50.9	417	\$16.7
7	\$21.2	188	\$7.2	\$30.2	257	\$10.1
8	\$36.2	289	\$12.1	\$56.1	416	\$18.8
9	\$15.3	123	\$5.1	\$23.5	176	\$8.0
10	\$28.6	277	\$9.5	\$39.3	362	\$12.9
11	\$32.9	301	\$11.1	\$51.5	439	\$17.5
12	\$15.1	156	\$5.1	\$21.2	209	\$7.0
13	\$33.6	343	\$11.2	\$49.6	491	\$16.6
14	\$14.1	133	\$4.7	\$20.5	184	\$6.8
15	\$10.3	84	\$3.5	\$15.1	117	\$5.1
16	\$27.4	218	\$9.2	\$41.0	312	\$13.9
17	\$13.3	144	\$4.5	\$18.1	190	\$6.0
18	\$41.2	413	\$13.8	\$61.5	590	\$20.6
19	\$22.7	199	\$7.7	\$33.5	276	\$11.3
20	\$28.8	294	\$9.6	\$38.4	378	\$12.6
21	\$15.5	129	\$5.2	\$23.8	180	\$8.0
22	\$29.4	290	\$9.8	\$43.6	410	\$14.4
23	\$32.8	266	\$10.7	\$47.1	353	\$15.0
24	\$58.5	483	\$19.6	\$91.5	694	\$30.5
25	\$25.9	221	\$8.6	\$38.0	301	\$12.6
26	\$16.4	168	\$5.5	\$22.0	215	\$7.3
27	\$30.6	283	\$10.3	\$47.1	411	\$15.9
28	\$25.5	227	\$8.4	\$38.1	320	\$12.6
29	\$17.6	175	\$5.9	\$28.5	266	\$9.5
30	\$9.5	103	\$3.2	\$12.9	130	\$4.1
31	\$19.4	198	\$6.5	\$26.2	257	\$8.7
32	\$20.1	212	\$6.7	\$29.3	293	\$9.6
33	\$18.6	193	\$6.2	\$28.2	273	\$9.2
<b>Totals</b>	<b>\$793.0</b>	<b>7,317</b>	<b>\$265.1</b>	<b>\$1,167.9</b>	<b>10,158</b>	<b>\$389.1</b>

Source: Economics Center calculations using EMSI multipliers.

**Table 10: Economic Impact of Household Spending by House District, 2018**

House District	Direct Output (\$M)	Direct Jobs	Direct Earnings (\$M)	Total Output (\$M)	Total Jobs	Total Earnings (\$M)
1	\$5.1	56	\$1.7	\$7.0	73	\$2.3
2	\$7.2	76	\$2.4	\$10.2	100	\$3.3
3	\$6.8	73	\$2.3	\$10.1	101	\$3.3
4	\$4.6	52	\$1.5	\$6.3	68	\$2.1
5	\$3.4	40	\$1.1	\$4.9	54	\$1.5
6	\$19.0	156	\$6.4	\$26.1	199	\$8.7
7	\$17.8	152	\$5.9	\$23.6	182	\$7.5
8	\$10.7	87	\$3.5	\$14.6	108	\$4.6
9	\$2.6	24	\$0.9	\$3.1	26	\$1.0
10	\$5.9	47	\$1.9	\$8.3	61	\$2.7
11	\$5.5	43	\$1.8	\$7.2	52	\$2.3
12	\$9.2	74	\$3.0	\$12.3	92	\$4.0
13	\$3.6	28	\$1.1	\$4.5	31	\$1.3
14	\$20.9	168	\$6.8	\$28.2	207	\$8.8
15	\$6.5	54	\$2.1	\$8.1	61	\$2.4
16	\$18.6	149	\$6.0	\$25.9	189	\$8.2
17	\$1.9	15	\$0.6	\$2.2	16	\$0.6
18	\$2.5	20	\$0.8	\$3.2	24	\$1.1
19	\$11.8	94	\$3.9	\$15.4	116	\$5.1
20	\$9.2	73	\$3.0	\$11.3	86	\$3.6
21	\$5.8	46	\$1.9	\$7.7	58	\$2.6
22	\$1.9	15	\$0.6	\$2.2	17	\$0.7
23	\$10.3	80	\$3.3	\$12.6	92	\$3.9
24	\$9.8	80	\$3.3	\$12.9	100	\$4.3
25	\$3.1	25	\$1.0	\$3.9	29	\$1.2
26	\$3.8	30	\$1.2	\$4.5	33	\$1.3
27	\$8.9	71	\$2.9	\$11.8	88	\$3.8
28	\$7.6	62	\$2.6	\$10.8	82	\$3.7
29	\$13.5	109	\$4.3	\$17.0	126	\$5.1
30	\$11.2	84	\$3.4	\$14.2	96	\$4.1
31	\$4.8	38	\$1.6	\$6.4	47	\$2.1
32	\$2.5	20	\$0.8	\$3.4	25	\$1.1
33	\$5.9	47	\$1.9	\$7.3	53	\$2.2
34	\$6.2	56	\$2.0	\$8.4	69	\$2.6
35	\$3.1	27	\$0.9	\$3.7	29	\$1.0
36	\$13.3	120	\$4.4	\$17.9	150	\$5.8
37	\$13.8	120	\$4.6	\$19.3	159	\$6.4
38	\$10.8	97	\$3.6	\$14.9	125	\$4.9
39	\$2.0	18	\$0.6	\$2.4	20	\$0.7
40	\$12.5	108	\$4.1	\$16.5	132	\$5.2
41	\$5.0	49	\$1.6	\$6.3	55	\$1.9
42	\$11.7	100	\$3.8	\$16.9	134	\$5.5
43	\$4.0	46	\$1.3	\$4.6	48	\$1.4
44	\$8.2	74	\$2.7	\$11.5	96	\$3.8
45	\$8.4	77	\$2.7	\$10.5	88	\$3.2
46	\$13.9	122	\$4.6	\$18.4	152	\$6.0
47	\$9.6	96	\$3.2	\$12.5	118	\$4.2
48	\$5.6	54	\$1.8	\$8.1	73	\$2.6
49	\$6.1	60	\$2.0	\$8.1	73	\$2.5
50	\$4.5	42	\$1.4	\$5.8	49	\$1.7
51	\$2.5	19	\$0.8	\$3.0	21	\$0.9

House District	Direct Output (\$M)	Direct Jobs	Direct Earnings (\$M)	Total Output (\$M)	Total Jobs	Total Earnings (\$M)
52	\$2.7	23	\$0.9	\$3.3	28	\$1.1
53	\$16.2	134	\$5.2	\$22.1	172	\$7.0
54	\$3.8	36	\$1.3	\$5.0	43	\$1.6
55	\$14.6	145	\$4.8	\$19.4	183	\$6.2
56	\$6.5	62	\$2.0	\$8.5	75	\$2.6
57	\$10.6	119	\$3.5	\$14.0	149	\$4.6
58	\$6.9	70	\$2.3	\$9.6	90	\$3.1
59	\$7.6	74	\$2.5	\$10.7	97	\$3.4
60	\$4.6	46	\$1.5	\$5.5	51	\$1.6
61	\$22.9	228	\$7.6	\$33.9	318	\$11.2
62	\$6.7	62	\$2.1	\$8.7	76	\$2.7
63	\$5.1	54	\$1.6	\$6.9	68	\$2.1
64	\$4.5	48	\$1.5	\$5.9	60	\$1.9
65	\$5.9	55	\$2.0	\$8.5	74	\$2.8
66	\$4.9	42	\$1.6	\$7.1	56	\$2.3
67	\$7.7	69	\$2.5	\$10.0	83	\$3.2
68	\$11.8	112	\$3.9	\$16.8	144	\$5.5
69	\$10.4	98	\$3.4	\$15.3	135	\$4.9
70	\$10.4	112	\$3.4	\$14.1	144	\$4.5
71	\$10.6	103	\$3.5	\$14.6	136	\$4.7
72	\$5.0	55	\$1.7	\$6.3	66	\$2.0
73	\$9.0	86	\$3.0	\$12.0	106	\$3.8
74	\$9.0	92	\$2.9	\$10.7	103	\$3.3
75	\$7.1	71	\$2.3	\$9.9	92	\$3.1
76	\$9.9	97	\$3.3	\$13.6	124	\$4.4
77	\$11.3	101	\$3.6	\$13.9	114	\$4.2
78	\$11.2	118	\$3.6	\$14.3	143	\$4.5
79	\$9.1	94	\$3.0	\$12.8	125	\$4.2
80	\$8.6	91	\$2.9	\$12.0	120	\$3.9
81	\$1.9	26	\$0.6	\$2.6	31	\$0.8
82	\$3.5	39	\$1.2	\$4.5	47	\$1.5
83	\$4.3	46	\$1.4	\$5.7	58	\$1.9
84	\$4.8	53	\$1.6	\$6.5	68	\$2.1
85	\$5.1	52	\$1.7	\$6.7	65	\$2.1
86	\$5.7	58	\$1.9	\$7.3	70	\$2.4
87	\$4.2	45	\$1.4	\$5.4	54	\$1.7
88	\$6.2	68	\$2.1	\$8.3	86	\$2.7
89	\$9.8	107	\$3.3	\$14.5	150	\$4.7
90	\$3.0	33	\$1.0	\$4.1	42	\$1.3
91	\$3.6	39	\$1.2	\$4.9	51	\$1.6
92	\$7.4	80	\$2.4	\$9.5	99	\$3.0
93	\$1.9	24	\$0.6	\$2.5	29	\$0.8
94	\$4.0	43	\$1.3	\$5.5	57	\$1.8
95	\$2.0	23	\$0.7	\$2.5	26	\$0.8
96	\$3.1	40	\$1.0	\$4.3	50	\$1.4
97	\$5.2	60	\$1.7	\$7.4	81	\$2.4
98	\$3.2	36	\$1.1	\$4.1	43	\$1.3
99	\$9.2	100	\$3.0	\$12.5	128	\$4.0
<b>Totals</b>	<b>\$746.1</b>	<b>6,945</b>	<b>\$243.9</b>	<b>\$1,000.4</b>	<b>8,698</b>	<b>\$319.7</b>

Source: Economics Center calculations using EMSI multipliers.



**Fiscal Impact**

Distributions to OP&F beneficiaries and resulting spending of these dollars contributed to income tax and sales tax revenues of the State of Ohio, Ohio Counties, and Ohio Transit Authorities in 2018. As shown in Table 11, Ohio collected \$23.5 million in income taxes from OP&F beneficiaries in 2018, as well as \$13.8 million in sales tax revenue from beneficiaries' spending within Ohio on taxable goods and services. The estimated total fiscal impact to Ohio associated with OP&F distributions to Ohio residents was approximately \$37.3 million.

As documented in the Methodology section, the Economics Center calculated counties' contributions to total statewide County and Transit Authority sales tax revenues based on a statewide blended sales tax rate and County-specific gross distributions OP&F members in 2018. The Economics Center estimates that Ohio Counties collected approximately \$2.7 million in sales taxes and that the eight Ohio Transit Authorities collected another \$700,000 in sales taxes in 2018. The total estimated fiscal impact to the State of Ohio, Ohio Counties, and Transit Authorities in 2018 was approximately \$40.7 million.

**Table 11: Fiscal Impacts of Household Spending of OP&F Distributions, 2018**

<b>Tax Revenue Source</b>	<b>Income Tax (2018 \$M)</b>	<b>Sales Tax (2018 \$M)</b>	<b>Total Tax (2018 \$M)</b>
State of Ohio	\$23.5	\$13.8	\$37.3
Ohio Counties		\$2.7	\$2.7
Ohio Transit Authorities		\$0.7	\$0.7
<b>Totals (\$)</b>	<b>\$23.5</b>	<b>\$17.2</b>	<b>\$40.7</b>

Source: Economics Center calculations.

## CONCLUSION

The Ohio Police & Fire Pension Fund provides vital pension and disability benefits to the State's full-time and retired police officers and firefighters, as well as their beneficiaries. Ohio Police and Fire Pension Fund membership totaled approximately 59,000 individuals as of year-end 2018, with a nearly even split between active members and retirees and their beneficiaries. The Ohio Police and Fire Pension Fund paid out \$1.17 billion in gross benefits to members worldwide in 2018, with approximately \$1.00 billion going to Ohio residents. Of this total, these Ohioans spent approximately \$811 million on products and services in the Ohio economy in 2018. This direct spending supported nearly 7,100 direct jobs and approximately \$276 million in employee earnings. The direct spending, in turn, generated indirect impacts of approximately \$871 million in spending, 6,885 jobs, and nearly \$312 million in earnings. The Economics Center estimates that household spending impacts in Ohio resulting from OP&F pension payments totaled \$1.68 billion in output, supported nearly 14,000 jobs, and more than \$587 million in employee earnings. Ohio Police and Fire Pension Fund operations and capital spending also benefited the Ohio economy in 2018, with combined total economic impacts of approximately \$147 million in spending, 410 jobs, and nearly \$29 million in employee earnings. The Economics Center estimates that OP&F's total economic impact in 2018 to the Ohio economy included approximately \$1.83 billion in output, more than 14,000 jobs, and more than \$616 million in employee earnings.

Ohio Police and Fire Pension Fund's operations and pension distributions also generated substantial fiscal impacts to the State of Ohio, Ohio Counties and Transit Authorities, and the City of Columbus in 2018. Ohio Police and Fire Pension Fund distributions to Ohio residents generated approximately \$23.5 million in income tax revenues for the State of Ohio. In addition, beneficiaries' purchases of goods and services generated approximately \$13.8 million in State sales tax revenues, as well as \$2.7 million in County sales tax revenues and \$0.7 million in Transit Authority revenues. Earnings paid to OP&F employees in 2018 resulted in income tax collections of approximately \$338,000 by the State of Ohio and approximately \$266,000 by the City of Columbus. Total fiscal impacts of OP&F operations, pension distributions, and resulting household spending in 2018 totaled \$41.3 million which included approximately \$37.6 million to the State of Ohio, \$2.7 million to Ohio Counties, \$0.7 million to Ohio Transit Authorities, and \$0.3 million to the City of Columbus.