

ECONOMIC IMPACT OF PUBLIC TRANSIT IN MISSOURI

JANUARY 2024



PREPARED FOR



"People ride public transit for two reasons – to make money and to spend money. That's why public transit is an economic development program with social benefits."

...Oklahoma Transit Association

<https://oktransitassociation.com/>



January 19, 2024

Ms. Kimberly Cella
Executive Director
Missouri Public Transit Association
701 Market Street, Suite 275
St. Louis, Missouri 63101

Dear Ms. Cella:

Representing Saint Louis University, I am very pleased to submit this economic impact analysis of the public transit industry in the state of Missouri as well as in several sub-areas of the state. Data to conduct this study were obtained from a survey of the 32 transit-providing members of the Missouri Public Transit Association. We received 22 survey responses. Conclusions of this report reflect only the received surveys.

Respondents to the survey employed an annual average of 3,850 people between 2019 and 2023 to provide transit services in every county of Missouri. These agencies spent an annual average of about \$918 million on capital improvements, labor compensation, and other operations. They provided 40.1 million rides, or about 6½ rides per year for every resident of the state. Moreover, the transit riders spent another \$481 million on goods and services attributable to their rides in addition to money they would have spent anyway because of their trips. Together, this totals some \$1.40 billion in direct economic impact per year (up from \$1.28 billion from the previous survey for the period of 2015 to 2019).

That direct spending triggered another \$2.66 billion in annual average statewide economic activity (up from \$2.40B in 2015-2019) and the support of another 22,410 jobs in the state across virtually all economic sectors when multiplier effects are calculated (down from 24,980 in 2015-2019). Those *added* jobs paid an average of \$35,900 per year compared to \$86,400 for the average transit employee—the latter of which was \$64,200 in the 2015-2019 period.

Over the five calendar years covered by the recent survey, the responding transit agencies spent a whopping annual average of \$401.6 million annually on capital investments (up from \$91.2M), helping to generate an overall economic impact (direct plus indirect) of \$4.05 billion dollars (up from \$3.67B) throughout Missouri. This is a very respectable 10-to-1 ratio between capital investments and economic benefit for the state (but down from a 40-to-1 ratio between 2015 and 2019). State government collects an estimated annual average of \$51.0 million in annual taxes because of the direct and multiplier effects of transit (up from \$48.8M).

Many thanks to Cecile Denny, contractor for the Saint Louis University Community Planning Lab, in assisting with research and writing. Many thanks also to you and Travis Wood for your assistance and commentary. Most importantly, many thanks to the 22 transit providers who responded to the survey for their valuable input.

We have much enjoyed once again evaluating public transit's economic impact in and on the state of Missouri. Please do not hesitate to contact me if further clarification is needed.

Respectfully submitted on behalf of Saint Louis University,

Robert M. Lewis, FAICP, CEcD
Director, SLU Community Planning Lab

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1.0 Executive Summary

Transit systems serving the state of Missouri generated an annual average of 40.1 million rides¹ in the five years between 2019 and 2023. This is the equivalent of 6.5 rides per year for each Missouri resident!

These transit providers employ 3,890 people in an average year and pay those workers an annual average of \$86,400 (2023 dollars). The agencies spend \$918.0 million each year to provide their services which, alone, has a multiplier effect of \$1.67 billion in *additional* economic activity in the state. Riders of the transit systems also contribute an estimated \$481 million in spending within the state *that can be attributed to their transit rides*, increasing the overall multiplier effect to \$2.66 billion in *additional* economic activity. Within that economic activity are supported another 22,410 jobs in the state paying an average of \$35,900 per year.

There are 32 public transit agencies based in the state of Missouri who are members of the Missouri Public Transit Association. Together, they serve every county in the state and several counties in adjoining states. These are certainly dominated by Metro Transit in the St. Louis area and the Kansas City Area Transportation Authority. But there is public transit service available in various forms to serve every Missourian in every county, including rural areas and small towns.

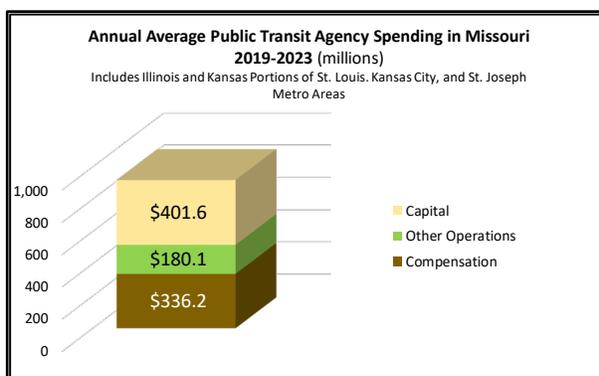
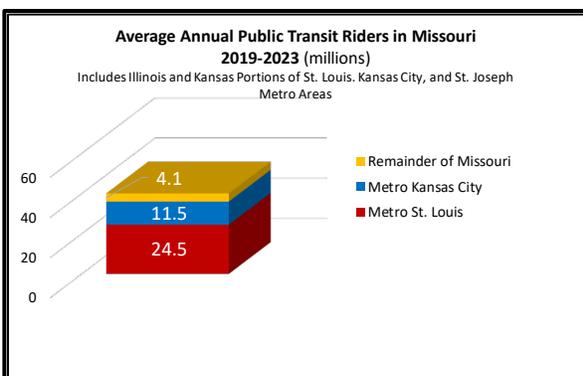


Of these 32 agencies, 22 completed a questionnaire in the fall of 2023 to determine their collective economic impact in the state and, in some cases, their own service areas.

Over the five-year period of 2019 through 2023,² these 22 transit agencies served an annual average of 40.1 million rides which is equivalent to 6.5 rides per resident of Missouri³ each year. The 22 responding transit agencies themselves spent an annual average of \$918.0 million between 2019 and 2023 for employee compensation, the purchase of goods and services from outside vendors, and capital improvements. This is an average of \$22.91 per transit rider.



¹ A rider is considered a single individual taking a single ride on a transit vehicle from one point to another. If a transfer is made to another transit vehicle to complete the full trip, that individual is counted as two riders. Moreover, the trip to a place is one ride while the return trip is considered a second ride. That individual is, therefore, counted as two riders.



The riders, themselves, contribute further to the direct and indirect economic impact of transit service in Missouri. While many of the destinations of transit riders can be accessed in other ways, these riders save money on maintenance and purchase/lease costs for private vehicles and on parking. They also enable the public and private sectors to reduce spending for parking facilities, thus freeing up funds for other urgent purposes. And there are plenty of studies that conclude that transit riders tend to be healthier than car drivers because there is always “a good walk or bike ride” before and after the transit ride. Moreover, riders spend money when they get to their destinations.

Being careful not to overstate these non-cash and cash benefits created when transit is utilized, this study assumes that direct rider spending that can be attributed to their rides averages \$12.00 per person per ride. Where do these \$12.00 come from? Partly from the savings from not having to drive and park a car and partly from fewer health difficulties, among other factors.

Adding this direct spending by riders increases the direct economic impacts of public transit in Missouri by some \$481 million per year and adds another \$988 million in statewide multiplier effects.

All this spending and employment, therefore, generate considerable economic benefits for the state. The direct spending by the agencies to support their operations and capital investments, plus the direct spending by employees to support their households, and spending by riders because of their trips, have total multiplier effects of:

- \$2.66 billion in *added* economic activity in the state for a net multiplier of 1.97.
- 22,410 *added* jobs in the state, or 5.7 times more jobs than are directly employed by the transit agencies.
- Added average earnings for those additional jobs of \$35,900.

² 2023 data as presented in this report are based on estimates and projections provided by the responding agencies or by projections made by the author of this report based on 2019 to 2022 data.

³ Using the mid-2022 population estimate from the U.S. Census Bureau of 6,177,957.

“Transportation is kind of like electricity and water. You don’t think about it until it’s not there. Then you think about it a lot.”

Southeast Missouri Transportation Service (<http://ridesmts.org>)

2.0 Introduction and Background

Mankind has always relied on and tried to improve various ways to get around and to carry things. Vehicles and networks to get around form a transportation system. Walking, of course, is one of those ways to get around, and walking is just fine for short distances or relatively light loads. Longer distances and heavier loads in early days of human development often relied on water and boats, or on animals when on land. Eventually, self-propelled vehicles replaced most animals in most societies. And there is any variety of such vehicles!

Transportation networks come in a wide variety, too. Water, residential streets, railroad tracks, highways, air flight, and others provide opportunities, choices, and speeds that best match purposes at hand. As humans increasingly settled into communities and cities of relatively dense populations and buildings, shared transportation systems evolved into what we today call transit systems. Enterprising businesspeople realized that money could be made by transporting people in common conveyances, thus saving those riders money that they didn’t have to spend on personal vehicles. This also minimized traffic on crowded streets in dense places—a factor which still contributes to reasons why private transit operations became public operations.

Public transit evolved from private transit systems when economies of scale began to diminish the profitability of some forms of shared conveyance. By then, however, the efficient function of complex cities and regions required “mass transit” to serve people who otherwise couldn’t afford other types of travel and to again minimize traffic on increasingly crowded streets. Private transit systems, therefore, quickly became public systems which were, and are, often subsidized by public resources in order to assure that people and goods can get around more efficiently in pursuit of prosperity and wealth for all.

Thus, the quote on the title page of this report: "People ride public transit for two reasons – to make money and to spend money. That's why public transit is an economic development program with social benefits."

Partly because shared transportation, or transit, has become a public good or service that improves the quality of life and pursuit of economic gain, it is important that citizens and public decision makers be made aware of the economic impacts of transit. Of course, there are several ways to frame transit’s economic impact.

- One is to measure the value to each individual who uses transit to get to work, to attend entertainment events, to reach school, and so on. Such riders may not have, or at least may not need, personal vehicles, thus saving them operating and parking costs. Not spending money is an economic benefit for people who could use that money for other purposes.



THE *Why*



Transit trips have changed for OATS. People want to be picked up, taken to their appointment, picked up and sent home. We're seeing that shift and trying to accommodate that. No longer is medical our number one trip purpose. It's employment.

DOROTHY YEAGER
Executive Director, OATS Transit

- Another measure might be the economic value to non-riders of transit. While they may rely on personal vehicles or bicycles or walking, they may see value in public transit because it helps their fellow citizens get to work or school and/or they recognize that more people riding transit means fewer cars and lower congestion on the roadways. One can get to one's destination more quickly with less congestion—a factor, too, which can be translated to economic value if given the right assumptions and statistics.
- Business owners and employers should see economic benefits of transit. Employees can get to work with less stress, perhaps, and thus be more productive during working hours. There is a reduced need to provide parking spaces, thus saving the employer some money. Transit can carry many people at one time, thus potentially increasing foot traffic for street-level businesses.

- There can be “external” economic benefits measured in terms of lower air pollution or even noise pollution. More rides per vehicle on buses or trains, for instance, can reduce the amount of emissions from cars and trucks. Again, given appropriate economic and financial statistics, it is possible to measure the extended benefits of environmental impacts resulting from more transit usage (public health improves, life expectancy and economic productivity increase, and people generally have a higher quality of life).
- Economic benefits of transit also affect property values. Many studies show that homes and apartments located within easy walking distance of transit stations achieve higher values in the marketplace than those further away. In theory, renters and buyers of such dwellings are willing to pay more for the convenience of transit and, perhaps, the costs savings of fewer cars or lower maintenance costs for their cars.
- In a related sense, transit also improves land use efficiency typically in the form of higher density of buildings. Transit reduces the need for parking lots, on-street parking, and on-site residential parking, thus increasing the amount of land that can be devoted to more productive land uses like occupied buildings. Denser land use patterns also reduce municipal and utility costs by decreasing the amount of space between buildings thus reducing infrastructure and/or increasing the use of infrastructure per building or per capita. In other words, transit can make infrastructure more cost-efficient.
- These property value impacts extend to employment centers. More transit usage means lesser reliance on parking spaces and parking structures. More land can be put to productive use where people can be employed. More productive land and real estate commands higher values in the market.

- The most traditional way to measure economic impacts of transit—indeed, of just about any economic activity—is to consider the multiplier effects of spending money. Transit providers are economic entities, even if they are public or quasi-public organizations. They raise money, they spend money. They spend money to pay employees, to buy necessary goods and services to support their operations, and to make long term capital improvements. The money they spend becomes income to the recipients of that money. Those recipients then spend the money again (and again and again. . .) to support their businesses or households. Thus, the initial spending to support a transit system not only provides a valuable service for a city or region; it also re-inserts money into the local economy which can continue to circulate in support of other economic activity.

This latter measure is the primary basis of this report. A wide range of transit providers in Missouri were surveyed to determine how much money they spend in an average year, how many people they employ, and how many riders they serve. With such information as “inputs,” it is possible to estimate the multiplier, or ripple, effects, of the spending and continuous re-spending of dollars which, in this case, are funneled into the transit providers (revenues, grants, taxes, fares, etc.) and are spent to provide transit services. Thus, in this report, the initial spending that triggers multiplier effects is the annual spending by the transit providers. The benefits, or impacts, are measured in terms of the amount of increased economic activity that takes place in the economy as a result of that initial spending.

This report does not attempt to measure the other forms of economic impact suggested above. There are ample studies that support such economic benefits, though most tend to be generic or global in scope, or focus on a particular economic area (a city, a corridor, perhaps a state). Translating such studies to the direct experience of Missouri might be possible but is not undertaken here. Still, the amount of economic activity in the state that is demonstrated in this limited report, alone, should be strongly indicative of the likely scale of the other forms of economic benefit.

The Costs of Driving: A Literature Review and a Case for Riding Transit

In 2017, the median annual cost to commute by car to work was \$2,782, meaning half of the commuters paid less than that amount, but half paid more per year, and 90% of commuters chose single-passenger car rides as their commute of choice. (Edge, 2020) The cost of owning a car alone is enormous. In 2022, it was \$689,000 over the course of a lifetime to own a small vehicle (driving less than 10,000 miles a year for 50 years).

An article in *Forbes* in 2022, discussing a recent study noted: “Gössling stated that “the car is one of the most expensive household consumer goods, yet there is a limited understanding of its private and social cost per vehicle-km, year, or lifetime of driving.” Motorists, he added, underestimate the total private costs of car ownership, “while policymakers and planners underestimate social costs.”

That said, the U.S. Department of Housing and Urban Development (HUD) incorporates transportation costs into its measures of housing affordability. The standard measure is whether a household must pay more than 30% or more of its annual income for housing occupancy costs (e.g., mortgage, rent, utilities). If so, such housing is unaffordable to that household. A secondary measure adds 10% for household transportation costs (up to 40% of annual income) as the threshold for affordability. An otherwise affordable home that requires more than 10% of annual income to, say, commute long distances to jobs can make that home unaffordable.

Cars are expensive because of their high ticket prices and depreciation plus the additional costs incurred by insurance, repairs, and fuel purchases. Mass motoring’s social costs—known to transport works as negative externalities—include carbon emissions from burning petrol and diesel, congestion, noise, deaths and injuries from crashes, road damage, and costs to health systems from sloth.

Other subsidies, such as the copious provision of free off-street parking, are often mandated in zoning codes. “America’s 250 million cars are oversupplied with an estimated two billion parking spots (think Wal-Mart at Christmas) yet spend 95% of their time going nowhere.” (Reid, 2022)

Presumably, by “going nowhere,” Reid means that those spaces are not occupied and, therefore, are not productive uses of the land.

The costs of the single-passenger car deserve a deeper examination. In addition to any monthly car payment, there is also the added cost of gas, oil, and tires. Then there are the less visible costs of vehicle depreciation (loss of value over time and usage) and ongoing maintenance to keep the vehicle on the road and meeting safety standards. In 2023, the IRS’s (U.S. Internal Revenue Service) standard business mileage deduction was 58.5 cents per mile. On this basis, a commuter driving 30 miles daily would expend \$4,390 per year (30 miles x 5 days per week x 50 weeks per year x \$0.585) excluding added mileage for personal affairs and vacations travel.

Average household income in the U.S. Midwest was \$87,956 in 2022, according to the Consumer Expenditure Survey of the U.S. Department of Labor. So, \$4,390 in commuting costs would be five percent of that income. But it would exceed ten percent of household incomes above \$43,900. Four out of ten Midwest households have incomes less than \$40,000. That said, the Consumer Expenditure Survey also notes that average Midwest household “transportation” costs were \$11,059 in 2022, or 12.% of household income, though many of these costs are not directly considered part of “commuting.”

The costs of car commuting go beyond dollars and cents. There are measurable detrimental physical and emotional costs to car commuting. “Longer commutes are linked with increased risks for obesity, high cholesterol, high blood pressure, back and neck pain, divorce, depression and death.”

More broadly, the single occupant car commute also takes a heavy toll on individuals, families and society. “At the societal level, people who commute more are [less likely to vote](#). They are [more likely to be absent from work](#). They are [less likely to escape poverty](#). And they have children who are [more likely to have emotional problems](#).” (Ingraham, 2017)



The longer the commute, especially for the poor, the less likely such people are to be politically engaged or vote. (Inskeep, 2013) Areas with longer commute times required to get to jobs and little, erratic, or no access to public transportation also had the highest rates of persistent poverty and the lowest percentages of people escaping poverty. (Bouchard, 2015) "When jobs are further and further from where people live, when low-wage workers have to pay a huge amount of their paycheck just to get to work, or when they're located in places that public transit doesn't go, it's not just a detriment to an individual low-wage worker, it actually negatively impacts the whole economy. Higher skill work needs the lower skill work in order to thrive."

Further in the same article, the author discusses how the length of a parent’s commute time has a direct impact on their children’s health and wellbeing. He cites a Harvard study which found:

“Areas with less sprawl (shorter commutes) have significantly higher rates of upward mobility; These results are consistent with the view that the negative impacts of segregation may operate by making it more difficult to reach jobs or other resources that facilitate upward mobility. But any such spatial mismatch explanation must explain why the gradients emerge before children enter the labor market.

A lack of access to nearby jobs cannot directly explain why children from low-income families are also more likely to have teenage births and less likely to attend college in cities with low levels of upward mobility. However, spatial mismatch, i.e. geographic access to jobs, could produce such patterns if it changes children’s behavior because they have fewer successful role models or reduces their perceived returns to education.” The longer a parent’s commute, the less time they have to spend with their children, it is one less resource that parents with less access to resources are able to give and their children suffer for it.” (MOSER, 2015)

Driving personal vehicles has both regional and global environmental impacts. Every drive releases a combination of nitrogen oxides, particulate matter, and volatile organic compounds which all form together and react with sunlight to create smog, a layer of ozone close to the earth causing respiratory problems and damaging plants. In fact, 55 percent of all nitrogen oxides and around 10 percent of particulate matter and volatile organic compounds come from transportation.

More concerning than the smog, which tends to settle over certain regions with the most congestion, is the release of greenhouse gas emissions by cars. These include carbon dioxide, methane and water vapor which get concentrated at the top of the atmosphere and reflect the heat of the sun back down to Earth causing climate change. Currently, vehicle emissions account for about 28 percent of greenhouse gas emissions, though it is as high as 40 percent in areas with bad congestion. (Staff, 2021) If all of that was not enough, “additionally, oil, gasoline, brake fluid, dirt, and other pollutants can runoff the roadways into water systems and affect drinking water supplies, water used for irrigation, and wetlands which impact human and environmental health.” (Krohn, 2022)

Yearly Vehicle Emissions by Vehicle Type:
• Small car (35 MPG fuel economy): 2.1 tons
• Midsize car (20 MPG fuel economy): 3.9 tons
• Full-size car/SUV (14 MPG fuel economy): 5.7 tons
(Blog, 2023)

There are also economic costs for cities and towns that are designed to cater to the single occupant vehicle commute. “Municipalities that are transitioning from self-sustaining communities to commuter suburbs may also suffer from a decrease in local shopping, which can be harmful to local business and to governments that rely on sales tax revenue. Several studies provide evidence that commuting outside the community encourages purchasing outside of the community, a phenomenon the literature calls ‘outshopping.’” (Pinkerton et al., 1995; Shields & Deller, 1998; Findlay et al., 2001; Burkey & Harris, 2003). (Bardsley, 2022)

A 2017 article discusses the costs of commuting in 2017 as calculated according to responses on the Census Bureau’s *American Community Survey* (ACS) commuting module. The module asked heads of households how they got to work and how much they spent getting there. According to their responses, the median annual cost to commute to work by car (including tolls and parking expenses) in 2017 was \$2,782 per year, which 90% of commuters chose to do. But four percent of commuters carpooled for a much-reduced median annual cost of \$1,336.

Nine percent of commuters took public transportation (public bus, subway, commuter rail, light rail, trolley, commuter van or bus) at a median annual cost of \$1,612.

For those commuters who choose to combine public transportation with car commutes, their median annual cost was \$2,055.

In 2017, four percent of commuters walked to work, two percent biked, and eight percent worked from home.⁴ (Edge, 2020)

After carpooling, public transport had the lowest cost per commute for users. What is public transport? According to the Department of Transportation, “public transportation can include buses, trains, trams, trolleys, ferries, paratransit, or rapid public transportation systems.”

Another article points out nine benefits to using public transportation. Those are: (Transit, 2017)

Types of Public Transportation

Benefits of Public Transportation



Benefits communities financially
Public transportation generates \$5 in economic returns for every \$1 invested. For every billion dollars invested, 50,000 jobs are generated and supported.



Increases Mobility
For those who don't, or can't, drive, public transportation allows them to get to work, to school, to the grocery store or doctor's office, or just to visit friends.



Reduces Air Pollution
Buses emit 20% less carbon monoxide, 10% of the hydrocarbons, and 75% of the nitrogen oxides per passenger mile than a single occupant vehicle.



Frees Up Time
Taking public transportation can free up a significant amount of time and attention, as someone else is doing the driving, which allows riders to spend their transit time reading, working, studying, or being entertained instead of having to watch the road.



Increased Fuel Efficiency
The American Public Transportation Association reports that public transportation is responsible for saving at least 4.2 billion gallons of gasoline each year.



Reduced Traffic Congestion
Public transportation moves a far greater number of people using far less space than cars, reducing traffic congestion which lowers air pollution from idling vehicles, and reduces stress by eliminating the need to sit in congested traffic.



Public Transportation is Safer
Taking the bus, train, light rail, or other transit options is safer than driving a car, not only in terms of the safety of the vehicles themselves, which are maintained much more regularly than a personal car, but also in terms of the driving habits and training of the operators.



Saves Money
Instead of owning a second car, those who take public transit instead find themselves saving \$9,823 per year. For those who choose public transit over car ownership at all, they see significant savings monthly in income not expended on gas, maintenance, and parking costs.



Encourages Healthier Habits
Public transportation is linked to healthier lifestyles, as people who use public transportation are said to get more than three times the amount of physical activity per day than those who don't, just from walking to and from their transit stops and their final destination.

The Bottom Line is This: Public transportation connects and grows our communities. It helps support a thriving economy in communities large and small throughout our nation. It increases property values, creates destinations for businesses and forms the basis for livable, walkable communities. Public transit connects people to jobs, education, healthcare, and to restaurants, friends and many essential services. It is the most desirable option for some travelers, a backup option for others, and the only option for yet others. It provides basic mobility for people who cannot, should not or do not have the option to drive. It can also offer efficiencies over other alternatives, including savings in time and travel-related expenses. Public transit can help ease congestion on roads and it helps limit carbon and other pollutant emissions. Sometimes it can enable government and the public to avoid further investment in auto-oriented infrastructure including roads and parking. It also plays a role in achieving strategic planning and sustainable development goals: it supports economic development through cost savings, broader market access, and facilitation of cluster development. Public transit can encourage investment in economically disadvantaged neighborhoods or communities, providing access to opportunity. It can further support public policy goals through encouragement of more efficient land development and more livable communities. And the public taxes spent on public transit are also returned to the community in the form of jobs and income that benefit residents and businesses.

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⁴ These percentages, oddly, add to 113. While the author of the article does not address that rather obvious over-counting, it seems likely that possible responses are not mutually exclusive. Respondents could include more than one mode of commuting. For instance, a commuter might drive to work some days and bike others. That commuter would check two boxes in the survey.

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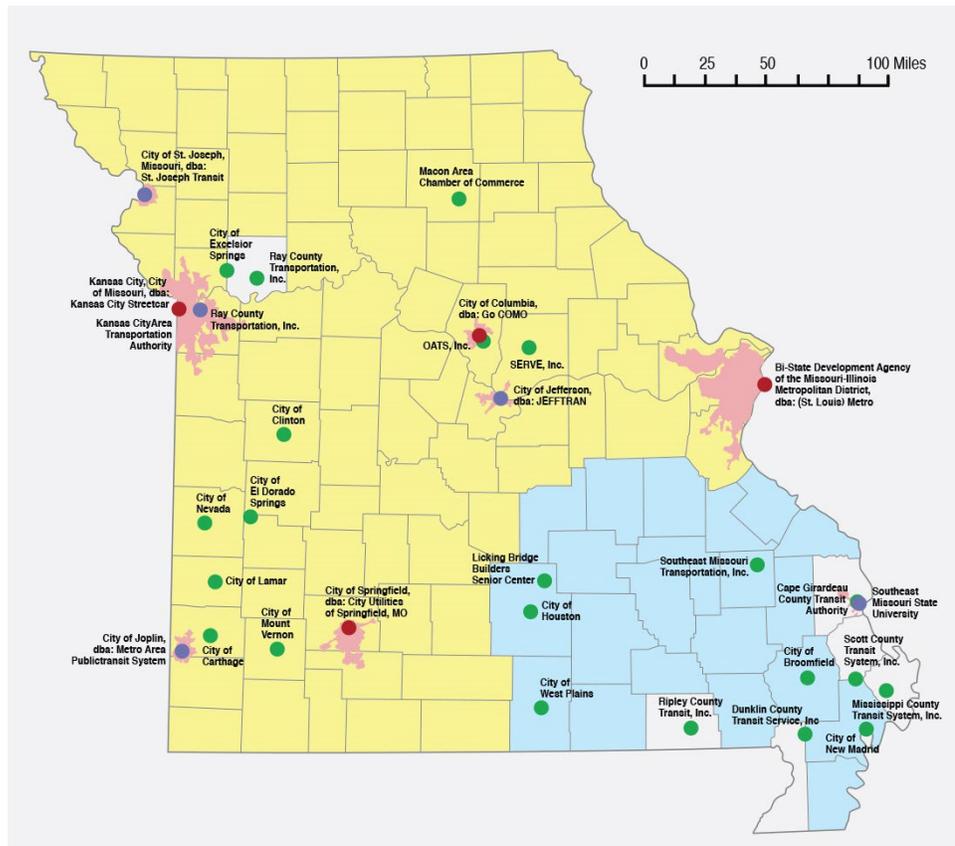
3.0 Survey Results of Missouri’s Public Transit Industry

The Responding Transit Organizations

Of 32 transit-providing members of the Missouri Public Transit Association (MPTA), 22 completed an economic impact survey in the fall of 2023, a response rate of 69 percent. The 22 respondents are:

<ol style="list-style-type: none"> 1. Bi-State Development/Metro Transit (St. Louis) 2. Bloomfield City Transit 3. Cape Girardeau County Transit Authority 4. City of Excelsior Springs 5. City of Houston 6. City of Joplin 7. City of Mt. Vernon Transportation 8. City Utilities of Springfield, MO 9. Dunklin County Transit 10. GoCoMo (Columbia) 11. JeffTran (Jefferson City) 	<ol style="list-style-type: none"> 12. Kansas City Area Transportation Authority 13. Kansas City Streetcar Authority 14. Mississippi County Transit System 15. OATS, Inc. 16. Ray County Transportation, Inc. dba Direct Transit 17. Ripley County Transit, Inc. 18. Scott County Transit System, Inc. 19. SERVE, INC. 20. Southeast Missouri Transportation Service (SMTS) 21. St. Joseph Transit, Inc. 22. Truman Area Transportation Service - City of Lamar
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In some ways, this is a misleading response rate because it does not account for possibly more meaningful measures like the number of transit rides or riders in the state. While the largest transit agencies in Missouri, in terms of annual ridership, responded to the survey, there is no equivalent source of information for the amount of ridership for all transit agencies. Thus, it is not known what share of all ridership is represented by the 22 respondents to the survey.



In the previous survey of 2019, there were 19 usable responses 34 members of MPTA, a response rate of 53 percent. The questionnaire was identical to that used in 2023. Where relevant, summary results here are compared to the 2019 report.

Survey, Data Compilation, and Analysis Methodology

The members of the Missouri Public Transit Association were sent emails informing them of the economic impact survey and urging their participation, initially in July 2023. The questionnaire, itself, was composed on and delivered via the commercial survey vendor, *SurveyMonkey*. A copy of the questionnaire is attached as Appendix A to this report. The survey process was managed by the Missouri Public Transit Association headquartered in St. Louis. Responses were received over a period of about three months. Key data were requested for calendar years 2019 through 2023.

The 2019 survey also requested five calendar years of data from 2015 through 2019. So, there is overlap with the 2023 survey regarding the 2019 data. In 2019, however, many of the responses made estimates for that year because full data were not yet collected. Thus, some of the agencies responding to both surveys have slightly different data for 2019.

The year-by-year data that was requested fall into five categories:

- (1) employees of the agency,
- (2) dollar compensation of those employees on an annual basis,
- (3) other operational expenditures excluding employee compensation,
- (4) capital expenditures, and
- (5) number of rides provided by the transit system each year.

Keep in mind that a “rider” is an individual who uses a transit vehicle between one point and another. If that individual transfers to another transit vehicle to reach a final destination, the trip counts as two rides. When that person returns to the original destination using the same transfer network, there would have been a total of four rides recorded for the round-trip. Thus, commuters who ride the bus from home to their place of work in a single ride, then return home at the end of their workday on the bus are counted as two rides, or two riders for that day.

Other data requested include the types of transit service provided (e.g., bus, rail, call-a-ride), the percentage of ridership by each separate service, and the typical cost to the rider for each type of ride. Some of the 21 agencies did not respond to each question. The graphs in this report show the number of responses to the individual questions.

All survey data were compiled into a single workbook database (in Microsoft Excel) where the “raw” information could be double-checked, edited, and put into consistent formats. The resulting spreadsheet “model” then linked the raw data to other sheets in the model containing economic impact multipliers, summary tables, consumer expenditure data, population, and other factors deemed important for this economic impact study.

The Excel model is provided separately to MPTA.

Effects of the Metropolitan Areas

Unsurprisingly, the two bi-state transit districts serving the St. Louis and Kansas City metropolitan areas dominate the state statistics. Kansas City numbers are further bolstered by the Streetcar Authority which operates only within the city of Kansas City, Missouri. It is notable that six out of ten transit rides accounted for in the Missouri survey are within the St. Louis metro area (61.1 percent) while almost three of ten rides are generated within the Kansas City metro area (28.7 percent—25.0 percent for KCATA and 3.7 percent for the Streetcar). (Astute readers will note that St. Louis also has a streetcar system—The Loop Trolley) but is now operated by the Metro Transit System and it is presumed that its ridership numbers are included in Metro Transit’s survey response.) OATS generates 2.6 percent of all state riders for the third largest system (serving 87 of Missouri’s 115 counties), followed closely by the city of Springfield’s transit system at 2.5 percent and the Columbia area at 2.1 percent.

That said, it is also important to note that Metro Transit in the St. Louis area serves just three counties, one of which is in Illinois. And the Kansas City Area Transit Authority serves seven counties, three of which are in Kansas (again, the Streetcar Authority serves in just Jackson County where KCATA also operates).

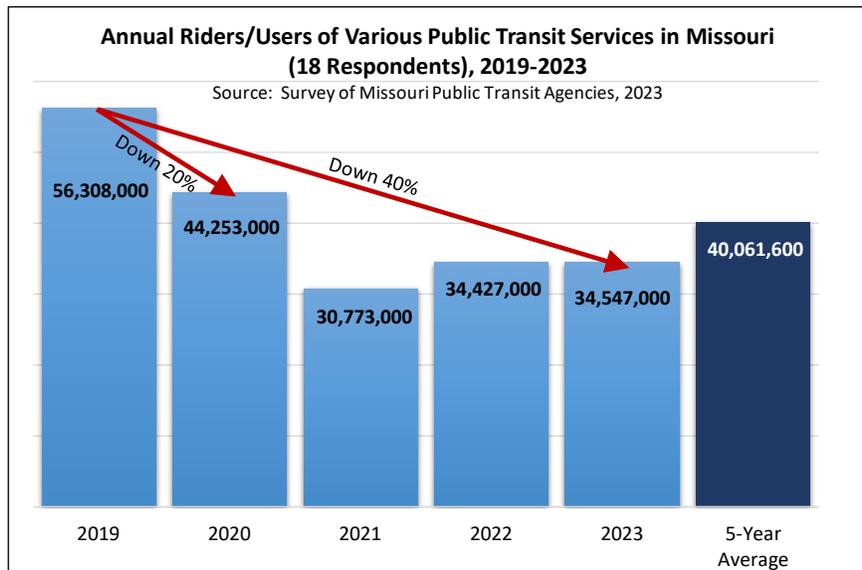
While the bulk of public transit rides are in the urban areas, transit in every rural area and county is an essential lifeline for many people. OATS indicates that it serves riders in 87 of Missouri’s 115 counties—some of which are also in urban areas. There aren’t a great many rural riders, but the services are just as indispensable—maybe more so in light of the rural distances to jobs and services and the lack or severe inconvenience of other transportation options.

Five-Year Trends in Ridership

Of the 22 transit agencies, 18 provided information on numbers of riders. Those 18 had an annual average of 40.1 million rides over the 2019-2023 period. This is a much-reduced average from the previous study (2015-2019) when the average was 60.1 million rides. As demonstrated on the accompanying graph, the COVID-19 pandemic that initiated in 2020 had a severe impact on transit ridership.

While ridership throughout Missouri was already in some decline, having dropped 24 percent between 2015 and 2019, it dropped another 20 percent in just one year from 2019 and 2020. Since 2019, ridership is down 40 percent, though there has been some recent recovery. *Combining the surveys of 2019 and 2023, ridership in 2023 is down 52 percent (over half) from 2015.* As the graph shows, ridership declines attributable to the pandemic continued forcefully into 2021 and then recovered slightly and were essentially steady in 2022 and 2023.

An important factor about ridership in Missouri is that it is dominated by St. Louis and Kansas City. For the five-year ridership average in Missouri from 2019 through 2023, St. Louis (Metro Transit) accounted for 61.1 percent of all rides while Kansas City (Kansas City Area Transit Authority—or KCATA) accounted for 25 percent and the KC Streetcar for another 3.7 percent. Together, these two urban centers provided 89.8 percent of all rides, on average, over the five years.

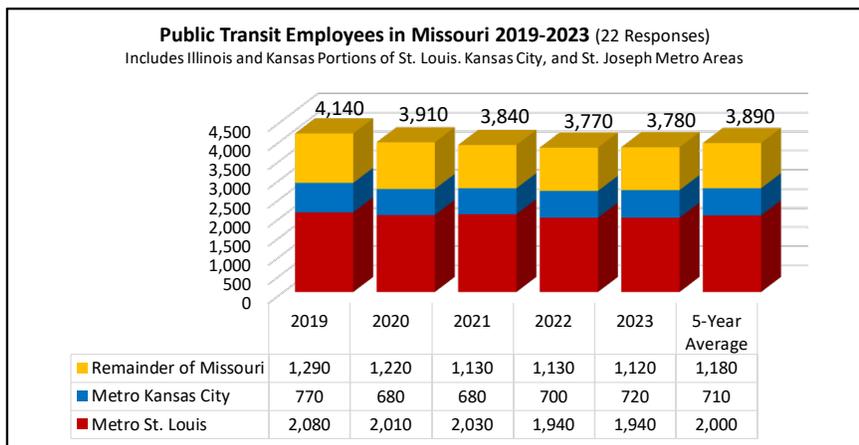


Of further note is that not all the rides provided by Metro Transit and KCATA are in Missouri. Metro Transit (primarily buses and light rail) includes one county in Illinois (St. Clair) in addition to St. Louis City and County in Missouri. KCATA’s system serves four counties in Missouri but also three counties in Kansas. Again, the Kansas City Streetcar serves only in Jackson County, Missouri (all within the city of Kansas City), so it overlaps with KCATA’s service in Jackson County.

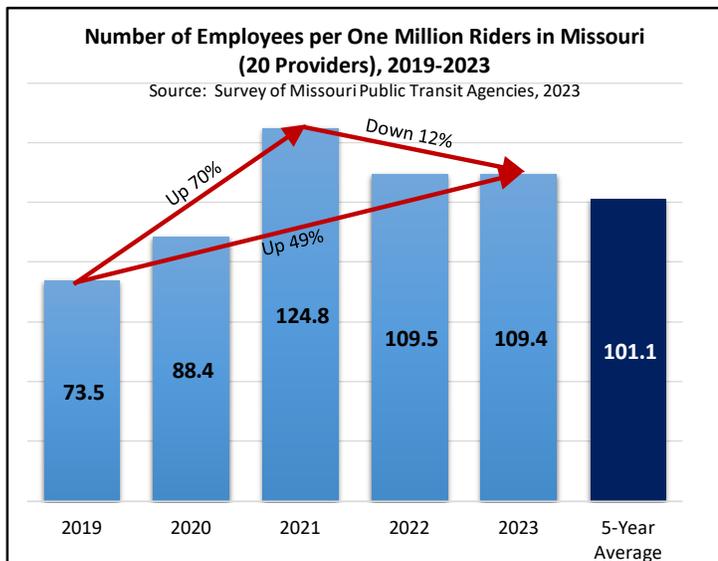
That said, there are eight officially defined metropolitan areas in Missouri all of which include multiple counties. Five of these—St. Louis, Kansas City, St. Joseph, Joplin, and Cape Girardeau—include counties in adjoining states. All eight metro areas have public transit systems, but only three indicate service that includes at least one county in an adjoining state—the third being St. Joseph which includes service in Buchanan County, Missouri, and Doniphan County, Kansas. While surveys were completed by transit agencies in all eight metro areas, four include service to just one county (Boone County in the Columbia metro area, Cole County in the Jefferson City metro area, Greene County in the Springfield metro area, and Cape Girardeau County in the Cape Girardeau metro area). The city of Joplin’s transit service extends into only Newton and Jasper Counties—both in Missouri—but not into Miami County, Oklahoma.

Five-Year Trends in Employment

Job counts at transit agencies did not experience the dramatic changes as seen in ridership, as illustrated on the next graph. Employment trends do not correspond to the downward ridership trends. While the 3,780 statewide jobs in 2023 is certainly below the 4,140 jobs in 2019, employment declined only 8.7 percent while ridership fell a net of 40 percent. Jobs were also effectively unchanged between 2022 and 2023.



Because of the great difference between ridership decline and employment decline, the number of *employees per one million rides* has risen rather strongly. Dividing the number of employees each year by the number of rides (then dividing by one million) finds that there were 73.5 transit employees in the state for every one million rides in 2019, a figure that rose dramatically to 124.8 employees per million rides two years later, a jump of 70%. This is due to a much slower pace of employee attrition than ridership attrition.



The two statistics need not be correlated, of course. Keeping routes open and services available should mean that a certain number of employees are necessary even when ridership declines. As a ratio, however, jobs per million rides is an indicator of changing circumstances that may be increasingly difficult to fund.

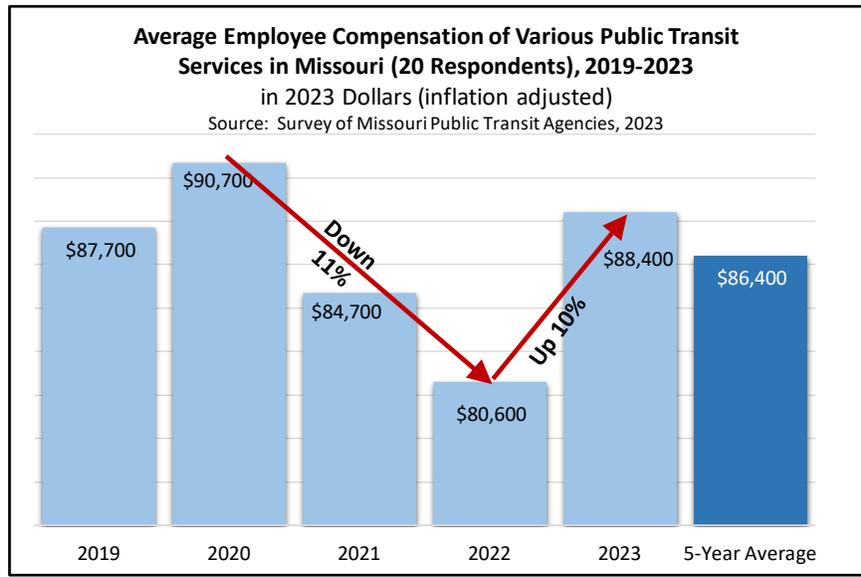
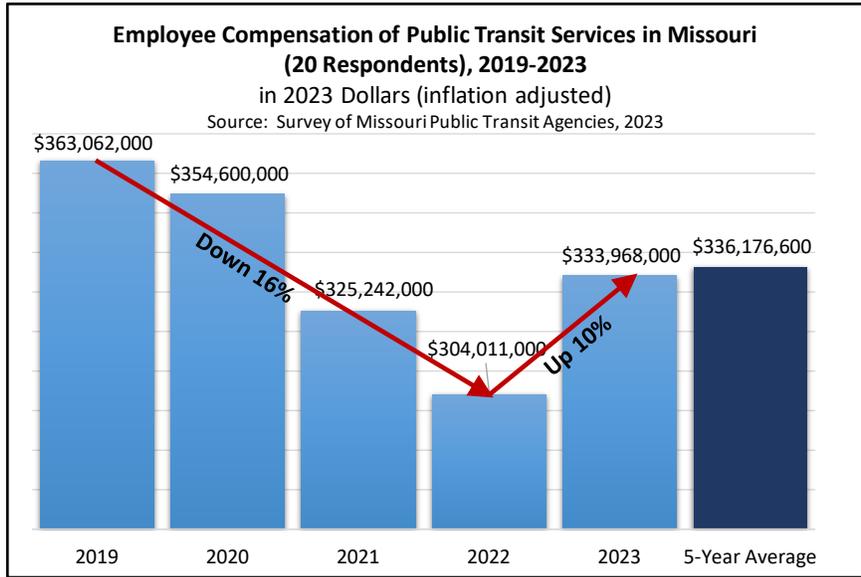
Some “correction” in the ratio was undertaken between 2021 and 2023 as employment broadly stabilized and ridership increased. Still, the ratio of 109.4 employees per one million rides was 49 percent higher in 2023 than in 2019.

Five-Year Trends in Payroll Expenditures

Aggregate payroll for employees of Missouri’s transit agencies declined by 16 percent between 2019 and 2022, then recovered rather rapidly by 10 percent in 2023. The declines almost certainly are related to lost ridership and declining revenues largely attributed to the Covid 19 pandemic which began in early 2020.

With some ridership recovery after 2021, there were many news stories about difficulties in hiring back and retaining transit personnel, a factor which likely led to higher payrolls and hiring incentives even though employment, overall, essentially did not change between 2022 and 2023.

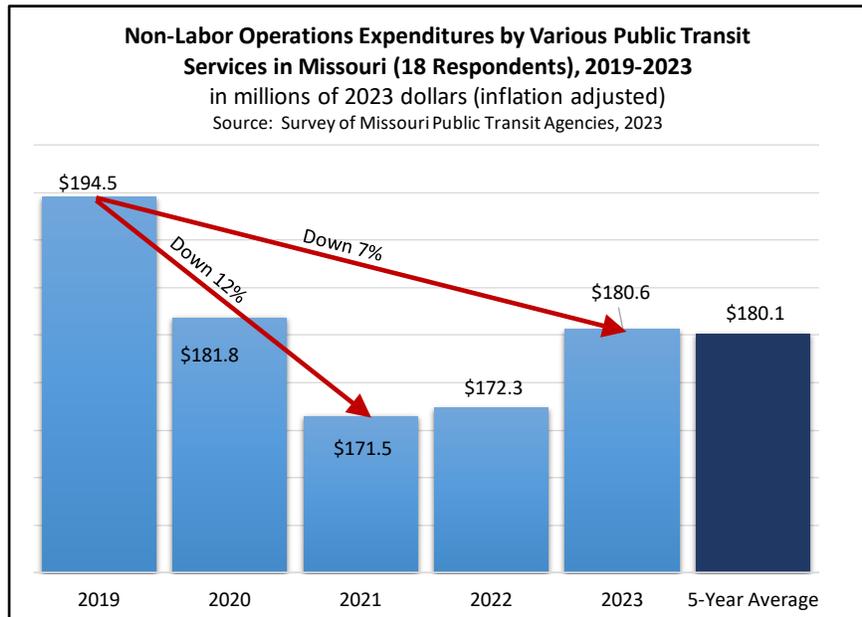
Payroll cutbacks also reduced average compensation for transit employees across the state. While the average increased by \$3,000 per year between 2019 and 2020 (likely those wage increases were budgeted before the effects of the pandemic), the average dropped 11 percent (\$10,100) over the next two years. With hiring incentives in place for 2023, average compensation rose ten percent in one year, to a level just above 2019 but not quite to the 2020 level.



Five-Year Trends in Operating Expenditures (excluding Payroll)

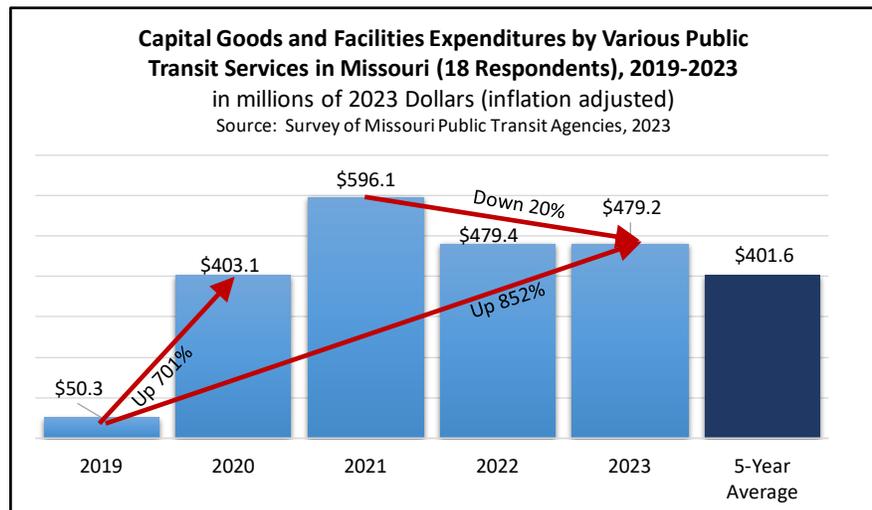
Aggregate operations expenditures by 18 respondents to this question declined by 12 percent between 2019 and 2021. Excluding payroll expenses, inflation-adjusted operating spending (in 2023 dollars) dropped about \$23 million in two years, statewide.

Spending rose again by 2023 to account for a less onerous seven percent decline over the five years. Indeed, expenditures expected for 2023 approximate the five-year average despite a volatile time period.



Five-Year Trends in Capital Expenditures

The 18 agencies providing information on capital investments spent a relatively small \$50.3 million in 2019 (in inflation-adjusted 2023 dollars), but spending accelerated over 700 percent to \$403.1 million in 2020 just as the pandemic reduced ridership, employment, and spending for operations and payrolls. Capital investments increased again to almost \$600 million in 2021 then declined relatively modestly to almost \$480 million in 2023.

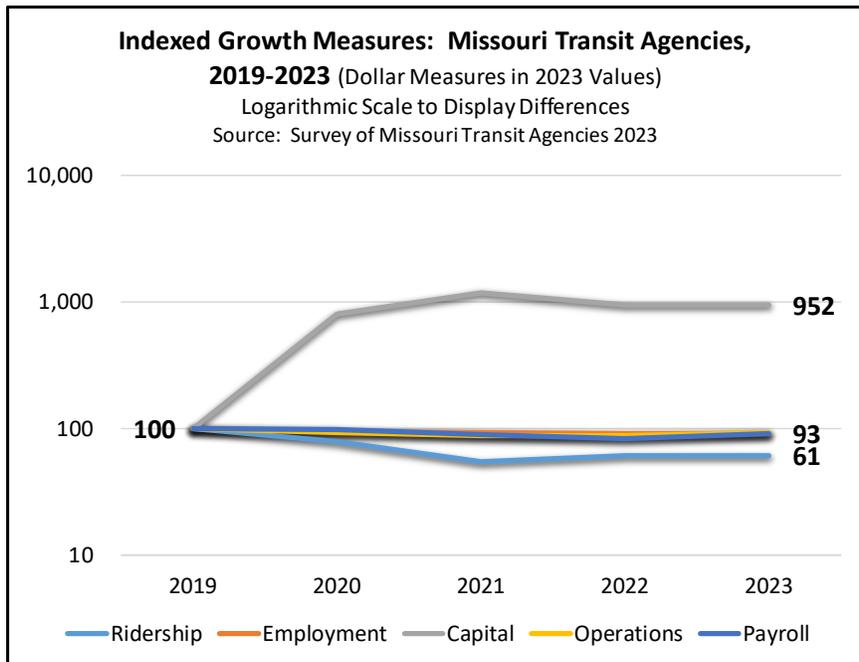


Over the five years of the survey, transit agencies in Missouri collectively averaged just over \$400 million in annual capital expenditures. This is more than four times the average of almost \$100 million experienced from 2015 through 2019 (again, adjusted to 2023 dollars). In effect, transit agencies in Missouri likely took great advantage of much public money for such investments made available through federal government legislation during the pandemic in an effort to thwart longer-term declines in ridership.

Combined Growth Measures

The survey of Missouri’s transit agencies obtained trend data for five growth factors: ridership, employment, capital expenditures, payroll, and operations spending. Setting all of those measures to “100” for the year 2019, the accompanying graph shows their comparative growth rates through 2023.⁵

In only one case did net growth exceed the initial index of 100. Capital expenditures reached an index of 952 (852 percent increase). Capital expenditures, in fact, reached an index of 1,184 in 2021 before falling back by 2023. The other four measures never expanded beyond 100 for any of the subsequent four years—that is, negative growth.



The best of the other four measures was in operations spending which achieved an index of 93—still lower than in 2019 (all dollar measures—capital, operations, and payroll—were indexed using constant 2023-dollar values). The worst measure was in ridership which dropped from 100 to 61, a 39 percent decline.

“... a key reason we considered developing the Expo, our 287-units, market rate apartment and mixed-use retail, \$90 million plus project in St. Louis is its direct adjacency to the Forest Park MetroLink Station. That has more than worked out given our strong occupancy and the amenity residents and patrons have with the light rail station. . . .”
Jeff Tegethoff, CEO, Tegethoff Development

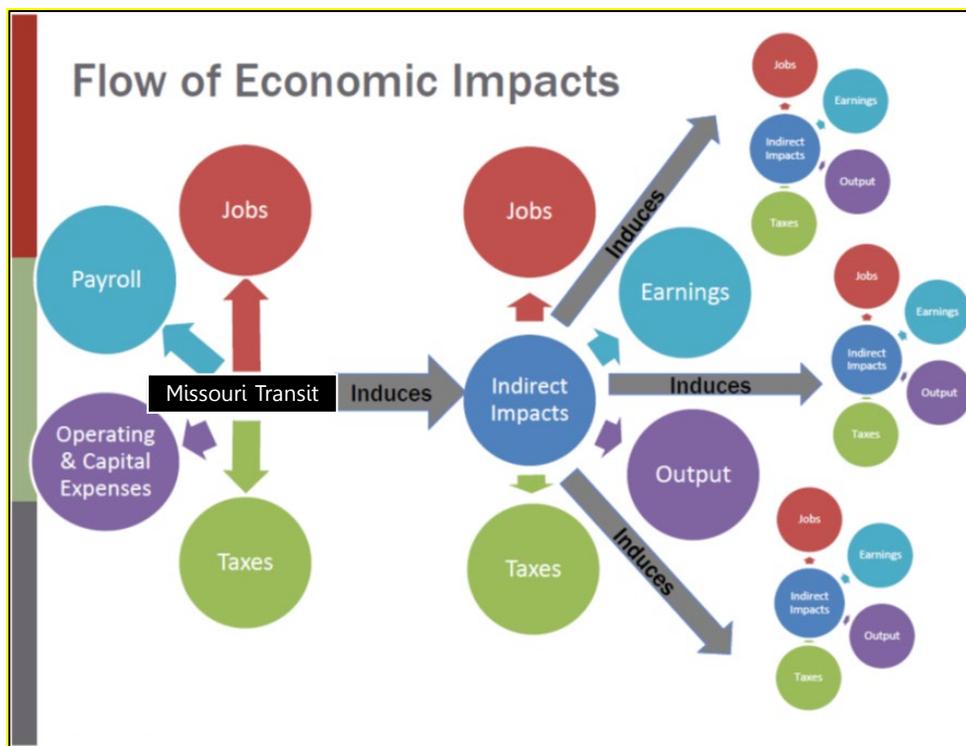


⁵ The graph is set to a logarithmic scale to be able to more readily display the differences which are otherwise overwhelmed by the high rate of growth in capital expenditures.

4.0 Multiplier Effects: How They Work

When a person or an organization spends money, that money immediately becomes income for someone else. The recipient of that income is then free to spend their money and that spending becomes income for others. When this spending and re-spending process is confined to a fixed geographic area (such as the state of Missouri), the amount that is spent during each round of re-spending declines within that geography. That is because some of the spending by individuals and organizations inevitably “leaks” from the geographic area. For instance, a transit district might buy vehicles from another state or even another country. Or employees of the transit districts spend some of their money on vacations out of state or even out of the country.

Eventually, all of the initial spending disappears from the subject geographic area, though the specific timing on that leakage depends on many factors, not least of which is how many goods and services there are to buy within the geographic area and how strong the economy is to encourage spending or discourage it.



As depicted above, the operation of public transit systems in Missouri triggers a “direct” round of spending (left side of diagram) by the transit agencies for employees, capital improvements, non-labor operations, and even taxes, though taxes were not a subject of the survey for this report since the transit agencies, themselves, are essentially tax-exempt. Still, the payment of taxes becomes income, or revenue, for the taxing jurisdictions which, in turn, spend that money for their employees and operations. Again, the money is spent and re-spent, so even government contributes to the multiplier effects. Later in this report, estimated state income and sales taxes paid by employees are described. This direct spending generates a first round of multiplier effects (middle of the diagram) and further rounds of multiplier effects (right side).

Because Missouri is a fixed geographic area and there are “leakages” of spending during each round of re-spending, it is possible to estimate the multiplier effects within the state that are initiated by, say, an annual spending routine of the transit districts.

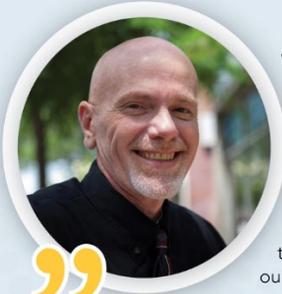
The federal government’s extensive database of economic information is the source of “multiplier coefficients” applicable in each county of the United States or for groups of contiguous counties such as states or metropolitan areas. This database, known as the Regional Input-Output Multiplier System (RIMS), is managed and routinely updated by the U.S. Bureau of Economic Analysis (www.BEA.gov) within the Department of Commerce. Multiplier coefficients are available for a wide range of industry sectors. These multipliers essentially demonstrate how big an impact that spending within one industry (in this case, the “transit and ground transportation” industry) benefits the rest of the Missouri economy and a host of other sectors.

For instance, spending in the transit sector also benefits the legal services sector and various manufacturing sectors, both within Missouri and elsewhere. RIMS provides multipliers based on ever changing and ever growing economic data provided to BEA through many sources. And essentially all of that data is coded by county, so BEA is able to determine the economic links between various industry sectors within and between counties.

For the current study, multipliers were obtained for the state of Missouri, details of which are presented in the next section of the report. The multipliers help to estimate indirect and induced economic impacts. As detailed later, for instance, the \$912.4 million in average annual collective spending by the 21 respondents to this report’s survey triggers another \$1.66 billion in additional economic activity (sales, transactions, etc.) within the state, for an overall net multiplier of 1.82.

In addition to multipliers for the state, multipliers were also obtained for several of the transit providers responding to the survey who requested separate economic impact calculations for their service areas. These areas and their multiplier effects are also discussed in the next section of the report.

THE Why



What a wonderful year for public transit! I want to thank the MPTA staff, my fellow MPTA Board members, MoDOT, and our community partners in their efforts to secure historic levels of funding for public transit in Missouri! However, our work is far from over! We must continue to advocate for more funding and enhanced service opportunities that are so critical for Missouri citizens with disabilities to be able to access their communities.

THE Why

I see the daily struggles my agency’s clients have in accessing their communities due to a lack of transportation services. In many cases, public transit is the only option they have to achieve the highest level of community inclusion, and my fellow MPTA Board members and I will continue to advocate for more funding, assistive resources, and service options. While we have made significant steps this year, there is a lot we still need to accomplish. Let’s work together to convince our local, state, and federal decision makers to continue to invest in public transit and show them how important public transit services are to Missourians with disabilities!

ED THOMAS
Executive Director of Camden County
Developmental Disability Resources

5.0 Multiplier Effects in Missouri and Selected Sub-Areas

As noted earlier, survey responses were entered into a spreadsheet-based mathematical model in order to analyze both direct and indirect/induced impacts in the Missouri economy. Separate summary impact tables (not included in this report) were also created within the model for all of the “economic geographies” requested for this study.⁶

This section of the report describes these impacts in some detail for the state of Missouri.

Table 1: ANNUAL AVERAGE ECONOMIC IMPACT OF PUBLIC TRANSIT IN THE STATE OF MISSOURI (2023 Dollars)					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 401,634,000	\$ 180,149,000	\$ 336,177,000	\$ 480,739,000	\$ 1,398,699,000
Average Annual Number of Transit Rides					40,061,600
Multipliers					
Output	2.21	2.01	1.24	2.05	1.90
Earnings	0.69	0.60	0.35	0.63	0.57
Employment	12.71	31.11	8.00	18.75	16.02
ADDED ECONOMIC IMPACT IN MISSOURI					
Output	\$ 888,716,000	\$ 361,829,000	\$ 417,297,000	\$ 987,796,000	\$ 2,655,638,000
Earnings	\$ 276,344,000	\$ 107,603,000	\$ 116,384,000	\$ 303,576,000	\$ 803,907,000
Indirect Jobs Held by Missouri Residents	5,110	5,600	2,690	9,010	22,410
TOTAL ECONOMIC IMPACT IN THE STATE OF MISSOURI					
Output	\$ 1,290,350,000	\$ 541,978,000	\$ 753,474,000	\$ 1,468,535,000	\$ 4,054,337,000
Earnings					\$ 1,140,084,000
Direct Jobs in Transit in Missouri					3,890
Total Direct Jobs in Missouri Plus Indirect Jobs Held by Missouri Residents					26,300
Average Annual Earnings per Direct Transit Job					\$ 86,400
Average Annual Earnings per Indirect Multiplier Job					\$ 35,900
Multiplier Definitions:					
Output:	Total dollar change in the Missouri economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in Missouri due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Missouri residents per \$1,000,000 of added output.				

Economic Impacts in Missouri (Table 1)

The 22 respondents to the survey for this report spent about \$918.0 million in an average year between 2019 and 2023. These expenditures are shown on the “Direct Spending” line of columns 1, 2, and 3 of Table 1.

- \$401.6 million went toward capital expenditures (43.8% of all expenditures, up from 13.5% in 2015-to-2019).
- \$180.1 million went for non-labor operations (19.6%, down from 43.7% in 2015-to-2019).
- \$336.2 million went to employees (36.6%, down from 42.8% in 2015-2019).

⁶ These are Greene County where the City Utilities of Springfield provides transit services; Cole County where JeffTran provides services; the Kansas City area counties of Jackson, Clay, Platte, and Cass in Missouri and Johnson, Wyandotte, and Leavenworth in Kansas where KCATA provides services; Boone County where GoCoMo provides transit services; the St. Louis area counties of St. Louis City and County in Missouri and St. Clair in Illinois where Metro Transit provides services; and Camden, Miller, Laclede and Morgan Counties which comprise the Lake of the Ozarks Regional Planning District using data provided by OATS.

In addition, transit riders in Missouri spent another \$480.7 million in an average year that can be attributed to their transit rides for expenditures they would not otherwise make (column 4).

Column 5 shows that an average year results in total direct spending of the sum of the first four columns, or \$1,398.7 million (\$1.40 billion), up from \$1.28 billion for an average year between 2015 and 2019). This increase is entirely attributable to the massive jump in capital expenditures as all other expenditures were less than in 2015-to-2019. These are the numbers that trigger multiplier, or re-spending, effects throughout the state’s economy.

The second data line of Table 1 shows the number of transit rides in an average year for the 22 survey respondents: 40,061,600, well down from the average of 60,053,900 between 2015 and 2019. Not shown is the average annual spending per rider attributable to their rides: \$12.00.

The next set of numbers are the multipliers obtained from the federal government for economic sectors relating to the particular spending categories. The “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of the limitations of the federal economic data. In other words, the spending by the transit agencies for non-labor operations (which is titled here “goods and services”) is multiplied in the Missouri economy through the *transit and ground passenger transportation* sector.

For this analysis, Type II multiplier coefficients are utilized from the Regional Input-Output Multiplier System (RIMS). There are 372 Type II sectors.

Multipliers for capital improvement spending (column 1), on another hand, are best obtained from two economic sectors with multipliers: the *non-residential structures* sector and the *maintenance and repair sector*. The multipliers shown on Table 1 are averages of those two sectors. Again, there is no finer-grained capital improvements sector for transit because of national data limitations. Similarly, the multipliers that best depict how employees will spend their money (column 3) in the Missouri economy are from the *households* sector.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00 per ride.

These nine sectors were then compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were then used as statistical weights to determine an overall set of multipliers, shown on Table 1, for the rider spending category. The nine sectors and their percentages are:

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

There are three multipliers in each spending category: output, household earnings, and employment.

1. The first is the “output” multiplier. It is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the state’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$401.6 million in capital improvements is multiplied by 2.21 to determine that the additional impact in Missouri should be \$888.7 million, shown on the rows just below the multiplier coefficients.
2. The second multiplier is for added “household earnings.” It, too, is multiplied by the initial direct spending to determine added earnings for Missourians that should result from the initial spending. Under capital improvements, this amounts to \$401.6 million in spending x 0.69 to result in \$276.3 million that will end up as household earnings during the re-spending rounds.
3. The third multiplier is for jobs supported because of the multiplier effects. The multiplier is actually “jobs per million dollars in initial spending.” So, the \$401.6 million in initial capital improvements must first be divided by one million (= 401.6), then multiplied by 12.71 to determine that the initial capital improvements spending will help support about 5,110 additional jobs in the Missouri economy. These jobs will be in a great many sectors.

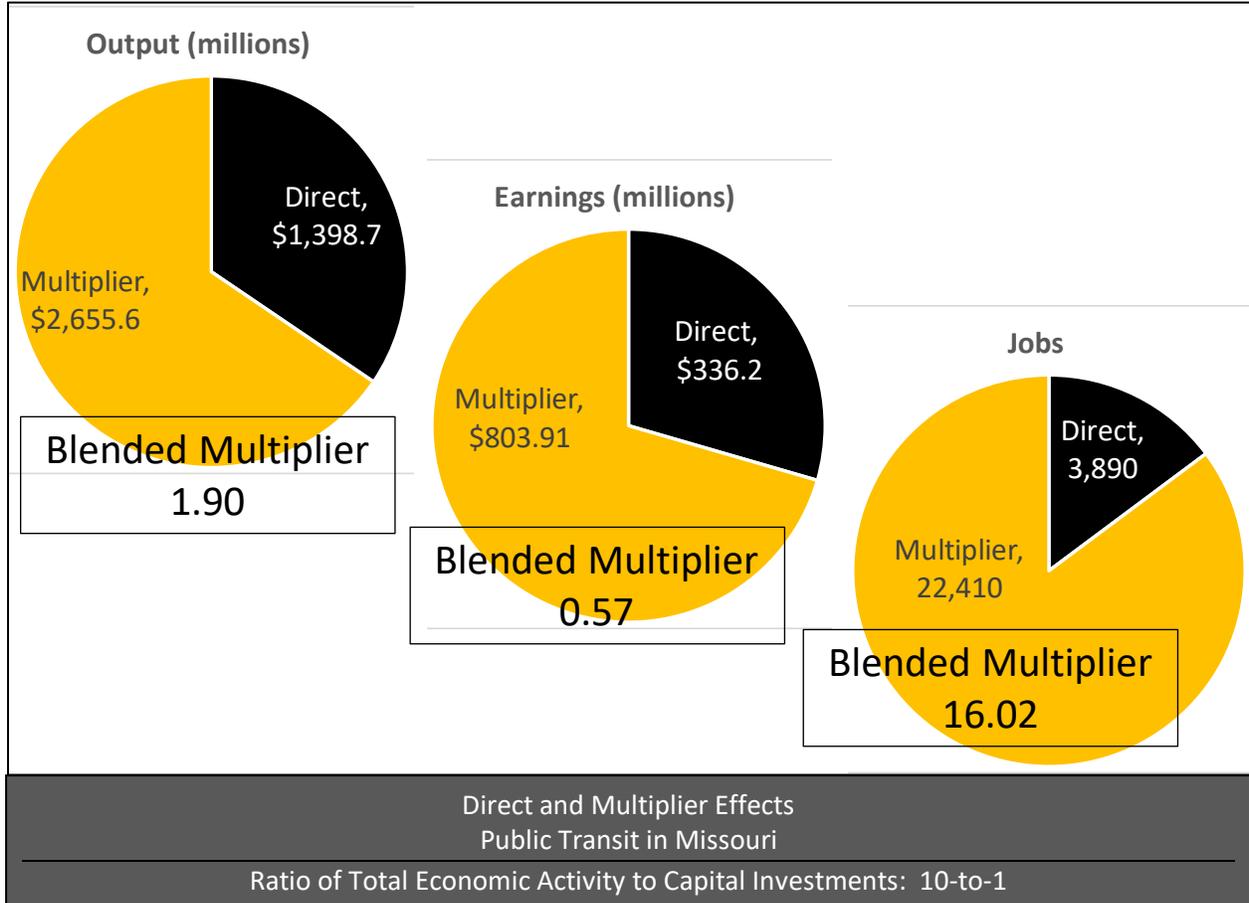
After all the multiplication is completed, the benefits of the various forms of initial spending are shown in column 5 under the subtitle “Added Economic Impact in Missouri.” This shows that additional economic output in the state within most or all other sectors would reach almost \$2.66 billion because of the initial annual spending. Of this added economic output, \$803.9 million would become added earnings for households in Missouri and there would be 22,410 additional jobs supported in the state. Dividing jobs by earnings indicates that the average multiplier job would be paid \$35,900 per year.

All of these impacts are lower, even in 2023 dollars, than determined for the five-year averages between 2015 and 2019. This is certainly due to subsequent declines in ridership, employment, and various expenditures—except for capital expenditures. Indeed, the strong rise in capital expenditures between 2019 and 2023 helped to preserve much of the statewide economic impact generated by transit services and operations. For that earlier period,

- *additional economic output* was calculated as \$2.85 billion in 2023 dollars compared to \$2.66 billion in the current period, seven percent lower today;
- *added household earnings* in the earlier period were \$940.4 million in 2023 dollars compared to \$803.9 million above, 15 percent lower than earlier;
- *added jobs* from 2015 to 2019 averaged 24,680 compared to 22,410 from 2019 to 2023, nine percent lower today; and
- *average earnings per multiplier job* in the earlier period were \$35,950 in today’s dollars, virtually the same as the \$35,900 in the current period.

Adding the direct spending to the multiplier effects yields the section of the table labeled “Total Economic Impact in the State of Missouri.” With all the spending by the transit agencies, by their riders, and the multiplier effects, **the transit sector triggered some \$4.05 billion in statewide economic activity per average year from 2019 to 2023. This activity supports \$1.14 billion in household earnings and 26,300 jobs** (the sum of the 3,890 jobs within the transit agencies themselves plus the multiplier jobs). As shown just below those numbers, the average transit worker in the state is paid \$86,400 in wages or salaries while the average multiplier job is paid \$35,900. The much lower amount for multiplier jobs is primarily attributable to multiplier effects in lower paying sectors like retailing and many services.

A final and important indicator of the economic impact of *investment* in public transit is the ratio between capital improvements spending and the overall economic activity that results in the economy. In Missouri as a whole, the annual average capital investment in transit facilities between 2019 and 2023 was \$401.6 million. This resulted in overall economic activity within the state of \$4,054.3 million. Thus, each dollar in capital investment helped to generate some \$10.00 in overall economic activity, a ratio of 10-to-1.



Unfortunately, this 10-to-1 ratio was substantially lower than the 40-to-1 ratio in the prior five-year period. That said, a ratio of 40-to-1 was probably grossly overstated as to impacts of such investment. In turn, this could have been the effect of *too little* investment in transit facilities in the prior period even as other transit-related expenditures propped up transit’s overall economic impact. Evidence of this capital under-investment might be the scale of capital investment since 2019—albeit with much government assistance—to help achieve higher standards in transit facilities that were perhaps lacking in the years prior to 2019.

6.0 Missouri State Tax Revenues from Transit Impacts

An estimate of the tax revenue benefits for the state government treasury can be made based on the strong statistical correlation between personal income and individual income tax collections, and between individual income tax collections and other major tax categories.

In this case, the fundamental independent variable is the amount of household earnings (i.e., personal income) that the direct and multiplier impacts generate in the state from the operations of public transit providers and the spending by transit riders that is attributable to their rides. As Table 1 of this report indicates, total household earnings based on annual average operations of the transit agencies averaged just over 1.14 billion dollars between 2019 and 2023 (in 2023 dollars).

Table 2 shows how personal income in Missouri relates to actual tax collections by state government. Using the average annual personal income of Missourians for the years 2019 through 2022 and, based on annual tax collections for the same period, 2.53 percent of Missourian’s personal income becomes individual income taxes. *(The latest year in this series is 2022 because that is the latest fiscal year for which comprehensive tax collection information from the Missouri Department of*

Table 2: Average Missouri State Taxes Collected, Fiscal Years 2019-2022 (2023 Dollars)

Individual Income Tax	\$ 9,414,439,000	2.53% of personal income in MO
Corporate Income Tax	\$ 747,508,000	7.94% of individual income taxes
Sales and Use Taxes (State)	\$ 4,609,104,000	48.96% of individual income taxes
Other Taxes*	\$ 1,869,333,000	12.66% of three taxes above
Sales and Use Taxes (Local)	\$ 4,560,782,000	48.44% of individual income taxes
Total Collections	\$ 21,201,166,000	5.70% of total state personal income
State Personal Income	\$ 372,111,194,000	

*Sources: Missouri Department of Revenue; U.S. Bureau of Economic Analysis.
Cigarette, Financial Institutions, Fuel, Insurance, and Other taxes.

Table 3: Missouri State Taxes From Direct and Multiplier Effects of the Missouri Public Transit Industry, Annual, 2023 dollars

Individual Income Tax	\$ 28,844,200	2.53% of direct & indirect earnings triggered by the Transit Industry
Corporate Income Tax	\$ 2,290,200	7.94% of individual income taxes triggered by the Transit Industry
Sales and Use Taxes (State)	\$ 14,121,500	48.96% of individual income taxes triggered by the Transit Industry
Other Taxes*	\$ 5,727,300	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$ 13,973,400	48.44% of individual income taxes triggered by the Transit Industry
Total Collections	\$ 64,956,600	1.60% of total economic impact from the Public Transit Industry in Missouri
Total Collections Just State Government	\$ 50,983,200	1.26% of total economic impact from the Public Transit Industry in Missouri

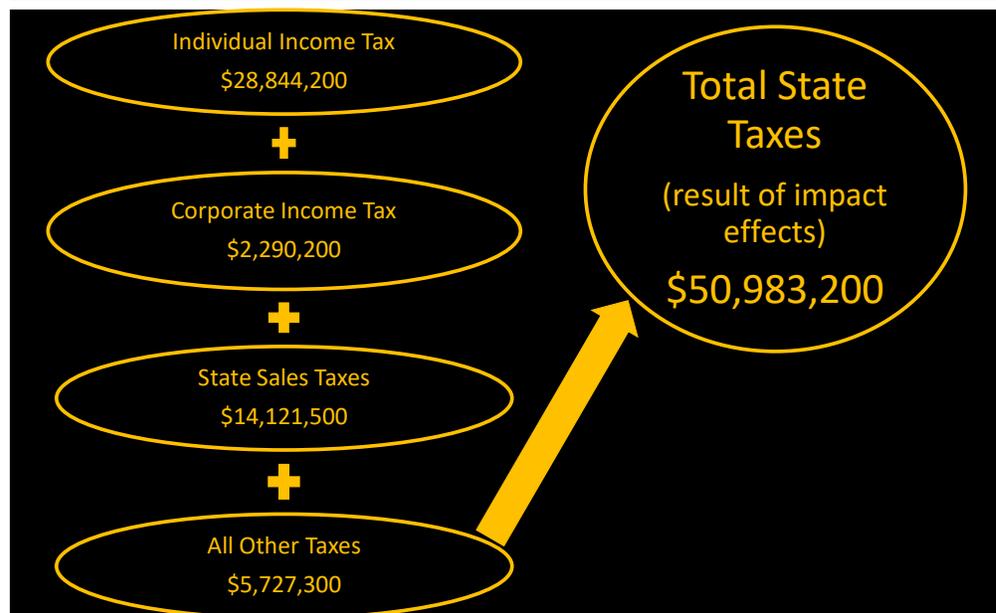
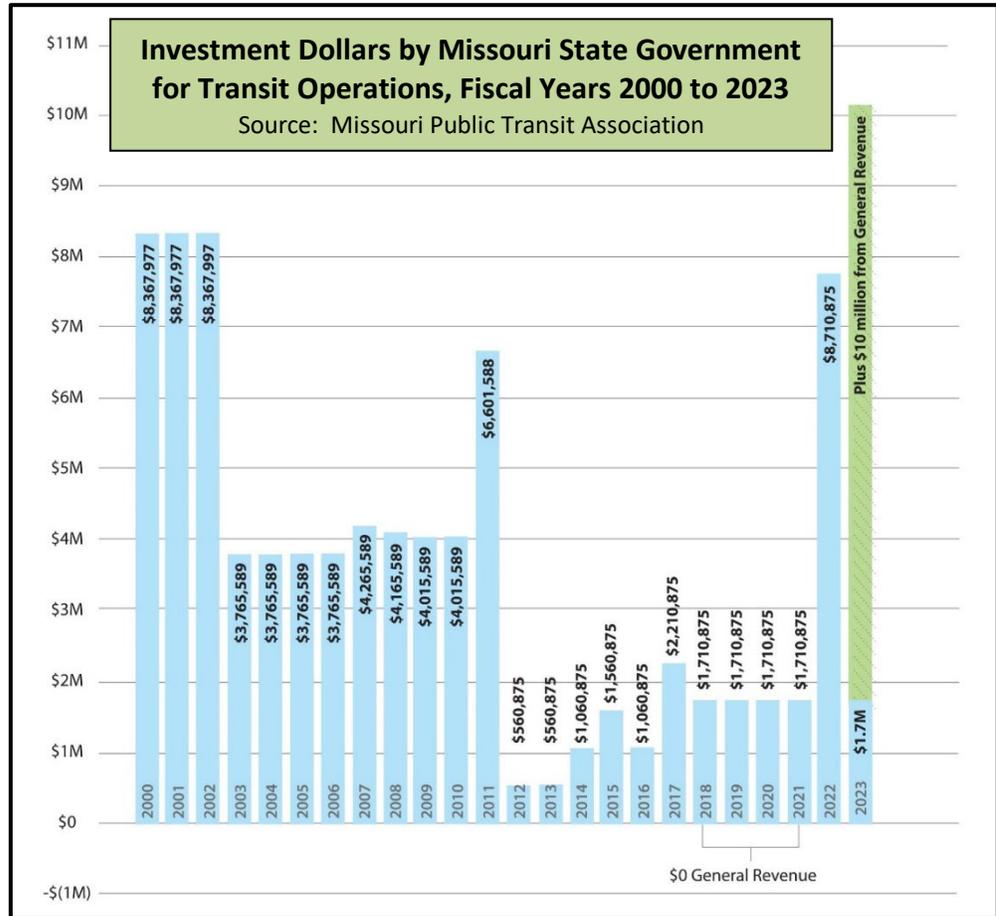
Revenue was available at the time of this report.) This is not the same as the tax rate. The tax rate in Missouri is higher than 2.53 percent, but not all income is taxed. The figures on Table 2 represent a “gross effect” on all income based on actual collections.

Thus, Table 3 shows that the household earnings impact of public transit in an average year should generate \$28.8 million in individual income tax collections for state government. This is 2.53 percent of the earnings generated by transit’s annual economic impact.

In sum, the average annual operations and ridership of public transit providers in Missouri help to support almost \$51 million each year to support state government. (Another \$14 million is generated in local sales taxes reimbursed by the state to cities and counties.)

Missouri state government imparted \$11.7 million in fiscal year 2023 to public transit providers to support their operations. This was a strong increase from prior years, especially from the period 2012 to 2021. Average investment by Missouri government in the state's transit systems from 2019 to 2023 was \$5.11 million. In return, the economic impact of transit during that time will add almost \$51.0 million in tax collections.

The state's "investment," therefore, spawns a return of some \$10.00 in tax revenues for every \$1.00 spent on transit by state government.



Appendix A: Questionnaire Used in the Survey of Missouri Transit Providers



2023 Missouri Transit Economic Impact Survey

Missouri Public Transit Service Providers

OK

1. What is the official name of your transit-providing organization?

0 of 14 answered

2. What types of transit service do you provide?
Please check all that apply. (Later, we'll ask what percentage of riders use each type.)

- Local Bus
- Express Bus
- Bus Rapid Transit (BRT)
- Van or Car Service
- Light Rail
- Streetcar
- On-Call
- Other

3. In which counties do you provide service? Please list all your service area counties, even those in other states if you cross state lines.

4. How many people does your service employ—full time, part time, contract, and seasonal (as applicable)? Please indicate a number for at least four of the following years. Use either calendar year

0 of 14 answered

or your fiscal year, whichever is easier. (We will use an average of those years in the analysis.)

2019 (FT,
PT,C,S)

2020
(FT,PT,C,S)

2021 (FT,
PT, C,S)

2022 (FT,
PT, C,S)

2023 (FT,
PT, C, S)

5. Please list the number of your employees by the counties in which they live. This should include Full-time, Part-Time, Contract, Seasonal/Other. Please write in the names of each county, even if they are outside of Missouri. (Example: Iron County, 4)

6. What was your total payroll, including wages,

0 of 14 answered

including payments made to contract workers. Do not separate payroll by county or types of employees. Do not adjust for inflation.

2019

2020

2021

2022

2023

7. How much did your organization spend for all other operations and maintenance costs for the following years? This excludes all labor expenses included above.

2019

2020

2021

2022

0 of 14 answered

2023

8. How much did your organization spend for all capital purchases during the following years? This would include fixed infrastructure, buildings, major equipment, and all other items that your organization classifies as capital expenses.

2019

2020

2021

2022

2023

9. How many riders/users of your transit system did you serve during the same years? These should be total numbers of rides, not “unique riders.”

2019

2020

0 of 14 answered

2021

2022

2023

10. What percentage of all rides (or miles or other metrics) can be attributed to the types of transit services you provide?

Local Bus
%

Express
Bus %

Bus Rapid
Transit %

Van Service
%

Light Rail
%

Streetcar %

Cab %

0 of 14 answered

Other %

11. What is the typical or average out-of-pocket cost paid by the rider/user for each of the same modes of transit service?

Local Bus \$

Express
Bus \$

Bus Rapid
Transit \$

Van Service
\$

Light Rail \$

Streetcar \$

Cab or
Equivalent
\$

Other \$

0 of 14 answered

12. Are you aware of any studies in your service area that might address the following topics? These might be studies or data that you have internally or that have been conducted by outside analysts (e.g., universities, consultants). If yes or maybe, we will contact you separately to determine how to obtain those studies. We would like to include their results (with full attribution to authors) in the overall analysis to more fully demonstrate the impact of transit ridership in Missouri. (Please answer with Yes, No, or Maybe)

Economic
impact of
transit in
your area

Property
value
impacts
attributable
to transit
service

Age
categories
of your
users

Income
categories
of your
users

0 of 14 answered

Other
demograph
ic
characteris
tics of your
users

Trends in
ridership
and types
of riders

Impacts of
transit on
employemen
t and
economic
developme
nt in your
area

Impacts of
transit on
accessibilit
y to vital
services
such as
shopping
and health
care in your
area

0 of 14 answered

Internal or
external
studies
that
document
ridership
origins
and/or
destination
s of your
users

13. We would like to include “stories” or data about the specific impacts and importance of transit for employers, shopping places, health services, and other key “destinations” in your area. Please provide names of organizations and/or individual contacts so that we can follow up with interviews?

14. Employer or Other Key Destination Contact Name and Email/Phone

0 of 14 answered

DONE

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0 of 14 answered

Appendix B: Individual Economic Impact Reports for Selected Transit Districts

Metro Transit St. Louis

Metro Transit in St. Louis directly serves three counties in Missouri and Illinois, all of which make up part of the St. Louis metropolitan statistical area:

- St. Louis City and St. Louis County in Missouri.
- St. Clair County in Illinois.

Together, these counties had a 2022 population of 1,529,700 based on U.S. Census Bureau estimates. Metro provided 24,494,700 rides in an average year between 2019 and 2023, or about 19.3 rides for each person living in the service area.

The actual riders generated some \$293.9 million in annual consumer spending that can be attributed to their transit rides

(see column 4 of the table). Moreover, Metro spent an annual average of \$662.5 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).⁷

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$956.5 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

ANNUAL AVERAGE ECONOMIC IMPACT OF METRO TRANSIT (BI-STATE DEVELOPMENT) IN ITS SERVICE AREA OF ST. LOUIS CITY AND COUNTY AND ST. CLAIR COUNTY, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1)	(2)	(3)	(4)	(5)
	Capital Expenditures	Goods & Services Purchased	Employee Compensation and Value of Benefits	Spending by Riders Attributable to Their Rides	Total
Direct Spending	\$ 350,820,000	\$ 119,588,000	\$ 192,113,000	\$ 293,936,000	\$ 956,457,000
Average Annual Number of Transit Rides					24,494,700
Multipliers					
Output	1.77	1.73	1.01	1.77	1.61
Earnings	0.40	0.39	0.24	0.46	0.38
Employment	6.56	16.51	4.84	11.85	9.08
ADDED ECONOMIC IMPACT IN THE METRO ST. LOUIS SERVICE AREA					
Output	\$ 620,039,000	\$ 207,186,000	\$ 194,745,000	\$ 521,004,000	\$ 1,542,974,000
Earnings	\$ 139,644,000	\$ 46,436,000	\$ 45,857,000	\$ 135,633,000	\$ 367,570,000
Indirect Jobs Held by St. Louis Metro Area Residents	2,300	1,970	930	3,480	8,680
TOTAL ECONOMIC IMPACT IN THE METRO ST. LOUIS SERVICE AREA					
Output	\$ 970,859,000	\$ 326,774,000	\$ 386,858,000	\$ 814,940,000	\$ 2,499,431,000
Earnings					\$ 559,683,000
Direct Jobs in Transit					2,000
Total Direct Jobs in Service Area Plus Indirect Jobs Held by Service Area Residents					10,680
Average Annual Earnings per Direct Transit Job					\$ 96,100
Average Annual Earnings per Indirect Multiplier Job					\$ 42,300
Multiplier Definitions:					
Output:	Total dollar change in the Metro Transit service area economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in the Metro Transit service area economy due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Metro Transit service area residents per \$1,000,000 of added output.				

⁷ The source for Metro Transit’s spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

4. Output: This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$350.8 million in capital improvements is multiplied by 1.77 to determine that the *additional* impact in the service area should be about \$620.0 million, shown on the rows just below the multiplier coefficients.
5. Household Earnings: This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under capital improvements, this amounts to \$350.8 million in spending x 0.40 to result in \$139.6 million that will end up as household earnings during the re-spending rounds.
6. Employment: This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$350.8 million in initial capital improvements must first be divided by one million (= 350.8), then multiplied by 6.56 to determine that the initial capital improvements spending will help support about 2,300 additional jobs in the service area counties in many different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in the Metro St. Louis Service Area.” This shows that *additional* economic output in the service area within most or all other sectors, would be about \$1,543.0 million (over \$1.5 billion) because of initial spending. Of this added economic output, \$367.6 million would become added earnings for households in the service area and there would be 8,680 additional jobs supported in the area. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$42,300 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in the Metro St. Louis Service Area.” With all the spending by the transit agency, by its riders, and the multiplier effects, **Metro triggers \$2,499.4 million (almost \$2.5 billion) in service area economic activity per average year. This activity**

supports \$560.0 million in household earnings and 10,680 jobs (the sum of 2,000 transit agency jobs *plus* 8,680 multiplier jobs). As shown just below those numbers, the average Metro Transit worker was paid \$96,100 in wages, salaries, and benefits while the average multiplier job was paid \$42,300. The much lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In the Metro service area, the annual average direct transit spending from 2019 to 2023 was \$662.5 resulting in overall economic activity of \$2.5 billion. Thus, each dollar spent for transit services helped generate \$3.77 in overall economic activity, a ratio of 3.8-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to Metro’s direct and multiplier effects—although tax revenue estimates here exclude Illinois residents. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

Totals based on service area economic impacts were then multiplied by 83% to reflect the share of overall population on the Missouri side of the service area, being careful to not overstate revenues generated for the Missouri treasury. As a result, the Metro Transit and its multiplier effects support annual Missouri state government revenues of about \$20.9 million.

Missouri State Taxes From Direct and Multiplier Effects in the Metro Transit Service Area Missouri Side Only, Annual Average, 2023 dollars			
Individual Income Tax	\$	11,821,100	2.53% of direct & indirect earnings triggered by the public transit sector
Corporate Income Tax	\$	938,600	7.94% of individual income taxes triggered by indirect earnings from public transit
Sales and Use Taxes (State)	\$	5,787,400	48.96% of individual income taxes triggered by public transit's economic impacts
Other Taxes*	\$	2,347,200	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	5,726,700	48.44% of individual income taxes triggered by public transit's economic impacts
Total Collections	\$	26,621,000	of total economic impact from Public Transit Industry in the STL metro
Total Collections Just State Government	\$	20,894,300	of total economic impact from Public Transit Industry in the STL metro

Kansas City Area Transit Authority

The Kansas City Area Transit Authority (KCATA) serves seven counties in Missouri and Kansas, all of which make up part of the Kansas City metropolitan statistical area:

- Jackson, Platte, Cass, and Clay in Missouri.
- Johnson, Wyandotte, and Leavenworth in Kansas.

Together, these counties had a 2022 population of 2,062,200 based on U.S. Census Bureau estimates. KCATA provided 10,000,600 rides in an average year between 2019 and 2023, or about 4.8 rides for each person living in the service area.

The actual riders generated some \$120.0 million in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, KCATA spent an annual average of \$104.4 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).⁸

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$224.4 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

ANNUAL AVERAGE ECONOMIC IMPACT OF THE KANSAS CITY AREA TRANSIT AUTHORITY (KCATA) IN ITS SERVICE AREA OF JACKSON, CLAY, PLATTE, CASS, JOHNSON, WYANDOTTE, AND LEAVENWORTH COUNTIES, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1)	(2)	(3)	(4)	(5)
	Capital Expenditures	Goods & Services Purchased	Employee Compensation and Value of Benefits	Spending by Riders Attributable to Their Rides	Total
Direct Spending	\$ 16,211,000	\$ 20,325,000	\$ 67,871,000	\$ 120,007,000	\$ 224,414,000
Average Annual Number of Transit Rides					10,000,600
Multipliers					
Output	2.13	2.04	1.29	2.11	1.86
Earnings	0.68	0.63	0.38	0.68	0.58
Employment	12.69	31.33	8.81	19.65	16.98
ADDED ECONOMIC IMPACT IN THE KCATA SERVICE AREA					
Output	\$ 34,598,000	\$ 41,380,000	\$ 87,275,000	\$ 253,106,000	\$ 416,359,000
Earnings	\$ 10,991,000	\$ 12,839,000	\$ 25,934,000	\$ 81,393,000	\$ 131,157,000
Indirect Jobs Held by Kansas City Metro Area Residents	210	640	600	2,360	3,810
TOTAL ECONOMIC IMPACT IN THE KCATA SERVICE AREA					
Output	\$ 50,809,000	\$ 61,705,000	\$ 155,146,000	\$ 373,113,000	\$ 640,773,000
Earnings					\$ 199,028,000
Direct Jobs in Transit					670
Total Direct Jobs in Metro Area Plus Indirect Jobs Held by Metro Area					4,480
Average Annual Earnings per Direct Transit Job					\$ 101,300
Average Annual Earnings per Indirect Multiplier Job					\$ 34,400
Multiplier Definitions:					
Output:	Total dollar change in the KCATA service area economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in the KCATA service area due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by KCATA service area residents per \$1,000,000 of added output.				

⁸ The source for KCATA’s spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

1. Output: This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$16.2 million in capital improvements is multiplied by 2.13 to determine that the additional impact in the service area should be about \$34.6 million, shown on the rows just below the multiplier coefficients.
2. Household Earnings: This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under capital improvements, this amounts to \$16.2 million in spending x 0.68 to result in \$11.0 million that will end up as household earnings during the re-spending rounds.
3. Employment: This is for jobs supported because of the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$16.2 million in initial capital improvements must first be divided by one million (= 16.2), then multiplied by 12.69 to determine that the initial capital improvements spending will help support about 210 additional jobs in the service area counties in many different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in the KCATA Service Area.” This shows that additional economic output in the service area within most or all other sectors would be about \$416.4 million because of initial spending. Of this added economic output, \$131.2 million would become added earnings for households in the service area and there would be 3,810 additional jobs supported in the area. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$34,400 per year, a figure shown down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in the Kansas City Metro Area.” With all the spending by the transit agency, by its riders, and the multiplier effects, **KCATA triggers \$640.8**

million in service area economic activity per average year. This activity supports \$199.0 million in household earnings and 4,480 jobs (the sum of 670 transit agency jobs plus 3,810 multiplier jobs). As shown just below those numbers, the average KCATA worker was paid \$101,300 in wages, salaries, and benefits while the average multiplier job was paid \$34,400. The much lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of investment and spending in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In the KCATA service area, the annual average direct transit spending from 2019 to 2023 was \$5,920,600 resulting in overall economic activity of \$20.6 million. Thus, each dollar spent for transit services helped generate \$3.50 in overall economic activity, a ratio of 3.5-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to KCATA’s direct and multiplier effects—although tax revenue estimates here exclude Kansas residents. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

Totals based on service area economic impacts were then multiplied by 58% to reflect the share of overall population on the Missouri side of the service area, being careful to not overstate revenues generated for the Missouri treasury. As a result, the KCATA and its multiplier effects support annual Missouri state government revenues of about \$5.16 million.

Missouri State Taxes From Direct and Multiplier Effects in the KCATA Service Area			
Missouri Side Only, Annual Average, 2023 dollars			
Individual Income Tax	\$	2,916,500	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	231,600	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	1,427,900	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	579,100	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	1,412,900	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	6,568,000	
Total Collections for Just State Government	\$	5,155,100	

City Utilities of Springfield

The transit service of the City Utilities of Springfield (CUS) is limited to Greene County, Missouri.

Greene County had a 2022 population of 303,300 based on U.S. Census Bureau estimates. CUS provided 1,009,000 rides in an average year between 2019 and 2023, or about 3.3 rides for each person living in the service area.

These riders generated some \$12.1 million in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, CUS spent an annual average of \$7.9 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).⁹

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$20.1 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

ANNUAL AVERAGE ECONOMIC IMPACT OF TRANSIT SERVICE PROVIDED BY CITY UTILITIES OF SPRINGFIELD IN ITS SERVICE AREA OF GREENE COUNTY, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 767,800	\$ 1,527,100	\$ 5,652,000	\$ 12,108,000	\$ 20,055,000
Average Annual Number of Transit Rides					1,009,000
Multipliers					
Output	1.65	1.56	0.85	1.63	1.41
Earnings	0.39	0.32	0.20	0.42	0.35
Employment	6.99	17.83	4.69	13.23	10.87
ADDED ECONOMIC IMPACT IN GREENE COUNTY					
Output	\$ 1,265,300	\$ 2,378,300	\$ 4,824,500	\$ 19,749,000	\$ 28,217,000
Earnings	\$ 296,900	\$ 484,900	\$ 1,114,000	\$ 5,066,000	\$ 6,962,000
Indirect Jobs Held by Greene County Residents	5	27	26	160	218
TOTAL ECONOMIC IMPACT IN GREENE COUNTY					
Output	\$ 2,033,100	\$ 3,905,400	\$ 10,476,500	\$ 31,857,000	\$ 48,272,000
Earnings					\$ 12,614,000
Direct Jobs in Transit					65
Total Direct Jobs in Greene County Plus Indirect Jobs Held by Other Greene County Residents					283
Average Annual Earnings per Direct Transit Job					\$ 87,000
Average Annual Earnings per Indirect Multiplier Job					\$ 31,900
Multiplier Definitions:					
Output:	Total dollar change in the Greene County economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in Greene County due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Greene County residents per \$1,000,000 of added output.				

⁹ The source for City Utilities of Springfield’s transit spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

7. Output: This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$767,800 in capital improvements is multiplied by 1.65 to determine that the *additional* impact in Greene County should be about \$1,265,300, shown on the rows just below the multiplier coefficients.
8. Household Earnings: This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under capital improvements, this amounts to \$767,800 in spending x 0.39 to result in \$296,900 that will end up as annual earnings for service area households during the re-spending rounds.
9. Employment: This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$767,800 in initial capital improvements must first be divided by one million (=0.77), then multiplied by 6.99 to determine that the initial capital improvements spending will help support five additional jobs in the service area county in many different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in Greene County.” This shows that *additional* economic output in the service area within most or all other sectors, would be about \$28.2 million because of initial spending. Of this added economic output, almost \$7.0 million would become added earnings for households in Greene County and there would be 218 additional jobs supported in the county. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$31,900 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in Greene County.” With all the spending by the transit agency, by its riders, and the multiplier effects, **the transit services of City Utilities of Springfield trigger \$48.3 million in Greene County economic activity per average year. This activity supports \$12.6 million in household earnings and 283 jobs** (the sum of 65 transit agency jobs *plus* 218 multiplier jobs). As shown just below those numbers, the average CUS worker was paid \$87,000 in wages, salaries, and benefits while the average multiplier job was paid \$31,900. The much lower amount in multiplier

jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In Greene County, the annual average direct transit spending from 2019 to 2023 was \$7,946,900 resulting in overall economic activity of \$48.3 million. Thus, each dollar spent for transit services helped generate \$6.00 in overall economic activity, a ratio of 6-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to CUS’s direct and multiplier effects. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

As a result, City Utilities of Springfield’s transit service and its multiplier effects support annual Missouri state government revenues of about \$564,000.

Missouri State Taxes From Direct and Multiplier Effects in the City Utilities of Springfield Service Area Annual Average, 2023 dollars			
Individual Income Tax	\$	319,100	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	25,300	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	156,200	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	63,400	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	154,600	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	718,600	
Total Collections for Just State Government	\$	564,000	

GoCoMo – Columbia and Boone County

The transit service of GoCoMo is limited to Boone County, Missouri.

Boone County had a 2022 population of 187,700 based on U.S. Census Bureau estimates. GoCoMo provided 831,900 rides in an average year between 2019 and 2023, or about 4.4 rides for each person living in the service area.

These riders generated some \$10.0 million in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, GoCoMo spent an annual average of almost \$6.0 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).¹⁰

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$16.0 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

ANNUAL AVERAGE ECONOMIC IMPACT OF GOCOMO TRANSIT IN ITS SERVICE AREA OF BOONE COUNTY, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 5,690	\$ 2,400,700	\$ 3,562,100	\$ 9,983,000	\$ 15,951,000
Average Annual Number of Transit Rides					831,900
Multipliers					
Output	1.53	1.46	0.85	1.63	1.43
Earnings	0.38	0.29	0.23	0.48	0.40
Employment	7.13	15.96	5.80	15.51	13.10
ADDED ECONOMIC IMPACT IN BOONE COUNTY					
Output	\$ 8,700	\$ 3,505,700	\$ 3,011,400	\$ 16,232,000	\$ 22,758,000
Earnings	\$ 2,200	\$ 696,000	\$ 820,000	\$ 4,818,000	\$ 6,336,000
Indirect Jobs Held by Jefferson County Residents	-	38	21	150	209
TOTAL ECONOMIC IMPACT IN BOONE COUNTY					
Output	\$ 14,390	\$ 5,906,400	\$ 6,573,500	\$ 26,215,000	\$ 38,709,000
Earnings					\$ 9,898,000
Direct Jobs in Transit					64
Total Direct Jobs in Boone County Plus Indirect Jobs Held by Other Boone County Residents					273
Average Annual Earnings per Direct Transit Job					\$ 55,300
Average Annual Earnings per Indirect Multiplier Job					\$ 30,300
Multiplier Definitions:					
Output:	Total dollar change in the Boone County economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in Boone County due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Boone County residents per \$1,000,000 of added output.				

¹⁰ The source for GoCoMo’s transit spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

10. Output: This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$2,400,700 in good and services purchases is multiplied by 1.46 to determine that the *additional* impact in Boone County should be about \$3.5 million, shown on the rows just below the multiplier coefficients.
11. Household Earnings: This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under goods and services, this amounts to \$2,400,700 in spending x 0.29 to result in \$696,000 that will end up as annual earnings for Boone County households during the re-spending rounds.
12. Employment: This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$2,400,700 in initial goods and services purchases must first be divided by one million (= 2.4), then multiplied by 15.96 to determine that the initial goods and services spending will help support 38 additional jobs per year in the service area county in non-transit different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in Boone County.” This shows that *additional* economic output in the service area within most or all other sectors, would be about \$22.8 million because of initial spending. Of this added economic output, over \$6.3 million would become added earnings for households in Boone County and there would be 209 additional jobs supported in the county. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$30,300 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in Boone County.” With all the spending by the transit agency, by its riders, and the multiplier effects, **the transit services of GoCoMo trigger \$38.7 million in Boone County economic activity per average year. This activity supports \$10.0 million in household earnings and 273 jobs** (the sum of 30 transit agency jobs *plus* 62 multiplier jobs). As shown just below those numbers, the average GoCoMo worker was paid \$55,300 in wages, salaries, and benefits while the average multiplier job was paid \$30,300. The much lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In Boone County, the annual average direct transit spending from 2019 to 2023 was \$5,968,500 resulting in overall economic activity of \$38.7 million. Thus, each dollar spent for transit services helped generate \$6.50 in overall economic activity, a ratio of 6.5-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to GoCoMo’s direct and multiplier effects. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

As a result, GoCoMo’s transit service and its multiplier effects support annual Missouri state government revenues of about \$442,600.

Missouri State Taxes From Direct and Multiplier Effects in the GoCoMo Service Area			
Annual Average, 2023 dollars			
Individual Income Tax	\$	250,400	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	19,900	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	122,600	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	49,700	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	121,300	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	563,900	
Total Collections for Just State Government	\$	442,600	

St. Joseph Transit, Inc.

St. Joseph Transit, Inc., (SJTI) serves two counties in two states: Buchanan County, Missouri, and Doniphan County, Kansas, both of which are in the St. Joseph metropolitan statistical area.

Together, these counties had a 2022 population of 90,350 based on U.S. Census Bureau estimates. SJTI provided 314,000 rides in an average year between 2019 and 2023, or about 3.5 rides for each person living in the service area.

These riders generated some \$3.8 million in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, SJTI spent an annual average of \$5.9 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).¹¹

ANNUAL AVERAGE ECONOMIC IMPACT OF ST. JOSEPH TRANSIT, INC. IN ITS SERVICE AREA OF BUCHANAN AND DONIPHAN COUNTIES, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 88,200	\$ 1,754,800	\$ 4,077,600	\$ 3,768,000	\$ 9,689,000
Average Annual Number of Transit Rides					314,000
Multipliers					
Output	1.50	1.67	0.61	1.41	1.12
Earnings	0.50	0.42	0.15	0.36	0.28
Employment	7.00	24.47	3.44	11.20	10.11
ADDED ECONOMIC IMPACT IN THE ST. JOSEPH TRANSIT SERVICE AREA					
Output	\$ 132,400	\$ 2,928,400	\$ 2,501,600	\$ 5,319,000	\$ 10,881,000
Earnings	\$ 44,500	\$ 733,000	\$ 613,700	\$ 1,346,000	\$ 2,737,000
Indirect Jobs Held by St. Joseph Metro Area Residents	1	43	14	40	98
TOTAL ECONOMIC IMPACT IN THE ST. JOSEPH TRANSIT SERVICE AREA					
Output	\$ 220,600	\$ 4,683,200	\$ 6,579,200	\$ 9,087,000	\$ 20,570,000
Earnings				\$ 6,815,000	
Direct Jobs in Transit Held By in St. Joseph Metro Area Residents					50
Total Direct Jobs in Metro Area Plus Indirect Jobs Held by Metro Area					148
Average Annual Earnings per Direct Transit Job					\$ 80,900
Average Annual Earnings per Indirect Multiplier Job					\$ 27,900
Multiplier Definitions:					
Output:	Total dollar change in the St. Joseph Transit service area economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in the St. Joseph Transit service area due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by St. Joseph Transit service area residents per \$1,000,000 of added output.				

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$9.7 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

¹¹ The source for SJTI’s spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

13. **Output:** This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$88,200 in capital improvements is multiplied by 1.50 to determine that the *additional* impact in the service area should be about \$132,400, shown on the rows just below the multiplier coefficients.
14. **Household Earnings:** This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under capital improvements, this amounts to \$88,200 in spending x 0.50 to result in \$44,500 that will end up as annual earnings for service area households during the re-spending rounds.
15. **Employment:** This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$88,200 in initial capital improvements must first be divided by one million (=0.09), then multiplied by 7.00 to determine that the initial capital improvements spending will help support one additional job in the service area counties in many different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in the St. Joseph Transit Service Area.” This shows that *additional* economic output in the service area within most or all other sectors, would be about \$20.8 million because of initial spending. Of this added economic output, \$6.8 million would become added earnings for households in the county and there would be 148 additional jobs supported in the County. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$27,900 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in the St. Joseph Transit Service Area.” With all the spending by the transit agency, by its riders, and the multiplier effects, **SJTI triggers \$20.6 million in service area economic activity per average year. This activity supports \$6.8 million**

in household earnings and 148 jobs (the sum of 50 transit agency jobs *plus* 98 multiplier jobs). As shown just below those numbers, the average SJTI worker was paid \$80,900 in wages, salaries, and benefits while the average multiplier job was paid \$27,900. The much lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In the SJTI service area, the annual average direct transit spending from 2019 to 2023 was \$5,920,600 (excluding rider spending) resulting in overall economic activity of \$20.8 million. Thus, each dollar spent for transit services helped generate \$3.50 in overall economic activity, a ratio of 3.5-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to SJTI’s direct and multiplier effects—although tax revenue estimates here exclude Kansas residents. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

Totals based on service area economic impacts were then multiplied by 92% to reflect the share of overall population on the Missouri side of the service area, being careful to not overstate revenues generated for the Missouri treasury. As a result, St. Joseph Transit, Inc. and its multiplier effects support annual Missouri state government revenues of about \$279,700.

Missouri State Taxes From Direct and Multiplier Effects in the St. Joseph Transit Service Area Missouri Side Only, Annual Average, 2023 dollars			
Individual Income Tax	\$	158,200	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	12,600	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	77,500	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	31,400	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	76,600	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	356,300	
Total Collections for Just State Government	\$	279,700	

JeffTran – Jefferson City and Cole County

The transit service of JeffTran is limited to Cole County, Missouri.

Cole County had a 2022 population of 76,970 based on U.S. Census Bureau estimates. JeffTran provided 209,300 rides in an average year between 2019 and 2023, or about 2.7 rides for each person living in the service area.

These riders generated some \$2.5 million in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, JeffTran spent an annual average of \$3.0 million for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).¹²

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$5.5 million. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

ANNUAL AVERAGE ECONOMIC IMPACT OF JEFFTRAN IN ITS SERVICE AREA OF COLE COUNTY, 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 399,400	\$ 1,067,300	\$ 1,538,900	\$ 2,512,000	\$ 5,518,000
Average Annual Number of Transit Rides					209,300
Multipliers					
Output	1.45	1.38	0.57	1.38	1.16
Earnings	0.36	0.34	0.13	0.38	0.30
Employment	6.29	22.23	3.12	11.13	11.24
ADDED ECONOMIC IMPACT IN COLE COUNTY					
Output	\$ 578,200	\$ 1,470,500	\$ 882,700	\$ 3,463,000	\$ 6,394,000
Earnings	\$ 141,800	\$ 367,700	\$ 207,100	\$ 958,000	\$ 1,675,000
Indirect Jobs Held by Cole County Residents	3	24	5	30	62
TOTAL ECONOMIC IMPACT IN COLE COUNTY					
Output	\$ 977,600	\$ 2,537,800	\$ 2,421,600	\$ 5,975,000	\$ 11,912,000
Earnings					\$ 3,214,000
Direct Jobs in Transit					30
Total Direct Jobs in Cole County Plus Indirect Jobs Held by Other Cole County Residents					92
Average Annual Earnings per Direct Transit Job					\$ 51,300
Average Annual Earnings per Indirect Multiplier Job					\$ 27,000
Multiplier Definitions:					
Output:	Total dollar change in the Cole County economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in Cole County due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Cole County residents per \$1,000,000 of added output.				

¹² The source for JeffTran’s transit spending and ridership is its 5-year survey response for 2019 through 2023 completed in the fall of 2023. Rider spending is based on transit industry literature review.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

16. Output: This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$399,400 in capital improvements is multiplied by 1.45 to determine that the *additional* impact in Cole County should be about \$578,200, shown on the rows just below the multiplier coefficients.
17. Household Earnings: This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under capital improvements, this amounts to \$399,400 in spending x 0.36 to result in \$141,800 that will end up as annual earnings for Cole County households during the re-spending rounds.
18. Employment: This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$399,400 in initial capital improvements must first be divided by one million (=0.40), then multiplied by 6.29 to determine that the initial capital improvements spending will help support three additional jobs per year in the service area county in non-transit different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in Cole County.” This shows that *additional* economic output in the service area within most or all other sectors, would be about \$6.4 million because of initial spending. Of this added economic output, almost \$1.68 million would become added earnings for households in Cole County and there would be 62 additional jobs supported in the county. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$27,000 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in Cole County.” With all the spending by the transit agency, by its riders, and the multiplier effects, **the transit services of JeffTran trigger \$11.9 million in Cole County economic activity per average year. This activity supports \$3.2 million in household earnings and 92 jobs** (the sum of 30 transit agency jobs *plus* 62 multiplier jobs). As shown just below those numbers, the average JeffTran worker was paid \$51,300 in wages, salaries, and benefits while the average multiplier job was paid \$27,000. The much lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In Cole County, the annual average direct transit spending from 2019 to 2023 was \$3,005,600 resulting in overall economic activity of \$11.9 million. Thus, each dollar spent for transit services helped generate \$4.00 in overall economic activity, a ratio of 4-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to JeffTran’s direct and multiplier effects. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

As a result, JeffTran’s transit service and its multiplier effects support annual Missouri state government revenues of about \$143,700.

Missouri State Taxes From Direct and Multiplier Effects in the JeffTran Service Area			
Annual Average, 2023 dollars			
Individual Income Tax	\$	81,300	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	6,500	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	39,800	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	16,100	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	39,400	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	183,100	
Total Collections for Just State Government	\$	143,700	

Lake of the Ozarks Regional Planning Area - OATS

Camden County Developmental Disability Resources requested specific economic impact information for the Lake of the Ozarks regional planning area which encompasses Camden, Miller, Morgan, and Laclede Counties. OATS Transit serves that area and its executive director, Dorothy Yeager, provided estimates of spending and employment for the area.

Together, these counties had a 2022 population of 127,270 based on U.S. Census Bureau estimates. OATS provided 38,470 rides in an average year between 2019 and 2023, or about one-third of a ride for each person living in the service area.

These riders generated some \$462,000 in annual consumer spending that can be attributed to their transit rides (see column 4 of the table). Moreover, OATS spent an annual average of \$1,063,200 for the combination of capital investments, labor costs, and non-labor operations (see columns 1-3 of the table).¹³

Column 5 shows that an average year resulted in total direct spending attributable to transit services of the sum of the first four columns, or \$1,525,000. These expenditures trigger multiplier effects throughout the service area economy.

The next set of numbers are multipliers obtained from the federal government for economic sectors relating to the spending categories applicable to just the four service area counties. “Goods and Services” spending in column 2, for instance, relies on multipliers for the *transit and ground passenger transportation* sector. There is no finer-grained sector for public transit primarily because of limitations of the economic data. In other words, spending by transit agencies for non-labor operations (titled here “goods and services”) is multiplied in the service area economy through the *transit and ground passenger transportation* sector.

ANNUAL AVERAGE ECONOMIC IMPACT OF OATS IN THE LAKE OF THE OZARKS AREA ECONOMY (CAMDEN, MILLER, MORGAN, AND LACLEDE COUNTIES), 2019-2023					
All Dollar Amounts in 2023 Dollar Values	(1) Capital Expenditures	(2) Goods & Services Purchased	(3) Employee Compensation and Value of Benefits	(4) Spending by Riders Attributable to Their Rides	(5) Total
Direct Spending	\$ 74,300	\$ 381,600	\$ 607,300	\$ 462,000	\$ 1,525,000
Average Annual Number of Transit Rides					38,470
Multipliers					
Output	1.53	1.41	0.62	1.40	1.10
Earnings	0.47	0.47	0.18	0.37	0.32
Employment	8.68	30.20	4.75	11.21	17.05
ADDED ECONOMIC IMPACT IN CAMDEN COUNTY					
Output	\$ 114,000	\$ 538,500	\$ 378,900	\$ 648,000	\$ 1,679,000
Earnings	\$ 34,600	\$ 177,600	\$ 110,200	\$ 171,000	\$ 493,000
Indirect Jobs Held by Camden County Residents	1	12	3	10	26
TOTAL ECONOMIC IMPACT IN CAMDEN COUNTY					
Output	\$ 188,300	\$ 920,100	\$ 986,200	\$ 1,110,000	\$ 3,204,000
Earnings					\$ 1,100,000
Direct Jobs in Transit					22
Total Direct Jobs in Camden County Plus Indirect Jobs Held by Other					48
Average Annual Earnings per Direct Transit Job					\$ 27,100
Average Annual Earnings per Indirect Multiplier Job					\$ 19,000
Multiplier Definitions:					
Output:	Total dollar change in the Lake of the Ozarks area economy due to expenditures by the transit industry.				
Earnings:	Total dollar change in earnings of households in the Lake of the Ozarks area economy due to expenditures by the transit industry.				
Employment:	Total change in the number of jobs held by Lake of the Ozarks area residents per \$1,000,000 of added output.				

¹³ Sources for OATS’s spending, employment, and ridership in the Lake of the Ozarks area is its 5-year survey response for 2019 through 2023 completed in the fall of 2023 for its entire 87-county service area plus a separate analysis by OATS for the four-county Lake of the Ozarks region. Rider spending is based on transit industry literature review.

Multipliers for capital expenditures (column 1) were determined as the average multiplier for the *non-residential construction* sector of the economy and the *maintenance and repair* sector. Again, there is no finer-grained capital improvements sector for transit because of national data limitations.

The multipliers that best depict how employees will spend their earnings (column 4) in the regional economy are from the *households* sector.

The fourth spending category is a bit more complicated—spending by riders that can be attributed to their transit rides. In this case, nine multiplier sectors were selected where riders would most likely spend their average of \$12.00/ride. These nine sectors were compared to the Consumer Expenditure Survey data of the U.S. Department of Labor to determine percentages of spending in those nine sectors assuming that the entire \$12.00 are spent in those sectors. The percentages were used as statistical weights to determine an overall set of multipliers, shown on the table below, for the rider spending category.

Food and beverage stores	29.0%
General merchandise stores	12.2%
Other retail	5.1%
Educational services	9.9%
Ambulatory health care services	5.8%
Performing arts, spectator sports, museums, and related activities	5.0%
Amusements, gambling, and recreation industries	4.0%
Accommodation	6.7%
Food services and drinking places	22.4%
TOTAL	100.0%

Thus, the multiplier coefficients shown in column 4 represent a weighted average of the above nine sectors as they apply in the seven-county service area.

There are three multiplier coefficients in each column: output, household earnings, and employment.

19. **Output:** This is the overall economic activity multiplier. It is multiplied by the direct spending to determine overall indirect spending that the region’s economy should expect to be supported by the rounds of re-spending triggered by the initial spending. Thus, for example, the annual average of \$381,600 in goods and services purchases is multiplied by 1.41 to determine that the *additional* impact in the service area should be about \$538,500, shown on the rows just below the multiplier coefficients.
20. **Household Earnings:** This is also multiplied by the initial direct spending to determine added earnings for metro service area residents (in sectors other than transit) that should result from the initial spending. Under goods and services, this amounts to \$381,600 in spending x 0.47 to result in \$177,600 that will end up as annual earnings for service area households during the re-spending rounds.
21. **Employment:** This is for jobs supported *because of* the multiplier effects, or “jobs per million dollars in initial spending.” So, the \$381,600 in initial goods and services must first be divided by one million (=0.38), then multiplied by 30.20 to determine that the initial goods and services spending will help support 12 additional jobs in the service area counties in many different sectors.

After all the multiplication is completed, the benefits of initial spending are shown in column 5 under the section “Added Economic Impact in the Lake of the Ozarks Regional Planning District.” This shows that *additional* economic output in the service area within most or all other sectors would be about \$1,679,000 because of the initial spending. Of this added economic output, \$493,000 would become added earnings for households in the four counties and there would be 26 additional jobs supported in the four counties. Dividing added jobs by added earnings indicates that the average multiplier job would be paid \$19,000 per year, a figure shown further down the table.

Adding direct spending to multiplier effects yields “Total Economic Impact in the Lake of the Ozarks Regional Planning District.” With all the spending by OATS, by its riders, and the multiplier effects, **OATS triggers \$3.2 million in service area economic activity per average year. This activity supports \$1.1 million in household earnings and 48 jobs** (the sum of 22 transit agency jobs *plus* 26 multiplier jobs). As shown just below those numbers, the average OATS worker was paid \$27,100 in wages, salaries, and benefits while the average multiplier job was paid \$19,000. The lower amount in multiplier jobs is primarily attributable to more heavily weighted multiplier effects in lower paying sectors like retail and many services.

Finally, the economic impact of *investment and spending* in public transit can also be expressed as the ratio between capital, operations, and employee compensation spending and overall economic activity. In the Lake of the Ozarks service area, the annual average direct transit spending from 2019 to 2023 was \$1,063,200 (excluding rider spending) resulting in overall economic activity of \$3,204,000. Thus, each dollar spent for transit services helped generate \$3.00 in overall economic activity, a ratio of 3.0-to-1.

Below are estimated tax revenues accruing to the Missouri state government treasury attributable to OATS direct and multiplier effects in the Lake of the Ozarks district. The table is based on the strong statistical correlation between household earnings and individual income tax collections in the state as well as the strong correlation between household earnings and other taxes. Thus, because multiplier effects determined household earnings, individual income tax collections attributable to the transit industry can be estimated.

As a result, OATS Transit and its multiplier effects in just the four-county Lake of the Ozarks area support annual Missouri state government revenues of about \$49,100.

Missouri State Taxes From Direct and Multiplier Effects in the Lake of the Ozarks Transit Service Area Annual Average, 2023 dollars			
Individual Income Tax	\$	27,800	2.53% of direct & indirect earnings triggered by the transit Industry
Corporate Income Tax	\$	2,200	7.94% of individual income taxes triggered by the transit Industry
Sales and Use Taxes (State)	\$	13,600	48.96% of individual income taxes triggered by the transit Industry
Other Taxes*	\$	5,500	12.66% of the three taxes above
Sales and Use Taxes (Local)	\$	13,500	48.44% of individual income taxes triggered by the transit Industry
Total Collections	\$	62,600	
Total Collections for Just State Government	\$	49,100	