

The Economic Impacts of a \$1.65 Billion Increase in Capital Investment by the New Jersey Turnpike Authority, New Jersey Transit & The South Jersey Transportation Authority



Prepared by



American Road
& Transportation
Builders Association

MAY 2020

About the Authors

This research was conducted for the Utility and Transportation Contractors Association of New Jersey (UTCA) by the economics & research team at the Washington, D.C.-based American Road & Transportation Builders Association (ARTBA). This analysis was conducted by senior vice president and chief economist Dr. Alison Premo Black and research economist Lital Shair Nada.

Since joining ARTBA in 2000, Dr. Black has led teams and authored nearly 100 studies examining state transportation funding and investment patterns. Dr. Black also leads the operation of the Transportation Investment Advocacy Center™. She has a Ph.D. in economics from the George Washington University and a master's in international economics and Latin American Studies from the Johns Hopkins School of Advanced International Studies.

Ms. Nada has a master's of science in applied economics degree from the Johns Hopkins University. She graduated magna cum laude from Brandeis University with degrees in economics and international & global studies. Since joining ARTBA in 2012, Ms. Nada has authored over 40 custom reports for clients. She also serves as director of the association's Transportation Officials Division, and is assistant director of the association's Research & Education Division.

About ARTBA

ARTBA is a federation whose primary goal is to aggressively grow and protect transportation infrastructure investment to meet the public and business demand for safe and efficient travel. In support of this mission, ARTBA also provides programs and services designed to give its more than 8,000 public and private sector members a global competitive edge.

ARTBA's The Transportation Investment Advocacy Center™ (TIAC) is a first-of-its kind, dynamic education program and Internet-based information resource designed to help private citizens, legislators, organizations and businesses successfully grow transportation investment at the state and local levels through the legislative and ballot initiative processes. It's powered by: www.transportationinvestment.org.

About the Utility and Transportation Contractors Association of New Jersey (UTCA)

The Utility and Transportation Contractors Association of New Jersey is a non-profit trade association headquartered in Wall Township, New Jersey. Founded in 1965, UTCA represents approximately 1,000 member firms in the public and private sectors, active in all phases of heavy, highway, utility, and marine construction, as well as site work including remediation of brownfields and contaminated sites.

Published May 2020 by the American Road & Transportation Builders Association (ARTBA). All rights reserved. No part of this document may be used or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of ARTBA.

The Economic Impacts of a \$1.65 Billion Increase in
Capital Investment by the New Jersey Turnpike Authority, New Jersey Transit
& The South Jersey Transportation Authority

TABLE OF CONTENTS

- I. Executive Summary 4
- II. The Economic Impacts of an Increase by the New Jersey Turnpike Authority,
New Jersey Transit and The South Jersey Transportation Authority..... 7
- III. Transportation Investment is Key to Business Success and Economic Growth 10
- IV. Challenges Facing the New Jersey Transportation Network..... 15
- V. Benefits of Investment Well Documented: Support from Economic Literature..... 17
- VI. The Economic Impacts of a \$1 Billion Increase in Highway, Bridge &
Transit Capital Investment on Major Industry Sectors 19
 - Agriculture, forestry, fishing, and hunting 20
 - Mining 21
 - Utilities 22
 - Construction 23
 - Manufacturing 24
 - Wholesale trade 25
 - Retail trade 26
 - Transportation and warehousing 27
 - Information 28
 - Finance and insurance 29
 - Real estate and rental and leasing..... 30
 - Professional, scientific, and technical services..... 31
 - Management of companies and enterprises 32
 - Administrative and waste management services 33
 - Educational services 34
 - Health care and social assistance..... 35
 - Arts, entertainment, and recreation..... 36
 - Accommodation and food services 37
 - Other services 38
- VII. Methodology and Sources..... 39

I. Executive Summary

An increase of \$1.65 billion in transportation capital investment by the New Jersey Turnpike Authority, New Jersey Transit and The South Jersey Transportation Authority would generate over \$69.5 billion in economic activity, earnings, and tax revenues between 2021 and 2030. Including the initial increase in investment in 2020, this adds up to \$75.5 billion.

This boost could help mitigate some of the job losses, declining state and local revenues and economic slowdown from the COVID-19 pandemic. The increase in construction activity will stimulate demand across all sectors of the New Jersey economy—helping to support economic recovery over the long-term.

A sustained increase in spending by these agencies would also reduce costs for users of the transportation system, provide broad economic benefits to communities across the state and improve the quality of infrastructure. This report quantifies how the investments would stimulate economic activity and support jobs across all sectors of the state economy.

We use the sophisticated “Regional Input-Output Modeling System” (RIMS II) developed by the U.S. Department of Commerce to track the complex money flows and interactions that occur between the state’s diverse business sectors. This, in tandem with data from the U.S. Census Bureau, allows us to determine how a \$1.65 billion annual increase in highway, bridge and transit capital outlays would impact the output of key business sectors within the region.

The funding levels analyzed in the report include:

- New Jersey Turnpike—annual investment of \$1 billion per year, growing at a rate of 3 percent per year over the next ten years to capture changes in inflation and project costs.

- New Jersey Transit – annual investment of \$400 million growing at a rate of 2 percent per year.¹
- South Jersey Transportation Authority—investment of \$250 million for 10 years growing at the annual rate of 2 percent.
- Total capital investment from all agencies will grow from a combined \$1.65 billion in 2020 to \$2.14 billion in 2030.

The economic impacts from the increased capital investment from the New Jersey Turnpike Authority, New Jersey Transit and The South Jersey Transportation Authority include:

- Additional business activity for New Jersey firms adding up to nearly \$38 billion, increasing from \$3.3 billion in 2020 to over \$4 billion in 2030. This includes all sectors of the economy—industries such as retail and wholesale trade, manufacturing, finance and healthcare.
- The investment will support an average of 18,856 jobs per year throughout the economy. This grows from 16,354 jobs in 2020 to 21,090 supported jobs in 2030. Most of those jobs—54 percent—are outside of the construction industry.
- These workers will earn an estimated \$10.3 billion, with average annual wages growing from \$896 million in 2020 to \$1.2 billion in 2030.
- The state will gain additional tax revenues, increasing from \$1.9 billion in 2020 to \$2.4 billion in 2030.

¹ This is based on the 10-year outlook for inflation, as measured by the Consumer Price Index and reported by the Congressional Budget Office in *The Budget Outlook 2020 to 2030*.

Economic Impacts of Increased Highway, Bridge and Transit Construction Investment in New Jersey

	2020	2030	Annual Average
Total Output	\$3.3 billion	\$4.2 billion	\$3.8 billion
Total Value Added (GSP)	\$1.7 billion	\$2.3 billion	\$2.0 billion
Earnings	\$895.9 million	\$1.2 billion	\$1.0 billion
Employment	16,354 jobs	21,090 jobs	18,856 jobs
Total Tax Revenues	\$1.9 billion	\$2.4 billion	\$2.2 billion
State Payroll Tax	\$6.0 million	\$7.7 million	\$6.9 million
Federal Payroll Tax	\$1.7 billion	\$2.3 billion	\$2.0 billion
Income Tax	\$88.6 million	\$114.2 million	\$102.1 million
Sales & Use Tax	\$26.9 million	\$34.8 million	\$31.1 million
Total Impact	\$6.0 billion	\$7.8 billion	\$7.0 billion

- The additional economic activity, wages and tax revenue add up to \$69.5 billion between 2021 and 2030 and contribute over \$21.9 billion to the state gross domestic product (GSP).²

The immediate benefit of the increased capital investment captures the direct, indirect and induced economic impact, which is measured by increases in economic output, value-added, employment, earnings, and tax revenues. The direct economic impact is a result of the increased investment in road, bridge and transit construction, project support activities and transit operations. This activity generates additional indirect and induced economic impacts throughout all sectors of the economy.

How does this ripple effect work? Highway, street, bridge and transit contractors purchase inputs (such as materials) from New Jersey businesses, in addition to other firms outside of the state, as they complete work on projects. These suppliers then purchase items from other firms, creating an indirect effect.

² New Jersey's GSP was estimated to be \$644.8 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods.

These employees of the construction firms and supplier industries spend their earnings by purchasing clothing, food and other goods and services, thereby creating induced demand in other sectors of the state economy. As jobs are created or sustained, employees receive additional income and spend more, and businesses increase sales. Subsequently, taxes grow due to larger payroll and sales volumes, providing the state and local municipalities with additional revenues to reinvest in New Jersey.

In addition to the economic impacts outlined in the report, there are additional benefits for New Jersey residents and businesses that are harder to quantify. As repairs and upgrades are made to the highway, street, bridge and transit networks overseen by these agencies, drivers, businesses and transit riders will save time and money. These user benefits are a result of decreased congestion, less money spent on vehicle repairs, safer roads, and an improved infrastructure network. Economic studies suggest that a conservative estimate of economic return for major transportation capital investments are \$4 in benefits for every \$1 spent.

About the Agencies

The **New Jersey Turnpike**, which opened in 1951, was the first toll road in New Jersey and the third in the nation. Today it serves as part of the I-95 corridor and links major cities on the East Coast. It has multimodal connections with the seaport in Newark and Elizabeth and the Newark Airport. The network includes a 122-mile mainline and two extensions.

New Jersey Transit serves over 940,000 riders each day through a network of buses, rail, light rail, and demand response and vanpool services. The network includes 251 bus routes, 12 commuter rail lines and 3 light rail lines. In addition to serving residents of New Jersey, the network connects the people and businesses in the state with New York and Philadelphia.

South Jersey Transportation Authority is responsible for the Atlantic City Expressway and the Atlantic City International Airport. The Atlantic City Expressway is a 44-mile toll road that connects Philadelphia with Atlantic City and other destinations on the Jersey Shore.

II. The Economic Impacts of an Increase by the New Jersey Turnpike Authority, New Jersey Transit and The South Jersey Transportation Authority

A \$1.65 billion increase in highway, bridge and transit investment will have a significant immediate effect on all sectors of the state economy over the next decade.

This ripple effect is felt through all sectors of the New Jersey economy—contractors purchase materials and workers spend their earnings while they work on projects, creating demand in other sectors of the state economy. As jobs are created or sustained, these employees earn more and spend more, and businesses increase sales. This results in larger payroll and sales volumes, providing the state and local municipalities with additional tax revenues to reinvest in New Jersey.

A \$1.65 billion increase in New Jersey highway, bridge and transit capital investment would generate the following economic benefits:

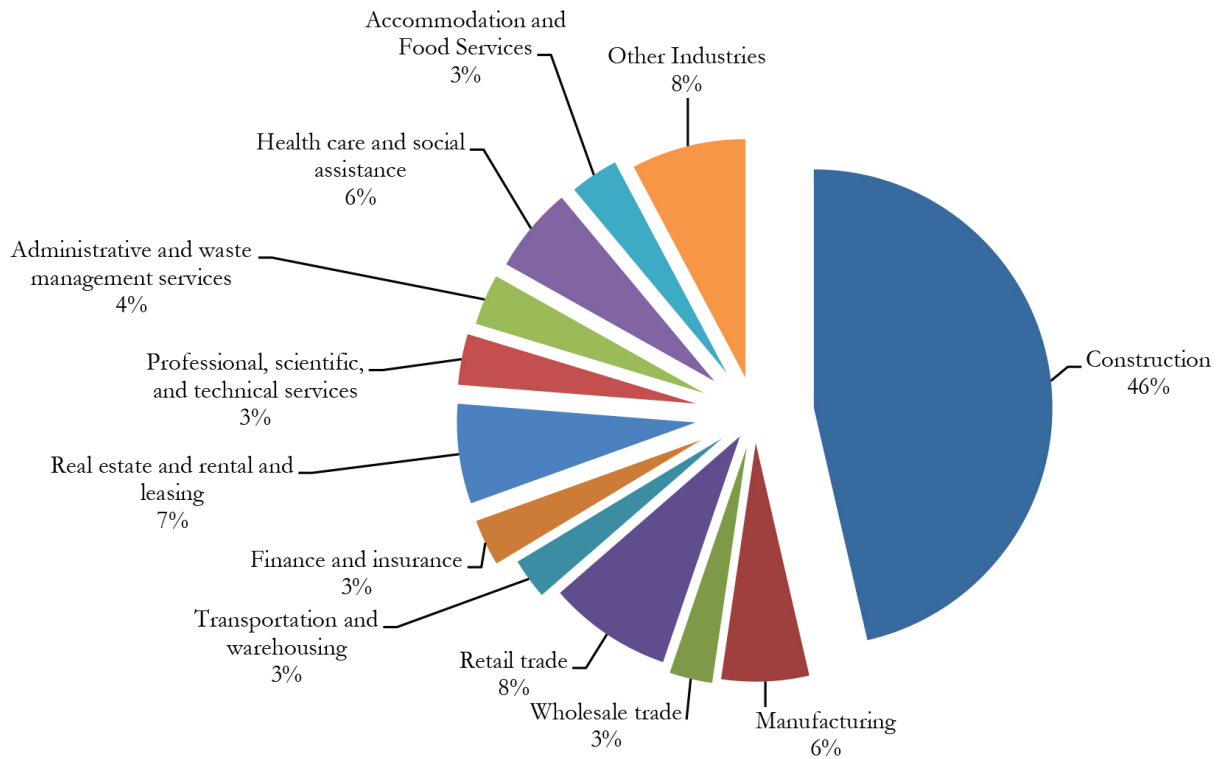
- Generate \$38 billion in additional economic output over the next decade as businesses throughout the economy sell more goods and services to both other businesses and consumers. This would grow from \$3.3 billion in 2020 to over \$4.2 billion in 2030.
- Increase GSP, or the value added to the overall economy, by an average of \$2 billion per year. GSP is the state equivalent of national Gross Domestic Product (GDP), measuring the value of final goods and services produced within the state.³

Economic Impacts of Increased Highway, Bridge and Transit Construction Investment in New Jersey		
	2020	2030
Total Output	\$3.3 billion	\$4.2 billion
Total Value Added (GSP)	\$1.7 billion	\$2.3 billion
Earnings	\$895.9 million	\$1.2 billion
Employment	16,354 jobs	21,090 jobs
Total Tax Revenues	\$1.9 billion	\$2.4 billion
State Payroll Tax	\$6.0 million	\$7.7 million
Federal Payroll Tax	\$1.7 billion	\$2.3 billion
Income Tax	\$88.6 million	\$114.2 million
Sales & Use Tax	\$26.9 million	\$34.8 million
Total Impact	\$6.0 billion	\$7.8 billion

³ New Jersey's GSP was estimated to be \$644.8 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods.

- Support or create an average of 18,856 jobs per year throughout the economy, with 54 percent of the employment outside of the construction industry. This includes an estimated 1,571 jobs in retail trade, 1,267 jobs in real estate and rental and leasing, and 1,090 jobs in health care and social assistance.
- These workers will earn over \$10.3 billion in wages increasing from \$896 million in 2020 to \$1.2 billion in 2030.
- The state will gain additional tax revenues, increasing from \$1.9 billion in 2020 to \$2.4 billion in 2030.

New Jersey Jobs Supported/Created by Increased Highway, Bridge and Transit Construction Investment



**Economic Impacts of Increased Highway, Bridge and Transit
Construction Investment in New Jersey**

Industry	Average Annual Impact on Industry Output (in millions)	Average Annual Jobs Supported/Created
Agriculture, forestry, fishing, and hunting	\$2.1	42
Mining	\$32.5	86
Utilities	\$29.4	39
Construction	\$1,746.3	8,702
Manufacturing	\$402.7	1,112
Wholesale trade	\$135.4	545
Retail trade	\$133.2	1,571
Transportation and warehousing	\$87.9	516
Information	\$57.9	154
Finance and insurance	\$152.7	590
Real estate and rental and leasing	\$210.5	1,267
Professional, scientific, and technical services	\$104.8	645
Management of companies and enterprises	\$35.8	120
Administrative and waste management services	\$52.0	647
Educational services	\$13.6	206
Health care and social assistance	\$115.3	1,090
Arts, entertainment, and recreation	\$11.9	227
Accommodation and Food Services	\$43.7	616
Other services	\$55.1	581
Total industry impact*	\$3,760.0	18,856

*Does not include impact on government output.

III. Transportation Investment is Key to Business Success and Economic Growth

New Jersey’s highway, street, bridge and transit network is integral to the success of the state economy—facilitating the shipment of an estimated \$532 billion in goods produced by New Jersey businesses in 2020. The efficient and safe movement of goods and people are critical to the economic competitiveness of New Jersey and the quality of life for its citizens. Every employee, customer and business pay a price when the system is congested, unsafe or in poor condition.

In addition to spurring immediate economic growth, investment in New Jersey’s infrastructure creates tangible assets that are long-lived and facilitates economic activity for many years to come by providing access to jobs, services, materials and markets. An improved transportation network results in reduced operating costs and increased market access for New Jersey businesses. Sustained investment in highways, bridges and transit is critical to making the best use of these capital assets.

The importance of a robust transportation network has been well documented by business analysts, economists and the research community.⁴ Overall estimates are that every \$1 increase in the highway, street and bridge capital stock generates a total of 30 cents in business savings.⁵

Some of these specific benefits include:

- **Staying Competitive:** The overall business environment in the United States is changing, and there is likely to be a greater importance placed on logistics and global transportation networks.⁶ The value of total truck freight shipments on New Jersey roads is expected increase from \$740.5 billion in 2020 to \$1.1 trillion in 2040 (these numbers take into account current truck restrictions on the Parkway).⁷
- **Access to Labor:** A better transportation system means that it is easier for employees to get to work and businesses are able to recruit from a larger pool of potential workers. Investment in highway, street, bridge and transit allows businesses to benefit from an expanded labor pool of specialized workers, which means access to more productive employees. Investing in a high-quality transit system specifically allows density to develop and business clusters to grow.⁸ Downtown office district locations, which are often focused on financial services and related business sectors, usually coincide with the location of higher availability and usage of public transportation.⁹

⁴ Glen Weisbrod, Don Very, & George Treyz, “Measuring Economic Costs of Urban Traffic Congestion to Business.”

⁵ Nadiri, M. Ishaq and Theofanis P. Mamuneas, “Contribution of Highway Capital to Output and Productivity Growth in the U.S. Economy and Industries,” Federal Highway Administration, 1998.

⁶ Ronald McQuaid, Malcom Greig, Austin Smith, & James Cooper, “The Importance of Transport in Business’ Location Decisions,” January 2004, <http://stopstanstedexpansion.com/documents/sse10_appendix_9.pdf>.

⁷ U.S. Department of Transportation, Freight Analysis Framework

⁸ Daniel Graham, “Agglomeration Economies and Transport Investments,” Imperial College, December 2007.

⁹ Weisbrod, 20.

- **Increased Market Share & More Customers:** A good transportation system means that New Jersey businesses can reach a greater pool of customers. For example, if a pharmaceutical company can count on better roads for its employees and key product delivery and supply routes, the company will be able to increase employment and its market access to hospitals and other linked industries. Local industries will benefit from these larger markets and reduced transaction costs.¹⁰
- **Business Expansion:** New Jersey businesses will increase their output of goods and services at higher levels of investment. A modern transportation system enables business growth, expansion, and increased hiring. Reducing congestion has a demonstrable impact on shipping volume and on prices, with a rate of return of about 10 percent a year, as a conservative estimate.¹¹ Lower transport costs also have a quantifiable effect on firm choices with respect to suppliers and relatively improve firm hiring ability.
- **Increase in Demand for Inputs:** As the economy expands, businesses will purchase more goods from their suppliers and will increase their demand for private capital. This includes buying more vehicles, equipment, office supplies or even building new plants and factories.¹²
- **Reducing Production Costs:** Economic studies show that reduced costs for inputs is one of the main business benefits from an increase in transportation investment. Typically businesses pay less for inputs when they have access to larger markets.¹³

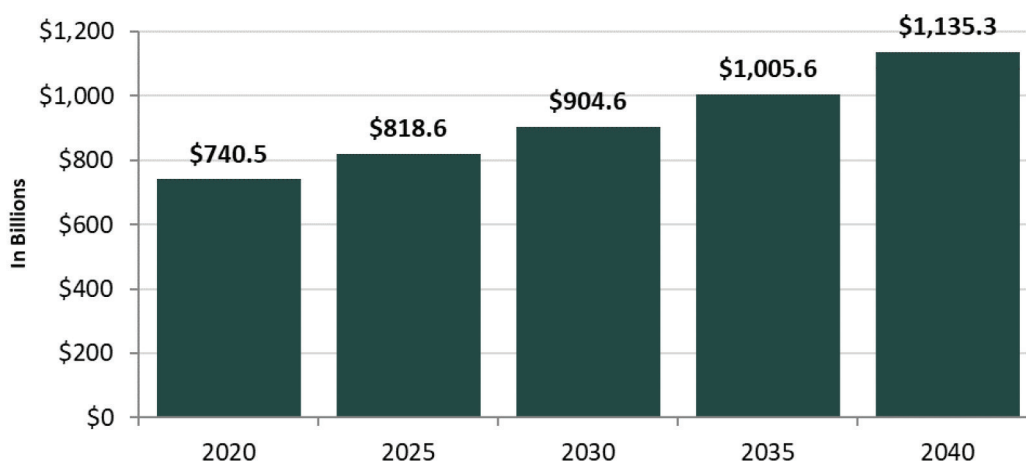
¹⁰ McQuaid, 29.

¹¹ Zhigang Li and Yu Chen, "Estimating the Social Return to Transport Infrastructure: A Price-Difference Approach Applied to a Quasi-Experiment," 2013, *Journal of Comparative Economics*, Vol. 41 (3), pg. 669-683.

¹² The magnitude of the effect of highway capital on output will differ by industry, with the largest difference observed between manufacturing and non-manufacturing industries.

¹³ It is an industry standard to use elasticities of supply and demand for materials as a measure of the impact of a change in transportation infrastructure investment. Based on a study conducted by the FHWA, the output elasticity of materials is usually the largest. The elasticity of labor and capital inputs is the second largest.

The Value of Total Truck Shipments To and From New Jersey Businesses



Source: U.S. Department of Transportation Freight Analysis Framework

- **Agglomeration Economies:** Firms benefit by locating near one another, even if they are competitors. This is known as the agglomeration of market activity. This happens because a group of firms will attract a greater number of suppliers and customers than one company alone. Lower transportation costs are a key factor for agglomeration, and will be important in attracting new firms to an area.¹⁴ Increasing returns to local industries can be anticipated in areas with intermodal linkages or intra-modally, as between major highways.

Agglomeration effects are seen in public transportation as well, with clustering of economic activity around station stops. This clustering results in a smaller distance that New Jersey residents have to travel to access job opportunities. Subsequently, job seekers can expand the geographic area in which they can search for jobs, making a greater number of jobs available to them.¹⁵ Additionally, by locating near public transit, businesses save money since they can build less parking infrastructure. A Washington Metropolitan Area Transit Authority study estimates that building parking for the federal employees who take the Metro instead each day will cost the government \$2.4 billion.¹⁶

- **More Efficient Operations:** With an efficient transportation system, businesses can make better decisions about their products, inputs and workforce without worrying about poor roadways or congestion. Businesses respond in a variety of ways to congestion. Some businesses may change their mix of labor and capital, reduce the daily deliveries made by a driver or serve a smaller, more specialized market. All of these adjustments can mean a loss for business productivity and market share.¹⁷
- **Intra-Industry Linkages:** New Jersey industries are heavily interlinked, relying on other industries for the supply of inputs or for final processing. These linkages rely on an efficient network of well-maintained highways, roads, bridges and railways.
- **Fostering Innovation:** Transportation infrastructure investment is closely linked with economic competitiveness. Research suggests that highway investment results in industry growth and innovation.¹⁸ Innovation results from infrastructure better supporting business activity. Infrastructure also attracts research and development firms for the large return on investment it offers.

¹⁴ Jean-Paul Rodrigue, "Transport and Location," *The Geography of Transport Systems*, 2017.

¹⁵ Anthony Venables, "Evaluating Urban Transport Improvements: Cost-Benefit Analysis in the Presence of Agglomeration and Income Taxation," September 2004.

¹⁶ "Making the Case for Transit: WMATA Regional Benefits of Transit," WMATA, November 2011: 4.

¹⁷ Weisbrod, 4.

¹⁸ Katherine Bell. "Investing in Infrastructure Means Investing in Innovation." *Harvard Business Review*, March 2012. In 2011, researchers at the University of Texas A&M found a critical link between the forecasted growth of the industry and investment in the transportation infrastructure system, using standard supply and demand analysis (Rosson 2011)

- **Access to Global Markets:** Many New Jersey firms depend on connections to global markets and are dependent on New York City financial firms. A robust and efficient transportation system makes New Jersey firms less vulnerable to economic shocks and less vulnerable to losing their competitive edge compared to other emerging industries. Industries also benefit from access to secondary markets, supported by a modern transportation infrastructure system. In the aftermath of the 2008 recession, New York City turned toward fostering science and engineering campuses to support their financial services industry. New Jersey's financial industry would also benefit from access to secondary markets, supported by a modern transportation infrastructure system.
- **Emergency Management Operations:** A well-invested transportation system will ensure that evacuation routes remain efficient and accessible during major storms. In addition, the proper transportation investments will ensure that road networks are resilient to future super storms.
- **Spillover Savings:** In addition to the cost-lowering impact of reducing road roughness, increasing average speed, and reducing total user and travel time costs on firms, reducing congestion has a demonstrable impact on shipping volume and on prices, with a return of about 10 percent a year, as a conservative estimate.¹⁹ Lower transport costs also have a quantifiable effect on firm choices with respect to suppliers and relatively improve firm hiring ability. Reducing transportation costs will have a significant spillover effect on all industries in the state and can be expected to be reflected in relatively lowering the cost of goods within the state, for both consumers and businesses.²⁰
- **Access to Tourists:** During high peak tourism travel times, congestion and poor road conditions can deter travel to tourism areas. The more time New Jersey residents and out of state visitors spend on the road means less time participating in the local economy. A first-class transportation system ensures a first-rate experience for tourists and maximizes revenue-generating opportunities for the state and businesses.

Consider the benefits to a business in New Jersey when the state makes transportation improvements. The increase in construction activity will mean more demand for products and services in the area. A local business will sell more of its products and may even hire additional employees to increase output. With an improved transportation network, local businesses on the many main streets in New Jersey will thrive.

¹⁹ Li, 669–683.

²⁰ ICF Consulting, "Economic Effects of Transportation: The Freight Story," 2002.

The business will also have lower distribution costs because of the improved highways, bridges and transit in the area. More customers will be able to reach the business, and the owner may be able to hire more talented, educated and skilled workers that live further away.

The increase in demand may also lead the business to expand, opening another store, plant or business location. Finally, the business will demand more inputs and raw materials from their own suppliers, creating economic ripple effects throughout the economy. The business owner may also be able to purchase cheaper inputs because they have greater access to more markets.

In addition to business benefits, households also see significant benefits from transit investment:

- **Reducing Household Expenditures:** Research by the American Public Transportation Association (APTA) estimates that a two-car family living in a transit-rich area can eliminate one of its vehicles, saving over \$9,900 a year. These savings are significant to families, and will likely shift household spending to more productive uses, which will in turn stimulate the local economy.²¹ The Center for Neighborhood Technology also found that households that have access to high quality public transit spend less on housing and transportation as a percentage of their income.²²

In addition, Weisbrod and Reno (2009) estimate that each person traveling by public transportation generates cost savings to both themselves and drivers of \$1,505 to \$2,455 per year. The average public transportation user who does not drive saves about \$905 per year in costs (in 2008 dollars). Additionally, non-transit users will see a benefit from reduced congestion of \$1.20 to \$3.10 per public transportation trip, or \$600 to \$1,550 per year.²³

- **Increasing Access to Jobs, Particularly for Disadvantaged Residents:** Investment in public transportation provides better and more consistent access to jobs, particularly for service and entry level employees with limited mobility options, as well as the more than 51 million Americans with disabilities. Eighty three percent of older Americans say public transit provides them with easy access to everyday necessities.²⁴
- **Travel Time Savings for Transit Users:** Making improvements to transit networks will result in more direct or frequent service. This means that transit users will spend less time waiting for trains or buses, and benefit from faster travel times on their way to work or entertainment.
- **Benefits of Decreased Congestion:** Increased investment in public transportation will result in expanded service and increased utilization of transit systems. This will result in fewer cars on the roads, and therefore less congestion for households traveling by car and by bus. A reduction in congestion levels has a positive effect on air quality, the quality of life and household costs, as cars waste less gasoline by idling in traffic.
- **Improved Reliability:** With less congestion, workers benefit from a more reliable commute, which is particularly important to those whose jobs depend on getting to work on time. This holds true for both transit users and those who drive to work; transit users can get to work faster and more consistently using an improved transit network, while drivers can benefit from fewer delays since there are fewer cars on the road.

²¹ APTA, "Commuters Who Resolve to Save Money in 2012 Take Note: Transit Riders Save More As Gas Prices Increase."

²² "Penny Wise, Pound Foolish," [Center for Neighborhood Technology](#), March 2010.

²³ Glen Weisbrod and Arlee Reno, "Economic Impact of Public Transportation Investment," APTA, October 2009.

²⁴ APTA, "Economic Recovery: Promoting Growth."

IV. Challenges Facing the New Jersey Transportation Network

New Jersey faces some of the most challenging road and bridge conditions in the country. Increasing investment to improve the safety, efficiency and conditions of the New Jersey highway, street and bridge network will help all system users.

- **Road Conditions**—According to FHWA, New Jersey has 38,900 miles of roadway.²⁵ Of the state’s 10,900 miles of roadway eligible for federal aid, 38 percent are rated “not acceptable” and need major repairs or replacement.

According to the American Society of Civil Engineers, driving on New Jersey roads in need of repair costs each driver \$703 per year.²⁶

- **Deficient Bridges**—New Jersey has 6,786 roadway bridges, captured by the FHWA National Bridge Inventory (NBI) data. FHWA reports 7.8 percent of these bridges are “structurally deficient” and in poor condition. Bridge owners estimate it will cost at least \$10 billion to make needed bridge repairs in the state.²⁷
- **Road Safety**—The National Highway Traffic Safety Administration reports there were 525 fatal motor vehicle crashes, resulting in 564 fatalities, in New Jersey during 2018. Motor vehicle crashes are the number one cause of death and permanently disabling injuries for young Americans under age 21.
- **Freight Traffic**—Inter-state truck shipments along New Jersey’s highway, street and bridge network are vital to the economic growth of the state. New Jersey businesses shipped a total of \$747 billion in freight in 2020. Of this total, 71 percent was shipped via truck. Truck traffic alone is expected to increase by 53 percent by 2045, reaching \$1.13 trillion in value.

²⁵ FHWA Highway Statistics 2016 Table HM-10, <<https://www.fhwa.dot.gov/policyinformation/statistics/2016/hm10.cfm>>.

²⁶ American Society of Civil Engineers, “2017 Infrastructure Report Card,” <https://www.infrastructurereportcard.org/state-item/new-jersey/>

²⁷ ARTBA analysis of FHWA NBI, <https://artbabridgereport.org/state/profile/NJ>

- **Congestion**—Traffic congestion occurs when the number of vehicles on a roadway is greater than the road was designed to handle. Traffic is not able to move at speed, and the resulting slowdowns have a ripple effect along the roadway. Traffic congestion has adverse impacts on air quality, the quality of life and business activity. In New Jersey, this can cost urban drivers anywhere from \$300 to \$1,800 per year.²⁸

A survey of business owners found that typical ways businesses deal with congestion include:²⁹

- Costs for additional drivers and trucks due to longer travel times
- “Rescue drivers” to avoid missed deliveries due to unexpected delays
- Loss of productivity due to missed deliveries
- Shift changes to allow earlier production cut off
- Reduced market areas
- Increased inventories
- Costs for additional crews and decentralized operations to serve the same market area
- Businesses that are local can absorb the cost or pass it on
- Trade-oriented businesses can respond by moving their operations

²⁸ Texas Transportation Institute 2017 Urban Mobility Scorecard

²⁹ Economic Development Research Group, “The Cost of Congestion to the Economy of the Portland Region,” November 2005.

V. Benefits of Investment Well Documented: Support from Economic Literature

The overall economic benefits of highway, bridge and transit investment to a state's economic activity are well documented in the economics literature. There are numerous studies that have found a positive correlation between infrastructure investment and economic development.

Some of the main findings include:

- A recent study commissioned by the U.S. Treasury Department found that for every **\$1 in capital spent on select projects, the net economic benefit ranged between \$3.50 and \$7.00.**³⁰ Released in December 2016, "40 Proposed U.S. Transportation and Water Infrastructure Projects of Major Economic Significance" also explores some of the challenges of completing the work. The report found that a lack of public funding was "by far the most common factor hindering the completion" of the projects.
- A 2005 report by Dr. Robert Shapiro and Dr. Kevin Hassett found that the U.S. transportation network provides more than **\$4 in direct benefits for every \$1 in direct costs** that taxpayers pay to build, operate and maintain this system.³¹ These economic benefits include lower costs and higher productivity for businesses, and time savings and additional income for workers. The authors noted that the estimate substantially understates the full net benefits of the U.S. transportation network and does not take into account the increased benefit from better access to schools and hospitals, or other ways these investments support economic growth and allow American workers and companies to compete successfully on the global stage.
- According to an analysis by TRIP, a national transportation research group, the average **return to every \$1 spent on highway, street and bridge investment is \$5.20**, which takes the form of lower maintenance costs, fewer delays, improved safety and less congestion. This analysis is based on the U.S. Department of Transportation's Conditions and Performance Report.
- An evaluation of over 75 studies which examined the relationship between public infrastructure investment and economic growth and found a general consensus that public capital investment enhances growth.³²

³⁰ Report available at <https://www.treasury.gov/connect/blog/Pages/Importance-of-Infrastructure-Investment-for-Spurring-Growth-.aspx> as of February 2017.

³¹ R. Shapiro and K. Hassett, "Healthy Returns: The Economic Impact of Public Investment in Surface Transportation," 2005.

³² Ward Romp and Jakob de Haan, "Public Capital and Economic Growth: A Critical Survey," *Perspektiven der Wirtschaftspolitik*, Vol. 8, 2007, 6-52.

- A study by Dr. Alicia Munnell of the Federal Reserve Bank of Boston concluded that states that invested more in infrastructure tended to have greater output, more private investment and more employment growth.³³ Her work found that **a 1 percent increase in public capital will raise national output by 0.15 percent.**³⁴ She further notes that the major impact of public capital output is from investment in highways and water and sewer systems. Other public capital investments, such as school buildings and hospitals, had virtually no measurable impact on private production.³⁵ Munnell also concludes that public capital and infrastructure investment have a significant positive impact on a state's private employment growth and private sector output.
- Many more recent studies also found that public infrastructure spending has a positive effect on productivity and therefore on economic growth.³⁶ While the specific impacts varied by study, the general findings are that an increase in the value of existing current capital stock would increase productivity growth.³⁷
- Several studies examined the impact of infrastructure spending during the Great Recession. A 2009 study by the Council of Economic Advisers found that a dollar in infrastructure investment would result in \$1.50 in GDP growth during the recession,³⁸ Moody's estimated the effect at \$1.60,³⁹ and the Congressional Budget Office found that that the impact ranged from \$1.00 to 2.50.⁴⁰ While this impact will be smaller during times of economic growth, there is still a positive effect from infrastructure investment. At the beginning of 2015 during the economic recovery, Moody's estimated that an additional dollar of infrastructure investment would increase GDP by \$0.86, with that effect shrinking as the economy moves closer to full employment.⁴¹
- Economist David Aschauer analyzed the country's economic and public infrastructure growth between 1949 and 1985, and found that **a 10 percent increase in public-sector capital stock increased productivity growth by almost 4 percent.**⁴²

Overall, the benefits of highway, bridge and transit capital investment are greater than the cost, and can help support economic growth throughout the economy for years to come.

³³ Alicia Munnell, "How Does Public Infrastructure Affect Regional Economic Performance," *New England Economic Review*, September/October 1990.

³⁴ Munnell's elasticity for private capital is 0.31, so that a 1 percent increase in private capital will raise national output by 0.31 percent. This is in line with other studies of returns from private capital investment.

³⁵ Munnell says she is not implying that government-provided education and health services have no effect on productivity, but rather "the stock of buildings... may not be the best indicator of the quality of education services; teachers' salaries, for example, might be a better measure."

³⁶ James Heintz, "The impact of public capital on the U.S. private economy: new evidence and analysis," *International Review of Applied Economics*, Vol. 24 (5), 2010, 619-632. Jeffrey Thompson, "Prioritizing Approaches to Economic Development in New England: Skills, Infrastructure, and Tax Incentives," Political Economy Research Institute, University of Massachusetts, Amherst, August 2010 provides a summary of recent articles.

³⁷ Thompson, 2010.

³⁸ Christina Romer and Jared Bernstein, "The Job Impact of The American Recovery and Reinvestment Plan," Council of Economic Advisers, January 9, 2009.

³⁹ Moody's Analytics, cited in Alan S. Blinder and Mark Zandi, "The Financial Crisis: Lessons for the Next One," Center on Budget and Policy Priorities, October 15, 2015, <http://www.cbpp.org/research/economy/the-financial-crisislessons-for-the-next-one>.

⁴⁰ Congressional Budget Office, "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output," April 2010-June 2010.

⁴¹ McNichol, Elizabeth. "It's Time for States to Invest in Infrastructure", Aug. 10, 2017, Center on Budget and Policy Priorities, <<https://www.cbpp.org/research/state-budget-and-tax/its-time-for-states-to-invest-in-infrastructure>>.

⁴² David Aschauer, "Is Public Expenditure Productive?" *Journal of Monetary Economics*, Vol. 23, 177-200, 1989.

VI. The Economic Impacts of a \$1 Billion Increase in Highway, Bridge & Transit Capital Investment on Major Industry Sectors

A \$1.65 billion increase in highway, bridge and transit capital investment will have a significant immediate effect on all sectors of the state economy, which will impact every sector in the New Jersey economy. This is the demand that is created when economic activity is stimulated across the state.

In this section, the economic impact of a \$1.65 billion investment is calculated for each of the 19 major industry sectors in New Jersey.



The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Agriculture, forestry, fishing, and hunting

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Agriculture, Forestry, Fishing, and Hunting sector:

- Economic output will increase from over \$2 million in 2020 to \$2.6 million in 2030.
- Gross state product (GSP) will grow from \$1.2 million in 2020 to \$1.4 million in 2030
- The investment will support an average of 42 jobs per year. This grows from 37 jobs in 2020 to 47 supported jobs in 2030. These workers will earn \$7 million in wages over the ten-year period. Annual wages will grow from \$743.8 thousand in 2020 to over \$903 thousand in 2030.
- Tax revenues will increase from \$139.5 thousand in 2020 to \$169.5 thousand in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$2.2 million	\$2.6 million
Value Added (contribution to GSP)	\$1.2 million	\$1.4 million
Employment	37 people	47 people
Total Payroll	\$743.8 thousand	\$903.3 thousand
Total Tax Revenues	\$139.5 thousand	\$169.5 thousand
State Payroll Tax Contribution	\$6.1 thousand	\$6.1 thousand
Federal Payroll Tax Contribution	\$56.9 thousand	\$69.1 thousand
Income Tax Contribution	\$59.6 thousand	\$72.0 thousand
Sales & Use Tax Contribution	\$18.0 thousand	\$22.3 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Agriculture, forestry, fishing, and hunting in New Jersey contributed \$744.6 million to state economic activity in 2019, accounting for 0.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$1.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 907 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$384.6 million. These businesses contribute an estimated \$32.7 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$34,880 each year. The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$1.3 billion	18	0.1%
Value Added (contribution to GSP)	\$744.6 million	18	0.1%
Establishments	907 businesses	17	0.4%
Employment	10,832 people	18	0.3%
Average Annual Salary	\$34,880	15	
Total Payroll	\$384.6 million	18	0.2%
Total Tax Revenues	\$60.7 million	18	0.1%
State Payroll Tax Contribution	\$3.3 million	18	0.2%
Federal Payroll Tax Contribution	\$29.4 million	18	0.2%
Income Tax Contribution	\$16.5 million	18	0.1%
Sales & Use Tax Contribution	\$11.5 million	18	0.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Mining

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Mining sector:

- Economic output will increase from nearly \$32 million in 2020 to \$40.9 million in 2030.
- Gross state product (GSP) will grow from \$19.6 million in 2020 to \$25.2 million in 2030
- The investment will support an average of 86 jobs per year. This grows from 74 jobs in 2020 to 97 supported jobs in 2030. These workers will earn \$53 million in wages over the ten-year period. Annual wages will grow from \$5.2 million in 2020 to nearly \$7 million in 2030.
- Tax revenues will increase from \$1.3 million in 2020 to \$1.6 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$31.8 million	\$40.9 million
Value Added (contribution to GSP)	\$19.6 million	\$25.2 million
Employment	74 people	97 people
Total Payroll	\$5.2 million	\$6.6 million
Total Tax Revenues	\$1.3 million	\$1.6 million
State Payroll Tax Contribution	\$44.5 thousand	\$44.5 thousand
Federal Payroll Tax Contribution	\$394.8 thousand	\$507.7 thousand
Income Tax Contribution	\$545.0 thousand	\$701.8 thousand
Sales & Use Tax Contribution	\$301.4 thousand	\$388.6 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Mining in New Jersey contributed \$338.5 million to state economic activity in 2019, accounting for 0.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$597.2 million, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 71 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$85.8 million. These businesses contribute an estimated \$7.3 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$74,997 each year. The Mining, Quarrying, and Oil and Gas Extraction sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$597.2 million	19	0.1%
Value Added (contribution to GSP)	\$338.5 million	19	0.1%
Establishments	71 businesses	19	0.03%
Employment	1,144 people	19	0.03%
Average Annual Salary	\$74,997	8	
Total Payroll	\$85.8 million	19	0.04%
Total Tax Revenues	\$20.8 million	19	0.04%
State Payroll Tax Contribution	\$726.4 thousand	19	0.04%
Federal Payroll Tax Contribution	\$6.6 million	19	0.04%
Income Tax Contribution	\$8.3 million	19	0.04%
Sales & Use Tax Contribution	\$5.2 million	19	0.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Utilities

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Utilities sector:

- Economic output will increase from over \$29 million in 2020 to \$36.1 million in 2030.
- Gross state product (GSP) will grow from \$15.4 million in 2020 to \$18.7 million in 2030
- The investment will support an average of 39 jobs per year. This grows from 33 jobs in 2020 to 43 supported jobs in 2030. These workers will earn \$41 million in wages over the ten-year period. Annual wages will grow from \$4.1 million in 2020 to over \$5 million in 2030.
- Tax revenues will increase from \$1.1 million in 2020 to \$1.4 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$29.5 million	\$36.1 million
Value Added (contribution to GSP)	\$15.4 million	\$18.7 million
Employment	33 people	43 people
Total Payroll	\$4.1 million	\$5.1 million
Total Tax Revenues	\$1.1 million	\$1.4 million
State Payroll Tax Contribution	\$33.9 thousand	\$33.9 thousand
Federal Payroll Tax Contribution	\$316.9 thousand	\$387.1 thousand
Income Tax Contribution	\$547.7 thousand	\$668.2 thousand
Sales & Use Tax Contribution	\$236.7 thousand	\$288.9 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Utilities in New Jersey contributed \$10.2 billion to state economic activity in 2019, accounting for 1.6% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$18.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 364 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$2.6 billion. These businesses contribute an estimated \$220.4 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$128,926 each year. The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$18.0 billion	15	1.6%
Value Added (contribution to GSP)	\$10.2 billion	15	1.6%
Establishments	364 businesses	18	0.2%
Employment	20,117 people	17	0.5%
Average Annual Salary	\$128,926	3	
Total Payroll	\$2.6 billion	16	1.1%
Total Tax Revenues	\$689.7 million	16	1.4%
State Payroll Tax Contribution	\$22.0 million	16	1.1%
Federal Payroll Tax Contribution	\$198.4 million	16	1.1%
Income Tax Contribution	\$311.7 million	13	1.6%
Sales & Use Tax Contribution	\$157.6 million	15	1.6%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Construction

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Construction sector:

- Economic output will increase from nearly \$2 billion in 2020 to \$2.2 billion in 2030.
- Gross state product (GSP) will grow from \$916.9 million in 2020 to \$1.1 billion in 2030
- The investment will support an average of 8,702 jobs per year. This grows from 7,551 jobs in 2020 to 9,729 supported jobs in 2030. These workers will earn \$5 billion in wages over the ten-year period. Annual wages will grow from \$514.5 million in 2020 to nearly \$624 million in 2030.
- Tax revenues will increase from \$109.0 million in 2020 to \$132.1 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$1.7 billion	\$2.2 billion
Value Added (contribution to GSP)	\$916.9 million	\$1.1 billion
Employment	7,551 people	9,729 people
Total Payroll	\$514.5 million	\$623.7 million
Total Tax Revenues	\$109.0 million	\$132.1 million
State Payroll Tax Contribution	\$4.2 million	\$4.2 million
Federal Payroll Tax Contribution	\$39.4 million	\$47.7 million
Income Tax Contribution	\$52.0 million	\$62.8 million
Sales & Use Tax Contribution	\$14.1 million	\$17.3 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Construction in New Jersey contributed \$24.1 billion to state economic activity in 2019, accounting for 3.7% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$42.4 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 21,622 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$12.0 billion. These businesses contribute an estimated \$1.0 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$76,073 each year. The Construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems).

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$42.4 billion	10	3.7%
Value Added (contribution to GSP)	\$24.1 billion	10	3.7%
Establishments	21,622 businesses	5	9.2%
Employment	157,678 people	10	4.3%
Average Annual Salary	\$76,073	7	
Total Payroll	\$12.0 billion	9	5.2%
Total Tax Revenues	\$2.4 billion	9	4.9%
State Payroll Tax Contribution	\$101.6 million	9	5.2%
Federal Payroll Tax Contribution	\$917.6 million	9	5.2%
Income Tax Contribution	\$1.0 billion	8	5.1%
Sales & Use Tax Contribution	\$370.8 million	10	3.7%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Manufacturing

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Manufacturing sector:

- Economic output will increase from nearly \$403 million in 2020 to \$497.2 million in 2030.
- Gross state product (GSP) will grow from \$140.6 million in 2020 to \$173.6 million in 2030
- The investment will support an average of 1,112 jobs per year. This grows from 962 jobs in 2020 to 1,245 supported jobs in 2030. These workers will earn \$664 million in wages over the ten-year period. Annual wages will grow from \$66.5 million in 2020 to nearly \$82 million in 2030.
- Tax revenues will increase from \$13.8 million in 2020 to \$16.9 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$402.5 million	\$497.2 million
Value Added (contribution to GSP)	\$140.6 million	\$173.6 million
Employment	962 people	1,245 people
Total Payroll	\$66.5 million	\$82.0 million
Total Tax Revenues	\$13.8 million	\$16.9 million
State Payroll Tax Contribution	\$549.1 thousand	\$549.1 thousand
Federal Payroll Tax Contribution	\$5.1 million	\$6.3 million
Income Tax Contribution	\$6.1 million	\$7.4 million
Sales & Use Tax Contribution	\$2.2 million	\$2.7 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Manufacturing in New Jersey contributed \$53.9 billion to state economic activity in 2019, accounting for 8.4% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$95.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 7,328 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$14.9 billion. These businesses contribute an estimated \$1.3 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$66,967 each year. The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$95.0 billion	3	8.4%
Value Added (contribution to GSP)	\$53.9 billion	3	8.4%
Establishments	7,328 businesses	12	3.1%
Employment	222,454 people	7	6.0%
Average Annual Salary	\$66,967	9	
Total Payroll	\$14.9 billion	6	6.5%
Total Tax Revenues	\$3.4 billion	5	6.9%
State Payroll Tax Contribution	\$126.1 million	6	6.5%
Federal Payroll Tax Contribution	\$1.1 billion	6	6.5%
Income Tax Contribution	\$1.3 billion	6	6.7%
Sales & Use Tax Contribution	\$830.3 million	3	8.4%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Wholesale trade

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Wholesale Trade sector:

- Economic output will increase from nearly \$136 million in 2020 to \$166.8 million in 2030.
- Gross state product (GSP) will grow from \$92.0 million in 2020 to \$113.1 million in 2030
- The investment will support an average of 545 jobs per year. This grows from 472 jobs in 2020 to 611 supported jobs in 2030. These workers will earn \$381 million in wages over the ten-year period. Annual wages will grow from \$38.2 million in 2020 to nearly \$47 million in 2030.
- Tax revenues will increase from \$9.4 million in 2020 to \$11.6 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$135.7 million	\$166.8 million
Value Added (contribution to GSP)	\$92.0 million	\$113.1 million
Employment	472 people	611 people
Total Payroll	\$38.2 million	\$46.9 million
Total Tax Revenues	\$9.4 million	\$11.6 million
State Payroll Tax Contribution	\$314.1 thousand	\$314.1 thousand
Federal Payroll Tax Contribution	\$2.9 million	\$3.6 million
Income Tax Contribution	\$4.9 million	\$6.0 million
Sales & Use Tax Contribution	\$1.4 million	\$1.7 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Wholesale trade in New Jersey contributed \$53.8 billion to state economic activity in 2019, accounting for 8.3% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$94.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 13,859 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$27.0 billion. These businesses contribute an estimated \$2.3 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$99,572 each year. The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$94.9 billion	4	8.3%
Value Added (contribution to GSP)	\$53.8 billion	4	8.3%
Establishments	13,859 businesses	8	5.9%
Employment	271,598 people	6	7.4%
Average Annual Salary	\$99,572	5	
Total Payroll	\$27.0 billion	3	11.8%
Total Tax Revenues	\$5.8 billion	2	11.7%
State Payroll Tax Contribution	\$229.0 million	3	11.8%
Federal Payroll Tax Contribution	\$2.1 billion	3	11.8%
Income Tax Contribution	\$2.7 billion	3	13.3%
Sales & Use Tax Contribution	\$829.0 million	4	8.3%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Retail trade

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Retail Trade sector:

- Economic output will increase from over \$136 million in 2020 to \$161.1 million in 2030.
- Gross state product (GSP) will grow from \$89.7 million in 2020 to \$106.3 million in 2030
- The investment will support an average of 1,571 jobs per year. This grows from 1,368 jobs in 2020 to 1,753 supported jobs in 2030. These workers will earn \$442 million in wages over the ten-year period. Annual wages will grow from \$45.2 million in 2020 to nearly \$54 million in 2030.
- Tax revenues will increase from \$7.3 million in 2020 to \$8.7 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$136.1 million	\$161.1 million
Value Added (contribution to GSP)	\$89.7 million	\$106.3 million
Employment	1,368 people	1,753 people
Total Payroll	\$45.2 million	\$53.5 million
Total Tax Revenues	\$7.3 million	\$8.7 million
State Payroll Tax Contribution	\$358.7 thousand	\$358.7 thousand
Federal Payroll Tax Contribution	\$3.5 million	\$4.1 million
Income Tax Contribution	\$2.2 million	\$2.6 million
Sales & Use Tax Contribution	\$1.4 million	\$1.6 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Retail trade in New Jersey contributed \$37.1 billion to state economic activity in 2019, accounting for 5.8% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$65.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 31,354 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$14.4 billion. These businesses contribute an estimated \$1.2 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$31,231 each year. The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$65.5 billion	7	5.8%
Value Added (contribution to GSP)	\$37.1 billion	7	5.8%
Establishments	31,354 businesses	1	13.4%
Employment	462,415 people	2	12.6%
Average Annual Salary	\$31,231	17	
Total Payroll	\$14.4 billion	7	6.3%
Total Tax Revenues	\$2.5 billion	8	5.0%
State Payroll Tax Contribution	\$122.3 million	7	6.3%
Federal Payroll Tax Contribution	\$1.1 billion	7	6.3%
Income Tax Contribution	\$678.1 million	12	3.4%
Sales & Use Tax Contribution	\$572.5 million	7	5.8%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Transportation and warehousing

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Transportation and Warehousing sector:

- Economic output will increase from nearly \$88 million in 2020 to \$108.4 million in 2030.
- Gross state product (GSP) will grow from \$42.2 million in 2020 to \$51.9 million in 2030
- The investment will support an average of 516 jobs per year. This grows from 446 jobs in 2020 to 578 supported jobs in 2030. These workers will earn \$247 million in wages over the ten-year period. Annual wages will grow from \$24.7 million in 2020 to over \$30 million in 2030.
- Tax revenues will increase from \$4.6 million in 2020 to \$5.7 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$87.9 million	\$108.4 million
Value Added (contribution to GSP)	\$42.2 million	\$51.9 million
Employment	446 people	578 people
Total Payroll	\$24.7 million	\$30.4 million
Total Tax Revenues	\$4.6 million	\$5.7 million
State Payroll Tax Contribution	\$203.7 thousand	\$203.7 thousand
Federal Payroll Tax Contribution	\$1.9 million	\$2.3 million
Income Tax Contribution	\$1.9 million	\$2.3 million
Sales & Use Tax Contribution	\$649.7 thousand	\$799.6 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Transportation and warehousing in New Jersey contributed \$23.2 billion to state economic activity in 2019, accounting for 3.6% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$41.0 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 7,579 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$9.7 billion. These businesses contribute an estimated \$828.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$55,830 each year. The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$41.0 billion	11	3.6%
Value Added (contribution to GSP)	\$23.2 billion	11	3.6%
Establishments	7,579 businesses	11	3.2%
Employment	174,563 people	9	4.7%
Average Annual Salary	\$55,830	11	
Total Payroll	\$9.7 billion	10	4.2%
Total Tax Revenues	\$1.9 billion	12	3.8%
State Payroll Tax Contribution	\$82.5 million	10	4.2%
Federal Payroll Tax Contribution	\$745.6 million	10	4.2%
Income Tax Contribution	\$707.7 million	11	3.6%
Sales & Use Tax Contribution	\$358.0 million	11	3.6%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Information

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Information sector:

- Economic output will increase from over \$58 million in 2020 to \$70.9 million in 2030.
- Gross state product (GSP) will grow from \$33.7 million in 2020 to \$41.0 million in 2030
- The investment will support an average of 154 jobs per year. This grows from 134 jobs in 2020 to 173 supported jobs in 2030. These workers will earn \$101 million in wages over the ten-year period. Annual wages will grow from \$10.2 million in 2020 to over \$12 million in 2030.
- Tax revenues will increase from \$3.0 million in 2020 to \$3.6 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$58.3 million	\$70.9 million
Value Added (contribution to GSP)	\$33.7 million	\$41.0 million
Employment	134 people	173 people
Total Payroll	\$10.2 million	\$12.5 million
Total Tax Revenues	\$3.0 million	\$3.6 million
State Payroll Tax Contribution	\$83.4 thousand	\$83.4 thousand
Federal Payroll Tax Contribution	\$781.7 thousand	\$952.5 thousand
Income Tax Contribution	\$1.6 million	\$2.0 million
Sales & Use Tax Contribution	\$520.1 thousand	\$632.6 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Information in New Jersey contributed \$27.4 billion to state economic activity in 2019, accounting for 4.2% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$48.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 3,888 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$9.6 billion. These businesses contribute an estimated \$819.8 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$106,832 each year. The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$48.3 billion	8	4.2%
Value Added (contribution to GSP)	\$27.4 billion	8	4.2%
Establishments	3,888 businesses	13	1.7%
Employment	90,309 people	14	2.5%
Average Annual Salary	\$106,832	4	
Total Payroll	\$9.6 billion	11	4.2%
Total Tax Revenues	\$2.3 billion	11	4.6%
State Payroll Tax Contribution	\$81.7 million	11	4.2%
Federal Payroll Tax Contribution	\$738.1 million	11	4.2%
Income Tax Contribution	\$1.0 billion	7	5.1%
Sales & Use Tax Contribution	\$422.0 million	8	4.2%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Finance and insurance

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Finance and Insurance sector:

- Economic output will increase from nearly \$154 million in 2020 to \$187.4 million in 2030.
- Gross state product (GSP) will grow from \$78.9 million in 2020 to \$96.2 million in 2030
- The investment will support an average of 590 jobs per year. This grows from 512 jobs in 2020 to 660 supported jobs in 2030. These workers will earn \$352 million in wages over the ten-year period. Annual wages will grow from \$35.5 million in 2020 to over \$43 million in 2030.
- Tax revenues will increase from \$11.6 million in 2020 to \$14.2 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$153.7 million	\$187.4 million
Value Added (contribution to GSP)	\$78.9 million	\$96.2 million
Employment	512 people	660 people
Total Payroll	\$35.5 million	\$43.2 million
Total Tax Revenues	\$11.6 million	\$14.2 million
State Payroll Tax Contribution	\$289.3 thousand	\$289.3 thousand
Federal Payroll Tax Contribution	\$2.7 million	\$3.3 million
Income Tax Contribution	\$7.5 million	\$9.1 million
Sales & Use Tax Contribution	\$1.2 million	\$1.5 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Finance and insurance in New Jersey contributed \$43.0 billion to state economic activity in 2019, accounting for 6.7% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$75.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 11,698 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$25.0 billion. These businesses contribute an estimated \$2.1 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$129,171 each year. The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$75.9 billion	6	6.7%
Value Added (contribution to GSP)	\$43.0 billion	6	6.7%
Establishments	11,698 businesses	9	5.0%
Employment	193,659 people	8	5.3%
Average Annual Salary	\$129,171	2	
Total Payroll	\$25.0 billion	4	10.9%
Total Tax Revenues	\$5.4 billion	4	11.0%
State Payroll Tax Contribution	\$211.8 million	4	10.9%
Federal Payroll Tax Contribution	\$1.9 billion	4	10.9%
Income Tax Contribution	\$2.7 billion	2	13.3%
Sales & Use Tax Contribution	\$663.2 million	6	6.7%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Real estate and rental and leasing

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Real Estate and Rental and Leasing sector:

- Economic output will increase from nearly \$212 million in 2020 to \$258.5 million in 2030.
- Gross state product (GSP) will grow from \$148.1 million in 2020 to \$181.1 million in 2030
- The investment will support an average of 1,267 jobs per year. This grows from 1,098 jobs in 2020 to 1,418 supported jobs in 2030. These workers will earn \$323 million in wages over the ten-year period. Annual wages will grow from \$32.4 million in 2020 to nearly \$40 million in 2030.
- Tax revenues will increase from \$22.3 million in 2020 to \$27.2 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$211.6 million	\$258.5 million
Value Added (contribution to GSP)	\$148.1 million	\$181.1 million
Employment	1,098 people	1,418 people
Total Payroll	\$32.4 million	\$39.7 million
Total Tax Revenues	\$22.3 million	\$27.2 million
State Payroll Tax Contribution	\$266.2 thousand	\$266.2 thousand
Federal Payroll Tax Contribution	\$2.5 million	\$3.0 million
Income Tax Contribution	\$17.3 million	\$21.1 million
Sales & Use Tax Contribution	\$2.3 million	\$2.8 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Real estate and rental and leasing in New Jersey contributed \$103.8 billion to state economic activity in 2019, accounting for 16.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$183.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 9,530 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$3.8 billion. These businesses contribute an estimated \$322.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$63,335 each year. The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$183.2 billion	1	16.1%
Value Added (contribution to GSP)	\$103.8 billion	1	16.1%
Establishments	9,530 businesses	10	4.1%
Employment	60,005 people	16	1.6%
Average Annual Salary	\$63,335	10	
Total Payroll	\$3.8 billion	15	1.7%
Total Tax Revenues	\$2.8 billion	7	5.7%
State Payroll Tax Contribution	\$32.2 million	15	1.7%
Federal Payroll Tax Contribution	\$290.7 million	15	1.7%
Income Tax Contribution	\$892.4 million	9	4.5%
Sales & Use Tax Contribution	\$1.6 billion	1	16.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Professional, scientific, and technical services

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Professional, Scientific, and Technical Services sector:

- Economic output will increase from nearly \$106 million in 2020 to \$128.5 million in 2030.
- Gross state product (GSP) will grow from \$67.3 million in 2020 to \$82.1 million in 2030
- The investment will support an average of 645 jobs per year. This grows from 559 jobs in 2020 to 722 supported jobs in 2030. These workers will earn \$426 million in wages over the ten-year period. Annual wages will grow from \$42.9 million in 2020 to over \$52 million in 2030.
- Tax revenues will increase from \$10.0 million in 2020 to \$12.2 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$105.5 million	\$128.5 million
Value Added (contribution to GSP)	\$67.3 million	\$82.1 million
Employment	559 people	722 people
Total Payroll	\$42.9 million	\$52.3 million
Total Tax Revenues	\$10.0 million	\$12.2 million
State Payroll Tax Contribution	\$350.5 thousand	\$350.5 thousand
Federal Payroll Tax Contribution	\$3.3 million	\$4.0 million
Income Tax Contribution	\$5.4 million	\$6.6 million
Sales & Use Tax Contribution	\$1.0 million	\$1.3 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Professional, scientific, and technical services in New Jersey contributed \$60.3 billion to state economic activity in 2019, accounting for 9.4% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$106.4 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 28,915 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$30.4 billion. These businesses contribute an estimated \$2.6 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$95,167 each year. The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$106.4 billion	2	9.4%
Value Added (contribution to GSP)	\$60.3 billion	2	9.4%
Establishments	28,915 businesses	2	12.4%
Employment	319,455 people	5	8.7%
Average Annual Salary	\$95,167	6	
Total Payroll	\$30.4 billion	2	13.2%
Total Tax Revenues	\$6.4 billion	1	13.0%
State Payroll Tax Contribution	\$257.4 million	2	13.2%
Federal Payroll Tax Contribution	\$2.3 billion	2	13.2%
Income Tax Contribution	\$2.9 billion	1	14.7%
Sales & Use Tax Contribution	\$929.3 million	2	9.4%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Management of companies and enterprises

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Management of Companies and Enterprises sector:

- Economic output will increase from nearly \$36 million in 2020 to \$44.0 million in 2030.
- Gross state product (GSP) will grow from \$21.5 million in 2020 to \$26.4 million in 2030
- The investment will support an average of 120 jobs per year. This grows from 104 jobs in 2020 to 134 supported jobs in 2030. These workers will earn \$126 million in wages over the ten-year period. Annual wages will grow from \$12.6 million in 2020 to over \$15 million in 2030.
- Tax revenues will increase from \$3.0 million in 2020 to \$3.6 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$35.9 million	\$44.0 million
Value Added (contribution to GSP)	\$21.5 million	\$26.4 million
Employment	104 people	134 people
Total Payroll	\$12.6 million	\$15.5 million
Total Tax Revenues	\$3.0 million	\$3.6 million
State Payroll Tax Contribution	\$103.7 thousand	\$103.7 thousand
Federal Payroll Tax Contribution	\$964.5 thousand	\$1.2 million
Income Tax Contribution	\$1.6 million	\$1.9 million
Sales & Use Tax Contribution	\$331.7 thousand	\$407.2 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Management of companies and enterprises in New Jersey contributed \$20.0 billion to state economic activity in 2019, accounting for 3.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$35.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 1,581 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$16.3 billion. These businesses contribute an estimated \$1.4 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$137,008 each year. The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$35.3 billion	12	3.1%
Value Added (contribution to GSP)	\$20.0 billion	12	3.1%
Establishments	1,581 businesses	16	0.7%
Employment	118,747 people	12	3.2%
Average Annual Salary	\$137,008	1	
Total Payroll	\$16.3 billion	5	7.1%
Total Tax Revenues	\$3.4 billion	6	6.9%
State Payroll Tax Contribution	\$137.8 million	5	7.1%
Federal Payroll Tax Contribution	\$1.2 billion	5	7.1%
Income Tax Contribution	\$1.7 billion	5	8.6%
Sales & Use Tax Contribution	\$308.4 million	12	3.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Administrative and waste management services

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Administrative and Waste Management Services sector:

- Economic output will increase from over \$52 million in 2020 to \$63.8 million in 2030.
- Gross state product (GSP) will grow from \$33.9 million in 2020 to \$41.3 million in 2030
- The investment will support an average of 647 jobs per year. This grows from 561 jobs in 2020 to 724 supported jobs in 2030. These workers will earn \$211 million in wages over the ten-year period. Annual wages will grow from \$21.3 million in 2020 to nearly \$26 million in 2030.
- Tax revenues will increase from \$3.5 million in 2020 to \$4.3 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$52.4 million	\$63.8 million
Value Added (contribution to GSP)	\$33.9 million	\$41.3 million
Employment	561 people	724 people
Total Payroll	\$21.3 million	\$25.9 million
Total Tax Revenues	\$3.5 million	\$4.3 million
State Payroll Tax Contribution	\$173.7 thousand	\$173.7 thousand
Federal Payroll Tax Contribution	\$1.6 million	\$2.0 million
Income Tax Contribution	\$1.3 million	\$1.5 million
Sales & Use Tax Contribution	\$522.9 thousand	\$637.2 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Administrative and waste management services in New Jersey contributed \$25.5 billion to state economic activity in 2019, accounting for 4.0% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$44.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 14,313 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$14.0 billion. These businesses contribute an estimated \$1.2 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$41,663 each year. The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$44.9 billion	9	4.0%
Value Added (contribution to GSP)	\$25.5 billion	9	4.0%
Establishments	14,313 businesses	7	6.1%
Employment	337,135 people	3	9.2%
Average Annual Salary	\$41,663	13	
Total Payroll	\$14.0 billion	8	6.1%
Total Tax Revenues	\$2.3 billion	10	4.7%
State Payroll Tax Contribution	\$118.9 million	8	6.1%
Federal Payroll Tax Contribution	\$1.1 billion	8	6.1%
Income Tax Contribution	\$711.5 million	10	3.6%
Sales & Use Tax Contribution	\$392.6 million	9	4.0%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Educational services

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Educational Services sector:

- Economic output will increase from nearly \$14 million in 2020 to \$16.6 million in 2030.
- Gross state product (GSP) will grow from \$8.4 million in 2020 to \$10.1 million in 2030
- The investment will support an average of 206 jobs per year. This grows from 178 jobs in 2020 to 230 supported jobs in 2030. These workers will earn \$61 million in wages over the ten-year period. Annual wages will grow from \$6.1 million in 2020 to over \$7 million in 2030.
- Tax revenues will increase from \$1.0 million in 2020 to \$1.2 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$13.7 million	\$16.6 million
Value Added (contribution to GSP)	\$8.4 million	\$10.1 million
Employment	178 people	230 people
Total Payroll	\$6.1 million	\$7.4 million
Total Tax Revenues	\$1.0 million	\$1.2 million
State Payroll Tax Contribution	\$49.8 thousand	\$49.8 thousand
Federal Payroll Tax Contribution	\$468.5 thousand	\$569.1 thousand
Income Tax Contribution	\$370.8 thousand	\$450.4 thousand
Sales & Use Tax Contribution	\$128.8 thousand	\$156.4 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Educational services in New Jersey contributed \$7.9 billion to state economic activity in 2019, accounting for 1.2% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$13.9 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 3,880 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$4.3 billion. These businesses contribute an estimated \$363.1 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$40,357 each year. The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$13.9 billion	16	1.2%
Value Added (contribution to GSP)	\$7.9 billion	16	1.2%
Establishments	3,880 businesses	14	1.7%
Employment	105,893 people	13	2.9%
Average Annual Salary	\$40,357	14	
Total Payroll	\$4.3 billion	14	1.9%
Total Tax Revenues	\$691.8 million	15	1.4%
State Payroll Tax Contribution	\$36.2 million	14	1.9%
Federal Payroll Tax Contribution	\$326.9 million	14	1.9%
Income Tax Contribution	\$207.2 million	16	1.0%
Sales & Use Tax Contribution	\$121.4 million	16	1.2%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Health care and social assistance

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Health Care and Social Assistance sector:

- Economic output will increase from over \$116 million in 2020 to \$141.3 million in 2030.
- Gross state product (GSP) will grow from \$69.9 million in 2020 to \$85.0 million in 2030
- The investment will support an average of 1,090 jobs per year. This grows from 945 jobs in 2020 to 1,220 supported jobs in 2030. These workers will earn \$501 million in wages over the ten-year period. Annual wages will grow from \$50.5 million in 2020 to over \$61 million in 2030.
- Tax revenues will increase from \$8.7 million in 2020 to \$10.5 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$116.2 million	\$141.3 million
Value Added (contribution to GSP)	\$69.9 million	\$85.0 million
Employment	945 people	1,220 people
Total Payroll	\$50.5 million	\$61.4 million
Total Tax Revenues	\$8.7 million	\$10.5 million
State Payroll Tax Contribution	\$411.4 thousand	\$411.4 thousand
Federal Payroll Tax Contribution	\$3.9 million	\$4.7 million
Income Tax Contribution	\$3.4 million	\$4.1 million
Sales & Use Tax Contribution	\$1.1 million	\$1.3 million

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Health care and social assistance in New Jersey contributed \$52.3 billion to state economic activity in 2019, accounting for 8.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$92.3 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 28,096 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$31.3 billion. These businesses contribute an estimated \$2.7 billion in state and federal payroll taxes. Individuals working in this sector earn an average of \$52,244 each year. The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$92.3 billion	5	8.1%
Value Added (contribution to GSP)	\$52.3 billion	5	8.1%
Establishments	28,096 businesses	3	12.0%
Employment	598,540 people	1	16.3%
Average Annual Salary	\$52,244	12	
Total Payroll	\$31.3 billion	1	13.6%
Total Tax Revenues	\$5.5 billion	3	11.1%
State Payroll Tax Contribution	\$264.8 million	1	13.6%
Federal Payroll Tax Contribution	\$2.4 billion	1	13.6%
Income Tax Contribution	\$2.0 billion	4	10.1%
Sales & Use Tax Contribution	\$806.2 million	5	8.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Arts, entertainment, and recreation

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Arts, Entertainment, and Recreation sector:

- Economic output will increase from over \$12 million in 2020 to \$14.6 million in 2030.
- Gross state product (GSP) will grow from \$7.0 million in 2020 to \$8.5 million in 2030
- The investment will support an average of 227 jobs per year. This grows from 197 jobs in 2020 to 254 supported jobs in 2030. These workers will earn \$42 million in wages over the ten-year period. Annual wages will grow from \$4.2 million in 2020 to over \$5 million in 2030.
- Tax revenues will increase from \$799.9 thousand in 2020 to \$972.8 thousand in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$12.0 million	\$14.6 million
Value Added (contribution to GSP)	\$7.0 million	\$8.5 million
Employment	197 people	254 people
Total Payroll	\$4.2 million	\$5.2 million
Total Tax Revenues	\$799.9 thousand	\$972.8 thousand
State Payroll Tax Contribution	\$34.6 thousand	\$34.6 thousand
Federal Payroll Tax Contribution	\$324.4 thousand	\$394.5 thousand
Income Tax Contribution	\$339.4 thousand	\$412.6 thousand
Sales & Use Tax Contribution	\$107.8 thousand	\$131.1 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Arts, entertainment, and recreation in New Jersey contributed \$6.9 billion to state economic activity in 2019, accounting for 1.1% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$12.2 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 3,846 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$2.0 billion. These businesses contribute an estimated \$173.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$31,208 each year. The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$12.2 billion	17	1.1%
Value Added (contribution to GSP)	\$6.9 billion	17	1.1%
Establishments	3,846 businesses	15	1.6%
Employment	65,563 people	15	1.8%
Average Annual Salary	\$31,208	18	
Total Payroll	\$2.0 billion	17	0.9%
Total Tax Revenues	\$387.3 million	17	0.8%
State Payroll Tax Contribution	\$17.3 million	17	0.9%
Federal Payroll Tax Contribution	\$156.5 million	17	0.9%
Income Tax Contribution	\$106.5 million	17	0.5%
Sales & Use Tax Contribution	\$107.0 million	17	1.1%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Accommodation and Food Services

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Accommodation and Food Services sector:

- Economic output will increase from nearly \$44 million in 2020 to \$53.6 million in 2030.
- Gross state product (GSP) will grow from \$24.6 million in 2020 to \$29.9 million in 2030
- The investment will support an average of 616 jobs per year. This grows from 534 jobs in 2020 to 690 supported jobs in 2030. These workers will earn \$131 million in wages over the ten-year period. Annual wages will grow from \$13.1 million in 2020 to over \$16 million in 2030.
- Tax revenues will increase from \$2.0 million in 2020 to \$2.4 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$44.0 million	\$53.6 million
Value Added (contribution to GSP)	\$24.6 million	\$29.9 million
Employment	534 people	690 people
Total Payroll	\$13.1 million	\$16.0 million
Total Tax Revenues	\$2.0 million	\$2.4 million
State Payroll Tax Contribution	\$107.3 thousand	\$107.3 thousand
Federal Payroll Tax Contribution	\$1.0 million	\$1.2 million
Income Tax Contribution	\$518.2 thousand	\$632.5 thousand
Sales & Use Tax Contribution	\$379.2 thousand	\$461.5 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Accommodation and Food Services in New Jersey contributed \$15.1 billion to state economic activity in 2019, accounting for 2.3% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$26.6 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 21,551 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$7.0 billion. These businesses contribute an estimated \$593.6 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$21,648 each year. The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$26.6 billion	13	2.3%
Value Added (contribution to GSP)	\$15.1 billion	13	2.3%
Establishments	21,551 businesses	6	9.2%
Employment	322,693 people	4	8.8%
Average Annual Salary	\$21,648	19	
Total Payroll	\$7.0 billion	12	3.0%
Total Tax Revenues	\$1.1 billion	13	2.3%
State Payroll Tax Contribution	\$59.1 million	12	3.0%
Federal Payroll Tax Contribution	\$534.4 million	12	3.0%
Income Tax Contribution	\$295.8 million	14	1.5%
Sales & Use Tax Contribution	\$232.2 million	13	2.3%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

The Economic Impact of Increased Highway, Bridge and Transit Construction Investment in New Jersey...

Other services

Between 2020 and 2030, the economic impact of increased highway, bridge and transit construction investment will result in the following benefits for New Jersey's Other Services sector:

- Economic output will increase from over \$55 million in 2020 to \$67.7 million in 2030.
- Gross state product (GSP) will grow from \$31.6 million in 2020 to \$38.7 million in 2030
- The investment will support an average of 581 jobs per year. This grows from 504 jobs in 2020 to 650 supported jobs in 2030. These workers will earn \$216 million in wages over the ten-year period. Annual wages will grow from \$21.7 million in 2020 to nearly \$27 million in 2030.
- Tax revenues will increase from \$3.1 million in 2020 to \$3.8 million in 2030.

	Impact in 2020	Impact in 2030
Industry Output	\$55.4 million	\$67.7 million
Value Added (contribution to GSP)	\$31.6 million	\$38.7 million
Employment	504 people	650 people
Total Payroll	\$21.7 million	\$26.6 million
Total Tax Revenues	\$3.1 million	\$3.8 million
State Payroll Tax Contribution	\$178.2 thousand	\$178.2 thousand
Federal Payroll Tax Contribution	\$1.7 million	\$2.0 million
Income Tax Contribution	\$824.0 thousand	\$1.0 thousand
Sales & Use Tax Contribution	\$486.5 thousand	\$595.8 thousand

Increasing transportation spending will have a positive economic impact on this sector in two ways. The first is through direct purchases from transportation construction firms and suppliers involved in building, maintaining and operating New Jersey's highways, bridges and transit systems. The second effect is when employees of transportation firms spend their wages and make purchases throughout the economy.

SECTOR OVERVIEW

Other services in New Jersey contributed \$12.7 billion to state economic activity in 2019, accounting for 2.0% of the state's Gross State Product (GSP).^{*} Total sales in the industry were an estimated \$22.5 billion, which includes goods and services for final consumers as well as any inputs sold to other industries.

This sector includes 24,021 establishments and sole proprietorships in New Jersey with an existing payroll valued at \$5.2 billion. These businesses contribute an estimated \$438.9 million in state and federal payroll taxes. Individuals working in this sector earn an average of \$33,087 each year. The Other Services sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities, such as equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, and providing drycleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

	Current Value	New Jersey Ranking	Percentage of State Total
Industry Output	\$22.5 billion	14	2.0%
Value Added (contribution to GSP)	\$12.7 billion	14	2.0%
Establishments	24,021 businesses	4	10.3%
Employment	156,103 people	11	4.2%
Average Annual Salary	\$33,087	16	
Total Payroll	\$5.2 billion	13	2.2%
Total Tax Revenues	\$875.7 million	14	1.8%
State Payroll Tax Contribution	\$43.7 million	13	2.2%
Federal Payroll Tax Contribution	\$395.1 million	13	2.2%
Income Tax Contribution	\$240.4 million	15	1.2%
Sales & Use Tax Contribution	\$196.4 million	14	2.0%

^{*} GSP is the value added by an industry to the overall economy. New Jersey's GSP was estimated to be \$644.84 billion in 2019. That is the difference between total sales and the intermediate goods. Gross output is the measure of total sales for both intermediate and final goods. New Jersey's gross output in 2019 is estimated to be \$1.14 trillion.

VII. Methodology and Sources

This report examines the impact of increased spending on highway, bridge and transit construction in New Jersey, from \$1.650 billion in 2020 to \$2.136 billion in 2030. This includes spending by the New Jersey Turnpike Authority, New Jersey Transit, and the South Jersey Transportation Authority.

Spending by the New Jersey Turnpike Authority is expected to grow three percent per year over the next ten years, increasing from a base investment of \$1 billion in 2020 to \$1.34 billion in 2030. Spending by New Jersey Transit is expected to grow two percent per year over the next ten years, increasing from a base investment of \$400 million in 2020 to \$487.60 million in 2030. Spending by the South Jersey Transportation Authority is expected to grow two percent per year over the next ten years, increasing from a base investment of \$250 million in 2020 to \$304.75 million in 2030.

This spending is categorized into: highway and bridge construction investment, which totals spending by the New Jersey Turnpike Authority and the South Jersey Transportation Authority; and transit construction investment, which comprises spending by New Jersey Transit.

The impact of an increase in construction spending is calculated using the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS II). RIMS II is based on input output (I-O) tables. For a given industry, the I-O tables show the industrial distribution of inputs purchased and outputs sold. In this analysis, two separate multipliers specific to New Jersey were used to estimate the impacts of highway, street and bridge construction investment, and transit construction investment (using the multiplier for general construction investment), for each year. The total impacts were calculated by adding up the impact values each year for both multipliers, for each type of impact and for each industry.

Research shows that RIMS II multipliers are similar to other regional I-O models based on in-depth and often expensive surveys. According to the U.S. Department of Commerce, RIMS multipliers have been used to estimate such things as the regional impact of military base closings, tourist expenditures, new energy facilities, offshore drilling and the opening or closing of manufacturing plants and other facilities. The multipliers are specific to New Jersey and are based on benchmark regional data from 2015 and industry data from the 2007 benchmark series, as published by the U.S. Department of Commerce. These multipliers are standard for this type of analysis and are the latest information available.

Industry value added (contribution to GSP) for New Jersey is the most recent data from the U.S. Bureau of Economic Analysis GSP estimates for the state, broken out by industry, for 2019. Industry output for New Jersey was estimated by taking New Jersey's percent share of national GSP for each industry and multiplying it by national gross output by industry.

The state payroll tax rate is calculated using the average employer tax rate as a percent of total wages for 2019. The source for this information is the National Association of State Workforce Agencies (NASWA) and the U.S. Department of Labor Employment Training Administration (ETA) Financial Handbook 394. The federal payroll tax rate is estimated to be 7.65 percent.

Total income tax contributions comprise gross income tax revenues and Corporation Business Tax revenues, both of which are for state fiscal year 2019, and are from the Governor's FY 2021 Detailed Budget. To estimate the amount of individual income tax contributions attributable to each industry, the estimated individual income tax collections paid by the average worker in each sector was calculated by using the New Jersey

2019 tax rate schedule for taxable income, then multiplied by the number of workers in each industry to arrive at the total estimated individual income tax collections for each industry. The amount of individual income tax contributions attributable to each industry was then estimated by multiplying the total statewide gross income tax revenues amount (\$15.90 billion) by the percentage of total estimated individual income tax collections for each industry. The amount of corporate income tax contributions attributable to each industry was estimated by multiplying the total statewide Corporation Business Tax revenues amount (\$4.03 billion) by the percentage of total output for each industry.

Total sales and use tax revenues are the annual totals of state sales and use tax revenues in state fiscal year 2019 and are from the Governor's FY 2021 Detailed Budget. The amount of sales and use contributions attributable to each industry was then estimated by multiplying the total statewide sales and use contributions amount (\$9.94 billion) by the percentage of total output for each industry. In 2019, New Jersey had 6.625 percent combined sales and use tax rate, as well as additional local sales and use taxes levied by individual cities and counties.

Employment and economic impact of the public sector is not included in the 19-sector analysis.

Employment and establishment data were calculated using the U.S. Census Bureau's County Business Patterns 2017 data, the latest year available. Since County Business Patterns data underestimates employment in the Agriculture, Forestry, Fishing and Hunting sector, employment and establishment data for that sector was calculated using the U.S. Department of Labor's Quarterly Census of Employment and Wages for 2018. All 2017 and 2018 payroll data has been adjusted for inflation to 2019 dollars using the Bureau of Labor Statistics Consumer Price Index.

The analysis does not analyze the economic impact to drivers and businesses of paying additional tolls that raise the revenue in the report.

For additional information please contact:

Dr. Alison Premo Black

ARTBA Senior VP Policy & Chief Economist
202-683-1007
ablack@artba.org

Lital Shair Nada

ARTBA Research Economist
Dir. of ARTBA Transportation Officials Division
Asst. Dir. of ARTBA Research & Education Division
202-683-1021
lnada@artba.org