



**Economic Impact of the 3C+D Corridor
Passenger Rail Project**

Prepared for All Aboard Ohio by Scioto Analysis

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Contents

1	Executive Summary	2
2	Statewide Impact	3
3	Cleveland-Elyria	9
4	Greater Columbus	17
5	Greater Dayton	24
6	Cincinnati	32
A	Methodology	39

1 Executive Summary

Amtrak has proposed a nine-stop passenger rail corridor that runs through Ohio with stops in Ohio's four largest metropolitan statistical areas - Cleveland, Columbus, Dayton, and Cincinnati. Approval of the project requires cooperation between stakeholders at the federal, state, and local level. Understanding the potential benefits of the "3C+D" corridor requires a thorough understanding of the probable economic impacts of the corridor. This study projects economic impact, employment, earnings, and tax revenue impacts for both the initial investment and ongoing revenue generated by the proposed project.

Overall, investment in the 3C+D corridor will contribute **\$106 million to \$107 million** to gross state product. After the initial investment, the corridor will contribute **\$25 million to \$47 million** to gross state product per year from the economic impact of ridership. The bulk of investment impact will accrue to the construction industry while the **transportation and warehousing** industry will benefit most from ongoing ridership revenue.

Investment and ridership will also create jobs across the state. Investment in the 3C+D corridor will create **1,100 to 1,200 jobs**, most in the construction industry. Revenue generated from the nine stations due to ridership will support **170 to 320 jobs** every year, primarily in the transportation and warehousing industry but also in a range of other industries.

The investment and ongoing ridership will also generate earnings and tax revenue. The initial investment will generate **\$64 million to \$66 million** in new wages for workers across the country, which will raise **\$3.5 million to \$3.7 million** in state and local tax revenue. Ongoing ridership will generate **\$11 million to \$21 million** in new wages per year, which will lead to **\$600,000 to \$1.2 million** in annual tax revenue.

This study also includes regional estimates for the impact of the investment. Regional impacts are listed in the table below.

Table 1: Statewide impact of 3C+D investment by industry (conservative)

Region	Time Horizon	Economic Impact	Jobs Created	Earnings Generated	Tax Revenue
Cleveland-Elyria	One-Time	\$14-24 million	150-240 jobs	\$8-14 million	\$490,000-\$530,000
	Annual	\$3.9-6.9 million	25-44 jobs	\$1.6-2.9 million	\$100,000-\$170,000
Greater Columbus	One-Time	\$36-48 million	400-520 jobs	\$22-29 million	\$900,000-\$1.2 million
	Annual	\$9-16 million	60-110 jobs	\$3.9-7.2 million	\$170,000- \$300,000
Greater Dayton	One-Time	\$21-27 million	220-280 jobs	\$12-16 million	\$720,000-\$930,000
	Annual	\$4.6-9 million	28-54 jobs	\$1.9-3.7 million	\$110,000-\$220,000
Cincinnati	One-Time	\$16-36 million	190-410 jobs	\$10-23 million	\$500,000-\$1.2 million
	Annual	\$8-15 million	60-110 jobs	\$3.6-6.9 million	\$190,000-\$360,000

2 Statewide Impact

Amtrak proposed a nine-stop corridor that runs through Ohio with stops in Ohio's four largest metropolitan statistical areas. Below are the projected economic impact, employment, earnings, and tax revenue impacts for both the initial investment and ongoing revenue generated by the proposed project.

Statewide Economic Impact

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total economic impact of the 3C+D corridor investment across the four regions to be between \$106 million and \$107 million**. The largest impact will be on the regional construction industry, which will have an economic impact of about \$52 million. Figure 1 shows the impacts broken down by industry for the new station investment scenario, the most conservative of the three scenarios when considering impacts to the state as a whole.

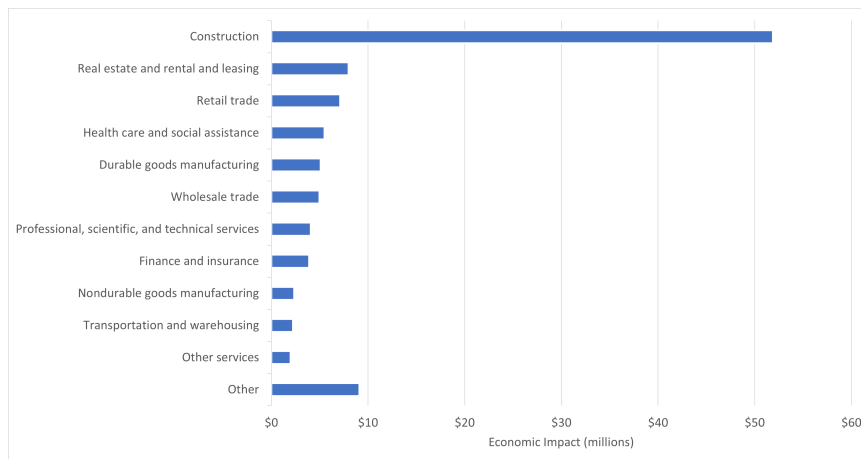


Figure 1: Statewide impact of 3C+D investment by industry (conservative)

Construction is the largest impact, making up nearly half of the total economic impact of the investment. We also project the real estate and rental and leasing and retail trade industries to have more than \$7 million in economic impact and the health care and social assistance and durable goods and manufacturing industries to have more than \$5 million in economic impact from statewide investment in the 3C+D corridor.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual economic impact of statewide 3C+D corridor revenue to be between \$25 million and \$47 million per year**. The largest impact will be on the transportation and warehousing industry, which will have an annual economic impact between \$14 million and \$27 million. Figure 2 shows the annual impacts broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering statewide revenue impacts.

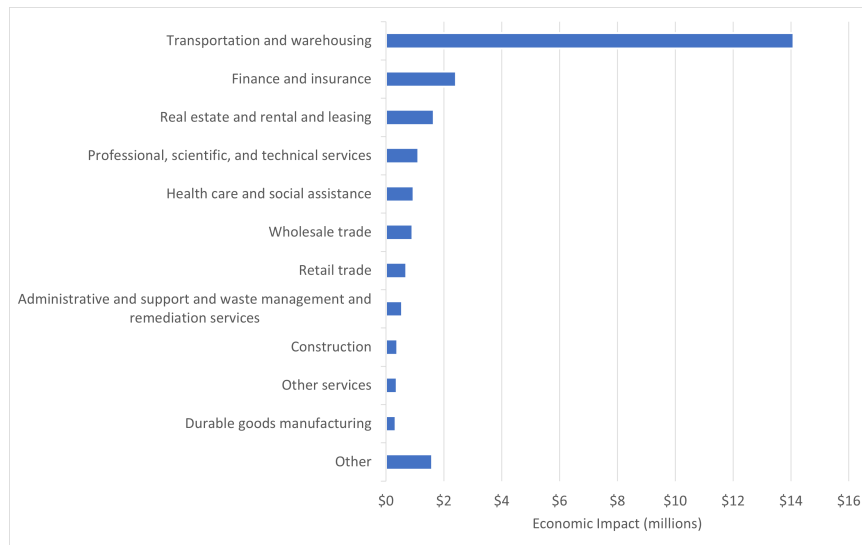


Figure 2: Annual economic impact of statewide 3C+D station revenue by industry (conservative)

Transportation and warehousing will incur the largest economic impact, enjoying over half of the economic impact of revenue year to year. We also project the finance and insurance industry will enjoy an annual economic impact of over \$2 million per year and the real estate and rental and leasing and professional, scientific, and technical services industries will each enjoy over a million dollars in economic impact every year due to 3C+D station revenue.

Statewide Employment

Using the Bureau of Economic Analysis's RIMS II Model, we estimate statewide investment in the 3C+D corridor will generate between **1,100 and 1,200 jobs**. The most jobs will be created in the construction industry, which will have somewhere

between 580 and 590 new jobs created. Figure 3 shows the employment impacts broken down by industry for the new station investment scenario, the most conservative of the three scenarios when considering employment impacts of statewide investment.

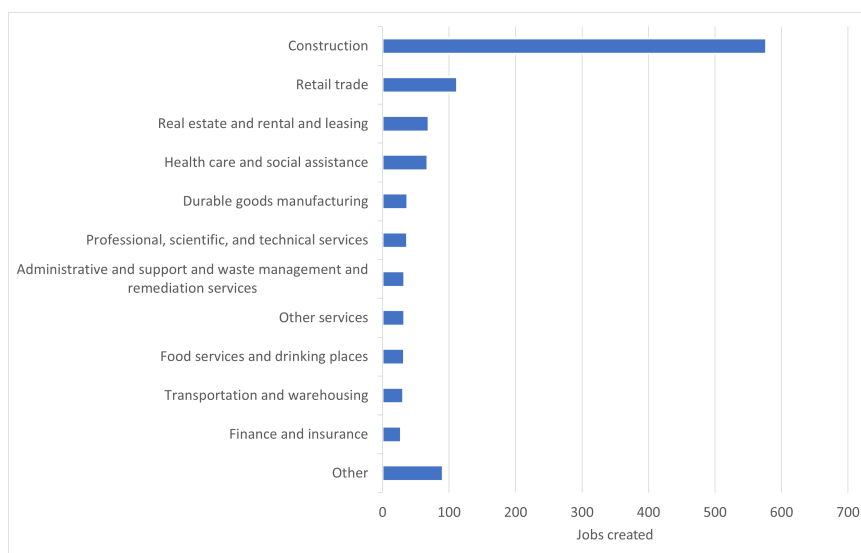


Figure 3: Statewide job creation from 3C+D investment by industry (conservative)

The statewide construction industry will incur the largest employment impact, making up half of the jobs created from the investment. We project the retail trade industry will have over 110 jobs created by statewide investment in the 3C+D corridor and the real estate and rental and leasing and health care and social assistance industries will each have more than sixty jobs created.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate revenue generated by 3C+D stations to support between **170 and 320 jobs** every year. The most jobs supported by the stations will be in the transportation and warehousing industry, which will have between 60 and 120 jobs supported every year by activity at the nine stations. Figure 4 shows the annual jobs supported by the 3C+D corridor broken down by industry for the low ridership scenario, the most conservative of the three statewide revenue scenarios.

Over one-third of the jobs supported by revenue generated at 3C+D stations every year will be in the transportation and warehousing industry. We project the finance and insurance, real estate and rental and leasing, and health care and social assistance industries to each have twelve or more jobs supported annually by economic activity at statewide 3C+D stations.

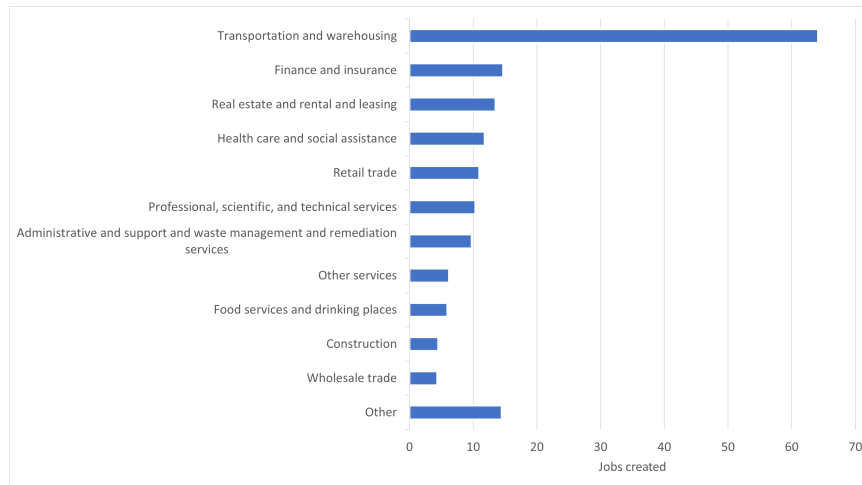


Figure 4: Annual statewide jobs supported from 3C+D revenue by industry (conservative)

Statewide Earnings

Using the Bureau of Economic Analysis's RIMS II Model, we estimate statewide investment in the 3C+D corridor will generate between **\$64 million and \$66 million** in new wages for local employees. The most earnings will be generated for employees in the construction industry, who will receive between \$37 million and \$38 million in new earnings due to the investment. Figure 5 shows the earnings impacts broken down by industry for the new station investment scenario, the most conservative of the three statewide scenarios.

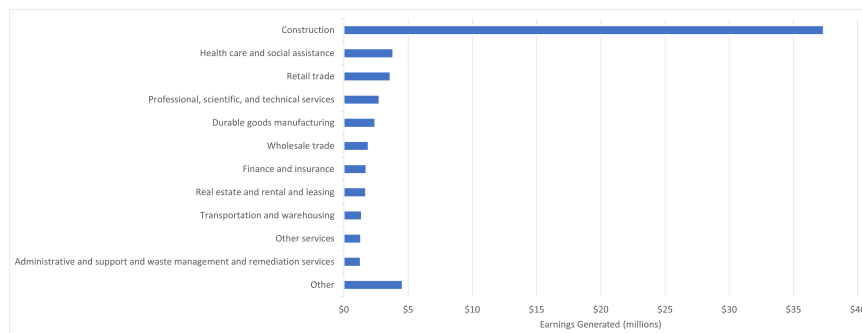


Figure 5: Earnings generated from statewide 3C+D investment by industry (conservative)

Most earnings will be enjoyed by workers in the construction industry, who will earn 58% of total earnings generated by statewide investment in the 3C+D corridor. Workers in the health care and social assistance and retail trade industries will each also enjoy over \$3 million in new earnings and workers in the professional, scientific, and technical services and durable goods manufacturing industries will enjoy over \$2 million in new earnings due to the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual earnings generated by 3C+D corridor revenue in the nine corridor stations to be between \$11 million and \$21 million**. The largest impact will be on workers in the transportation and warehousing industry, who will earn between \$6 and \$10 million more per year due to revenues generated from the 3C+D corridor. Figure 6 shows the annual revenue generated broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts on statewide earnings.

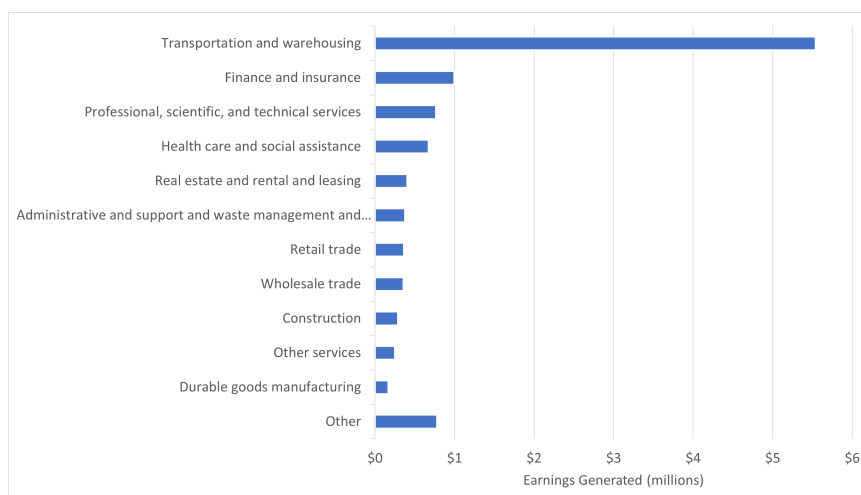


Figure 6: Annual statewide earnings generated from 3C+D expansion by industry (conservative)

Workers in the transportation and warehousing sector will gain the most earnings, enjoying half of the total annual earnings generated from 3C+D revenues. Workers in the finance and insurance, professional, scientific, and technical services and health care and social assistance industries will receive more than \$600,000 in new earnings per year due to economic activity generated by the 3C+D stations.

Statewide Tax Revenue

We estimate between **\$3.5 million and \$3.7 million in state and local tax revenue** will be generated by statewide 3C+D investment. Over a third of these revenues will be collected in the form of local income taxes, which will generate a total of around \$1.4 million for local governments where stations are located. Table 7 shows the projected revenue generated by tax instrument for the new station investment scenario, the most conservative of the three scenarios when considering state and local tax revenues.

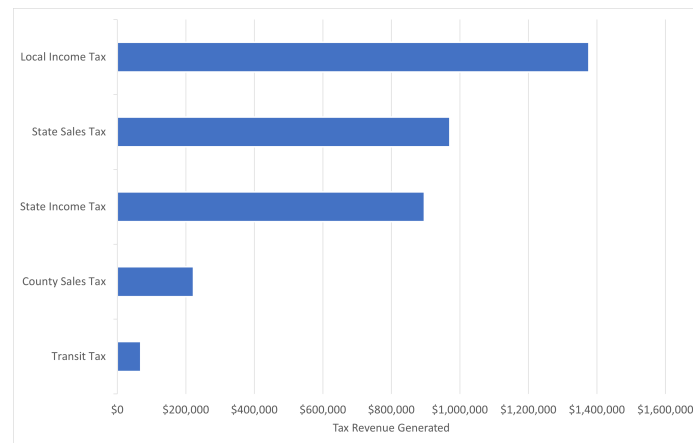


Figure 7: Total tax revenue generated from statewide investment in the 3C+D corridor (conservative)

The bulk of tax revenue generated from 3C+D investment will be collected in the form of local income taxes and state income and sales taxes, which together cover about 92% of taxes collected from the investment. We project county governments will collect more than \$220,000 and local transit agencies will collect more than \$60,000 in local sales taxes spurred by the investment.

We estimate between **\$600,000 and \$1.2 million in annual tax revenue** will be collected statewide due to ongoing ridership revenues from the 3C+D corridor. Much of these revenues will be collected in the form of local income taxes, which will generate a total of \$240,000 to \$450,000 for the local governments where stations are located per year. Figure 8 shows the projected revenue generated by tax instrument for the low ridership scenario, the most conservative of the three scenarios when considering statewide ridership revenue impacts to tax revenues for state and local government.

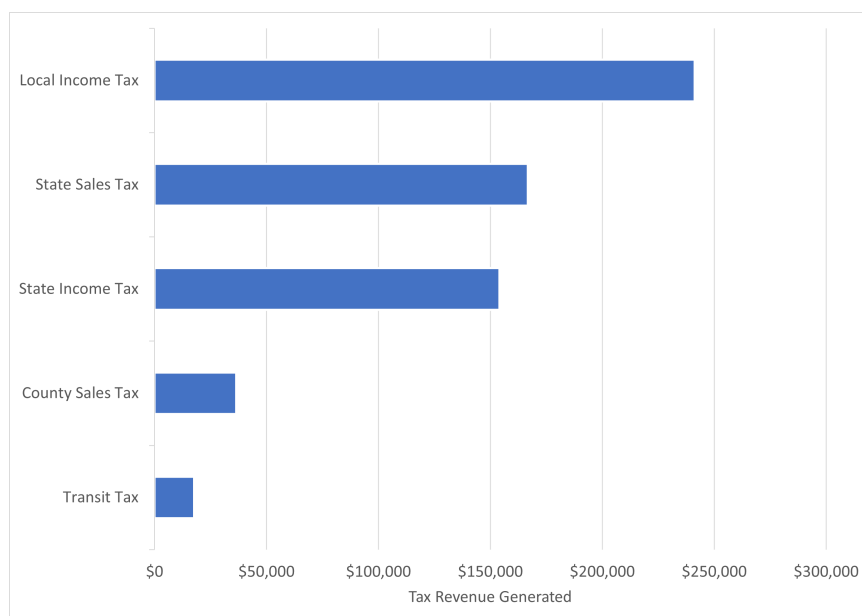


Figure 8: Annual tax revenue generated from statewide 3C+D revenues (conservative)

We project the state and local municipalities will collect a total of over \$560,000 in taxes per year generated by statewide 3C+D activity. We also project county governments will collect at least \$37,000 a year and local transit authorities will collect at least \$18,000 more a year from economic activity generated by 3C+D corridor activity.

3 Cleveland-Elyria

Amtrak has proposed two stations for the 3C+D Corridor in the Cleveland-Elyria region: the terminal station of the corridor in **Cleveland** and a new station at **Cleveland Hopkins Airport**.¹ Both stations would also serve the existing Lake Shore Limited and Capitol Limited lines and are also a part of Amtrak's proposed Cleveland-Toledo-Detroit line, which would connect Ohio directly to Michigan via passenger rail.² These stations would connect Ohio riders to domestic and international

1. "3C+D Corridor," Amtrak Connects US, Accessed August 25, 2023, <https://www.amtrakconnectsus.com/maps/cleveland-columbus-cincinnati/>

2. "Cleveland - Toledo - Detroit," Amtrak Connects US, Accessed August 25, 2023, <https://www.amtrakconnectsus.com/maps/cleveland-detroit-pontiac/>

air travel via Cleveland Hopkins Airport and local travel via Cleveland's RTA Light Rail System.

Amtrak plans to place the 3C+D corridor terminus at the Cleveland Lakefront Station, a station built in 1977 to provide service to the Lake Shore Limited route. The Cleveland Lakefront Station is located off Lake Erie in downtown Cleveland and is in close proximity to the Rock and Roll Hall of Fame and the Cleveland Browns Stadium. The Cleveland Lakefront Station currently serves the Lake Shore Limited and Capitol Limited lines. The station has not undergone significant renovation in its nearly half-century history, which has prompted city officials to take steps to hide it from view of the convention center.³ We project about 49,000 to 99,000 new passengers will use this station due to the new service per year, generating about \$3.4-6.3 million in new revenue.

Cleveland Hopkins International Airport is the primary airport serving Greater Cleveland and Northeast Ohio. In 2022, the airport served about 8.7 million passengers and hosted about 250 flights per day.^{4,5} Located nine miles southwest of downtown Cleveland, Hopkins is adjacent to NASA's John Glenn Research Center. The airport provides nonstop service to nearly 40 different destinations and would connect Ohio's Amtrak system to air travel. Currently, the five most popular flights out of Hopkins are to Atlanta, Chicago, Orlando, Denver, and Dallas/Fort Worth.⁶ United, Frontier, and Southwest Airlines make up a majority of flights in and out of Hopkins, with the remainder of flights serviced by Spirit, American, and other airlines.⁷ We project about 5,000 to 11,000 passengers will use this station per year, generating about \$900,000 to \$1.2 million in revenue.

Economic Impact in the Cleveland-Elyria MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the total economic impact of the 3C+D corridor investment in the Cleveland-Elyria Metropolitan

3. "Cuyahoga County wants to hide Amtrak station from convention center view". The Plain Dealer. August 28, 2012. Retrieved February 2, 2014.

4. "History". CLE Going Places - Cleveland Hopkins Airport.

5. "AirNav: KCLE - Cleveland-Hopkins International Airport". airnav.com. Retrieved May 24, 2023.

6. "Cleveland, OH: Cleveland-Hopkins International (CLE)". Bureau of Transportation Statistics. Retrieved August 21, 2023.

7. "Cleveland, OH: Cleveland-Hopkins International (CLE)". Bureau of Transportation Statistics. Retrieved August 21, 2023.

Statistical Area to be between \$14 million and \$24 million. The largest impact will be on the regional construction industry, which will have an economic impact between \$7 million and \$12 million. Figure 9 shows the impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Cleveland-Elyria Metropolitan Statistical Area.

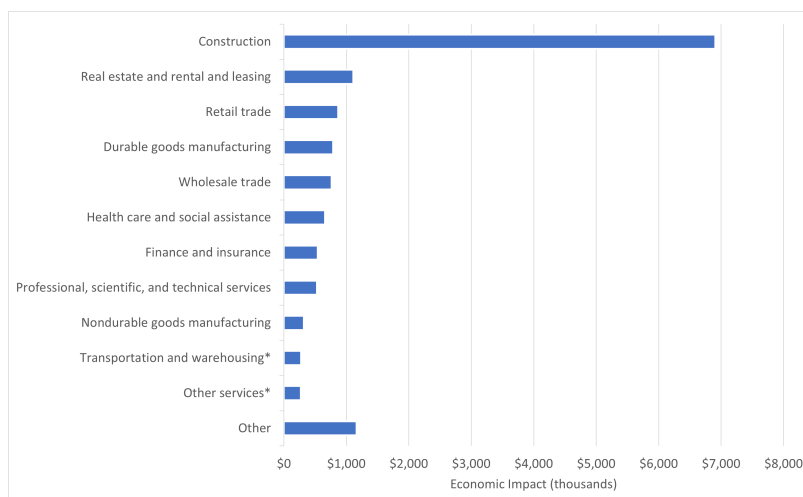


Figure 9: Economic impact of 3C+D investment on the Cleveland-Elyria MSA by industry (conservative)

Construction is the largest impact, making up about half of the economic impact of the investment. Other industries with over \$700,000 in economic impact are real estate and renting and leasing, retail trade, durable goods manufacturing, and wholesale trade.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual economic impact of the 3C+D corridor revenue in the Cleveland-Elyria Metropolitan Statistical Area to be between \$3.9 million and \$6.9 million.** The largest impact will be on the transportation and warehousing industry, which will have an annual economic impact between \$2.2 million and \$3.9 million. Figure 10 shows the annual impacts broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cleveland-Elyria Metropolitan Statistical Area.

Transportation and warehousing will incur the largest economic impact, enjoying more than half of the economic impact of revenue. Other industries with over \$100,000 in economic impact are finance and insurance, real estate and rental and leasing,

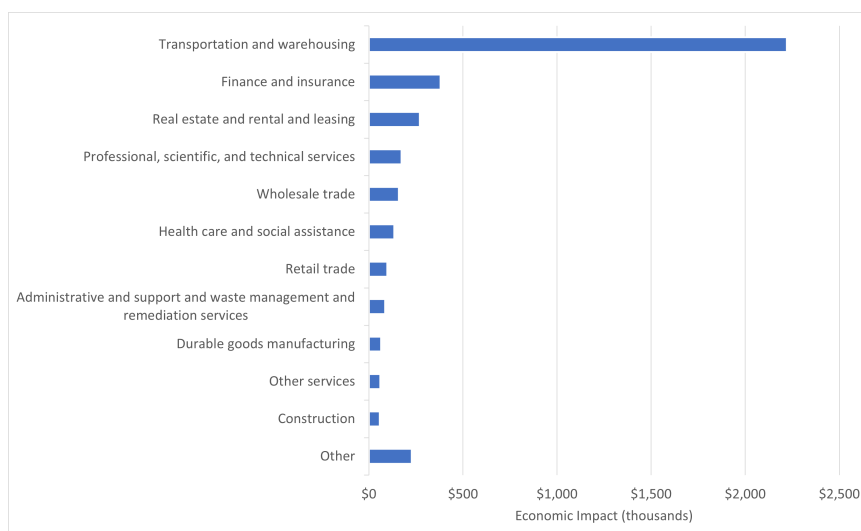


Figure 10: Annual economic impact by industry of Amtrak revenue on Cleveland-Elyria MSA (conservative)

professional, scientific, and technical services, wholesale trade, and health care and social assistance.

Employment in the Cleveland-Elyria MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Cleveland-Elyria Metropolitan Statistical Area will generate between 150 and 240 jobs**. The most jobs will be created in the construction industry, which will have somewhere between 70 and 120 new jobs created. Figure 11 shows the employment impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Cleveland-Elyria Metropolitan Statistical Area.

Cleveland-Elyria's construction industry will incur the largest employment impact, making up about half of the jobs created from the investment. The retail trade industry will also have about a dozen jobs created from the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **revenue generated by 3C+D stops in the Cleveland-Elyria Metropolitan Statistical Area to support between 25 and 44 jobs every year**. The most jobs supported

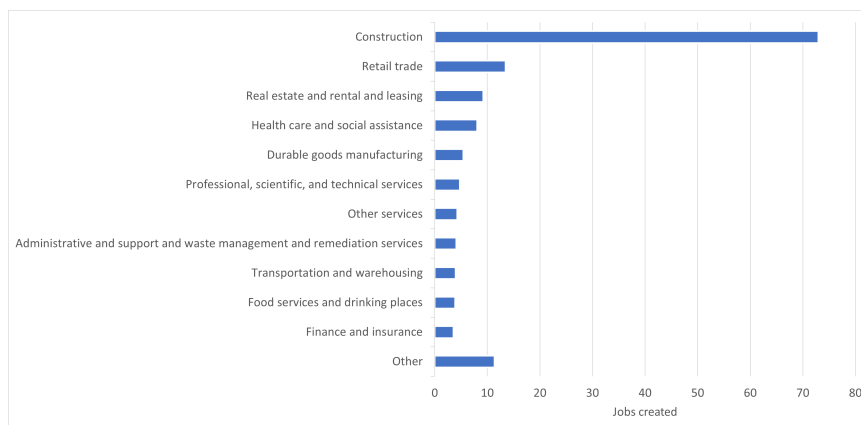


Figure 11: Job creation from 3C+D investment in the Cleveland-Elyria MSA by industry (conservative)

by the line will be in the transportation and warehousing industry, which will have between 10 and 17 jobs supported by activity at the two stations. Figure 12 shows the annual jobs supported by the 3C+D corridor broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cleveland-Elyria Metropolitan Statistical Area.

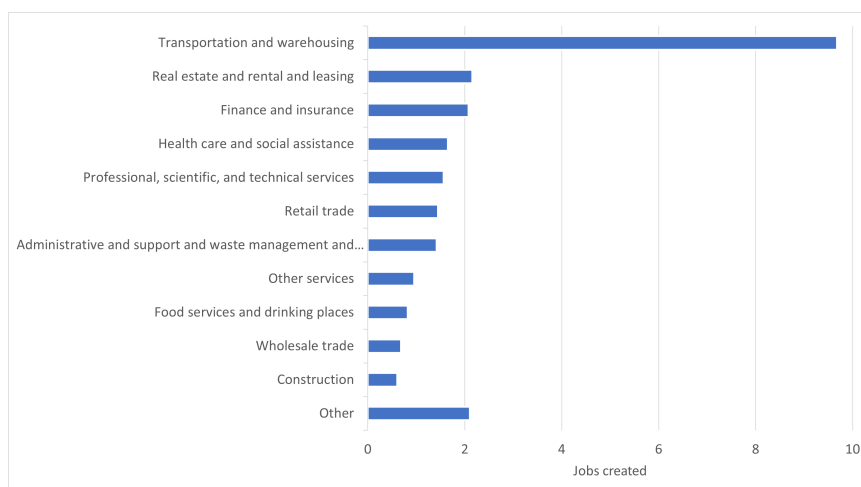


Figure 12: Annual jobs supported from Amtrak revenue on Cleveland-Elyria MSA by industry (conservative)

Over one third of the jobs supported by Amtrak revenue from year to year will be in the transportation and warehousing industry. Other industries likely to have multiple jobs supported by the 3C+D expansion are the real estate and rental and

leasing, finance and insurance, health care and social assistance, and professional, scientific, and technical services industries.

Earnings in the Cleveland-Elyria MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Cleveland-Elyria Metropolitan Statistical Area will generate between \$8 million and \$14 million in new wages** for local employees. The most earnings will be generated for employees in the construction industry, who will receive between \$4.8 million and \$8.9 million in new earnings due to the investment. Figure 13 shows the earnings impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Cleveland-Elyria Metropolitan Statistical Area.

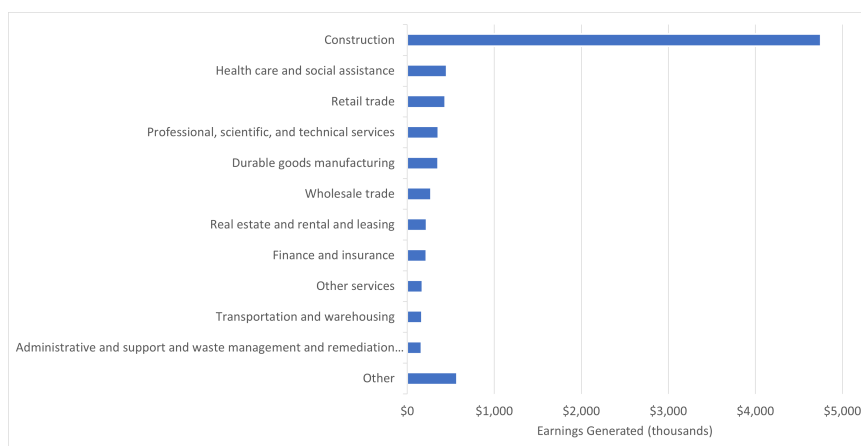


Figure 13: Earnings generated from 3C+D investment in the Cleveland-Elyria Metropolitan Statistical Area by industry (conservative)

Most earnings will be enjoyed by workers in the construction industry, who will earn 58% of total earnings generated by the 3C+D corridor investment in the Cleveland-Elyria MSA. The health care and social assistance, retail trade, professional, scientific, and technical services, and durable goods manufacturing sectors will also enjoy over \$300,000 in new earnings due to the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the total annual earnings generated by the 3C+D corridor revenue in the Cleveland-Elyria Metropolitan Statistical Area to be between \$1.6 million and \$2.9 million. The largest

impact will be on workers in the transportation and warehousing industry, who will earn between \$900,000 and \$1.5 million more per year due to revenues generated from the 3C+D corridor. Figure 14 shows the annual revenue generated broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cleveland-Elyria Metropolitan Statistical Area.

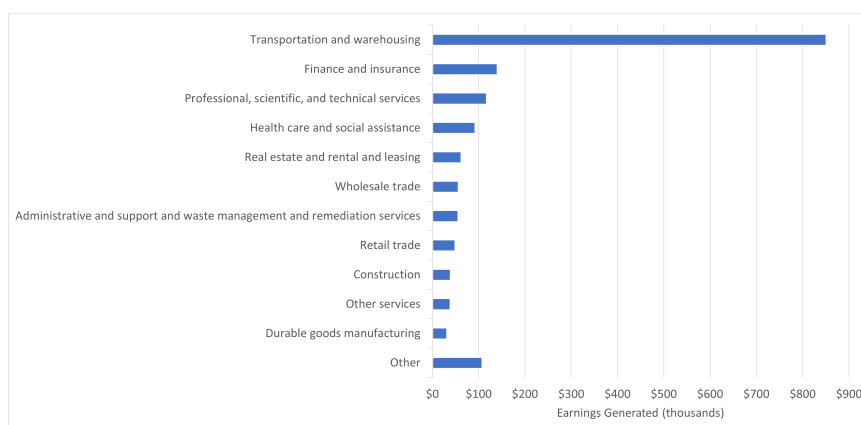


Figure 14: Annual earnings generated from 3C+D expansion in Cleveland-Elyria MSA by industry (conservative)

Workers in the transportation and warehousing sector will gain the most earnings, enjoying about half of the total earnings generated from 3C+D revenues. The finance and insurance and professional, scientific, and technical services industries will also receive more than \$100,000 a year in new earnings per year due to 3C+D expansion.

Tax revenue generated in the Cleveland-Elyria MSA

We estimate between **\$490,000 and \$530,000 in tax revenue will be generated by 3C+D investment in the Cleveland-Elyria MSA**. About 40% of these will be collected in the form of local income taxes, which will generate between \$200,000 and \$440,000 for the city of Cleveland. Figure 15 shows the projected revenue generated by tax instrument for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Cleveland-Elyria Metropolitan Statistical Area.

The bulk of tax revenue generated from Amtrak investment will be collected in the form of local income taxes and state income and sales taxes, which together cover

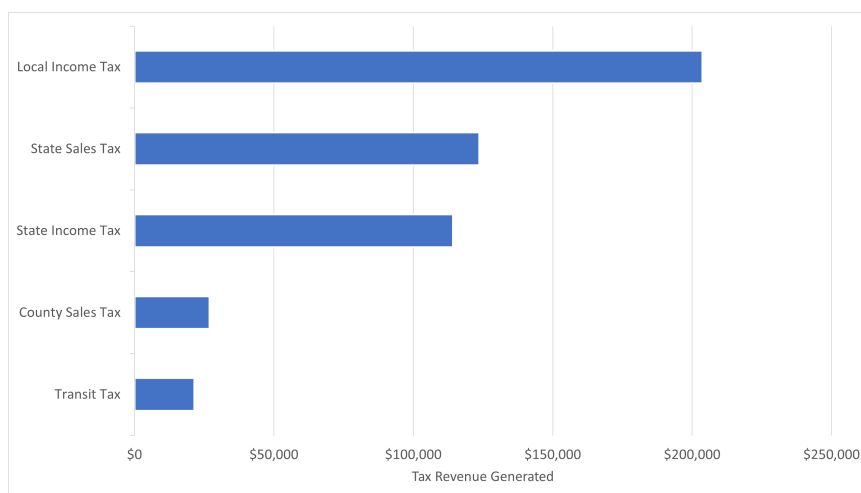


Figure 15: Tax revenue generated from 3C+D investment in the Cleveland-Elyria MSA (conservative)

about 90% of taxes collected from the investment. We project county governments and local transit agencies will also collect some revenue from the investment.

We estimate between **\$100,000 and \$170,000 in tax revenue will be collected annually in the Cleveland-Elyria MSA due to ongoing ridership revenues from the 3C+D corridor**. Much of these revenues will be collected in the form of local income taxes, which will generate between \$40,000 and \$70,000 for the city of Cleveland per year. Figure 16 shows the projected revenue generated by tax instrument for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cleveland-Elyria Metropolitan Statistical Area.

We project the state and the City of Cleveland will each collect over \$40,000 in taxes per year generated by 3C+D activity in the Cleveland-Elyria MSA. Cuyahoga County and the Greater Cleveland Regional Transit Authority will also collect a few thousands dollars a year from 3C+D activity in the Cleveland-Elyria MSA.

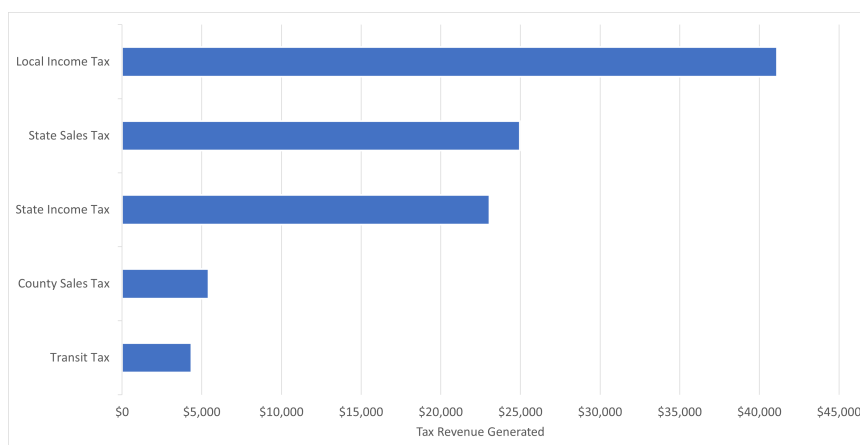


Figure 16: Annual tax revenue generated from 3C+D revenues in the Cleveland-Elyria MSA (conservative)

4 Greater Columbus

Amtrak has proposed three new stations for the 3C+D Corridor in the Greater Columbus region: one in the village of **Crestline**, one in the city of **Delaware**, and one in the city of **Columbus**.⁸ Crestline is located in nonmetropolitan Crawford County and the Mansfield Metropolitan Statistical Area's Richland County while the cities of Columbus and Delaware are in the Columbus Metropolitan Statistical Area. The Columbus and Delaware stations would connect Ohio riders to local travel via Columbus's COTA bus system.

The village of Crestline is a village on the border of Richland and Crawford counties. Crestline is within both the Bucyrus-Galion Micropolitan Statistical Area and the Mansfield Metropolitan Statistical Area, two statistical areas that border the Columbus Metropolitan Statistical Area. Crestline was originally founded as a railroad town, a halfway stop between Galion and Shelby, Ohio, and was a stop for Abraham Lincoln's funeral train in 1865 following his assassination.⁹ This station will give the 3C+D line a stop in the Mansfield-Ashland-Bucyrus, OH Combined Statistical Area, the statistical area between the Cleveland-Elyria Metropolitan Statistical Area and the Columbus Metropolitan Statistical Area. We project about 11,000 to

8. "3C+D Corridor," Amtrak Connects US, Accessed August 25, 2023,

9. Newman, Ralph G (1965). "In This Sad World of Ours, Sorrow Comes to All" a Timetable for the Lincoln Funeral Train". *Journal of the Illinois State Historical Society*. 58 (1): 5-20. JSTOR 40190423 – via JSTOR.

21,000 passengers will use this station, generating about \$600,000 to \$1.2 million in revenue.

Delaware, Ohio is the county seat of Delaware County, the fastest-growing county in Ohio.¹⁰ The city has grown over that period, too, ballooning from a population of 25,000 in the 2000 census to over 41,000 in the 2020 census.¹¹ Delaware is home to Ohio Wesleyan University, the Little Brown Jug harness race, and the Strand Theater, the oldest movie theater in Ohio and one of the top ten oldest in the country. We project about 39,000 to 78,000 passengers will use this station per year, generating about \$2.3 million to \$4.6 million in revenue.

Columbus, Ohio is the largest city in Ohio and the epicenter of the fastest-growing region in the country. Columbus is home to the state capitol and Ohio State University, Ohio's flagship state university. Columbus has not had passenger rail since 1979.¹² Columbus is currently the second-largest city in the country without intercity rail.¹³ We project about 84,000 to 169,000 passengers will use this station per year, generating about \$6 million to \$11 million in revenue.

Economic Impact in Greater Columbus

Using the Bureau of Economic Analysis's RIMS II Model, **we estimate the total economic impact of the 3C+D corridor investment in the Greater Columbus region to be between \$36 million and \$48 million.** The largest impact will be on the regional construction industry, which will have an economic impact between \$17 million and \$22 million. Figure 17 shows the impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Columbus region.

10. Kovac, Marc, "Delaware and Union counties in Columbus area grow the most in Ohio: census data," The Columbus Dispatch, August 12, 2021, Accessed September 23, 2023, <https://www.dispatch.com/story/news/local/2021/08/12/ohio-census-fastest-growing-counties-delaware-union-near-columbus-2020/8112219002/>

11. "Number of Inhabitants: Ohio" (PDF). 18th Census of the United States. U.S. Census Bureau. 1960. Retrieved September 23, 2023.

12. Pitt, Linda Horning, "Opinion: Our cars aren't enough to keep Ohio moving. We desperately need passenger trains," The Columbus, Dispatch, November 28, 2022, Accessed September 23, 2023, <https://www.dispatch.com/story/opinion/columns/guest/2022/11/28/how-would-passenger-trains-benefit-ohio-columbus-population-growth-amtrak/69669312007/>

13. Feran, Tim, "Will Passenger Trains Finally Return to Columbus?" Columbus Underground, March 23, 2023, Accessed September 23, 2023, <https://columbusunderground.com/will-passenger-trains-finally-return-to-columbus-tf2/>

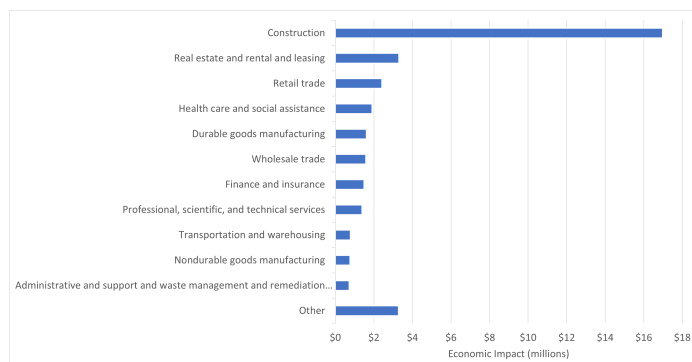


Figure 17: Economic impact of 3C+D investment on Greater Columbus region by industry (conservative)

Construction is the largest impact, making up nearly half of the total economic impact of the investment. We also project the real estate and rental and leasing and retail trade industries to have more than \$2 million in economic impact from investment in the 3C+D corridor in the Greater Columbus region.

Using the Bureau of Economic Analysis's RIMS II Model, **we estimate the total annual economic impact of the 3C+D corridor revenue in the Greater Columbus region to be between \$9 million and \$16 million.** The largest impact will be on the transportation and warehousing industry, which will have an annual economic impact between \$4.8 million and \$8.9 million. Figure 18 shows the annual impacts broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Greater Columbus region.

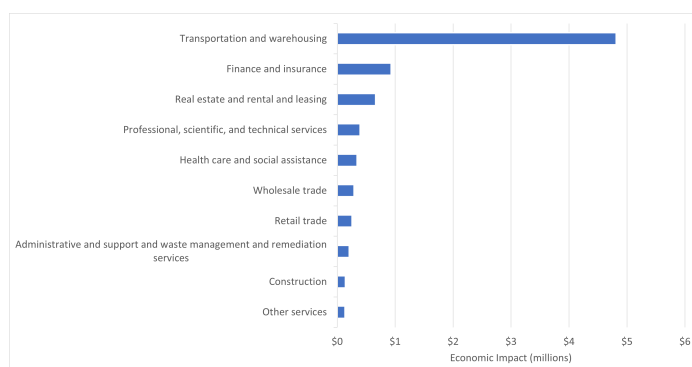


Figure 18: Annual economic impact of 3C+D station revenue on Greater Columbus region by industry (conservative)

Employment in Greater Columbus

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Greater Columbus region will generate between 400 and 520 jobs**. The most jobs will be created in the construction industry, which will have somewhere between 190 and 250 new jobs created. Figure 19 shows the employment impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Columbus region.

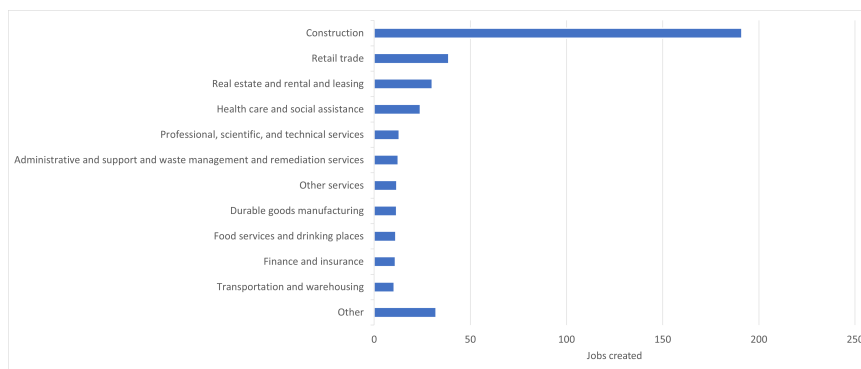


Figure 19: Job creation from 3C+D investment in the Greater Columbus region by industry (conservative)

Greater Columbus's construction industry will incur the largest employment impact, making up nearly half of the jobs created from the investment. We project the retail trade industry will also have about 40 jobs created, the real estate and rental and leasing industry will have about 30 jobs created, and the health care and social assistance industry will have over 20 jobs created from the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **revenue generated by 3C+D stations in the Greater Columbus region to support between 60 and 110 jobs every year**. The most jobs supported by the line will be in the transportation and warehousing industry, which will have between 21 and 39 jobs supported by activity at the three stations. Figure 20 shows the annual jobs supported by the 3C+D corridor broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Greater Columbus region.

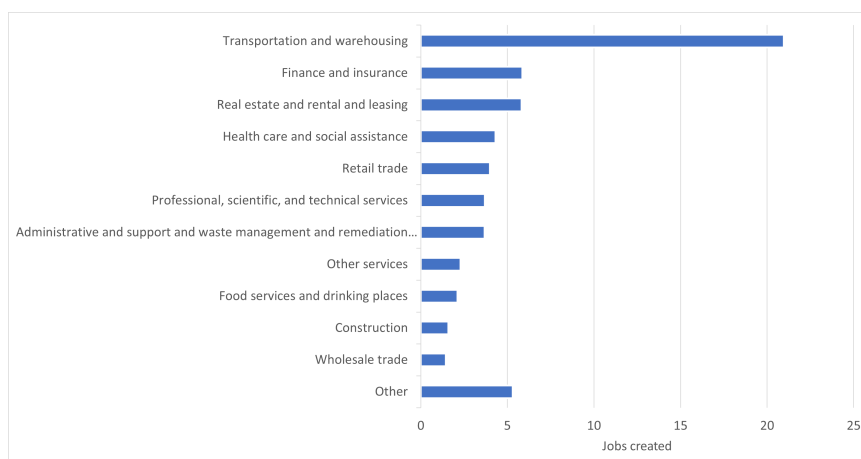


Figure 20: Annual jobs supported from 3C+D revenue in Greater Columbus by industry (conservative)

About one third of the jobs supported by revenue generated at 3C+D stations every year will be in the transportation and warehousing industry. We project the finance and insurance and real estate and rental and leasing industries to each have about half a dozen jobs each supported by economic activity at Greater Columbus's 3C+D stations.

Earnings in Greater Columbus

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Greater Columbus Region will generate between \$22 million and \$29 million in new wages for local employees.** The most earnings will be generated for employees in the construction industry, who will receive between \$12 million and \$16 million in new earnings due to the investment. Figure 21 shows the earnings impacts broken down by industry for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Columbus region.

Most earnings will be enjoyed by workers in the construction industry, who will earn 57% of total earnings generated by the 3C+D corridor investment in the Columbus region. Workers in the health care and social assistance and retail trade industries will also enjoy over \$1 million in new earnings due to the investment.

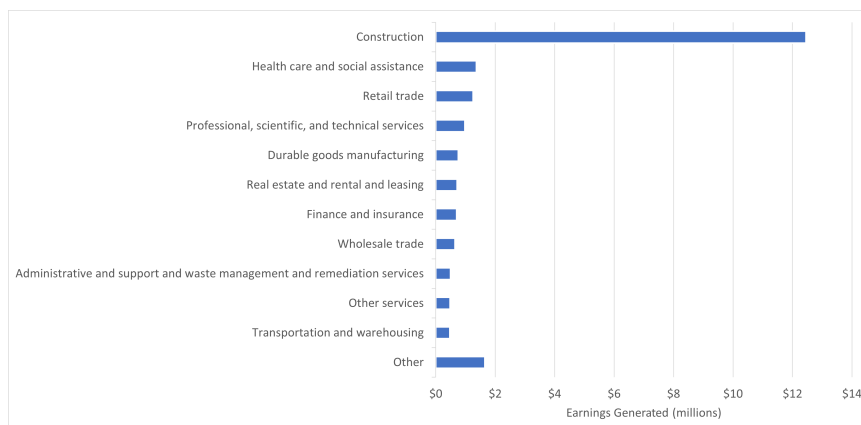


Figure 21: Earnings generated from 3C+D investment in Greater Columbus by industry (conservative)

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **the total annual earnings generated by the 3C+D corridor revenue in the Greater Columbus region to be between \$3.9 million and \$7.2 million.** The largest impact will be on workers in the transportation and warehousing industry, who will earn between \$1.8 and \$3.4 million more per year due to revenues generated from the 3C+D corridor. Figure 22 shows the annual revenue generated broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Greater Columbus region.

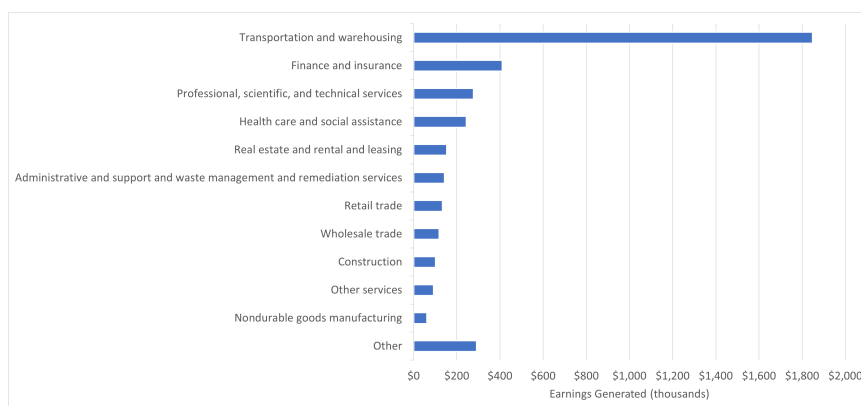


Figure 22: Annual earnings generated from 3C+D expansion in the Greater Columbus region by industry (conservative)

Workers in the transportation and warehousing sector will gain the most earnings, enjoying nearly half of the total annual earnings generated from 3C+D revenues. Workers in the finance and insurance, professional, scientific, and technical services, and health care and social assistance industries will also receive more than \$400,000 in new earnings per year due to 3C+D expansion in Greater Columbus.

Tax revenue generated in Greater Columbus

We estimate **between \$900,000 and \$1.2 million in tax revenue will be generated by 3C+D investment in the Greater Columbus region.** Over half of these will be collected in the form of local income taxes, which will generate between \$500,000 and \$610,000 for the cities of Columbus and Delaware and Village of Crestline. Figure 23 shows the projected revenue generated by tax instrument for the weighted investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Columbus region.

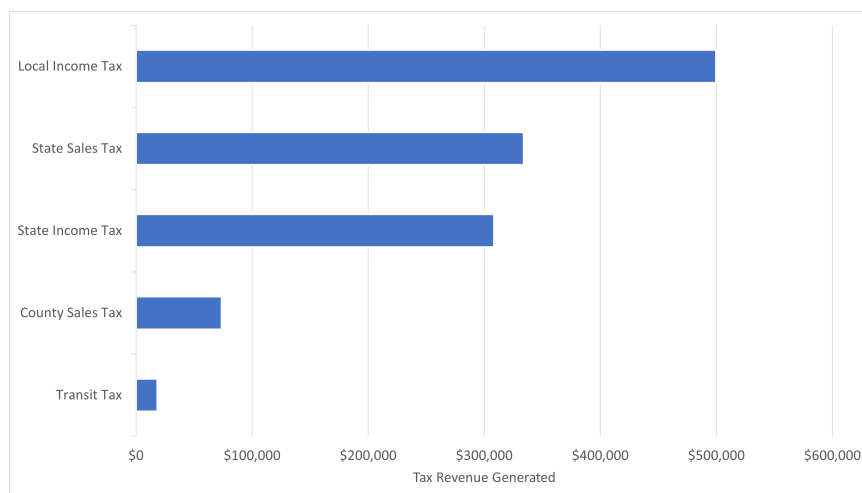


Figure 23: Tax revenue generated from 3C+D investment in Greater Columbus (conservative)

The bulk of tax revenue generated from 3C+D investment will be collected in the form of local income taxes and state income and sales taxes, which together cover about 93% of taxes collected from the investment. We project county governments and local transit agencies will also collect some revenue from the investment.

We estimate **between \$170,000 and \$300,000 in tax revenue will be collected annually in Greater Columbus due to ongoing ridership revenues from the 3C+D corridor**. Much of these revenues will be collected in the form of local income taxes, which will generate a total of \$90,000 to \$160,000 for the cities of Columbus and Delaware and village of Crestline per year. Figure 24 shows the projected revenue generated by tax instrument for the low ridership scenario, the most conservative of the three scenarios when considering ridership revenue impacts to tax revenues in the Greater Columbus region.

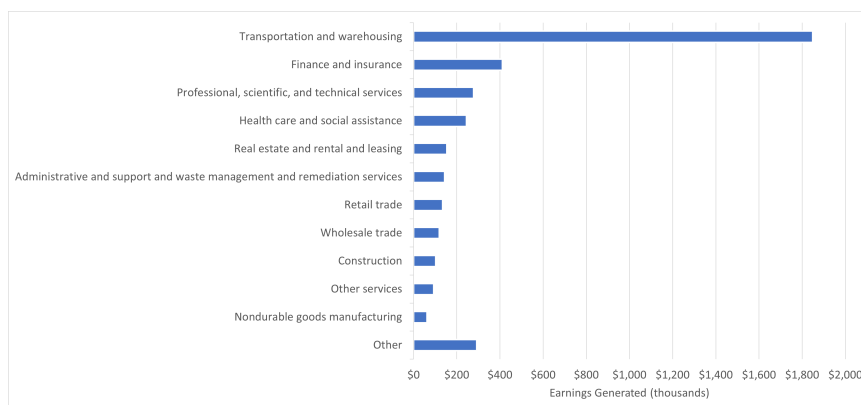


Figure 24: Annual tax revenue generated from 3C+D revenues in the Greater Columbus region (conservative)

We project the state and local municipalities will each collect at least \$90,000 in taxes per year generated by 3C+D activity in the Greater Columbus region. We also project county governments will collect at least \$13,000 a year and the Central Ohio Transit Authority will collect at least \$4,000 more a year from economic activity generated by 3C+D expansion in Greater Columbus.

5 Greater Dayton

Amtrak has proposed two new stations for the 3C+D Corridor in the Greater Dayton region: one in the city of **Springfield** and one in the city of **Dayton**, the two largest cities in the region.¹⁴ Springfield is the namesake of the Springfield Metropolitan Statistical Area, which encompasses Clark County. Dayton is the hub

14. "3C+D Corridor," Amtrak Connects US, Accessed August 25, 2023, <https://www.amtrakconnectsus.com/maps/cleveland-columbus-cincinnati/>

of the Dayton Metropolitan Statistical Area, which encompasses Greene, Miami, and Montgomery Counties.

Springfield, Ohio is home to Wittenberg University, a liberal arts college. Nearby Enon, Ohio is headquarters of convenience store and fuel station chain Speedway. The Little Miami Scenic Trail, one of the top five longest paved trails in the United States, passes through Springfield. The Springfield Metropolitan Statistical Area borders the Columbus Metropolitan Statistical Area to the east and the Dayton Metropolitan Statistical Area to the west and south. We project about 7,000 to 14,000 passengers will use this station per year, generating about \$460,000 to \$860,000 in revenue.

The Dayton Metropolitan Statistical Area is the fourth-largest metropolitan statistical area in the state of Ohio, only behind the “three C’s” of Cincinnati, Cleveland, and Columbus. Dayton is home to Wright-Patterson Air Force Base, which has made it a center for research and development in the industrial, aeronautical, and astronautical engineering fields. In 2019, National Geographic deemed Dayton the “Outdoor Adventure Capital of the Midwest” due to its metropark, trail, green space, and watersport and camping areas.¹⁵ Dayton is also home to University of Dayton and Wright State University. Dayton has not had passenger rail since 1979. We project about 85,000 to 170,000 passengers will use the Dayton station per year, generating about \$5 million to \$10 million in revenue.

Economic Impact in Greater Dayton

Using the Bureau of Economic Analysis’s RIMS II Model, we estimate the **total economic impact of the 3C+D corridor investment in the Greater Dayton region to be between \$21 million and \$27 million**. The largest impact will be on the regional construction industry, which will have an economic impact between \$11 million and \$15 million. Figure 25 shows the impacts broken down by industry for the equal investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Dayton region.

15. Starr, Stephen (August 22, 2019). "Visit America's newest adventure capital". National Geographic. Retrieved December 4, 2019.

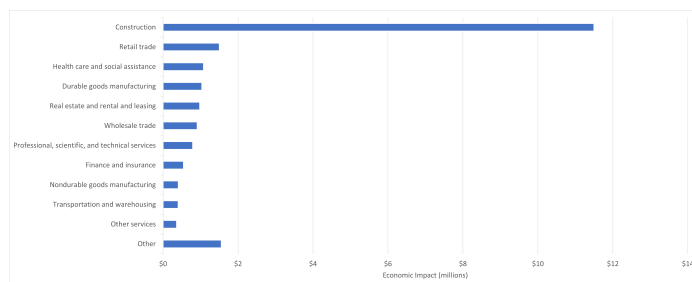


Figure 25: Economic impact of 3C+D investment on Greater Dayton region by industry (conservative)

Construction is the largest impact, making up over half of the total economic impact of the investment. We also project the retail trade, health care and social assistance, and durable goods manufacturing industries to have more than \$1 million in economic impact from investment for the 3C+D corridor in the Greater Dayton region.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual economic impact of the 3C+D corridor revenue in the Greater Dayton region to be between \$4.6 million and \$9 million**. The largest impact will be on the transportation and warehousing industry, which will have an annual economic impact between \$2.9 million and \$5.6 million. Figure 26 shows the annual impacts broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Greater Dayton region.

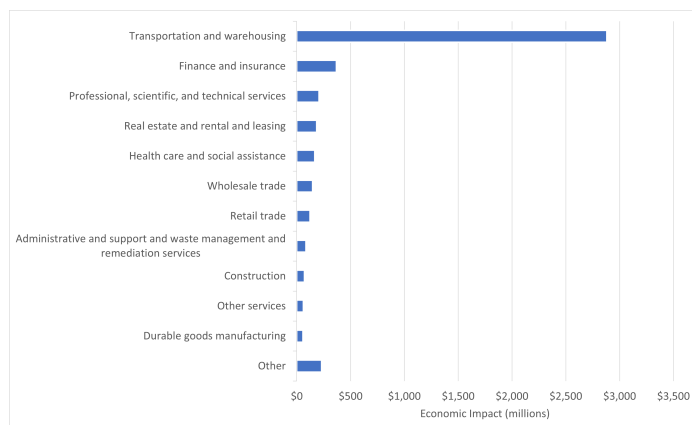


Figure 26: Annual economic impact of 3C+D station revenue on Greater Dayton region by industry (conservative)

Transportation and warehousing will incur the largest economic impact, enjoying over 60% of the economic impact of revenue year to year. We also project the finance and insurance and professional, scientific, and technical services industries to each enjoy over \$200,000 in economic impact every year due to 3C+D station revenue.

Employment in Greater Dayton

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Greater Dayton region will generate between 220 and 280 jobs**. The most jobs will be created in the construction industry, which will have somewhere between 120 and 160 new jobs created. Figure 27 shows the employment impacts broken down by industry for the equal investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Dayton region.

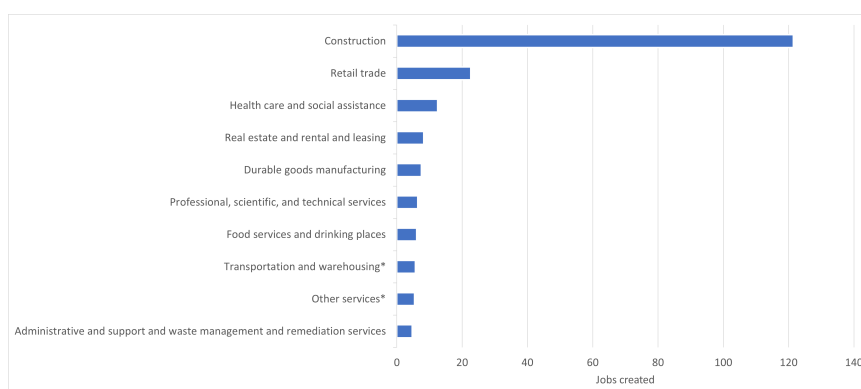


Figure 27: Job creation from 3C+D investment in the Greater Dayton region by industry (conservative)

Greater Dayton's construction industry will incur the largest employment impact, making up over half of the jobs created from the investment. We project the retail trade and health care and social assistance industries will each have a dozen or more jobs created by 3C+D investment in the Greater Dayton region.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **revenue generated by 3C+D stations in the Greater Dayton region to support between 28 and 54 jobs every year**. The most jobs supported by the stations will be in the transportation and warehousing industry, which will have between

12 and 24 jobs supported by activity at the two stations. Figure 28 shows the annual jobs supported by the 3C+D corridor broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Greater Dayton region.

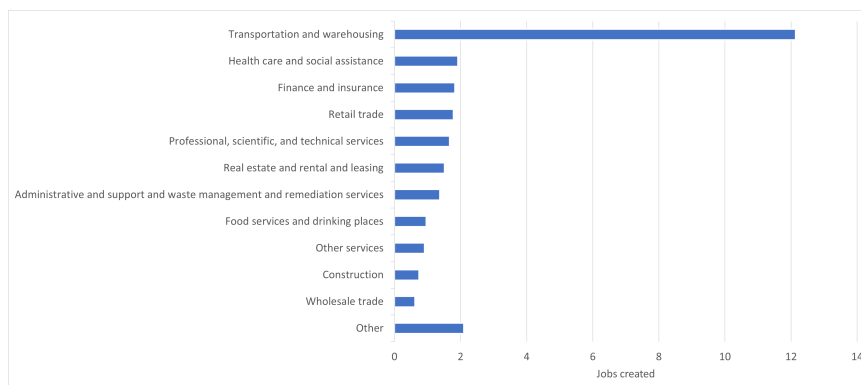


Figure 28: Annual jobs supported from 3C+D revenue in Greater Dayton by industry (conservative)

Nearly half of the jobs supported by revenue generated at 3C+D stations every year will be in the transportation and warehousing industry. We project the health care and social assistance, finance and insurance, retail trade, professional, scientific, and technical services, and real estate and renting and leasing industries to each have multiple jobs supported annually by economic activity at Greater Dayton’s 3C+D stations.

Earnings in Greater Dayton

Using the Bureau of Economic Analysis’s RIMS II Model, we estimate **investment in the 3C+D corridor in the Greater Dayton Region will generate between \$12 million and \$16 million in new wages for local employees.** The most earnings will be generated for employees in the construction industry, who will receive between \$8 million and \$10 million in new earnings due to the investment. Figure 29 shows the earnings impacts broken down by industry for the equal investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Dayton region.

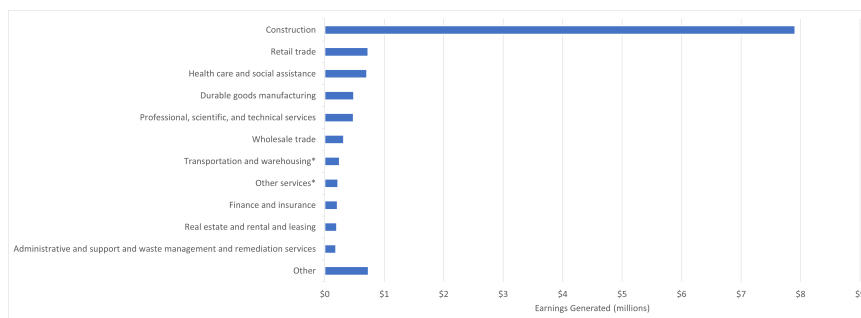


Figure 29: Earnings generated from 3C+D investment in Greater Dayton by industry (conservative)

Most earnings will be enjoyed by workers in the construction industry, who will earn 64% of total earnings generated by the 3C+D corridor investment in the Dayton region. Workers in the retail trade and health care and social assistance industries will each also enjoy over \$700,000 in new earnings due to the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual earnings generated by the 3C+D corridor revenue in the Greater Dayton region to be between \$1.9 million and \$3.7 million**. The largest impact will be on workers in the transportation and warehousing industry, who will earn between \$1.1 and \$2.1 million more per year due to revenues generated from the 3C+D corridor. Figure 30 shows the annual revenue generated broken down by industry for the low ridership

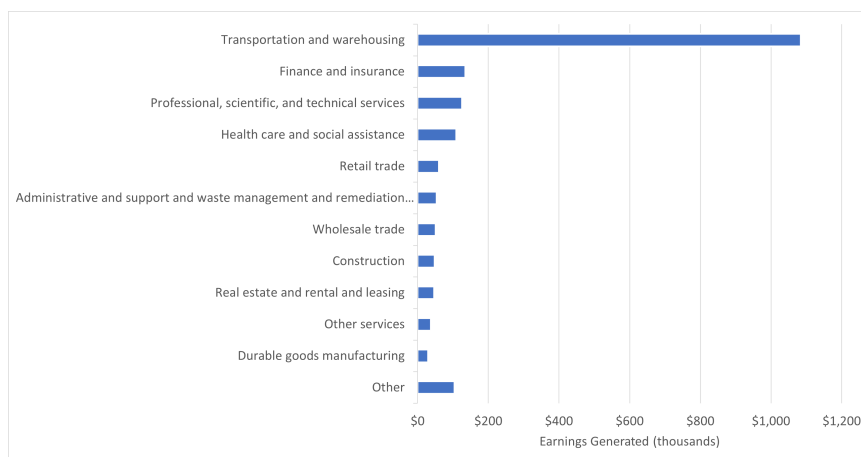


Figure 30: Annual earnings generated from 3C+D expansion in the Greater Dayton region by industry (conservative)

Workers in the transportation and warehousing sector will gain the most earnings, enjoying over half of the total annual earnings generated from 3C+D revenues. Workers in the finance and insurance, professional, scientific, and technical services, and health care and social assistance industries will also receive more than \$100,000 in new earnings per year due to 3C+D expansion in Greater Dayton.

Tax revenue generated in Greater Dayton

We estimate **between \$720,000 and \$930,000 in tax revenue will be generated by 3C+D investment in the Greater Dayton region.** Over 40% of these revenues will be collected in the form of local income taxes, which will generate between \$300,000 and \$390,000 for the cities of Dayton and Springfield. Figure 31 shows the projected revenue generated by tax instrument for the equal investment scenario, the most conservative of the three scenarios when considering impacts to the Greater Dayton region.

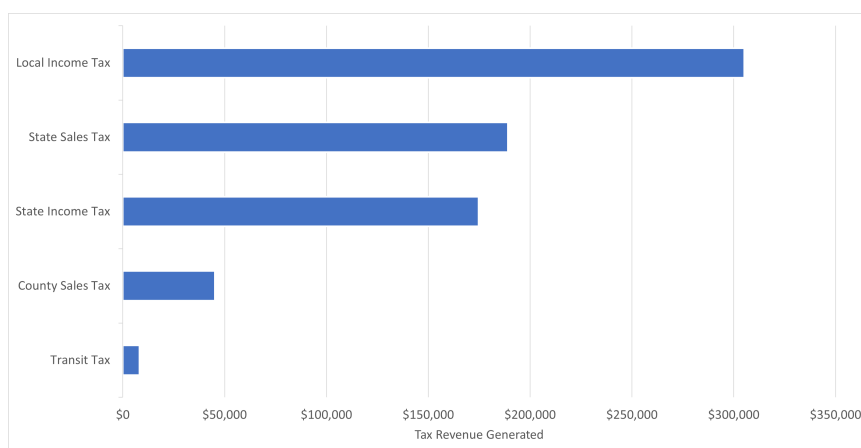


Figure 31: Tax revenue generated from 3C+D investment in Greater Dayton (conservative)

The bulk of tax revenue generated from 3C+D investment will be collected in the form of local income taxes and state income and sales taxes, which together cover about 93% of taxes collected from the investment. We project county governments will collect 45,000to58,000 and local transit agencies will collect \$8,000 to \$11,000 in local sales taxes spurred by the investment.

We estimate **between \$110,000 and \$220,000 in annual tax revenue will be collected in Greater Dayton due to ongoing ridership revenues from the 3C+D corridor**. Much of these revenues will be collected in the form of local income taxes, which will generate a total of \$47,000 to \$92,000 for the cities of Dayton and Springfield per year. Figure 32 shows the projected revenue generated by tax instrument for the low ridership scenario, the most conservative of the three scenarios when considering ridership revenue impacts to tax revenues in the Greater Dayton region.

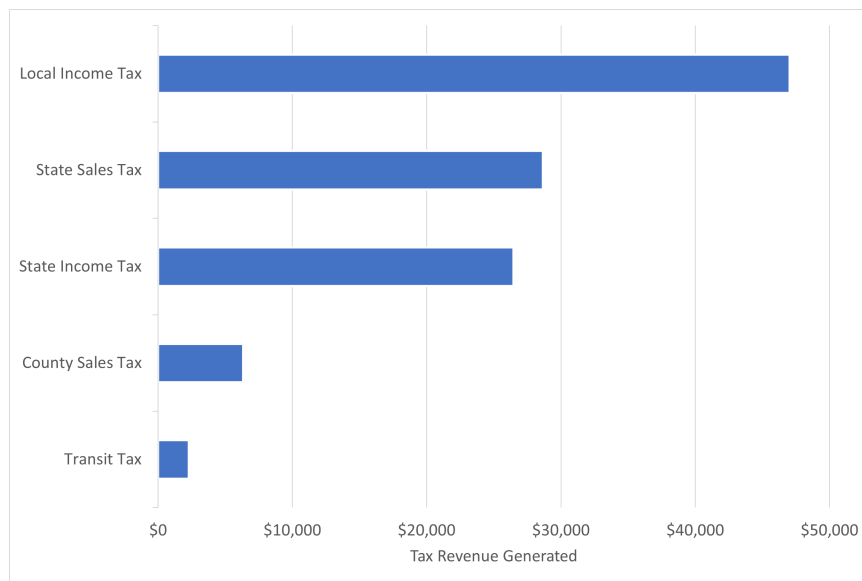


Figure 32: Annual tax revenue generated from 3C+D revenues in the Greater Dayton region (conservative)

We project the state and local municipalities will collect a total of over \$100,000 in taxes per year generated by 3C+D activity in the Greater Dayton region. We also project Clark and Montgomery Counties will collect at least \$6,000 a year and the Greater Dayton Regional Transit Authority will collect at least \$2,000 more a year from economic activity generated by 3C+D expansion in Greater Dayton.

6 Cincinnati

Amtrak has proposed two stations for the 3C+D Corridor in the Cincinnati region: a new station in the city of **Sharonville** and a terminus in the existing station in **Cincinnati**.¹⁶ Both cities are located in Hamilton County in the heart of the Cincinnati Metropolitan Statistical Area, Ohio's most populous metropolitan statistical area. The Sharonville and Cincinnati stations would connect Ohio riders to local travel via Cincinnati's Metro bus system.

Sharonville is a suburban city located on the border of Hamilton County and Butler County. It is a part of the Cincinnati Metropolitan Statistical Area and is located 13 miles north of downtown Cincinnati. Ford Motor Company owns a large transmission plant in Sharonville that covers about one square mile. Polyurethane adhesive company Gorilla Glue is headquartered in Sharonville. Sharonville is also home to the Heritage Village Museum, an open-air historic house museum. We project about 9,000 to 18,000 passengers will use this station per year, generating about \$500,000 to \$1.1 million in revenue.

Cincinnati, the terminus of the proposed 3C+D corridor, is the home to the Cincinnati Union Terminal. Cincinnati Union Terminal currently serves the Cardinal line, which runs from New York City to Chicago and passes through Cincinnati three times a week. In contrast to the 1970s Cleveland terminal, Cincinnati Union opened in 1933 and is constructed in Art Deco style. The station closed from 1972 to 1991 but has been in operation for the past 32 years and had a \$228 million renovation completed in 2018. Its ridership is among the lowest of any stations in Ohio, serving just over 7,000 passengers in 2021.¹⁷ We project about 120,000 to 240,000 new passengers will use this station per year due to the 3C+D line, generating about \$7 million to \$14 million in new revenue.

16. "3C+D Corridor," Amtrak Connects US, Accessed August 25, 2023, <https://www.amtrakconnectsus.com/maps/cleveland-columbus-cincinnati/>

17. "Fact sheet: Amtrak in Ohio" (PDF). Rail Passengers Association. 2020. Retrieved February 4, 2021.

Economic Impact in the Cincinnati MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total economic impact of the 3C+D corridor investment in the Cincinnati Metropolitan Statistical Area to be between \$16 million and \$36 million**. The largest impact will be on the regional construction industry, which will have an economic impact between \$7 million and \$16 million. Figure 33 shows the impacts broken down by industry for the new station investment scenario, the most conservative of the three scenarios when considering impacts to the Cincinnati Metropolitan Statistical Area.

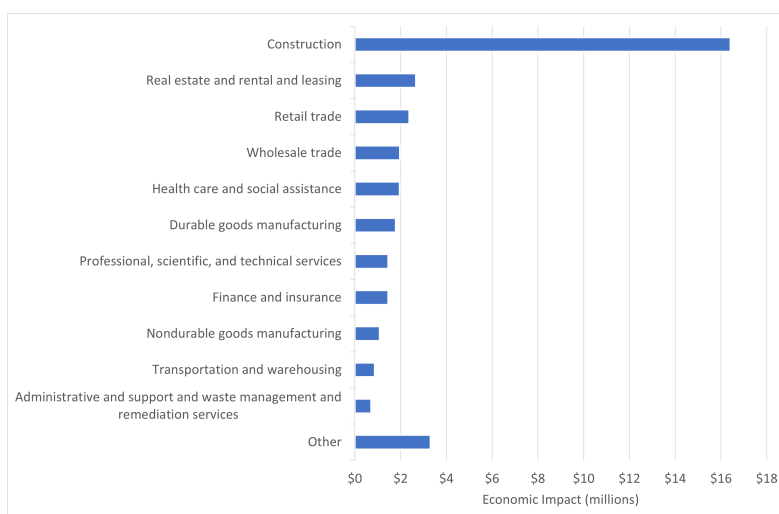


Figure 33: Economic impact of 3C+D investment on the Cincinnati MSA by industry (conservative)

Construction is the largest impact, making up nearly half of the total economic impact of the investment. We also project the real estate and rental and leasing and retail trade industries to have more than \$2 million in economic impact from investment for the 3C+D corridor in the Cincinnati Metropolitan Statistical Area.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the total annual economic impact of the 3C+D corridor revenue in the Cincinnati Metropolitan Statistical Area to be between \$8 million and \$15 million. The largest impact will be on the transportation and warehousing industry, which will have an annual economic impact between \$4.2 million and \$8.1 million. Figure 34 shows the annual impacts broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cincinnati Metropolitan Statistical Area.

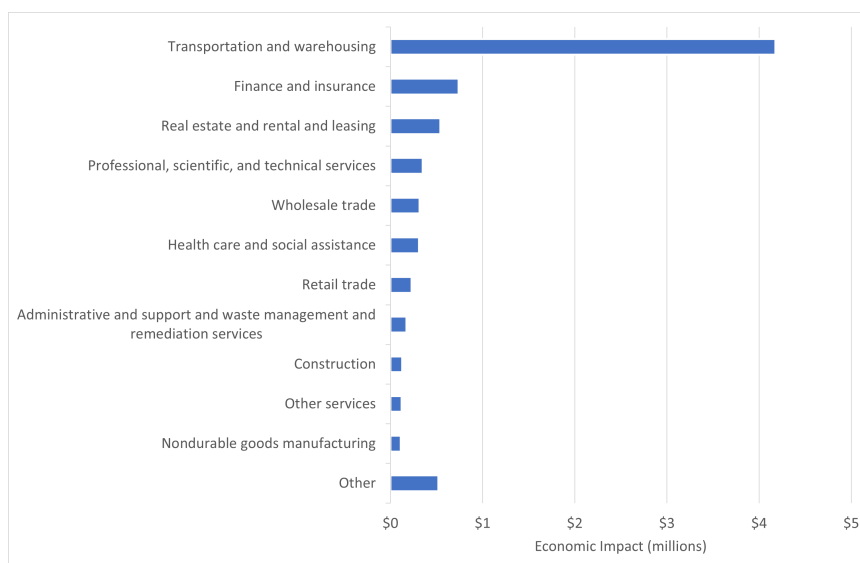


Figure 34: Annual economic impact of 3C+D station revenue on the Cincinnati Metropolitan Statistical Area by industry (conservative)

Transportation and warehousing will incur the largest economic impact, enjoying over half of the economic impact of revenue year to year. We also project the finance and insurance and real estate and rental and leasing industries will each enjoy over half a million dollars in economic impact every year due to 3C+D station revenue.

Employment in the Cincinnati MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Cincinnati Metropolitan Statistical Area will generate between 190 and 410 jobs**. The most jobs will be created in the construction industry, which will have somewhere between 90 and 200 new jobs created. Figure 35 shows the employment impacts broken down by industry for the new station investment scenario, the most conservative of the three scenarios when considering impacts to the Cincinnati Metropolitan Statistical Area.

The Cincinnati MSA's construction industry will incur the largest employment impact, making up nearly half of the jobs created from the investment. We project the retail trade and health care and social assistance industries will each have more than ten jobs created by 3C+D investment in the Cincinnati MSA.

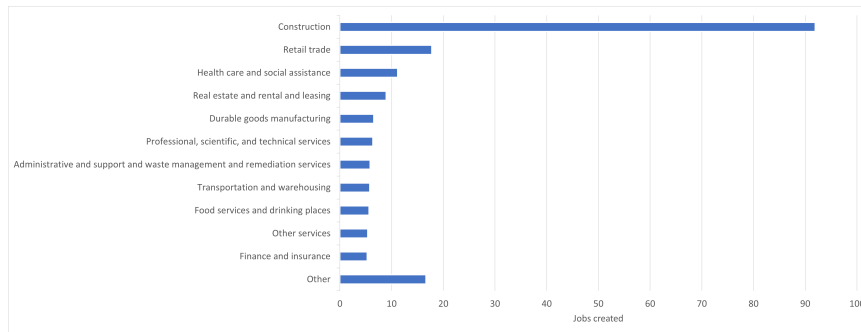


Figure 35: Job creation from 3C+D investment in the Cincinnati MSA by industry (conservative)

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **revenue generated by 3C+D stations in the Cincinnati MSA to support between 60 and 110 jobs every year**. The most jobs supported by the stations will be in the transportation and warehousing industry, which will have between 21 and 42 jobs supported by activity at the two stations. Figure 36 shows the annual jobs supported by the 3C+D corridor broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cincinnati MSA.

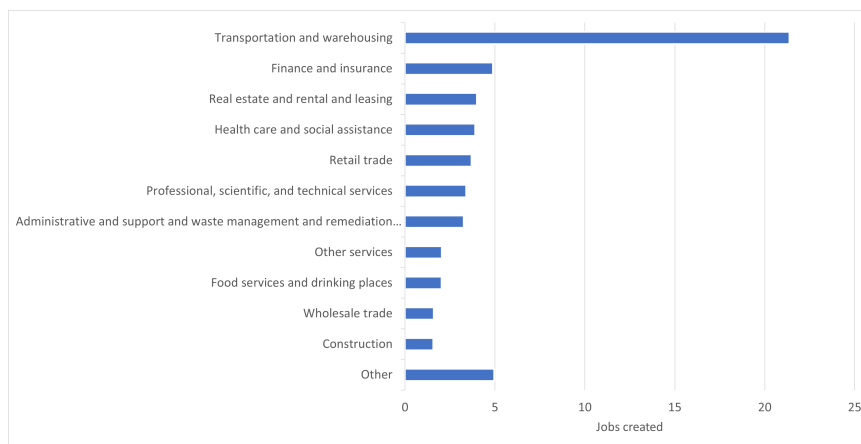


Figure 36: Annual jobs supported from 3C+D revenue in the Cincinnati MSA by industry (conservative)

Over one-third of the jobs supported by revenue generated at 3C+D stations every year will be in the transportation and warehousing industry. We project the finance and insurance, real estate and rental and leasing, health care and social assistance, and retail trade industries to each have four or more jobs supported annually by economic activity at Greater Dayton's 3C+D stations.

Earnings in the Cincinnati MSA

Using the Bureau of Economic Analysis's RIMS II Model, we estimate **investment in the 3C+D corridor in the Cincinnati Metropolitan Statistical Area will generate between \$10 million and \$23 million in new wages for local employees.** The most earnings will be generated for employees in the construction industry, who will receive between \$6 million and \$13 million in new earnings due to the investment. Figure 37 shows the earnings impacts broken down by industry for the equal investment scenario, the most conservative of the three scenarios when considering impacts to the Cincinnati Metropolitan Statistical Area.

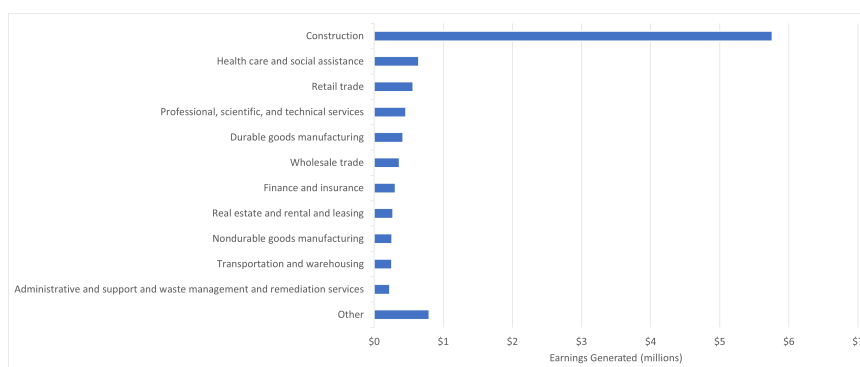


Figure 37: Earnings generated from 3C+D investment in the Cincinnati Metropolitan Statistical Area by industry (conservative)

Most earnings will be enjoyed by workers in the construction industry, who will earn 56% of total earnings generated by the 3C+D corridor investment in the Cincinnati Metropolitan Statistical Area. Workers in the health care and social assistance and retail trade industries will each also enjoy over half a million dollars in new earnings due to the investment.

Using the Bureau of Economic Analysis's RIMS II Model, we estimate the **total annual earnings generated by the 3C+D corridor revenue in the Cincinnati Metropolitan Statistical Area to be between \$3.6 million and \$6.9 million.** The largest impact will be on workers in the transportation and warehousing industry, who will earn between \$1.8 and \$3.4 million more per year due to revenues generated from the 3C+D corridor. Figure 38 shows the annual revenue generated broken down by industry for the low ridership scenario, the most conservative of the three scenarios when considering revenue impacts to the Cincinnati Metropolitan Statistical Area.

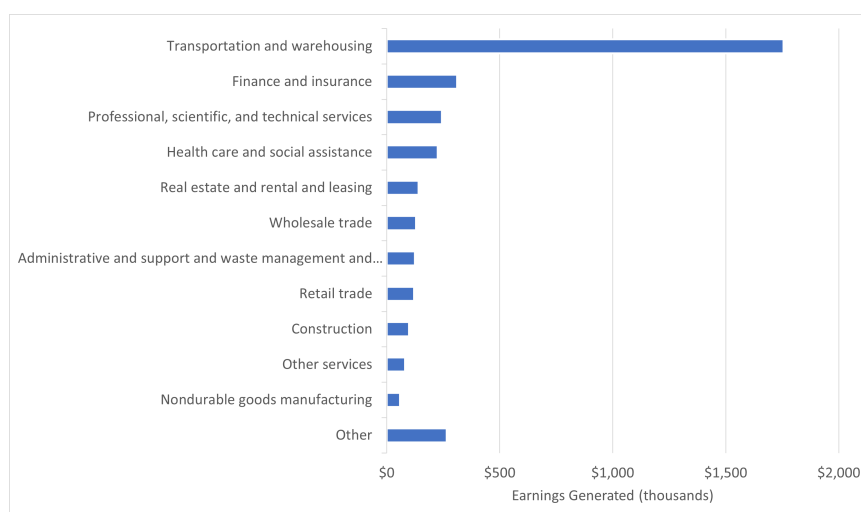


Figure 38: Annual earnings generated from 3C+D expansion in the Cincinnati Metropolitan statistical Area by industry (conservative)

Workers in the transportation and warehousing sector will gain the most earnings, enjoying nearly half of the total annual earnings generated from 3C+D revenues. Workers in the finance and insurance, professional, scientific, and technical services, and health care and social assistance industries will also receive more than \$200,000 in new earnings per year due to 3C+D expansion in the Cincinnati Metropolitan Statistical Area.

Tax revenue generated in the Cincinnati MSA

We estimate **between \$500,000 and \$1.2 million in tax revenue will be generated by 3C+D investment in the Cincinnati Metropolitan Statistical Area**. About a third of these revenues will be collected in the form of local income taxes, which will generate between \$160,000 and \$410,000 for the cities of Cincinnati and Sharonville. Figure 39 shows the projected revenue generated by tax instrument for the new station investment scenario, the most conservative of the three scenarios when considering impacts to the Cincinnati Metropolitan Statistical Area.

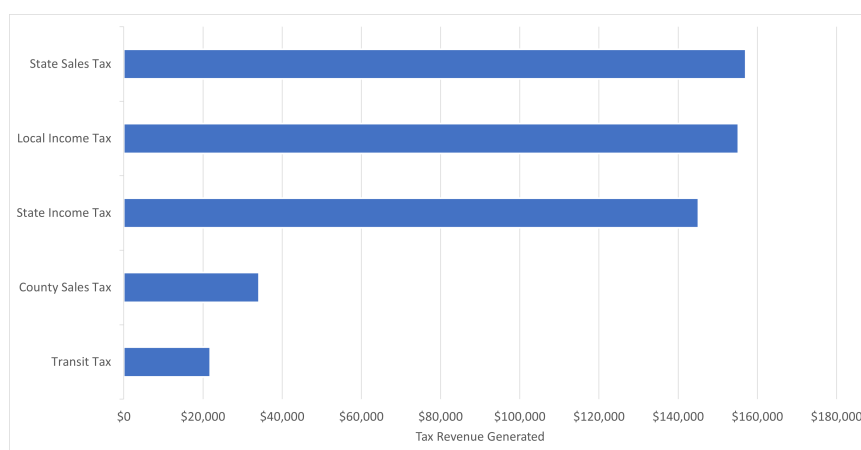


Figure 39: Tax revenue generated from 3C+D investment in the Cincinnati MSA (conservative)

The bulk of tax revenue generated from 3C+D investment will be collected in the form of local income taxes and state income and sales taxes, which together cover about 89% of taxes collected from the investment. We project county governments will collect \$34,000 to \$76,000 and local transit agencies will collect \$22,000 to \$48,000 in local sales taxes spurred by the investment.

We estimate **between \$190,000 and \$360,000 in annual tax revenue will be collected in the Cincinnati Metropolitan Statistical Area due to ongoing ridership revenues from the 3C+D corridor**. Much of these revenues will be collected in the form of local income taxes, which will generate a total of \$63,000 to \$120,000 for the cities of Cincinnati and Sharonville per year. Figure 40 shows the projected revenue generated by tax instrument for the low ridership scenario, the most conservative of the three scenarios when considering ridership revenue impacts to tax revenues in the Cincinnati Metropolitan Area.

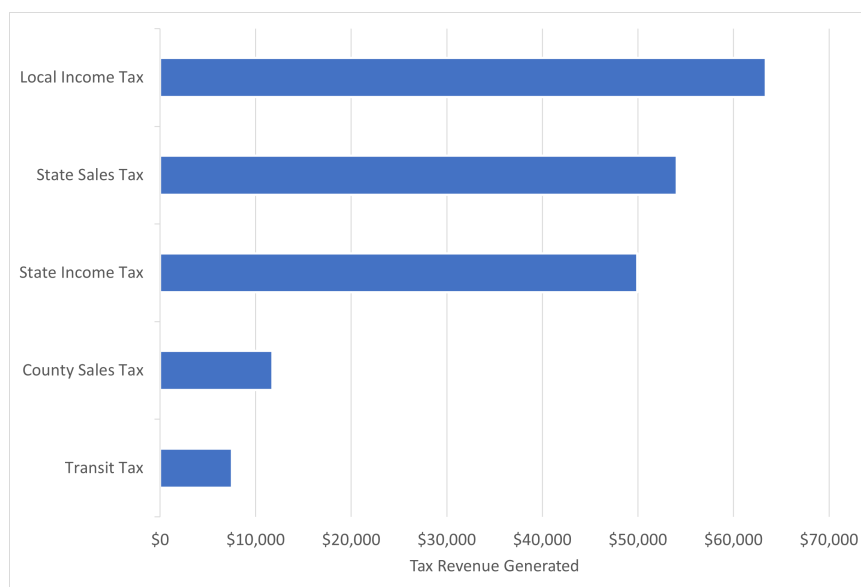


Figure 40: Annual tax revenue generated from 3C+D revenues in the Cincinnati MSA (conservative)

We project the state and local municipalities will collect a total of over \$160,000 in taxes per year generated by 3C+D activity in the Cincinnati Metropolitan Statistical Area. We also project Hamilton County will collect at least \$11,000 a year and the Southwest Ohio Regional Transit Authority will collect at least \$7,000 more a year from economic activity generated by 3C+D expansion in the Cincinnati Metropolitan Statistical Area.

A Methodology

Economic Impact Analysis

Investment in the 3C+D corridor will have effects throughout the economy beyond the first order impacts on rail ridership. In addition to direct spending, Amtrak will pay rent on facilities to carry out their work, procure insurance, employ professional and technical services such as legal, accounting, and computer services, and hire administrators and waste management services. Not only does this corridor open up a new mode of travel for Ohioans, but it also will support key industries in the region.

To estimate gross state product, employment, and earnings impacts, we first estimated investment and ridership impacts of the 3C+D corridor.

Currently, Amtrak estimates infrastructure investments needed for the 3C+D corridor at \$100 million. We established three separate investment scenarios for this \$100 million estimate. The “new station” investment scenario assumes this \$100 million investment will be spent equally on infrastructure near and within the seven new stations on the corridor: Cleveland (Airport), Crestline, Delaware, Columbus, Springfield, Dayton, and Sharonville. The “equal investment” scenario assumes the investment will be spent equally on infrastructure around and within all nine stations on the corridor. This comprises the aforementioned seven stations plus existing stations in Cleveland and Cincinnati. For the “weighted investment” scenario, we assume investments are concentrated at stations with more projected ridership. We weigh investments proportionally to ridership as projected in our “moderate ridership” scenario as detailed below.

The basis for our ridership predictions comes from the 2007 “Ohio Hub Passenger Rail Economic Impact Study” produced by Transportation Economics and Management Systems. This report has ridership predictions for each of the relevant stations in the new 3C+D proposal. Our estimates are based on the first plan listed in the report to make our estimates for ridership on the 3C+D corridor.

However, we suspect that this proposal overestimates the number of riders this corridor will attract when reviewing ridership at comparable stations. This is especially true in light of how much Amtrak ridership has declined since the COVID-19 pandemic and the speeds of trains planned for the 3C+D corridor compared to the Ohio Hub plan of 2007. For example, the 2007 report estimates that the Cincinnati station will have over 800,000 annual riders. In FY 2022, the Cincinnati station had just over 8,000 riders. Although the 3C+D corridor will encourage new riders, a 10,000% increase is unreasonable when considering comparable station ridership.

Still, there is one key insight that we can draw from these predictions. If we assume that each predicted ridership value is overestimated by the same percent, then the ratios between predictions will remain constant.

Below is a mathematical explanation of the construction of our ridership model:

Let a and b be two predicted values for ridership that have been overestimated

Let a' and b' be the true values of future ridership

Let e be the overestimate percentage such that $a' * e = a$ and $b' * e = b$

It follows: $a/b = (a' * e)/(b' * e) = a'/b'$

Although it is unlikely that each estimate is off by exactly the same percent, as long as it is fairly close we will be within a reasonable margin of error using this approach. This means that if we have a reasonable estimate for the increased ridership at one stop, then we can use the ratio of the forecasted riderships to determine a new estimate for each station.

The two candidates for our choice of future stops are Cleveland and Cincinnati, the two major cities that already have Amtrak service. Between these two, we believe Cleveland to be the more appropriate choice for the following reasons:

1. Cleveland currently has daily service on two lines. This means that introducing a new intercity corridor to Cleveland is going to be a smaller change than introducing it to Cincinnati, which only has three trains a week on one line.
2. Cincinnati appears to be an outlier in the 2007 report. Using its projected ridership as the baseline will underestimate our predictions for each other station. However, using Cleveland as the baseline means that we are only potentially overestimating ridership in Cincinnati.

We made one other adjustment to determine ridership predictions. Cleveland currently serves two daily train lines, meaning the 3C-and-D corridor would be its third. To adjust for the other trains, we divide the true **current service** by two (so that we have the estimated service per daily train) and we divide the **forecasted ridership** from the 2007 report by three (again to arrive at the ridership per train).

Our projections assume that this corridor roughly follows the schedule outlined by Amtrak. Under this proposal, there would be three trains that crossed the entire corridor daily.

This means that every station would see three trains stop through daily. By multiplying our per-train ridership numbers by the total number of trains, we arrive at our final annual ridership estimates.

In order to estimate the economic impact, employment, and earnings using the RIMS II model, we estimate what the total revenue in each MSA will be. To do this, we fit a linear regression model to predict revenue based on the estimated ridership and the population of the city the stop is in. Our model is based on the currently operating Amtrak stations in Ohio to capture the riding behaviors of the target population.¹⁸

Table 2: Estimated ridership and revenue by station

Station	MSA	Annual Ridership (Thousands)	Annual Revenue (Millions)
Cleveland	Cleveland	49.1 - 98.5	\$3.4 - \$6.3
Cleveland Airport	Cleveland	5.3 - 10.7	\$0.9 - \$1.2
Crestline	Columbus	10.6 - 21.2	\$0.6 - \$1.2
Delaware	Columbus	38.7 - 77.8	\$2.3 - \$4.6
Columbus	Columbus	84.2 - 169.1	\$6.3 - \$11.2
Springfield	Dayton	6.8 - 13.7	\$0.5 - \$0.8
Dayton	Dayton	84.6 - 170.0	\$5.1 - \$10.1
Sharonville	Cincinnati	9.1 - 18.3	\$0.5 - \$1.1
Cincinnati	Cincinnati	119.9 - 240.8	\$7.4 - \$14.4

Below is the same data organized by region¹⁹

Table 3: Estimated ridership and revenue by region

Region	Population	Annual Ridership	Annual Revenue
Cleveland-Elyria MSA	2,084,462	54,000 - 109,000	\$4.3 - \$7.5 million
Greater Columbus	2,328,769	133,000 - 268,000	\$9.2 - \$17.0 million
Greater Dayton	941,379	91,000 - 184,000	\$5.6 - \$10.9 million
Cincinnati MSA	2,268,393	129,000 - 259,000	\$7.9 - \$15.5 million

For purposes of this study, analysts procured RIMS II multiplier estimates for four regions: Cincinnati, Cleveland-Elyria, Greater Columbus, and Greater Dayton. The Cincinnati and Cleveland-Elyria regions in this study are coterminous with

18. Great American Stations, Available Online:

https://www.greatamericanstations.com/?s=ohio&post_type=stations

19. U.S. Census Bureau, "2017-2021 American Community Survey 5-year Public Use Microdata Samples," 2021, <https://data.census.gov/table/ACSST1Y2021.S0101?q=S0101+&g=310XX00US44220>.

the Cincinnati and Cleveland-Elyria Metropolitan Statistical Areas respectively as defined by the federal Office of Management and Budget. The Greater Columbus region in this study comprises the Columbus Metropolitan Statistical Area combined with the Mansfield Metropolitan Statistical Area and nonmetropolitan Crawford County. The Greater Dayton region comprises the Dayton Metropolitan Statistical Area and the Springfield Metropolitan Statistical Area.

Analysts estimated economic impact, employment impact, and wage impact using the Bureau of Economic Analysis's RIMS II economic impact model. This model estimates how much revenue in one sector translates to economic activity in other sectors using historical patterns of economic development.

To measure the potential local income tax revenue raised due to investment in and ridership on the 3C+D corridor, analysts multiplied the expected earnings generated by investment and ridership by local income tax rates most recently reported by the Ohio Department of Taxation.²⁰ Using data from the U.S. Bureau of Labor Statistics's Consumer Expenditure Survey, we assume 80 percent of the average household's income is spent on consumer purchases and that 33 percent of those purchases are subject to sales taxation. We apply these assumptions and state, county, and local transit authority tax rates as reported by the Ohio Department of taxation to estimate state, county, and local transit authority tax revenues generated by 3C+D investment and ridership. Total state income tax revenue is estimated by multiplying total earnings by the ratio of total state sales tax collected to total reported income in Ohio in FY 2021.

20. "MUNICIPAL INCOME TAX: Tax Rates and Net Collections, by Municipality, Calendar Year 2020," Ohio Department of Taxation, Accessed October 5, 2023, <https://tax.ohio.gov/researcher/tax-analysis/tax-data-series/local-government-funds/lg11/lg11cy20>

Fiscal Analysis of Operating Costs of Passenger Rail in Ohio

Prepared for All Aboard Ohio by Scioto Analysis

Executive Summary

This report is a fiscal analysis of operating costs of passenger rail for Ohio, focusing on operating cost needs for the proposed 3C+D corridor. We benchmark Ohio against other states with comparable passenger rail systems—Michigan, Minnesota, North Carolina, and Virginia—and the 29 current state-supported Amtrak routes across the country. Using these comparison states and route data, we examine ridership patterns, financing mechanisms, and operational expenses relevant to policymakers interested in financing passenger rail in the state.

The state of **Michigan** operates three passenger rail lines with \$33 million in state contribution in FY2023. Key funding sources for Michigan include vehicle registration fees, motor vehicle taxes, income taxes, and recreational marijuana taxes. **Minnesota** has one passenger rail line, which it funds with general state revenues and a newly-approved dedicated passenger rail fund. FY2024 spending on passenger rail in Minnesota was \$1.8 million. **North Carolina** has nine times Ohio's current ridership with \$45 million allocated to rail in FY2024-2025 from their State Highway Fund. North Carolina primarily finances its State Highway Fund with motor fuel taxes and licenses and fees. **Virginia** had 2.2 million riders and \$90 million allocated to train operations in FY2023. Virginia funds its passenger rail spending primarily through motor vehicle fuels taxes, state sales and use taxes, and motor vehicle sales and use taxes.

The proposed 3C+D corridor has a typical track length for state-supported routes, with the 250 projected miles of the corridor 30 miles fewer than the 283 median track length for the 29 state-supported routes. If the 3C+D corridor has ridership that reflects current state-supported routes, the line should expect 110,000 to 580,000 riders a year.

Using track length, ridership, and passenger-mile projections and current state support figures for the 29 routes, we estimate 27 budget scenarios for the state of Ohio. In a majority of those scenarios, state support is less than \$10 million, with a median scenario of \$9.1 million in state support. Because of this, we estimate a standard budgetary need for operating expenses for the 3C+D corridor to be \$9.1 million and a safe budget set at the 75th percentile of scenarios would be \$13.4 million.

Revenue Generation in Other States

We assembled evidence from four comparison states—Michigan, Minnesota, North Carolina, and Virginia—to inform policymaking in Ohio. Here, we present information on the size of the passenger rail system, level of state support, and revenue instruments used to fund state support in each of these four states.

Michigan

The state of Michigan benefits from having a large combined statistical area of 5.3 million people in Detroit-Ann Arbor. Its second largest statistical area is Grand Rapids, at 1.5 million, which is a three-hour drive distance to Chicago. Both of these metropolitan areas have benefited from passenger rail within the state.

Michigan is served by three passenger rail lines. The Wolverine line is the most frequented line, with over half of Michigan's rail traffic in 2023 on that line.¹ It goes from Detroit to Chicago, with a spur into suburban Detroit's Oakland County. About a quarter of Michigan's passengers travel on the Blue Water line, which comes up from Chicago to travel through Kalamazoo and East Lansing then northeast from there to the Canadian border. About an eighth of statewide trips are on the Pere Marquette line, which goes from Grand Rapids to Chicago. Michigan's four largest combined statistical areas (Detroit, Grand Rapids, East Lansing, and Kalamazoo) are all served by passenger rail. About three quarters of a million rides happened in Michigan in 2023, over five times as many as happened in Ohio the same year.^{2,3}

Financing

In FY2023, the Michigan Department of Transportation spent \$33 million on Amtrak operating assistance.⁴ Funding for Amtrak operating assistance came from the state Comprehensive Transportation Fund, a state fund restricted for public transportation services.⁵

Revenues for Michigan's Comprehensive Transportation Fund come from three sources. About two-thirds come from a transfer from the Michigan Transportation Fund, the state's primary fund for dedicated transportation revenue.

¹ "Annual Ridership Summary Report," Michigan Department of Transportation, Accessed October 24, 2024, <https://mdotjboss.state.mi.us/RailStats/railStatsHome.htm>

² Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Ohio," Accessed October 24, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/OHIO23.pdf>

³ Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Michigan," Accessed October 24, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/MICHIGAN23.pdf>

⁴ "Rail Operations and Infrastructure Obligations," Michigan Department of Transportation, November 1, 2023, Accessed October 24, 2024, <https://www.michigan.gov/mdot/-/media/Project/Websites/MDOT/About-Us/Governmental-Affairs/Legislative-Reports/FY-2023/Section-704-Rail-Operations-Infrastructure-Expenditures-Report.pdf?rev=9fbdc7a59ebd4f4787d025832f0b13a6&hash=D2DAB5FEBD0F49DA3A7F2A7289DF9C0D>

⁵ Hamilton, William E., "The Comprehensive Transportation Fund (CTF) and State Support for Local Public Transportation," Fiscal Brief, House Fiscal Agency, August 8, 2023, Accessed October 31, 2024, https://www.house.mi.gov/hfa/PDF/Alpha/Fiscal_Brief_CTF_and_State_Support_for_Public_Transit_Aug2023.pdf

About 80% of the Michigan Transportation Fund revenue comes in nearly equal proportion from vehicle registration fees and motor vehicle taxes.⁶ The balance comes mostly from income taxes, which funded about one-sixth of the fund in FY 2023. About \$69 million in revenue (over twice the state funding for Amtrak operations) also came from recreational marijuana taxes.

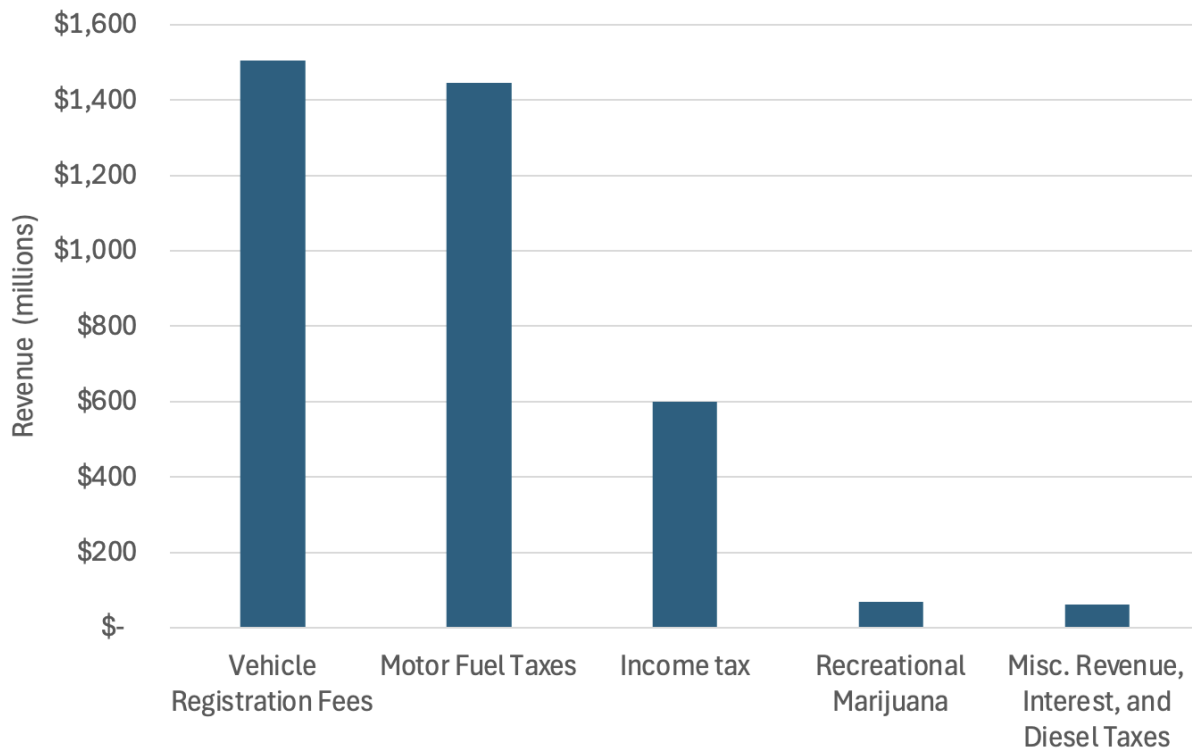


Figure 1: Revenues for Michigan Transportation Fund, FY 2023

The Michigan Comprehensive Transportation Fund also receives substantial revenue from auto-related sales such as sales of motor fuels, motor vehicles, and automotive parts and accessories. Four percent of sales taxes in those categories are deposited into the comprehensive transportation fund.⁷

⁶ Michigan Department of Transportation, “Michigan Transportation Fund and Local Program Fund: Summary of Receipts and Distributions,” <https://www.michigan.gov/mdot/-/media/Project/Websites/MDOT/Business/Local-Government/Act-51/MTF-Reports/Annual-Reports/2023/Schedule-A.pdf?rev=f567ae1e70fd4ed0acdff49915cd31c8&hash=55EDFCB00403EBFDB71922ABF1F4D277> Accessed October 31, 2024

⁷ Hamilton, William E., “The Comprehensive Transportation Fund (CTF) and State Support for Local Public Transportation,” Fiscal Brief, House Fiscal Agency, August 8, 2023, Accessed October 31, 2024, https://www.house.mi.gov/hfa/PDF/Alpha/Fiscal_Brief_CTF_and_State_Support_for_Public_Transit_Aug2023.pdf

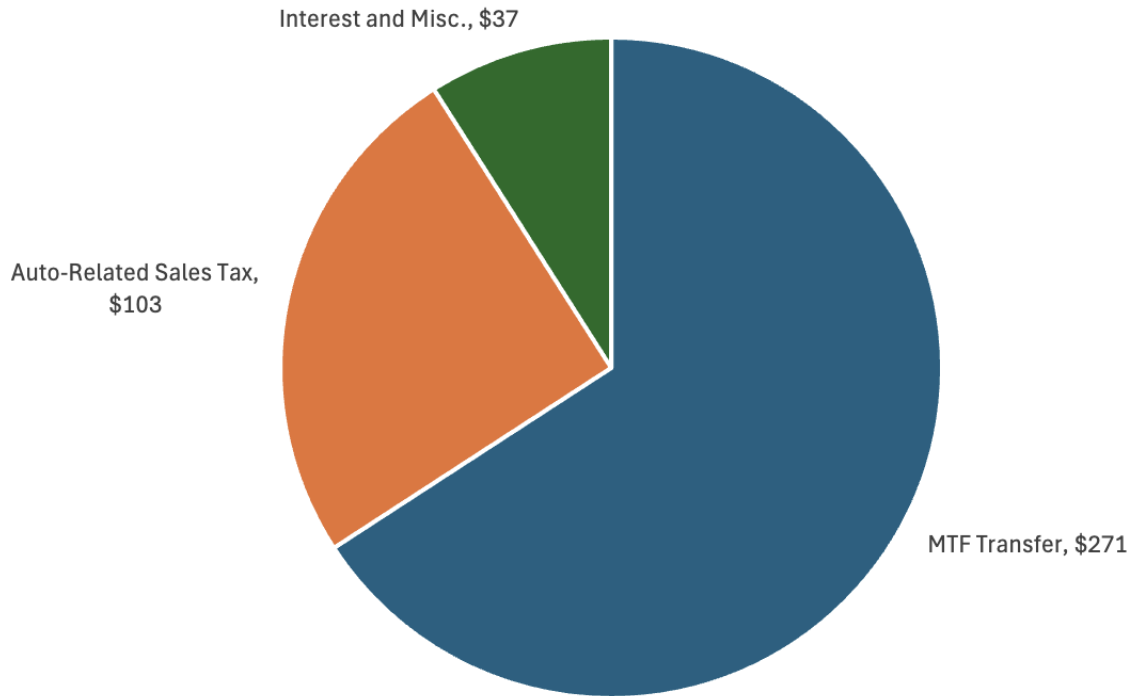


Figure 2: Revenues for Comprehensive Transportation Fund, FY 2023.

Minnesota

Minnesota's population is more centralized than Ohio's, with its largest combined statistical area (Minneapolis-St. Paul, population 4.1 million) nearly 13 times the size of its next-largest. Minneapolis-St. Paul is about an hour and a half drive to Rochester, Minnesota and about a two and a half hour drive to Duluth, Minnesota. What Minneapolis's population center shares in common with Ohio's metropolitan areas, though, is its relative isolation from very large statistical areas, with the closest, Chicago, nearly seven hours away from Minneapolis.

While Minnesota has plans for a line from Minneapolis to Duluth, it currently only has passenger rail on one line, the *Empire Builder*, which passes through St. Paul from Chicago then goes northwest to Fargo, North Dakota. Ridership in Minnesota is comparable to ridership in Ohio, with 110,000 riders in 2023 compared to Ohio's 130,000.⁸⁹

⁸ Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Ohio," Accessed October 31, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/OHIO23.pdf>

⁹ Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Minnesota," Accessed October 31, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/MINNESOTA23.pdf>

Amtrak has also begun a new line, the Borealis line, which has increased frequency between Chicago and St. Paul. In its first 22 weeks of operation, the Borealis line has reached 100,000 riders.¹⁰

Financing

Current funding for passenger rail in Minnesota is limited, with \$1.8 million combined operations and capital spending allocated in FY 2024 and \$3.2 million allocated for FY 2025.¹¹

Funding is allocated from the state's general fund. General fund dollars come from a range of sources.¹²

The largest sources of funding for the state general fund are individual income taxes, sales and use taxes, and corporate income taxes. The state also raises over \$1 billion each with state property taxes, gross earning taxes, and tobacco product taxes.

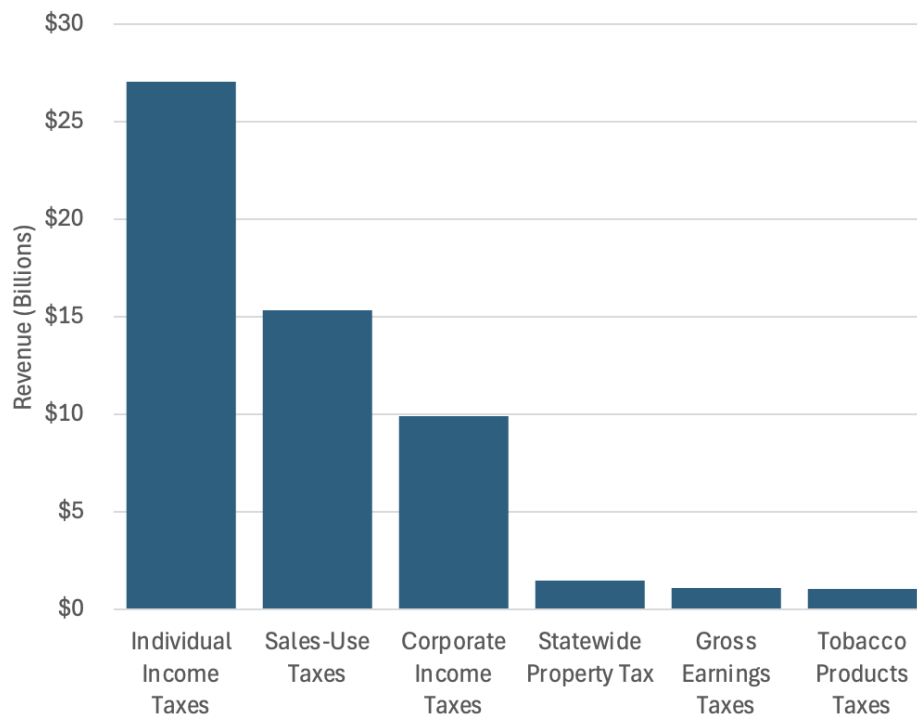


Figure 3: Major sources of revenue for Minnesota general fund

¹⁰ Amtrak, "Borealis Ridership Reaches 100,000 Passengers in 22 Weeks," October 24, 2024, Accessed October 31, 2024,

<https://media.amtrak.com/2024/10/borealis-ridership-reaches-100000-passengers-in-22-weeks/>

¹¹ Minnesota Legislature, "HF 2887," March 27, 2024, Accessed October 31, 2024,

https://www.revisor.mn.gov/bills/text.php?number=HF2887&type=bill&version=5&session=ls93&session_year=2023&session_number=0

¹² State of Minnesota office of Management and Budget, "Current Estimates of State Budget," Accessed October 31, 2024, <https://mn.gov/mmb/budget/state-budget-overview/current-estimates/>

Minnesota also raises a minimum of \$100 million from a range of other sources, including statewide investment income, excise, estate, gambling, alcohol, and other taxes, licenses, fees, fines, and surcharges, tobacco settlement, care and hospitalization, and lottery revenue.

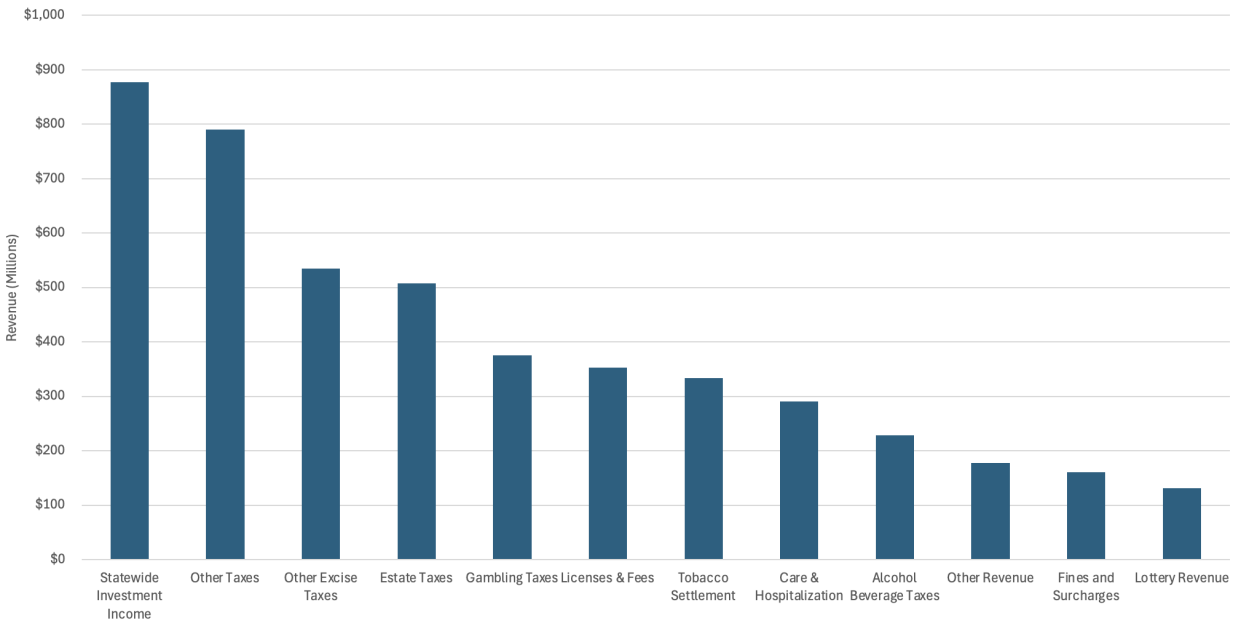


Figure 4: Secondary sources of revenue for Minnesota general fund

Minnesota also collects over \$10 million each in departmental service revenues, medical assistance recovery, cannabis taxes, and other program cost reimbursements.

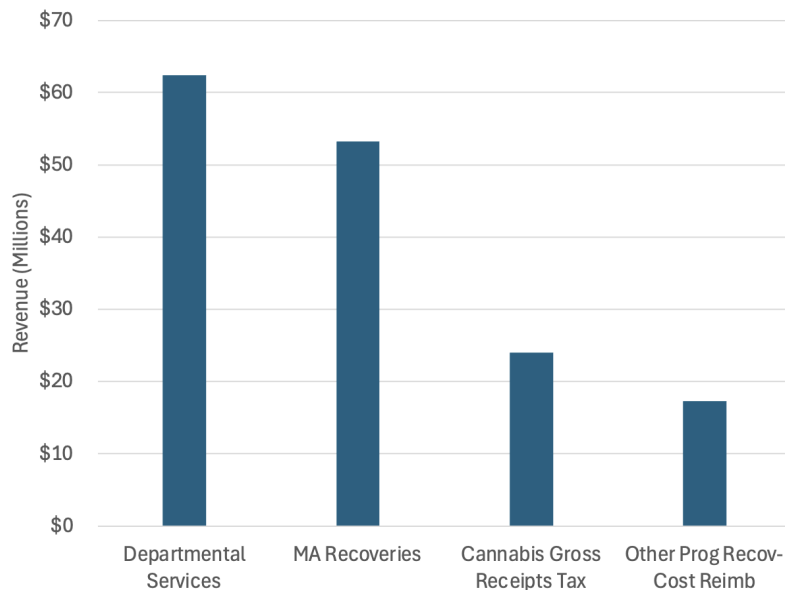


Figure 5: Other notable sources of revenue for Minnesota general fund

Minnesota has also recently established a passenger rail fund, funded with 50 percent of state revenues from railroad property taxes.¹³

North Carolina

North Carolina presents a good comparison state to Ohio for a few reasons. First, each state is home to three combined statistical areas with a population of over 1.5 million each. These are Cleveland-Akron, Columbus, and Cincinnati in Ohio and Charlotte, Raleigh-Durham, and Greensboro in North Carolina. Additionally, each of these areas are located roughly one to two hours of drive time between another large in-state CSA. This means each state has metropolitan areas with density, but distributed throughout the state. These population centers are also fairly isolated from the closest very large metropolitan areas, with all metropolitan areas more than four hours away from the seven million-population and higher combined statistical areas of Atlanta, Baltimore-Washington, and Chicago. This means these states do not have the proximate “nodes” for out-of-state traffic that states like Virginia or Wisconsin do.

A difference between the two states is the level of service in each state. According to 2023 state fact sheets, Amtrak ridership was nearly nine times as high in North Carolina in Fiscal Year 2023 than it was in Ohio, with 1.2 million riders in North Carolina compared to 130,000 in Ohio.¹⁴

¹⁵ Ohio is served by the Lake Shore Limited and Capitol Limited lines that run across northern counties of the state and the Cardinal which follows the Ohio River. Ohio’s largest county, Franklin, has no passenger rail service.

North Carolina, on the other hand, has three lines that run from Northeast to Southwest: the Carolinian connecting Greensboro to Charlotte, the Piedmont connecting Raleigh to Columbia, South Carolina, and the Silver Meteor and Palmetto lines, which run from Richmond, Virginia to Charleston, South Carolina, providing service to smaller North Carolina areas like Fayetteville and Rocky Mount-Wilson along the way. The Carolinian also serves as an east-west line that connects Greensboro to Raleigh-Durham.

¹³ Minnesota Legislature, “HF 2887,” March 27, 2024, Accessed October 31, 2024, https://www.revisor.mn.gov/bills/text.php?number=HF2887&type=bill&version=5&session=ls93&session_year=2023&session_number=0

¹⁴ Amtrak, “Amtrak Fact Sheet: Fiscal Year 2023 - State of Ohio,” Accessed October 23, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/OHIO23.pdf>

¹⁵ Amtrak, “Amtrak Fact Sheet: Fiscal Year 2023 - State of North Carolina,” Accessed October 23, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/NORTHCAROLINA23.pdf>

Financing

The state of North Carolina appropriated \$45 million toward passenger rail in the FY 2024 and FY 2025 fiscal years.¹⁶ Funds for the line item were appropriated from the State Highway Fund, which has \$3 billion allocated in FY 2024 and \$3.2 billion allocated in FY 2025. This means about 1.5% of the state highway fund will be allocated to rail in FY 2024 and 1.4% will be allocated to rail in FY 2025. The state plans to spend 42 times more on highway maintenance than rail maintenance and operations in FY 2024 and 49 times more in FY 2025.

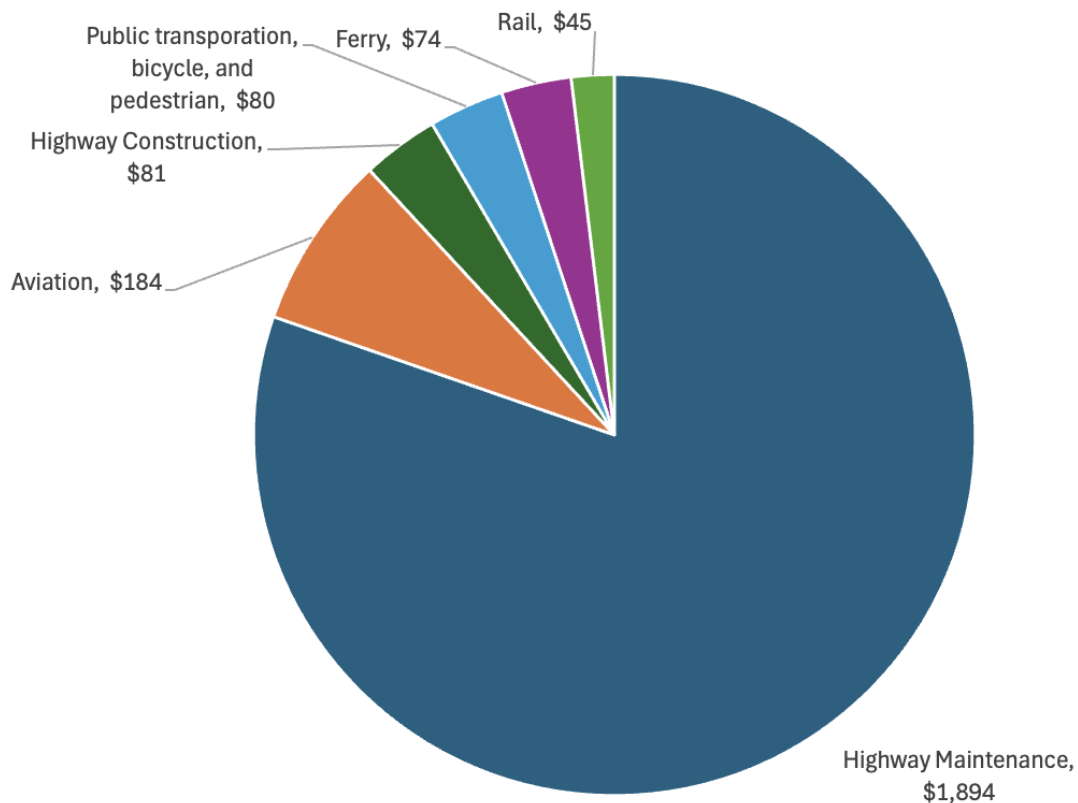


Figure 6: Mode-specific spending, state highway fund, North Carolina, FY 2024, millions of dollars

84% of all mode-specific spending from the North Carolina state highway fund went to highway maintenance and construction. Passenger rail had the lowest allocation of any mode, coming below aviation (\$184 million), public transportation, bicycle, and pedestrian (\$80 million), and ferries (\$74 million).

¹⁶ "House Bill 259," General Assembly of North Carolina, Accessed October 23, 2024, <https://webservices.ncleg.gov/ViewNewsFile/80/H259-CCSMHxr-6%20v17>, page 15

North Carolina's state highway fund comes from a range of sources but most heavily draws on revenues from the motor fuels tax and licenses and fees, which together account for 91% of state highway fund revenue in FY 2024.

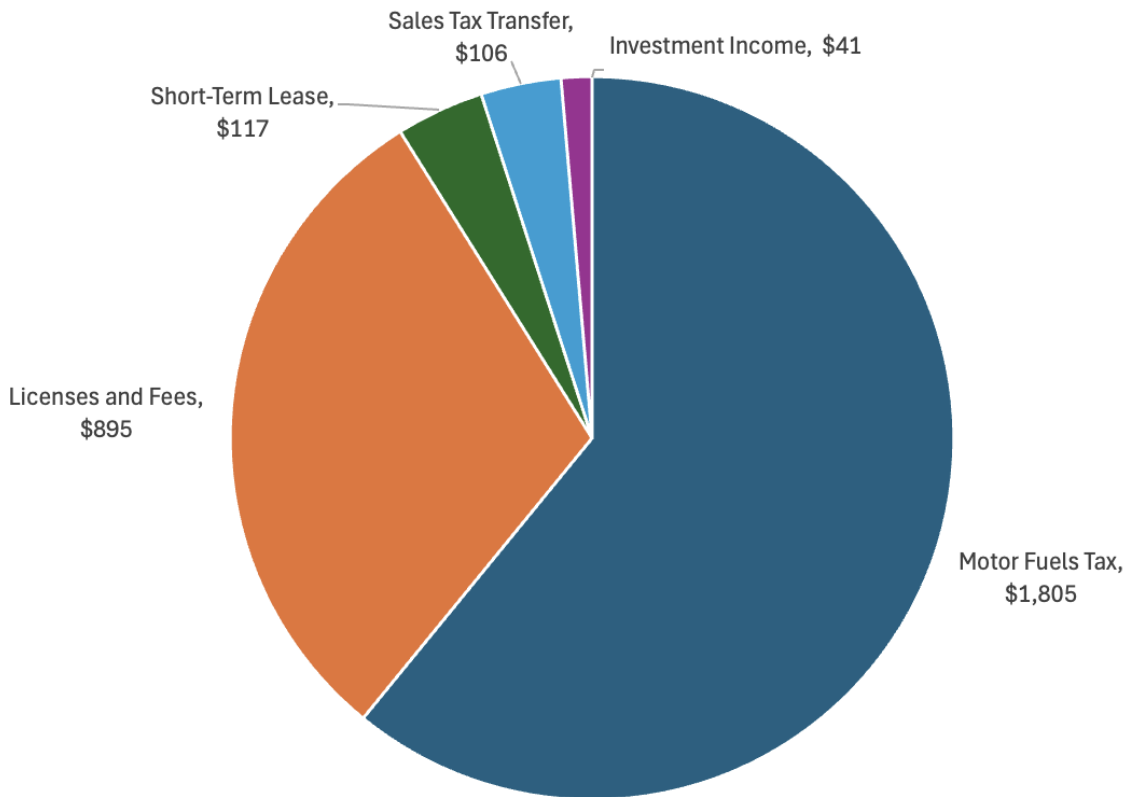


Figure 7: Revenue sources, state highway fund, North Carolina, FY 2024, millions of dollars

Most of North Carolina's state highway fund is financed by motor fuels taxes, but significant portions come from other sources as well. Nearly \$900 million of state highway funding was forecasted to come from licenses and fees, most of which are collected by the state Department of Motor Vehicles.¹⁷ According to the state Department of Transportation, these funds primarily come from licensed drivers and vehicle registrations. The state highway fund also receives significant revenue from an eight percent use tax for short-term vehicle leases or rentals and a sales tax transfer. Each of these financing mechanisms was projected to raise more revenues in FY 2024 than the total allocated for rail for the year.

¹⁷ "Finance & Budget," North Carolina Department of Transportation, Accessed October 24, 2024, <https://www.ncdot.gov/about-us/how-we-operate/finance-budget/Pages/default.aspx>

Virginia

The state of Virginia is home to three statistical areas with populations greater than one million people: Washington (total population 10 million, 3 million in Virginia), Virginia Beach (population 1.9 million), and Richmond (population 1.3 million). Having a very large statistical area the size of Washington gives the state a strong base for passenger rail. Washington is about three and a half hours of drive time from Richmond, which is about an hour and a half drive time from Virginia Beach.

Of these four comparison states, Virginia has the highest ridership, with 2.2 million rides in 2023, sixteen times Ohio's 2023 ridership.^{18,19} Virginia's lines radiate from Washington, with the Crescent passing through Charlottesville and Lynchburg before passing into North Carolina and a number of lines passing through Richmond then down to North Carolina. The Cardinal line breaks off through West Virginia and there are also spurs that go off to Roanoke, Williamsburg/Newport News, and Norfolk.

Financing

The Virginia Passenger Rail Authority reports receiving \$122.7 million in operating funds for FY 2023.²⁰ Of this budget, \$90 million was allocated toward train operations. About half of revenue for operations came from passenger tickets and the other half came from the Virginia Passenger Rail Authority Fund.

¹⁸ Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Ohio," Accessed November 5, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/OHIO23.pdf>

¹⁹ Amtrak, "Amtrak Fact Sheet: Fiscal Year 2023 - State of Virginia," Accessed November 5, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/VIRGINIA23.pdf>

²⁰ Virginia Passenger Rail Authority, "Fiscal Year 2023 Budget," Accessed November 5, 2024, https://vapassengerrailauthority.org/wp-content/uploads/2022/07/VPRA_FY23_Budget-Approved.pdf

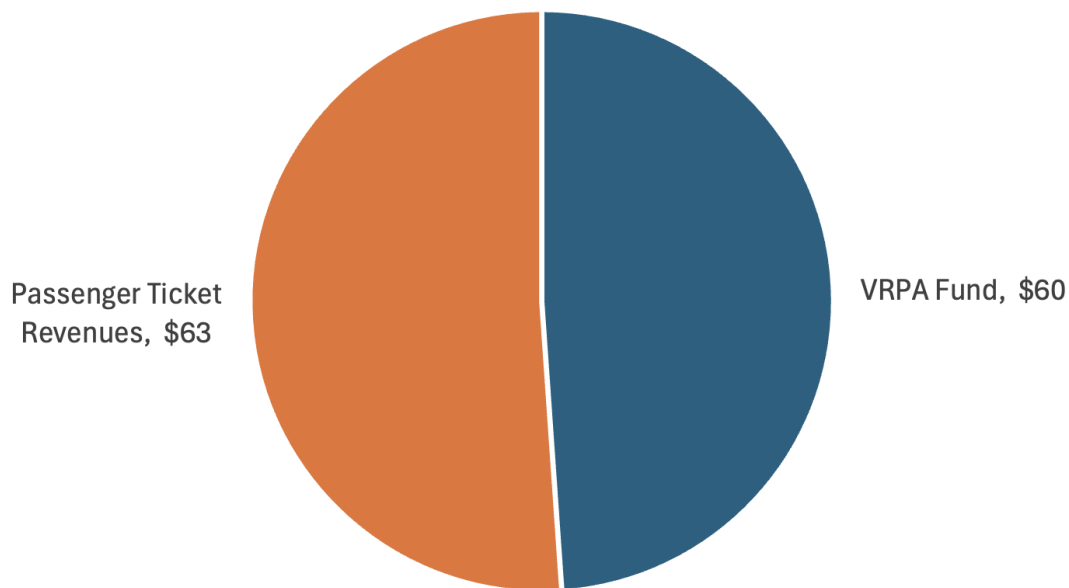


Figure 8: Revenue for Virginia Passenger Rail Authority, millions of dollars

The Virginia Passenger Rail Authority Fund receives revenue from the Transportation Trust Fund, which is a transfer from the Commonwealth Transportation Fund.²¹ Over 80% of Commonwealth Transportation Funds came from motor vehicle fuels taxes, state sales and use taxes, and motor vehicle sales and use taxes in FY 2023.²² A significant portion also came from insurance premium taxes, motor vehicle license fees, and international registration plan fees.

²¹ Virginia Department of Transportation, “Fiscal Year 2023: Commonwealth Transportation Fund Budget,” June 2022, Accessed November 5, 2024, http://166.67.200.218/about/resources/budget/CTF_Budget_2023_-_Final_acc083023_pm.pdf

²² Virginia Department of Motor Vehicles, “Commonwealth Transportation Fund Revenue Report,” December 2023, Accessed November 5, 2024, https://www.dmv.virginia.gov/sites/default/files/documents/tracking_dec23.pdf

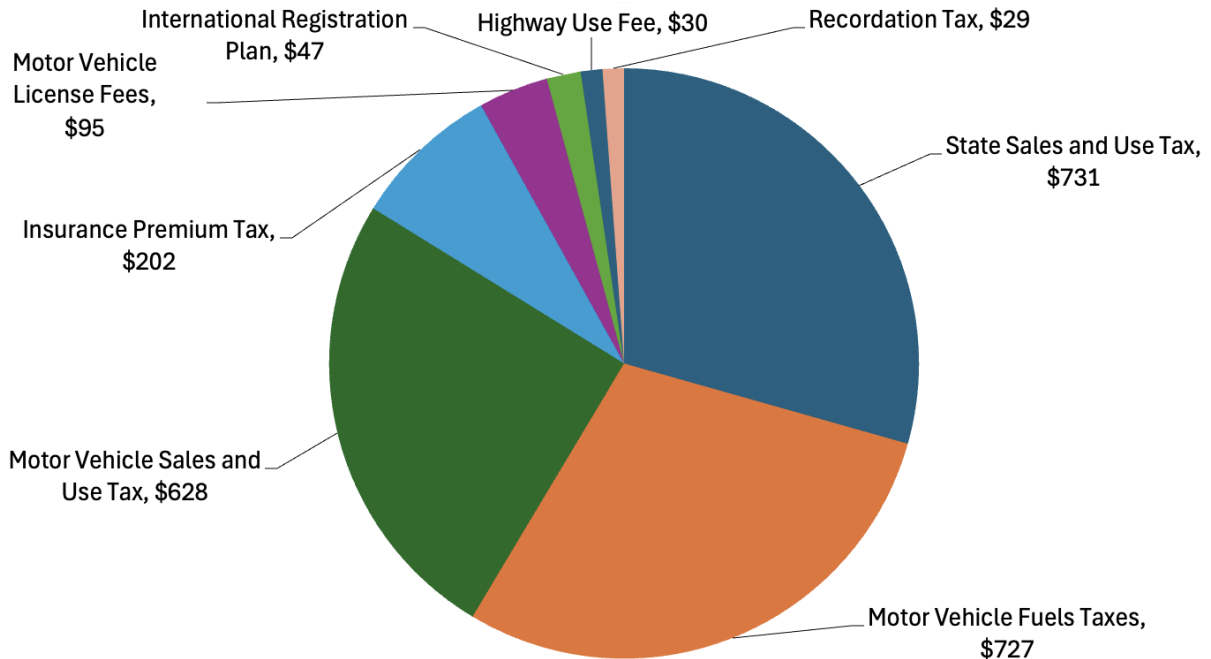


Figure 9: Revenue sources for Virginia Commonwealth Transportation Fund, FY 2023, millions of dollars

Cost of Passenger Rail for Ohio

As of December 2024, Amtrak has not released estimates of the operating cost of the 3C+D corridor. To estimate what operating costs could look like in Ohio, we analyze the operating costs of the 29 state-supported lines across the country.

The current 29 state-supported lines range from the 62-mile Hartford line (connecting New Haven, Connecticut to Springfield, Massachusetts) to the 704-mile Carolinian (running from New York City to Charlotte, North Carolina).²³ The average line among the 29 lines is about 280 miles, making the projected 250 miles of the 3C+D corridor a typical length for current state-supported lines.

²³ Rail Passengers Association, "Amtrak fact sheets," 2023, Accessed December 5, 2024, <https://www.railpassengers.org/>

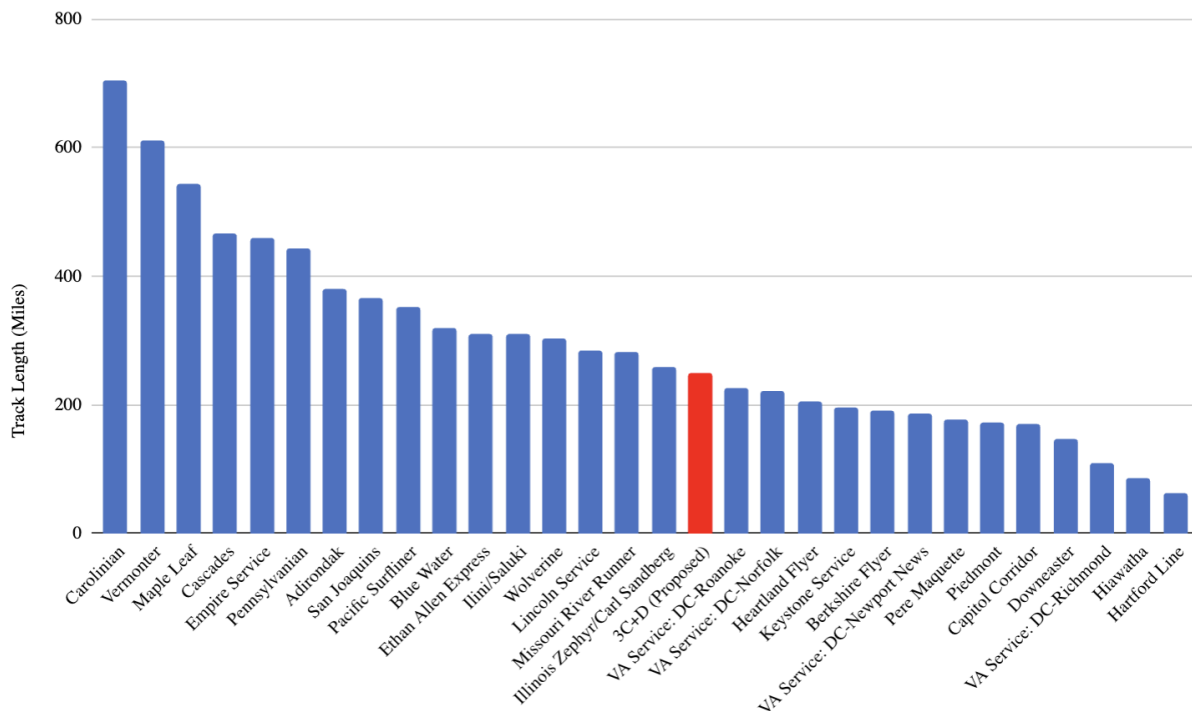


Figure 10: 3C+D corridor would be typical track length for state-supported routes

Amtrak reports ridership, passenger-mile, and fiscal information on state-supported routes to Congress through its annual reports.²⁴ We use this information to analyze ridership and route costs for current state-supported routes and estimate the likely operating costs of the 3C+D corridor.

The average state-supported line has about 320,000 riders a year, the least-frequented (the Berkshire Flyer from New York City to Albany, New York) with about 1,200 passengers in 2023 and the most-frequented (the Pacific Surfliner, from San Diego through Los Angeles and north to San Luis Obispo) with over 1.5 million 2023 passengers.

State-supported lines also range in the number of passenger-miles ridden, which represents the total distance passengers traveled on the line in a given year. The least-busy line from this metric is also the Berkshire Flyer, with 57,000 passenger-miles in 2023. The most-busy is the Empire Service, which goes from New York city to Albany, New York then heads west to Buffalo and Niagara Falls, New York. This line had over 200 million passenger-miles in 2023. The average state-supported line had about 44 million passenger-miles in 2023.

²⁴ Amtrak, “General and Legislative Annual Report & Fiscal Year 2025 Grant Request,” Accessed December 5, 2024, <https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/reports/Amtrak-General-Legislative-Annual-Report-FY2025-Grant-Request.pdf>

Using these numbers, we estimate potential ridership for the 3C+D corridor. Below are potential ridership scenarios for the 3C+D corridor based on ridership and passenger-miles per mile of track on existing lines. The ridership and passenger mile estimates are based on the 3C+D corridor experiencing the 25th percentile of ridership and passenger miles by track length (low ridership), the 50th percentile of ridership and passenger miles by track length (average ridership), and the 75th-percentile of ridership and passenger miles by track length (high ridership),

Scenario	Ridership	Passenger-Miles
Low Ridership	110,000	23 million
Average Ridership	350,000	48 million
High Ridership	580,000	85 million

Table 1: Ridership scenarios for 3C+D Corridor

States also provide a range of support for lines. The Berkshire Flyer only received \$140,000 in state support in 2013 while the Pacific Surfliner received \$60 million, with the average line getting \$5.9 million in 2013 support. Per-track-mile support ranged from \$750 for the Berkshire Flyer to \$230,000 for the Hartford Line, with an average of \$32,000. Per-rider support ranged from \$3.80 for the D.C. to Newport News line to \$210 for the Adirondack (Montreal to New York City), with an average of \$39 per rider. Per-passenger-mile support ranged from 3 cents (D.C. to Newport News) to \$2.50 (Berkshire Flyer), with an average of 29 cents per mile.

Using these figures, we construct scenarios for budget and ridership based on spending patterns per track mile, per passenger, and per passenger-mile to estimate spending needed in Ohio. Per-track-mile estimates are based on the estimate of 250 miles of track while per-passenger and per-passenger-mile estimates are based on ridership scenarios outlined above in Table 1. The low budget scenarios are based on state spending at the 25th percentile of each approach, the average budget scenarios are based on state spending at the 50th percentile of each approach, and the high budget scenarios are based on state spending at the 75th percentile of each approach.

Scenario	Total Cost		
	Per-Track-Mile Financing	Per-Passenger Financing	Per-Passenger-Mile Financing
Low Ridership	\$3.1 million	\$1.8 million	\$3.3 million
Average Ridership	\$3.1 million	\$5.4 million	\$6.8 million
High Ridership	\$3.1 million	\$9.1 million	\$12 million

Table 2: Low-budget scenarios for 3C+D Corridor

The low-budget scenarios tend to range from \$3 million to \$7 million, with six of the nine scenarios falling in that frame. The low-ridership scenario for per-passenger financing falls below that and the high-ridership scenarios for per-passenger and per-passenger-mile financing fall above it.

Scenario	Total Cost		
	Per-Track-Mile Financing	Per-Passenger Financing	Per-Passenger-Mile Financing
Low Ridership	\$8.1 million	\$4.4 million	\$5.9 million
Average Ridership	\$8.1 million	\$14 million	\$12 million
High Ridership	\$8.1 million	\$23 million	\$22 million

Table 3: Average-budget scenarios for 3C+D Corridor

The average ridership scenarios tend to fall in the \$5 million to \$14 million territory. High-ridership scenarios push these budgets over \$20 million for the per-passenger and per-passenger-mile financing approaches.

Scenario	Total Cost		
	Per-Track-Mile Financing	Per-Passenger Financing	Per-Passenger-Mile Financing
Low Ridership	\$13 million	\$6.1 million	\$12 million
Average Ridership	\$13 million	\$19 million	\$24 million
High Ridership	\$13 million	\$32 million	\$43 million

Table 4: High-budget scenarios for 3C+D Corridor

The high-budget scenarios tend to fall between \$12 million and \$24 million, though high ridership scenarios push some of these over \$30 million and even over \$40 million.

Overall, our 27 budget scenarios yielded 14 scenarios with a budget under \$10 million, five scenarios with a budget from \$10 million to \$20 million, and four scenarios with budgets exceeding \$20 million

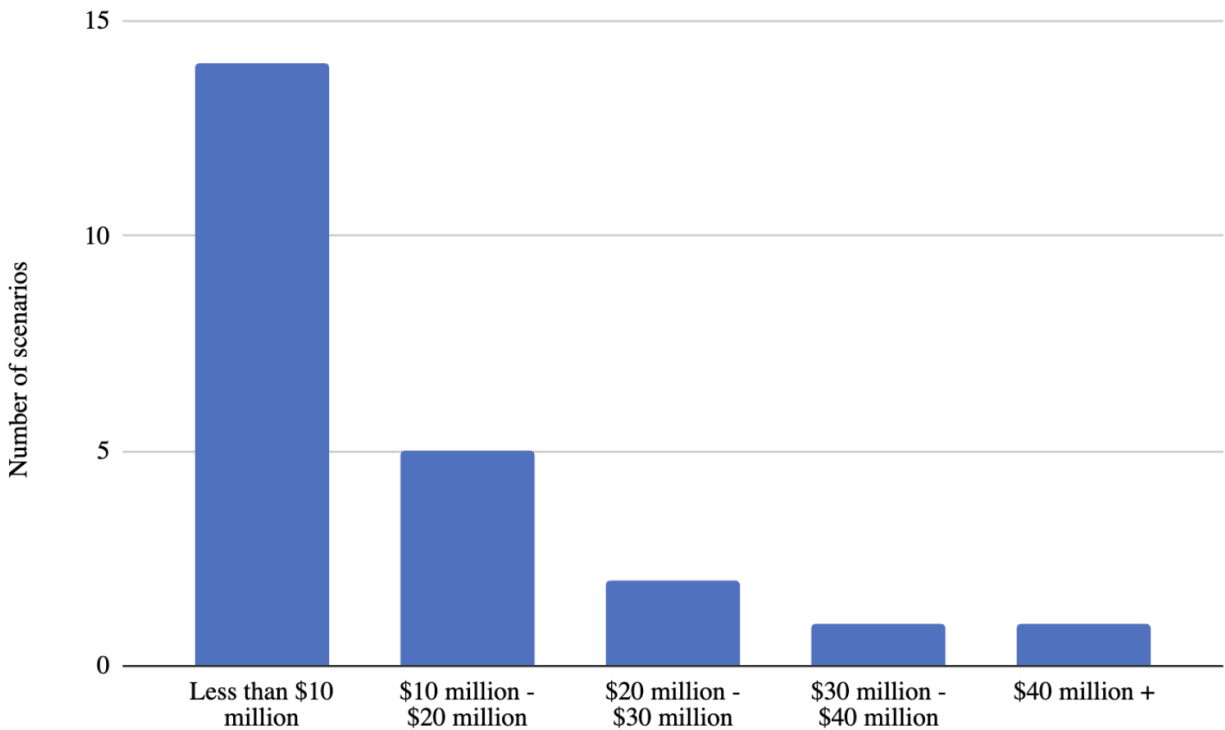


Figure 11: Most scenarios have a budget under \$10 million

Among these scenarios, the median budget was \$9.1 million and the middle 50% of scenarios was \$5.7 million to \$13.4 million. This suggests that a \$9.1 million budget would be a standard budget within the range of state-supported lines and a \$13.4 million budget would be a safe budget within that range.