

Economic Benefits and Impacts of Utah's Unified Plan

Prepared for:

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In Association with

Mountainland Association of Governments

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Table of Contents

Glossary of Terms:	ii
Executive Summary.....	iv
1 Utah’s Economic Base & Role of Transportation.....	1
1.1 Utah’s Economic Base.....	1
1.2 Supply Chains and Dependence on Freight.....	2
1.3 Freight Modes and Trading Partners.....	3
2 Societal Benefits of Enhanced Investment	8
2.1 Different Investment Levels	8
2.2 Benefits of Different Investment Levels.....	9
3 Economic Impacts of Transportation Funding	12
3.1 Impacts on Jobs, Household Income, Business Output and GDP.....	12
3.2 Comparative Job Impacts of Scenarios.....	18
4 Fiscal Impacts of Enhanced Investment.....	20
5 Conclusions.....	23

GLOSSARY OF TERMS:

Business Attraction Impact: The economic impact occurring because firms are attracted to a state or regional economy due to the addition of a desirable amenity. (Also referred to as ‘contingent development’.)

Business Output: The total value of goods produced and sold in the economy.

Construction Impact: The economic impact occurring because of government outlays made to construct or maintain a public facility.

Cumulative Benefit: The total long-term present value of social benefits accruing over a period of years. Cumulative benefit is the sum of all benefits for all years in a given period (in contrast to an annual benefit, which would indicate the level of impact for a single year).

Cumulative Cost: The total long-term present value of costs to society occurring over a period of years. Cumulative cost is the sum of all costs for all years in a given period (in contrast to an annual cost, which would indicate the level of impact for a single year).

Cumulative Impact: The total long-term value of impacts accruing over a period of years. Cumulative impact is the sum of all impacts for all years in a given period (in contrast to an annual impact, which would indicate the level of impact for a single year).

Earnings: The total money earned in wage income. Also referred to as “household income”.

Economic Impact: The ways in which a different pattern of spending or economic activity affect transactions leading to earnings, output, employment and value-added. Unlike benefits, impacts can result from transfers in which money is simply reallocated from one party to another.

Expansion Benefit: The total long-term present value of transportation cost savings in the economy that accrue from building the transportation system to a level that can support anticipated future demand and growth when compared to simply preserving the system in its current state.

Expansion Impact: The economic impact resulting from building the transportation system to a level that can support anticipated future demand and growth when compared to simply preserving the system in its current state.

Expansion Investment: Investment required to build the transportation system to a level that can support anticipated future demand and growth.

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Fiscal Impact: Change in government revenues due to the economic impacts of an action.

Gross Domestic Product: The total value-added in the economy (value of all goods produced and sold after the costs of labor, taxes and inputs are subtracted).

Jobs: The total number of people employed in the economy.

Maintain Existing System Scenario: An investment scenario based on the minimum requirements associated with maintaining the transportation system in 2019 conditions.

Market Access Impact: The economic impact occurring because of businesses becoming more productive when a larger pool of available buyers and suppliers becomes available.

Present Value: The discounted value of a stream of costs or revenues over a period of time.

Preservation Benefit: The total long-term present value of transportation cost savings that accrue from preserving the transportation system in its current condition when compared to allowing the system to naturally deteriorate.

Preservation Impact: The economic impact resulting from preserving the transportation system in its current condition compared to allowing the system to naturally deteriorate.

Preservation Investment: Investment required to keep the transportation system in its current condition.

Public Return on Investment: The total increase in Gross Domestic Product (GDP) per dollar invested in an economic program or initiative, net of the effects of raising money for the program through taxes or expenditure of funds associated with implementing the program or initiative.

Residual Value: The value of the remaining service life that a transportation facility is found to have at the end of an analysis period.

Social Benefit: The overall present dollar value of savings or increased productivity from all sources associated with an action or investment. Benefits do not include transfers (transactions in which money is simply reallocated from one party to another), but only actual savings or increases in productivity for the economy as a whole. Social Benefit is also referred to as “societal benefit”.

Transportation Efficiency Impact: The economic impact occurring because of households or businesses saving money on transportation and spending those savings elsewhere in the economy.

Unified Plan - Priority Needs Scenario: An investment scenario that assumes continuation of a current pattern of expenditure.

Unified Plan - Total Needs Scenario: An investment scenario based on Utah’s Unified Plan.

EXECUTIVE SUMMARY

Utah has a thirty-one-year plan for state transportation facilities on all modes in urban and rural areas. In rural areas, the Utah Department of Transportation (UDOT) prepares a Long Range Transportation Plan (LRP). In urban areas (50,000 or more inhabitants), the Metropolitan Planning Organizations (CACHE, WFRC, MAG, DMPO) prepare Regional Transportation Plans (RTPs). The LRP and RTPs are lists of improvement projects, developed in accordance with federal regulations and updated every four years to provide for the state's transportation needs of the future. When the UDOT LRP projects are approved for funding by the State Transportation Commission, they are moved into the Statewide Transportation Improvement Program (STIP) for design and construction.

The Unified Transportation Plan (*Unified Plan - Total Needs*) is a comprehensive project list that includes urban and rural transportation improvement projects from UDOT and the MPOs. The plan also includes funding to operate and maintain existing and new transportation facilities and services on all modes. This report explores the economic implications of investing in Utah's transportation system at different levels. Different investment levels considered include:

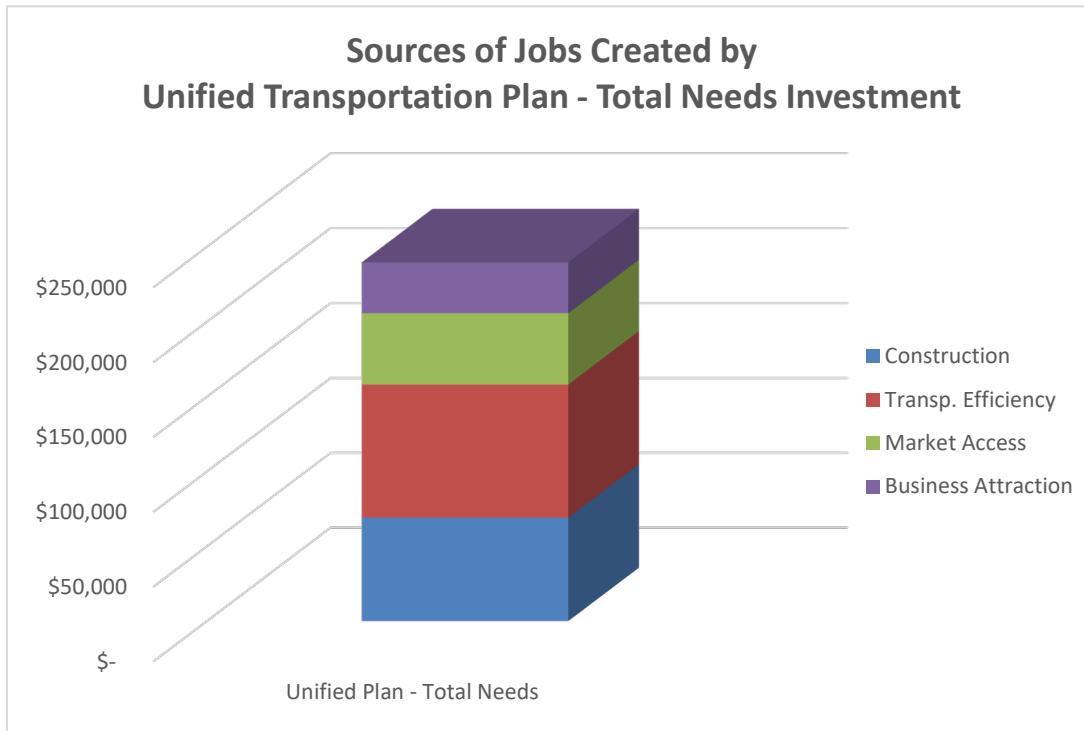
- 1) *Maintain Existing System* scenario: the investment level required to maintain the existing system (as it is today), -
- 2) *Unified Plan - Priority Needs* scenario: the investment level supported by current revenue streams to accommodate future demand, and
- 3) *Unified Plan - Total Needs* scenario: the investment level recommended by the *Unified Plan*.

This report considers the costs that deficient transportation conditions impose on Utah's economy in dollar terms and number of jobs, as well as the potential benefits to the state's economy if future conditions can be enhanced by investing in Utah's transportation system.

Funding Utah's Unified Transportation Plan at the level of \$108.7 Billion will provide the \$38.2 Billion needed to preserve existing infrastructure and services and an additional \$70.5 Billion in expanded capacity to meet future needs. Investing in the transportation system at this level will result in nearly 240,000 new jobs¹ in Utah's economy in 2050 in comparison to a 2050 in which no investment is made in the transportation system. These jobs include not only nearly 69,000 construction jobs, but also over 88,000 jobs created by private savings on congestion, safety, wear and tear from deteriorating pavements and other transportation efficiency problems; over 47,000 jobs created by enhanced access to markets for Utah firms; and over 33,800 jobs created by new businesses attracted to Utah because of improved transportation conditions resulting from the plan. Figure ES-1 shows the magnitude of jobs created by these outcomes of investing in the *Unified Plan - Total Needs*.

¹ In this report jobs are rounded to the nearest thousand when reported in text, but are reported with the precision as modeled (to the job) in tables and figures to support intermediate calculations.

Figure ES-1: Sources of Job Creation from investing in Utah’s *Unified Plan - Total Needs*



Source: IMPLAN Software

The state’s public return on investment (ROI) is understood as the net growth in the state’s gross domestic product (GDP) per dollar of investment net of the effects of taxes or state spending.² By inducing GDP Growth (net of taxes or state spending) of \$161.9 Billion for a \$108.7 Billion investment in the 30-year period from 2011 to 2040, fully funding Utah’s investment in the *Unified Plan - Total Needs* is expected to achieve a ROI of 1.49.

Utah’s transportation system is a critical asset to the state, carrying over 2.7 Billion vehicle trips, over 21.7 Billion vehicle miles of travel, and over 496 Million vehicle hours of travel in 2019.³ According to the US Department of Transportation Freight Analysis Framework, in 2017 Utah’s transportation system is estimated to have carried over 279.2 Billion worth of goods by all modes combined.

² The GDP effects of state construction or operation and maintenance outlays are not considered part of ROI because state spending is understood to be supported from taxes or fees taken from elsewhere in the economy.

³ Based on Travel Demand Model.

⁴ IMPLAN has 2009 data; FAF has 2010 data, accounting for the difference in years.

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Clearly the ongoing condition and performance of the transportation system is of vital importance to the state's long-term economic success.

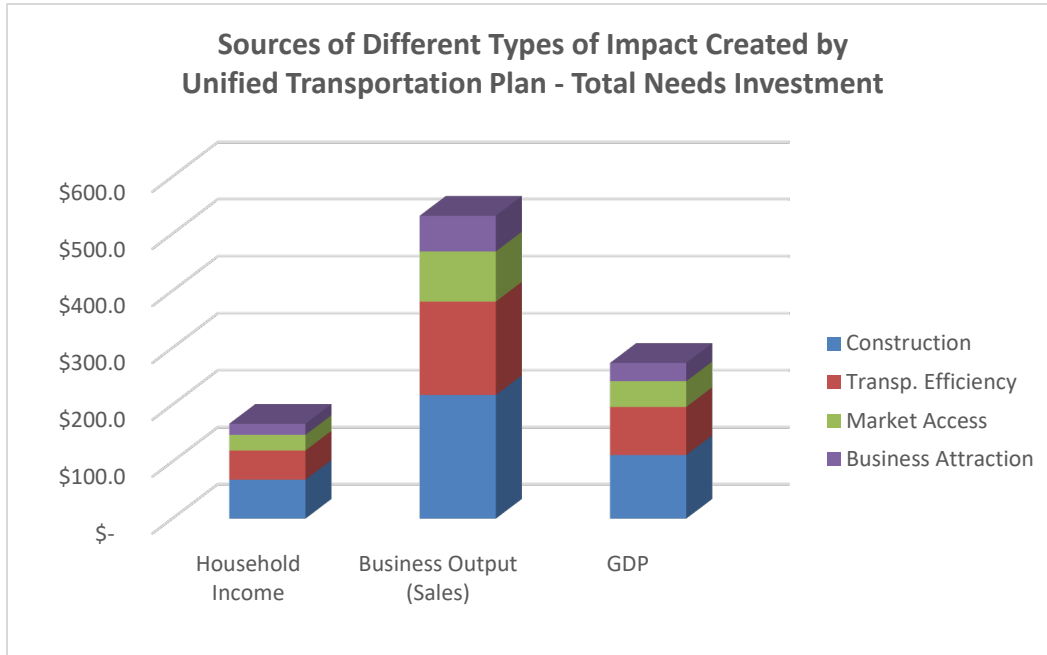
Most of the savings to system users will occur because of adequately maintained pavements, bridges and transit lines, reduced congestion, more reliable deliveries and the increased productivity that businesses can enjoy when the transportation system works as efficiently as possible.

These cost savings, combined with the business attraction and construction effects of the improved transportation system, will enable Utah's households and businesses to both invest and spend more in Utah's economy. The impacts of households and businesses investing and spending the proceeds of the improved transportation system can create over 240,000 jobs by 2050, \$166.8 Billion in cumulative household income, \$531.7 Billion in cumulative business output (sales), and \$273.7 Billion in cumulative GDP by 2050. As with the jobs impact, nearly half of these impacts will be the result of private sector savings and the improved business environment, with the overall impact of construction spending accounting for less than 30 percent of the overall impact of the program.

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Investing in the *Unified Plan - Total Needs* will enable ongoing growth and expansion of the state’s economy, creating approximately \$15.4 Billion in state and local government revenues and \$22.2 Billion in federal government revenues at current tax rates. Figure ES-2 and Table ES- 1 show the overall nature and magnitude of impacts associated with full investment in the *Unified Plan - Total Needs* in comparison to failure to fund the transportation system.

Figure ES-2: Impacts from Utah’s Transportation Investment



Source: IMPLAN Software

Table ES-1: Economic Impacts of Transportation Investment at Different Levels

Comparative Outcomes of Investment Levels in UT Transportation System

Investment Levels	Investment		Effects on Utah's Economy				
	\$ Invested in Transportation (\$B)	\$ Invested in System Expansion (\$B)	\$ Private Sector Savings (\$B)	Jobs in 2050	Household Income (\$B) (cumulative to 2050)	Business Output (\$B) (cumulative to 2050)	GDP (\$B) (Cumulative to 2050)
<i>Maintain Existing System</i>	\$38.2	\$0.0	\$113.2	87,758	\$82.0	\$264.1	\$137.4
<i>Unified Plan – Total Needs</i>	\$108.7	\$132.5	\$245.7	239,585	\$166.8	\$531.7	\$273.7

Source: IMPLAN Software

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Overall, the dollars the state of Utah invests in the transportation improvements proposed in the *Unified Plan - Total Needs* bring additional revenue and wages to Utah's households and businesses at levels substantially above the dollars invested by the state. While the state's outlays in the infrastructure and services envisioned by the *Unified Plan - Total Needs* can be expected to save

Utah's private sector more dollars than the state would invest in the improvements, the direct savings are only a small share of the overall payoffs to Utah's private economy. The greatest payoffs to the economy are likely to occur in the additional output that Utah businesses can produce when the congestion and reliability costs of travel are reduced. This output creates jobs and wages for Utah workers, and ultimately leads to a substantially larger economy than would occur if the system were left in the condition as it stood in 2019.

1 UTAH'S ECONOMIC BASE & ROLE OF TRANSPORTATION

To understand the importance of investing in Utah's transportation system, it is helpful to understand how Utah's economy uses the transportation system to produce goods and services, employ workers, and trade with the nation as a whole.⁶ This chapter explores Utah's economic base, and the ways in which Utah's current economy depends on the infrastructure maintained and improved as envisioned by the *Unified Plan - Total Needs*.

1.1 Supply Chains and Dependence on Freight

The nearly \$83.3 Billion in direct exports from "basic" exporting industries in Utah's economy is from movement by truck, however the actual economic dependence on these exports goes beyond the goods and services directly exported. Utah-based suppliers of firms making exported goods and services are also indirectly dependent on Utah's ability to export goods using the transportation system. This is especially true of industries that make and use freight commodities that move by truck.

1.2 Freight Modes and Trading Partners

According to the USDOT *Freight Analysis Framework*, over 244.9 million tons of freight moved on Utah's transportation system in 2017, with a value of over \$279 billion. The improvements in the *Unified Plan - Total Needs* focus primarily on highway and passenger transit systems. It should be noted, however, that Utah's freight rail and air cargo systems also

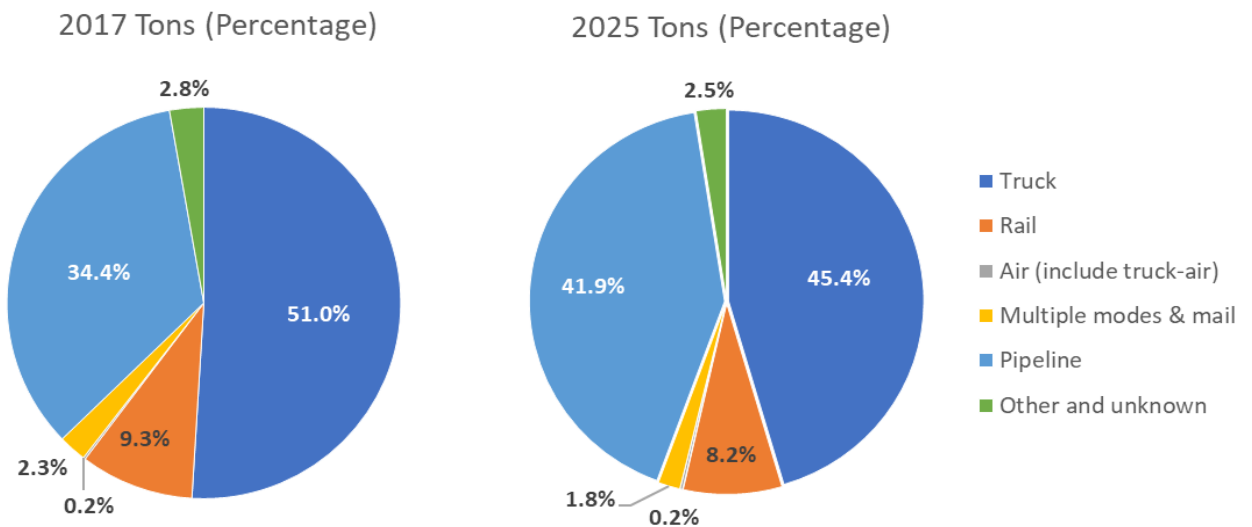
support a considerable amount of the state's economic activity. Non-highway modes are estimated to have carried 49 percent of Utah's tonnage and over 32 percent of the value of goods moved on Utah's transportation system in 2017 (up from 37 percent of volume and 31 percent of value in 2010). For both inbound and outbound tonnage, the majority of Utah's freight is fuels, including coal, petroleum, gasoline and other metallic and nonmetallic minerals. Growth in the petroleum and fuel sector is evident in strong growth in pipeline utilization, growing from 24.8 million tons (12 percent of total Utah freight) in 2010 to 84.3 million tons (34 percent of total) in 2017. This growth trend is expected to continue through 2025 with pipeline tonnage growing to 135.8 tons (42 percent of total). **Table 2** and **Figure 1** show the modal distribution of freight for 2017 (current) and 2025 (projected) on Utah's transportation system.

Table 2: Freight Modes in Utah by Tonnage, 2017 versus 2025

Mode	2017		2025	
	Tons (Million)	Tons (%)	Tons (Million)	Tons (%)
Truck	124.8	51.0%	147.3	45.4%
Rail	22.9	9.3%	26.5	8.2%
Air (include truck-air)	0.4	0.2%	0.7	0.2%
Multiple modes & mail	5.6	2.3%	5.9	1.8%
Pipeline	84.3	34.4%	135.8	41.9%
Other and unknown	6.9	2.8%	8.1	2.5%
Total: All Freight	244.9	100%	324.3	100%

Source: USDOT Freight Analysis Framework (FAF), 2017, 2025

Figure 1: Freight Modes in Utah by Tonnage, 2017 versus 2025



Source: USDOT Freight Analysis Framework (FAF), 2017, 2025

Trucking on Utah’s highways carries the majority of both the tonnage and value supporting the state’s economy. The volume of tonnage and value on the highway system points to the degree to which Utah’s businesses can be affected by the type of travel time and reliability savings on the highway system afforded by investment in the *Unified Plan - Total Needs*. As shown in **Table 3** and **Figure 2**, the value of freight transported by truck accounts for nearly 66 percent of the State’s total freight value in 2017 and will remain relatively stable through 2025 at just over 64 percent.

Table 3: Freight Modes in Utah by Value, 2017 versus 2025

Mode	2017		2025	
	2017 \$ (Million)	Value (%)	2025 \$ (Million)	Value (%)

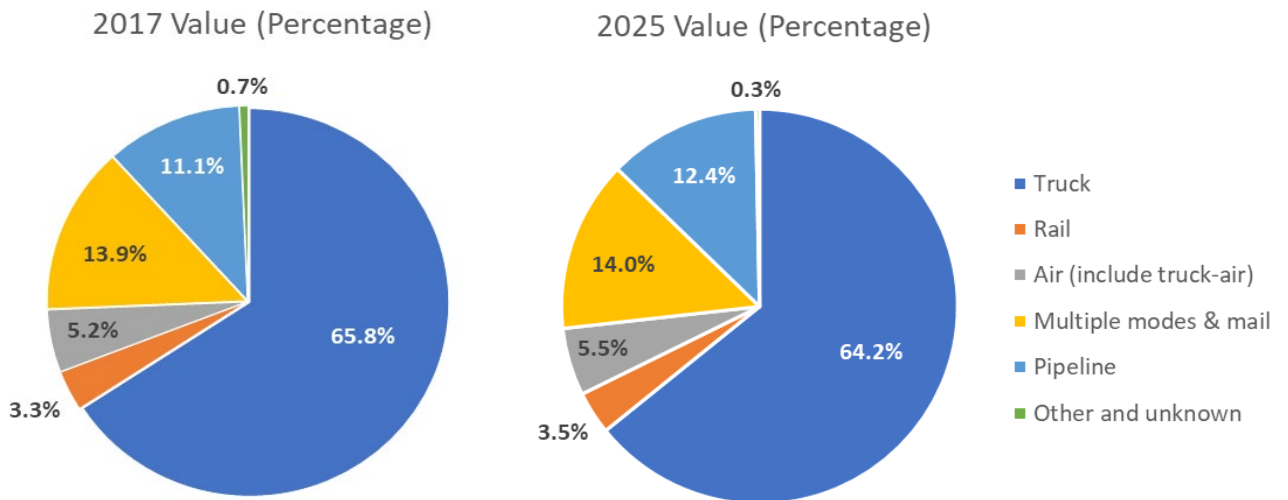
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Truck	187,162	65.8%	247,069	64.2%
Rail	8,905	3.3%	13,507	3.5%
Air (include truck-air)	15,332	5.2%	21,296	5.5%
Multiple modes & mail	42,494	13.9%	54,017	14.0%
Pipeline	23,340	11.1%	47,825	12.4%
Other and unknown	1,989	0.7%	1,234	0.3%
Total: All Freight	279,223	100%	384,948	100%

Source: USDOT Freight Analysis Framework (FAF), 2017, 2025

However, the importance of rail and pipeline to Utah’s economy is also noteworthy, highlighting the transportation needs of Utah’s mining sector. The development of the oil shale industry is one example of an area that is driving pipeline utilization, with total value to increase by over 61 percent and total tonnage expected to more than double between 2017 and 2025.

Figure 2: Freight Modes in Utah by Value, 2017 versus 2025



Source: USDOT Freight Analysis Framework (FAF), 2017, 2025

The freight on Utah’s transportation system either shipped to or from a location within Utah has the greatest effect on the state’s economy. (For example, pass-through movements, while placing demands on the transportation system, do not involve significant transactions in Utah’s economy). For this reason, freight that is inbound, outbound, and internal (with both origin and destination in Utah) is of the greatest economic significance. Through movements are not included in the totals due to their limited economic impact on the State.

Of the inbound, outbound, or internal freight supported by Utah’s transportation system, more than 57 percent (140 million tons) is moved among locations within the state. More than 23 percent (nearly 57 million tons) is exported from Utah firms to markets outside of

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the state and the remaining one-fifth (48.4 million tons) are brought to Utah’s businesses or consumers from outside of the state. **Table 4** shows the relative shares of inbound, outbound, and internal freight movements on Utah’s transportation system for both 2017 and 2025. Note that outbound and inbound freight is expected to increase a percent of total, while intrastate freight will decrease slightly as a percent of total.

Table 4: Direction of Utah Freight Movements (All Modes)

Direction	2017		2025	
	Tons (Million)	Tons (%)	Tons (Million)	Tons (%)
Outbound	56.6	23.1%	80.4	24.8%
Inbound	48.4	19.8%	69.8	21.5%
Intrastate	140.0	57.1%	174.2	53.7%
Total: All Freight	244.9	100%	324.3	100%

Source: USDOT Freight Analysis Framework, 2017, 2025

Of the 56.6 million tons of freight exported on Utah’s transportation system, 66 percent (over 37.5 million tons) is traded with Utah’s bordering states of Idaho, Nevada, Wyoming, Colorado, and Arizona, with over one-third traded with Nevada. Another 15 percent is traded with the west-coast states of California and Washington. **Table 5** shows Utah’s top outbound freight trading partners.

Table 5: Utah’s Top Outbound Freight Trading Partners

Mode	2017		2025	
	Tons (Million)	Tons (%)	Tons (Million)	Tons (%)
Nevada	20.1	35.6%	34.0	42.3%
California	7.6	13.4%	6.5	8.1%
Wyoming	7.4	13.0%	11.4	14.2%
Idaho	6.9	12.2%	8.7	10.9%
Colorado	2.3	4.0%	3.0	3.7%
Texas	1.3	2.4%	1.8	2.3%
Illinois	1.1	2.0%	1.3	1.6%
Montana	1.1	1.9%	1.5	1.8%
Arizona	0.8	1.5%	1.4	1.7%
Washington	0.8	1.5%	1.0	1.2%
Other Origins	7.1	12.5%	9.7	12.1%
Total: All Freight	56.6	100%	80.4	100%

Source: USDOT, Freight Analysis Framework, 2017, 2025

Of the 48.4 million tons of freight imported to Utah on the transportation system, 61 percent (or 29.6 million tons) enter from the border states of Colorado, Wyoming, Idaho, and Nevada. Another 13 percent (or 6.3 million tons) enter from suppliers in the west-coast states of California and Oregon. The remainder arrives from more remote locations within New York, Texas, and Montana, each accounting for significant shares. **Table 6** shows Utah’s top inbound freight trading partners.

Table 6: Utah’s Top Inbound Freight Trading Partners

Mode	2017		2025	
	Tons (Million)	Tons (%)	Tons (Million)	Tons (%)
Wyoming	21.3	43.9%	36.0	51.6%
California	5.4	11.1%	6.1	8.8%
Colorado	5.0	10.4%	8.6	12.4%
Idaho	1.9	4.0%	2.7	3.9%
Texas	1.6	3.3%	2.1	2.9%
Nevada	1.3	2.8%	1.4	2.0%
North Dakota	1.1	2.4%	0.8	1.1%
Washington	0.9	1.9%	1.1	1.6%
Montana	0.8	1.7%	1.2	1.7%
Oklahoma	0.8	1.7%	0.4	0.5%
Other Origins	8.2	17.0%	9	13.4%
Total: All Freight	48.4	100%	69.8	100%

Source: USDOT Freight Analysis Framework, 2017, 2025

Overall, Utah’s highway system is a life-line to critical trading partners within the western region and elsewhere in the nation. Furthermore, even for rail movements, highway investment of the type envisioned in the *Unified Plan - Total Needs* is critical to support intermodal connectivity and access.

The ability of Utah’s businesses to access markets in other states as well as inputs to production relies heavily on the efficiency and reliability of the transportation system for both people and goods. Understanding the degree to which Utah’s industries (and their supporting supply chains) rely on business from outside the state highlights the importance of an efficient transportation network to enable Utah to sell goods and services nationally, and produce economic output involving people and goods from elsewhere. An assessment of Utah’s freight trading patterns also underscores the significant role of the state’s transportation system in supporting intrastate trade within Utah.

2 SOCIETAL BENEFITS OF ENHANCED INVESTMENT

2.1 Different Investment Levels

To best understand the economic implications of investing in Utah’s transportation system, it is helpful to consider different investment levels. For the purpose of this analysis, three different investment levels are considered for the 31-year period from 2019 to 2050. These include:

Maintain Existing System

The *Maintain Existing System* investment level involves investing the \$38.2 Billion needed to keep Utah’s transportation system in the same condition it was in 2019. This investment level does not allow for any expansion to accommodate new growth in the state’s transportation needs and allows congestion and other problems to continue to grow from 2019 to 2050 without making any effort to keep pace or contain private sector transportation costs in the long term. While this investment level represents the minimum investment that could allow the transportation system to stay in place, it does offer some benefits for simply not allowing the system to deteriorate to below 2019 levels, as would occur if the \$38.2 Billion were not invested.

Unified Plan - Priority Needs

The *Unified Plan - Priority Needs* investment level involves investing the \$90.9 Billion available from current revenues for the transportation system. This investment level can be supported by existing revenues and covers the \$38.2 Billion required to maintain today’s system, plus an additional \$52.7 billion to accommodate future growth. The *Unified Plan - Priority Needs* investment level therefore creates more benefits than simply maintaining the existing system, but imposes higher private sector congestion, reliability, safety and air quality costs on Utah’s economy than would occur under the fully funded *Unified Plan - Total Needs*.

Unified Plan - Total Needs

The *Unified Plan - Total Needs* investment level involves investing the \$108.7 Billion to cover future needs envisioned by the *Unified Plan*. This investment level includes the \$38.2 Billion required to maintain today’s system, plus the \$52.7 Billion worth of system expansion supported by existing revenue streams (in the *Unified Plan - Priority Needs* scenario), plus an additional \$17.8 Billion to further accommodate economic growth and reduce private sector costs across all modes. Table 6 summarizes the present value of outlays associated with each of these three different investment levels for the 31-year period from 2019 to 2050.

Table 6: Outlays for Three Different Investment Levels

**Summary of Outlays by Expenditure Type – Utah
Transportation Investment**

Expenditure Type	Investment Level (In \$Billions)		
	Maintain Existing System	Unified Plan - Priority Needs	Unified Plan - Total Needs
Preservation (Maintain Today's System) <i>Total Cost Preserve Existing Infrastructure & Services</i>	\$38.2	\$38.2	\$38.2
Expansion (New Facilities and Services) Total Investment in System Expansion	\$0	\$52.7	\$70.5
TOTAL OUTLAYS:	\$38.2	\$90.9	\$108.7

Discounting and Cumulative Costs and Benefits

All costs and benefits reported in this chapter are reported as the cumulative value of cost and benefit streams accruing in the 31-year period from 2019 to 2050, undiscounted.

2.2 Benefits of Different Investment Levels

By investing the \$38.2 Billion to maintain today’s system, Utah can avoid the costs associated with deterioration of roads, bridges and transit vehicles. The benefits of simply preventing system deterioration are considered *preservation benefits* (because they accrue simply from preserving today’s system). Very modest estimates of the likely savings to Utah’s households and businesses indicate that by making the \$38.2 Billion preservation investment in the 31-year period from 2019 to 2050, Utah will save its households and businesses approximately \$113.2 billion in various costs including vehicle operating costs, travel time and reliability, bridge conditions, GDP from business attraction and market access, that would accrue during this period if conditions were allowed to deteriorate to below 2019 levels. This means that for every \$1.00 spent on system preservation, Utah households and businesses will have saved \$2.96 in reduced costs from deteriorating conditions¹⁰. The benefits of investing in new and expanded capacity and functionality for the transportation system are considered *expansion benefits*. Investing the additional cumulative \$52.7 Billion worth of system expansion in the *Unified Plan - Priority Needs* scenario (for the 31-year period from 2019 to 2050) is expected to save Utah households and businesses an additional cumulative \$122.9 Billion over this 31-year period. This means that for every \$1.00 of public outlays on expanding the transportation system in this scenario, Utah

¹⁰ This ratio indicates the total aggregate savings over the 31-year period per dollar spent, and cannot be interpreted as an average savings per household or business (due to changes in population during the period).

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households and businesses will have saved \$2.33 by 2050 in reduced congestion and reliability costs.

Furthermore, investing the cumulative \$70.5 Billion worth of system expansion (in the 31-year period) in the *Unified Plan - Total Needs* scenario is expected to save Utah households and businesses a total of \$132.5 Billion from 2019 to 2050. This means that for every \$1.00 of public outlays on expanding the transportation system in this scenario, Utah households and businesses will have saved \$1.88 by 2050 in congestion, safety, and environmental costs.

Because both the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* scenarios are expected to make the transportation system larger, it is expected that in the future more people will be using the system under both of these scenarios¹¹. For example, people will use more gas and put more mileage on their cars when there is a larger transportation system available, and this will cost some money in the economy. The *Unified Plan - Total Needs* scenario actually has fewer of these costs of a larger system than the *Unified Plan - Priority Needs* scenario, primarily because many of the improvements in the *Unified Plan - Total Needs* scenario that are not in the *Unified Plan - Priority Needs* scenario are transit investments enabling more people to use the system with less cost. For all scenarios, these costs associated with a larger transportation system are offset by the fact that people and goods can get to their destinations faster, losing less time in congested conditions, and using more of their travel time on other activities (such as working on a laptop while riding a train), and businesses also lose less productive time waiting for unreliable or late deliveries. In all scenarios the travel time and reliability savings to households and the productivity gains to businesses will outweigh the costs that households or businesses accrue using the expanded system.

Table 7 shows, in present value dollar terms for the 31-year period from 2019 to 2050, the specific ways in which Utah's households and businesses are expected to save money on transportation under each of the possible investment scenarios considered in this analysis.

In the 31-year period from 2019 to 2050, the \$52.7 Billion of expansion dollars invested in the *Unified Plan - Priority Needs* scenario is expected to save Utah households over \$22.7 Billion in congestion related travel time and reliability costs and Utah businesses over \$75.8 Billion in congestion related time and reliability costs. The improved transportation system is expected to save businesses an additional \$59.1 Billion in trucking reliability savings, \$26.9 Billion from business attraction, and over \$43.5 Billion in enhanced business productivity from enhanced access to markets. There will be additional savings of \$1.3 Billion in vehicle operating costs and \$6.6 Billion in bridge conditions. These total gross benefits, leave Utah's households and businesses with approximately \$122.9 Billion in expansion benefits plus the \$113.2 Billion in preservation benefits, for a total of \$236.1 Billion in overall benefits shown in Table 7.

¹¹Latent Travel demand is accounted for in the travel demand models of the Wasatch Front Regional Council and Mountainland Association of Governments (WFRC/MA) as well as by the Cache and Dixie MPO's and the Utah Statewide Travel Model (USTM)

Table 7: Societal Benefits from Utah Transportation Investment Levels

Nature of Benefits Associated with Utah Transportation investment			
	Maintain Existing System (\$Millions)	Unified Plan - Priority Needs (\$Millions)	Unified Plan - Total Needs (\$Millions)
Total Costs (Public Outlays)	\$38,200	\$90,900	\$108,700
Benefits Achieved in Utah's Economy			
Vehicle Operating Cost Savings	\$11,977	\$1,314	(\$254)
Personal Time & Reliability Savings	\$9,939	\$22,737	\$22,808
Business Time & Reliability Savings	\$11,052	\$75,844	\$78,820
Trucking Reliability Savings	\$25,306	\$59,096	\$60,283
Bridge Condition Savings	\$6,608	\$6,618	\$6,618
GDP From Business Attraction (GOPB)	\$11,322	\$26,915	\$32,191
GDP From Market Access Gains	\$37,005	\$43,535	\$45,270
Preservation Benefit (from driving on smoother pavements)	\$113,208	\$113,208	\$113,208
(from driving on smoother pavements)	\$113,208	\$113,208	\$113,208
Total Expansion Benefit *	\$0	\$122,850	\$132,527
Total Benefits (Private Savings)	\$113,208	\$236,058	\$245,736

Source: Metro Analytics and Travel Demand Model

* Crash Modification Factor are assumed to offset any VMT based crash impacts. Speed enhancements are assumed to offset any VMT based emission effects.

In the same period, the \$70.5 Billion of expansion dollars invested in the *Unified Plan - Total Needs* scenario are expected to save Utah households nearly \$22.8 Billion in congestion related travel time and reliability costs and Utah businesses over \$78.8 Billion in congestion related time and reliability costs. Under this scenario, the improved transportation system is expected to save the businesses an additional \$60.3 Billion in trucking reliability savings, \$32.2 Billion from business attraction, and over \$45.3 Billion in enhanced business productivity from better access to markets. There will be negative savings of \$0.3 Billion in vehicle operating costs, but savings of \$6.6 Billion in bridge conditions. These total gross benefits will leave Utah's households and businesses with approximately \$132.5 Billion in expansion benefits plus the \$113.2 Billion in preservation benefits for a total of \$245.7 Billion in overall benefits shown in Table 7.

3

ECONOMIC IMPACTS OF TRANSPORTATION FUNDING

The true economic effects of investing in the improved transportation system go far beyond the simple dollars that households and businesses save on transportation. Some of the most significant effects are found through the way that Utah's economy uses those savings to become more productive, more competitive, and create opportunities in the state. The economic impacts of Utah's transportation investment are measured in terms of the jobs, income, business output, and GDP that are created as a result of improving Utah's transportation system. These four types of impacts are all related to each other, as illustrated in the following example.

If over a period of years a Utah firm saves \$20,000 due to more reliable truck delivery times, the firm may invest its savings into a new computer system which enables the firm to produce \$100,000 worth of additional annual output. The firm may take some of the revenue from this output and hire one new worker at \$45,000 per year. In this way, the \$20,000 benefit of the transportation savings has enabled the firm to produce \$100,000 worth of output, pay \$45,000 per year in additional wages, and create one additional job. Furthermore, the firm has made profit and added value in the production of its output, contributing to the state's gross domestic product as well.

The impact would then go on to include the indirect and induced effects on the suppliers from whom the firm buys other inputs to make the \$100,000 of output as well as businesses where the new worker spends the \$45,000 he or she earns. This example is given to show how the societal benefits (dollar savings) of an enhanced transportation system create impacts in the economy far greater than simply the dollar value of the transportation savings. This chapter explores the nature of overall economic impacts expected to result from Utah's transportation investments.

3.1 Impacts on Jobs, Household Income, Business Output and GDP

Sources of Transportation Impacts

In the above example, transportation investment impact is the result of a more efficient transportation system. This is one of four ways that Utah's transportation investments can affect the state's economy. The four ways Utah's economy realizes the economic impacts of investing in its transportation system include:

- Transportation Efficiency Impact

- Market Access Impact
- Land Use or Business Attraction Impact, and
- Construction Impact

These different ways combine to create the nearly 240,000 jobs, \$166.8 Billion in household income, \$531.7 Billion in business output, and \$273.7 Billion in GDP associated with fully funding the *Unified Plan - Total Needs* scenario.

Preservation Impact

The previous chapter described how spending the \$38.2 Billion needed to maintain today's system is expected to save Utah's household and businesses approximately \$113.2 Billion in the 31-year period from 2019 to 2050. With these savings, Utah's economy is expected to generate \$264.1 Billion in business output, \$82.0 Billion in household income, \$137.4 Billion in GDP and over 87,700 jobs during this period. These preservation impacts are included within economic impacts reported above. Throughout this chapter, these preservation impacts are included as part of the *transportation efficiency* impact totals of jobs, business output, household income and GDP for both the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* investment scenarios. Hence all of the transportation investment impacts given in this chapter represent improvements in economic conditions over a future that would occur if Utah were to make no investment (whatsoever) in the transportation system.

Cumulative Nature of Impacts

All impacts are reported as cumulative impacts for the entire 31-year period from 2019 to 2050, with the exception of jobs, which are reported as the difference in the anticipated impact on Utah's overall employment level in 2050. Most impacts can be reported as cumulative totals to eliminate any ambiguity which may be caused due to phasing of projects or performance effects.

Jobs however are reported as a 2050 annual level because jobs do not lend themselves to cumulative totals in the same way as earnings, output and GDP. For example, if one person holds a job for 30 years it is still counted as one job, not 30. However, if in those 30 years the individual earns \$900,000, it is reasonable to say that the individual has earned \$900,000 in one job over 20 years. Hence in this report, we report income, GDP and business output as cumulative 30-year totals, and jobs in terms of the impact in 2050.

Transportation Efficiency Impact

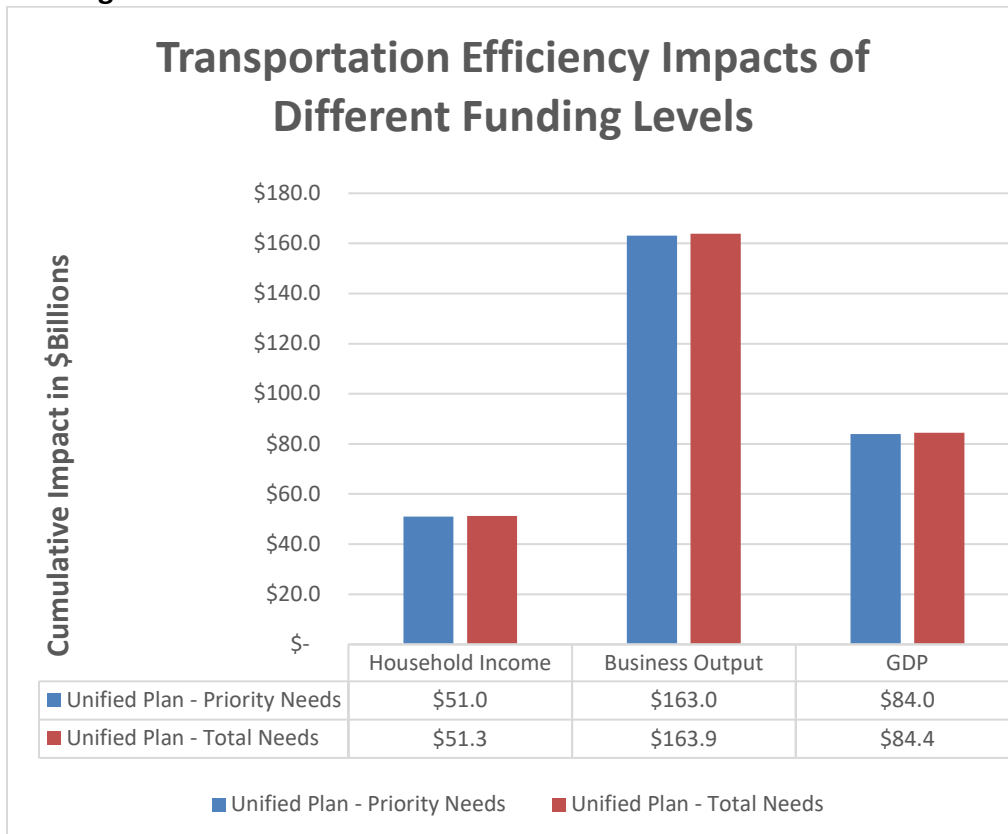
Transportation efficiency impacts occur because improved transportation conditions enable households and businesses to save (and then spend or invest) money they would otherwise have had to spend on transportation problems. For example, when there is less congestion, fewer crashes, better road and bridge quality and a better environment, people and businesses have to spend less on transportation related costs. They are spending less on insurance, wear and tear on their cars, and losing less time sitting in traffic or waiting for

deliveries. When they save this money, they can spend it doing more productive things in Utah's economy (like going to school, building onto their homes, or being more productive at work).

By 2050, the improvements to Utah’s transportation infrastructure investments are expected to generate enough household and business savings to create over 87,300 new jobs with the *Unified Plan - Priority Needs* scenario and over 88,800 new jobs with the *Unified Plan - Total Needs* scenario. The cumulative transportation efficiency impacts for the *Unified Plan - Priority Needs* scenario from 2019 to 2050 are expected to result in \$163.0 Billion in additional output, \$51.0 Billion in additional household income and \$84.0 Billion in GDP compared to a future with no transportation investment. The cumulative transportation efficiency impacts of the *Unified Plan - Total Needs* scenario are expected to result in \$163.9 Billion in additional business output, \$51.3 Billion in household income and \$84.4 Billion in GDP when compared to a future with no transportation investment.

Figure 3 compares the dollar value of transportation efficiency impacts of the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* investment levels for Utah’s transportation system.

Figure 3: Comparative Transportation Efficiency Impacts of Utah Transportation System Funding Levels



Source: IMPLAN Software

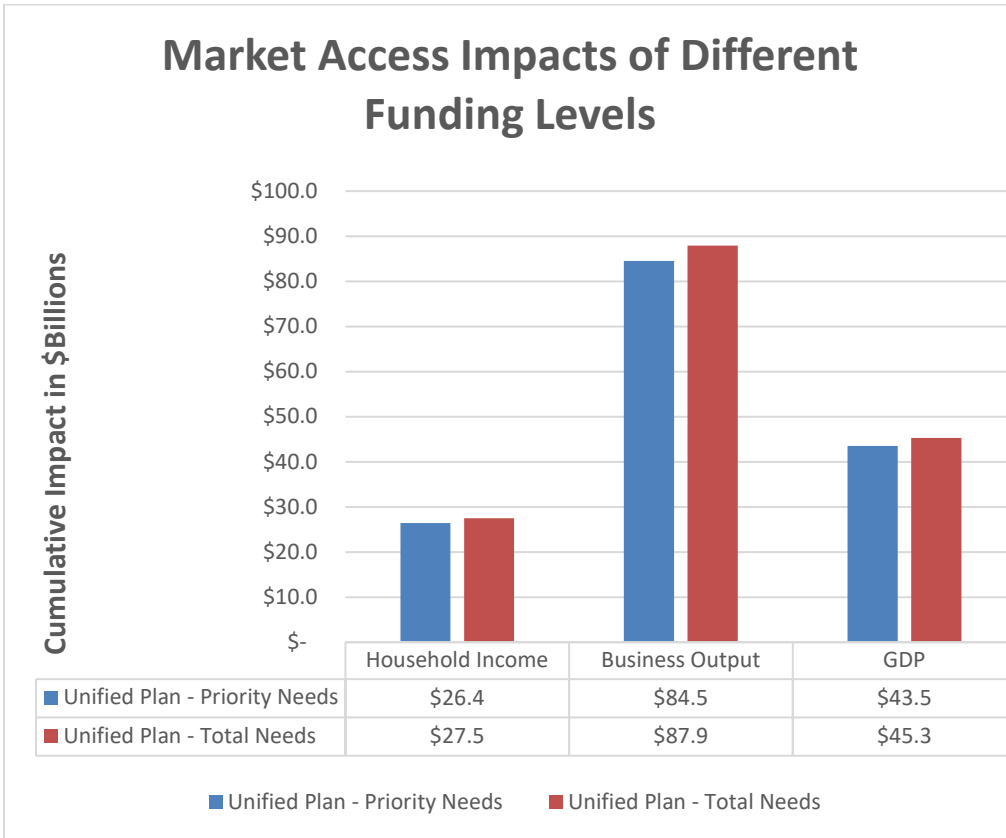
Market Access Impact

Market access impacts occur when the transportation system is well connected and uncongested, providing businesses with more choices about trading partners. For example, a firm has a larger choice of distribution channels or of suppliers when congestion relief gives it more places within a 3-hour delivery radius. With more places accessible, the firm can be more selective about where it buys its inputs—or where it sells its products. This added choice enables the business to be more productive and ultimately more competitive. More competitive firms can expand and hire more workers and produce more output in Utah.

By 2050, the effects of Utah’s transportation investments will have improved Utah firms’ choices of suppliers and markets to create over 45,200 new jobs with the *Unified Plan - Priority Needs* scenario and over 47,600 new jobs with the *Unified Plan - Total Needs* scenario. The cumulative market access impacts for the *Unified Plan - Priority Needs* scenario from 2019 to 2050 are expected to result in \$84.5 Billion in additional output, \$26.4 Billion in additional household income and \$43.5 Billion in GDP compared to a future with no transportation investment. The cumulative market access impacts of the *Unified Plan - Total Needs* scenario are expected to result in \$87.9 Billion in additional business output, \$27.5 Billion in household income and \$45.3 Billion in GDP when compared to a future with no transportation investment.

Figure 4 compares the dollar value of market access impacts of the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* investment levels for Utah’s Transportation System.

Figure 4: Comparative Market Access Impacts of Utah Transportation System Funding Levels



Source: IMPLAN Software

Land Use/Business Attraction Impact

The quality of the transportation system is a strategic consideration for many firms in choosing where to locate. In particular, firms shopping for sites for major new manufacturing or service establishments usually compare the travel time to major amenities like airports and central business districts, as well as average workforce commuting times. The longer an average work or business related trip is (in terms of minutes), the less likely a firm is to choose a particular location. According to EDC Utah, each year approximately 82 firms inquire specifically about travel times when making a location choice. If even one or two of them choose to locate to Utah because of competitive travel times in comparison to competing areas, it can result in as many as 2,500 new jobs coming to the state each year.

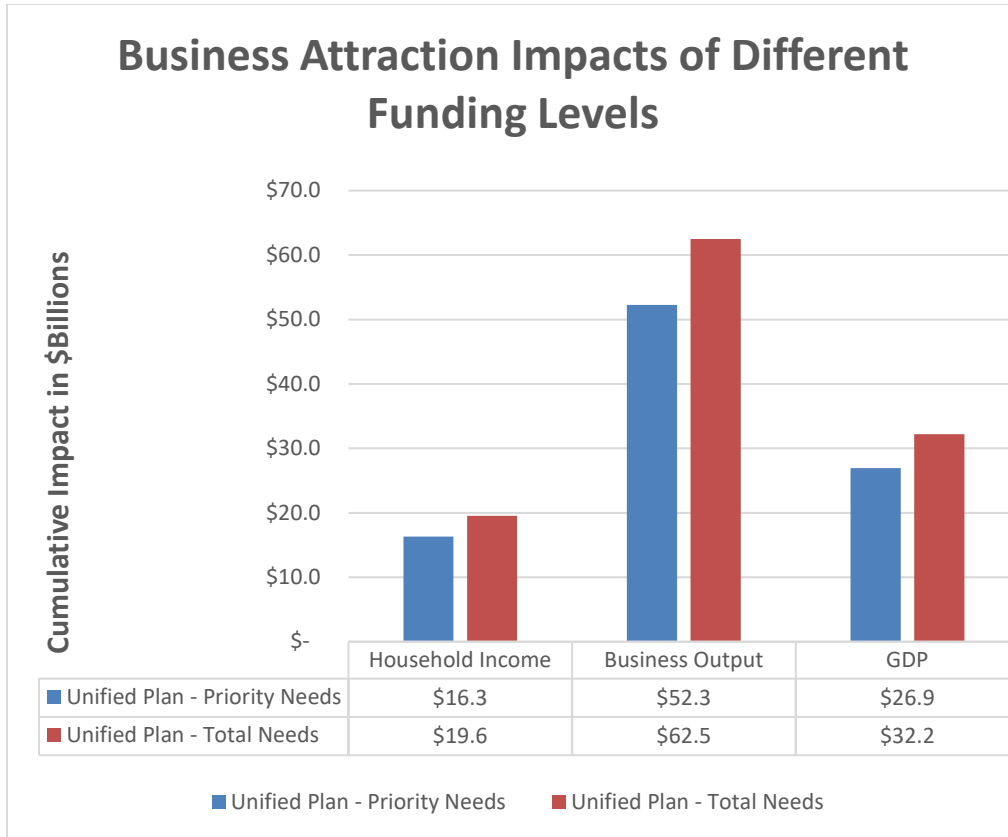
In 2012, congestion did not deter firms from choosing Utah as a place to do business. However, as Utah's transportation system becomes more congested over time, a larger and larger percentage of these 2,500 each year jobs will depend on whether or not the improvements in the *Unified Plan - Total Needs* are implemented, with the associated travel time and reliability savings. Given traffic growth rates and congestion levels¹² from available models, EDC Utah anticipates that by 2050, a significant number of firms will have made location choices that depend on whether or not travel times can be kept down to levels envisioned by the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* investment scenarios.

By 2050, the improvements associated with investment in Utah's transportation system will have attracted nearly 28,000 new jobs to Utah sites under the *Unified Plan - Priority Needs* scenario and over 33,800 new jobs with the *Unified Plan - Total Needs* scenario. The cumulative business attraction impacts for the *Unified Plan - Priority Needs* scenario for the 31-year period from 2019 to 2050 are expected to result in \$52.3 Billion in additional output, \$16.3 Billion in additional household income, and \$26.9 Billion in GDP compared to a future with no transportation investment. The cumulative business attraction impacts of the *Unified Plan - Total Needs* scenario are expected to result in \$62.5 Billion in additional business output, \$19.6 Billion in household income, and \$32.2 Billion in GDP when compared to a future with no transportation investment.

Figure 5 compares the dollar value of business attraction impacts of the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* transportation investment levels in Utah's transportation system.

¹² Traffic growth and congestion levels are inferred from the travel demand models of the Wasatch Front Regional Council, the Dixie MPO and the Cache MPO.

Figure 5: Comparative Business Attraction Impacts of Utah Transportation System Funding Levels



Source: IMPLAN Software

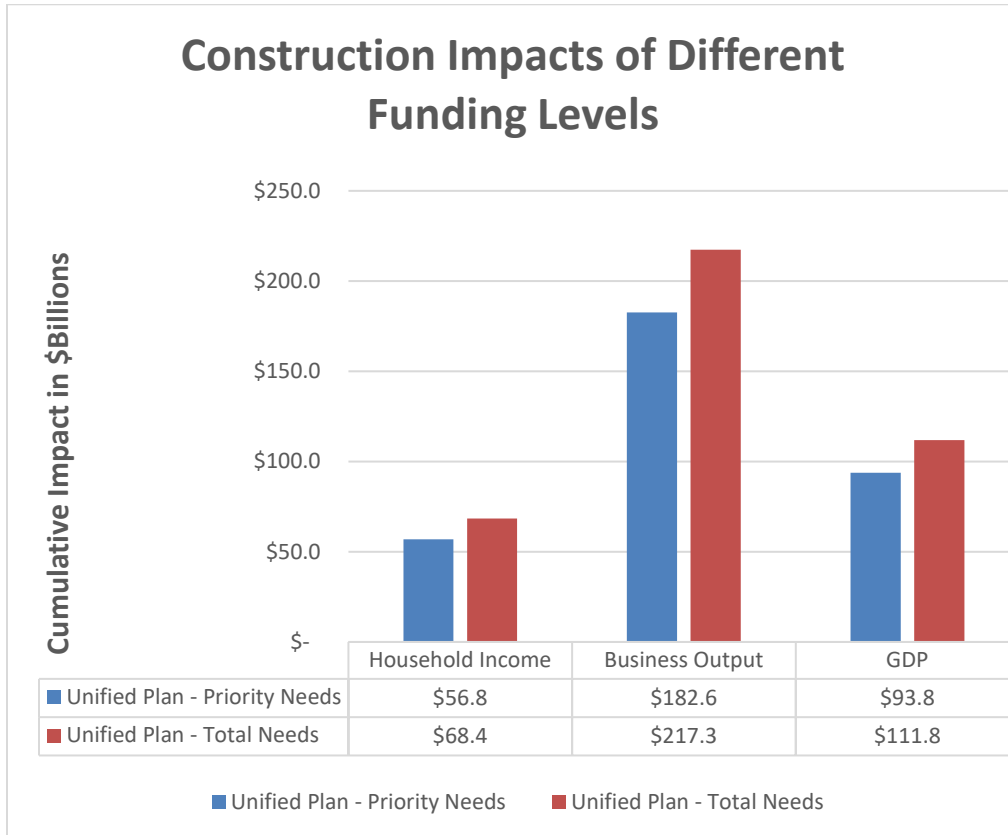
Construction Impact

Construction jobs are created when people are employed building and operating the transportation system. As with the other impact types reported above, construction impacts include both the direct jobs, wages, output, and GDP associated with the transportation outlays as well as the indirect and induced effects of how these earnings are spent in the economy (multiplier effects).

By 2050, the construction and maintenance spending associated with Utah’s transportation investment will have created nearly 52,300 jobs under the *Unified Plan - Priority Needs* scenario and nearly 69,100 new jobs with the *Unified Plan - Total Needs* scenario. The cumulative construction impacts for the *Unified Plan - Priority Needs* scenario for the 31-year from 2019 to 2050 are expected to result in \$182.6 Billion in additional output, \$56.8 Billion in additional household income, and \$93.8 Billion in GDP compared to a future with no transportation investment. The cumulative construction impacts of the *Unified Plan - Total Needs* scenario are expected to result in \$217.3 Billion in additional business output, \$68.4 Billion in household income, and \$111.8 Billion in GDP when compared to a future with no transportation investment.

Figure 6 compares the dollar value of construction impacts of the *Unified Plan - Priority Needs* and *Unified Plan - Total Needs* investment levels in Utah’s transportation system.

Figure 6: Comparative Construction Impacts of Utah Transportation System Funding Levels



Source: IMPLAN Software

3.2 Comparative Job Impacts of Scenarios

The analysis indicates that while public outlays in building, operating and maintaining transportation facilities will be a significant stimulus to the state’s economy, more two-thirds of the jobs will be created by the ways in which businesses and households spend and invest the savings and productivity gains they enjoy as a result of the improved system. For both scenarios, transportation efficiency impacts comprise the largest share of impacts, accounting for 40 percent of new jobs created under each *Unified Plan - Priority Needs* and 37 percent of new jobs under the *Unified Plan - Total Needs* scenario. This difference is attributable primarily to the fact that when compared to the *Unified Plan - Priority Needs* scenario, the *Unified Plan - Total Needs* scenario includes more long-term investments which are completed late in the 31-year period, hence there are fewer years in the analysis horizon for transportation efficiency effects of this scenario to accumulate. Between 20 and 21 percent of jobs will be created by the productivity gains associated with improved market access and 13-14 percent of the jobs will result from additional businesses attracted to Utah.

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Table 8 and Figure 7 illustrate the sources of impacts under each of the investment scenarios.

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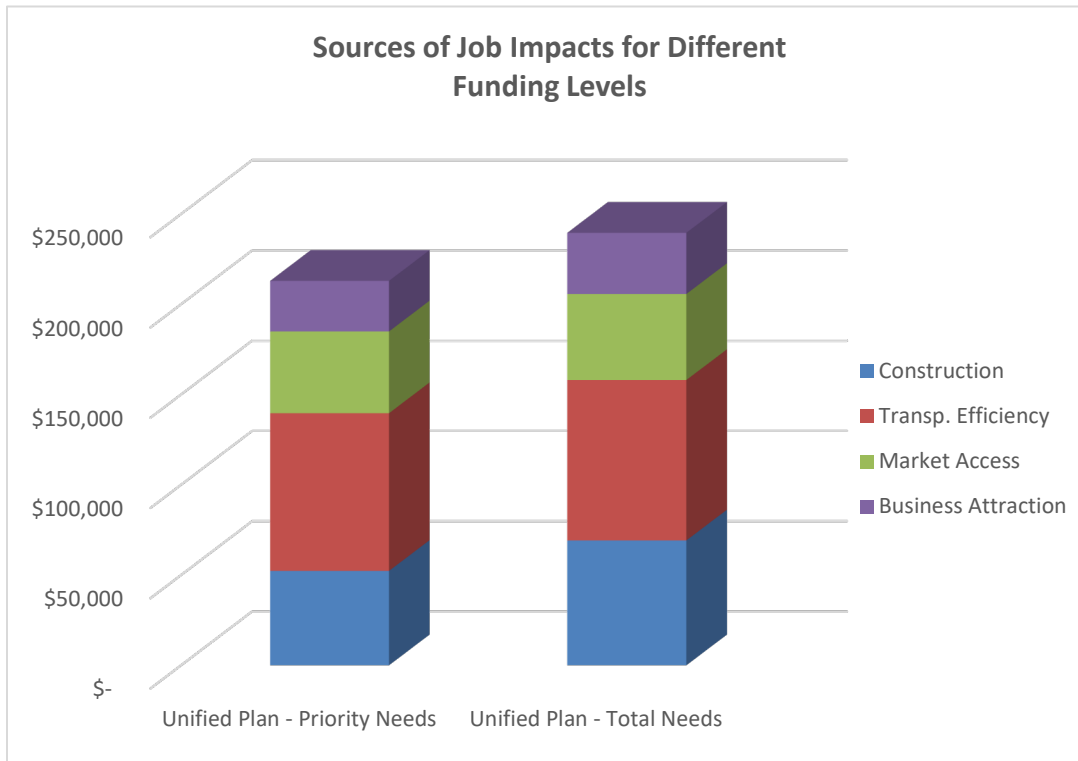
Table 8: Sources of Impacts of Different Funding Levels for Utah Transportation Investment

Job Impacts of Different Funding Levels

Sources of Impacts	Unified Plan - Priority Needs		Unified Plan - Total Needs	
	Jobs	% of Jobs	Jobs	% of Jobs
Construction	52,299	25%	69,184	29%
Transp. Efficiency	87,366	41%	88,857	37%
Market Access	45,295	21%	47,656	20%
Business Attraction	28,004	13%	33,888	14%
TOTAL Employment Impact	212,964	100%	239,585	100%

Source: IMPLAN Software

Figure 7: Sources of Impacts of Different Funding Levels for Utah Transportation System



Source: IMPLAN Software

4 FISCAL IMPACTS OF ENHANCED INVESTMENT

More jobs and income for Utah households and output and profits for Utah businesses represent growth in the state’s economy and overall tax base. When the tax base grows due to a stronger economy, government revenues increase without any increase in tax rates.

Because the investment in the transportation system is expected to create additional jobs, business output, and personal income for Utah’s households and businesses, it is likely that federal, state, and local governments will see enhanced fiscal revenues as a result of this growth. In this way, the plan is likely to “pay its own way” to some degree, by creating new revenues over time that will partially offset the initial public investment in the infrastructure. This chapter summarizes the expected impacts of Utah’s transportation system investment on federal, state, and local government revenues in Utah.

Overall, economic growth resulting from investment in the *Unified Plan - Priority Needs* level of transportation investment is likely to create \$14.1 Billion in additional state and local government revenues at current tax rates. Most of the revenue is expected to be generated from tax receipts on the income earned as a result of the new jobs and business output. In addition to enhancing state revenues, the additional jobs, income, and business output in Utah’s economy are expected to generate an additional \$20.1 Billion in federal revenues.

Table 9 summarizes the fiscal revenues expected to accrue as a result of economic growth enabled by the *Unified Plan - Priority Needs* investment level for Utah’s Transportation System.

Utah Mobility Coalition: Unified Plan Investment Impact Report

Likewise, economic growth resulting from Unified Plan in the *Unified Plan - Priority Needs* level of transportation investment is likely to create \$15.4 Billion in additional state and local government revenues at current tax rates. Most of the revenue is expected to be generated from tax receipts on the income earned as a result of the new jobs and business output. In addition to enhancing state revenues, the additional jobs, income, and business output in Utah’s economy are expected to generate an additional \$22.2 Billion in federal revenues.

Table 10 summarizes the fiscal revenues expected to accrue as a result of economic growth enabled by the *Unified Plan - Total Needs* investment level for Utah’s Transportation System.

Table 9: Fiscal Impacts of Funding Utah’s Transportation System at *Unified Plan - Priority Needs* Level

Description	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations	SUM
STATE/LOCAL						
Corporate Profits Tax	\$0	\$0	\$0	\$0	\$256,866,043	\$256,866,043
Dividends	\$0	\$0	\$0	\$0	\$29,634,583	\$29,634,583
Personal Tax: Income Tax	\$0	\$0	\$0	\$2,137,770,264	\$0	\$2,137,770,264
Personal Tax: Motor Vehicle License	\$0	\$0	\$0	\$82,840,476	\$0	\$82,840,476
Personal Tax: NonTaxes (Fines- Fees	\$0	\$0	\$0	\$230,836,609	\$0	\$230,836,609
Personal Tax: Other Tax (Fish/Hunt)	\$0	\$0	\$0	\$62,128,081	\$0	\$62,128,081
Personal Tax: Property Taxes	\$0	\$0	\$0	\$32,196,655	\$0	\$32,196,655
Social Ins Tax- Employee Contribution	\$65,574,132	\$0	\$0	\$0	\$0	\$65,574,132
Social Ins Tax- Employer Contribution	\$131,196,340	\$0	\$0	\$0	\$0	\$131,196,340
TOPI: Motor Vehicle Lic	\$0	\$0	\$107,458,793	\$0	\$0	\$107,458,793
TOPI: Other Taxes	\$0	\$0	\$316,221,276	\$0	\$0	\$316,221,276
TOPI: Property Tax	\$0	\$0	\$4,195,455,215	\$0	\$0	\$4,195,455,215
TOPI: S/L NonTaxes	\$0	\$0	\$138,483,206	\$0	\$0	\$138,483,206
TOPI: Sales Tax	\$0	\$0	\$6,317,591,182	\$0	\$0	\$6,317,591,182
TOPI: Severance Tax	\$0	\$0	\$38,323,266	\$0	\$0	\$38,323,266
Total State and Local Tax	\$196,770,341	\$0	\$11,113,532,807	\$2,545,772,085	\$286,500,626	\$14,142,575,859
FEDERAL						
Corporate Profits Tax	\$0	\$0	\$0	\$0	\$2,107,158,365	\$2,107,158,365
Personal Tax: Income Tax	\$0	\$0	\$0	\$6,752,769,462	\$0	\$6,752,769,462
Social Ins Tax- Employee Contribution	\$4,741,007,270	\$704,297,545	\$0	\$0	\$0	\$5,445,304,815
Social Ins Tax- Employer Contribution	\$4,497,625,181	\$0	\$0	\$0	\$0	\$4,497,625,181
TOPI: Custom Duty	\$0	\$0	\$372,673,643	\$0	\$0	\$372,673,643
TOPI: Excise Taxes	\$0	\$0	\$898,588,605	\$0	\$0	\$898,588,605
TOPI: Fed NonTaxes	\$0	\$0	\$58,319,950	\$0	\$0	\$58,319,950
Total Federal Tax	\$9,238,632,714	\$704,297,545	\$1,329,582,264	\$6,752,769,462	\$2,107,158,365	\$20,132,440,349
TOTAL	\$9,435,403,055	\$704,297,545	\$12,443,115,071	\$9,298,541,546	\$2,393,658,992	\$34,275,016,209

Source: IMPLAN Software

Utah Mobility Coalition: Unified Plan Investment Impact Report

Table 10: Fiscal Impacts of Funding Utah’s Transportation System at *Unified Plan* - Total Needs Level

Description	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations	SUM
STATE/LOCAL						
Corporate Profits Tax	\$0	\$0	\$0	\$0	\$286,189,969	\$286,189,969
Dividends	\$0	\$0	\$0	\$0	\$33,040,382	\$33,040,382
Personal Tax: Income Tax	\$0	\$0	\$0	\$2,355,548,907	\$0	\$2,355,548,907
Personal Tax: Motor Vehicle License	\$0	\$0	\$0	\$91,279,384	\$0	\$91,279,384
Personal Tax: NonTaxes (Fines- Fees	\$0	\$0	\$0	\$254,532,150	\$0	\$254,532,150
Personal Tax: Other Tax (Fish/Hunt)	\$0	\$0	\$0	\$68,456,966	\$0	\$68,456,966
Personal Tax: Property Taxes	\$0	\$0	\$0	\$35,493,669	\$0	\$35,493,669
Social Ins Tax- Employee Contribution	\$72,278,649	\$0	\$0	\$0	\$0	\$72,278,649
Social Ins Tax- Employer Contribution	\$144,609,981	\$0	\$0	\$0	\$0	\$144,609,981
TOPI: Motor Vehicle Lic	\$0	\$0	\$116,368,816	\$0	\$0	\$116,368,816
TOPI: Other Taxes	\$0	\$0	\$342,360,944	\$0	\$0	\$342,360,944
TOPI: Property Tax	\$0	\$0	\$4,545,229,458	\$0	\$0	\$4,545,229,458
TOPI: S/L NonTaxes	\$0	\$0	\$150,053,991	\$0	\$0	\$150,053,991
TOPI: Sales Tax	\$0	\$0	\$6,843,951,175	\$0	\$0	\$6,843,951,175
TOPI: Severance Tax	\$0	\$0	\$41,500,864	\$0	\$0	\$41,500,864
Total State and Local Tax	\$216,888,576	\$0	\$12,039,465,248	\$2,805,311,022	\$319,230,296	\$15,380,895,142
FEDERAL						
Corporate Profits Tax	\$0	\$0	\$0	\$0	\$2,347,711,348	\$2,347,711,348
Personal Tax: Income Tax	\$0	\$0	\$0	\$7,440,633,702	\$0	\$7,440,633,702
Social Ins Tax- Employee Contribution	\$5,226,273,543	\$774,323,192	\$0	\$0	\$0	\$6,000,596,735
Social Ins Tax- Employer Contribution	\$4,957,980,080	\$0	\$0	\$0	\$0	\$4,957,980,080
TOPI: Custom Duty	\$0	\$0	\$403,567,723	\$0	\$0	\$403,567,723
TOPI: Excise Taxes	\$0	\$0	\$973,080,024	\$0	\$0	\$973,080,024
TOPI: Fed NonTaxes	\$0	\$0	\$63,154,627	\$0	\$0	\$63,154,627
Total Federal Tax	\$10,184,253,515	\$774,323,192	\$1,439,802,481	\$7,440,633,702	\$2,347,711,348	\$22,186,724,238
TOTAL	\$10,401,142,091	\$774,323,192	\$13,479,267,729	\$10,245,944,724	\$2,666,941,644	\$37,567,619,380

Source: IMPLAN Software

5 CONCLUSIONS

Utah's transportation system is a critical asset to the state, each year carrying over 2.7 Billion vehicle trips, over 21.7 Billion vehicle miles of travel, and over 496 Million vehicle hours of travel in 2019 as per Travel Demand Model. According to the US Department of Transportation Freight Analysis

Framework, in 2010 Utah's transportation system is estimated to have carried over \$279.2 Billion worth of goods by all modes combined. According to Minnesota Implan Group, It is estimated that in 2009, over 208,000 of Utah's employees were involved in the production of goods exported from Utah on the state's transportation system, 672,000 workers were involved in producing goods with materials shipped into Utah on the state's transportation system. Clearly the ongoing condition and performance of the transportation system is of vital importance to the state's long-term economic success.

Simply maintaining the transportation system in today's condition will cost the state \$38.2 Billion in public outlays by 2050. Investing at the \$38.2 Billion preservation level is expected to reduce Utah's private transportation cost by \$113.2 Billion. Further investment in the transportation system to a level of \$108.7 Billion consistent with the *Unified Plan - Total Needs* would reduce Utah's private transportation cost by \$245.7 Billion. For the cumulative period from 2019 to 2050, Utah's policy makers can effectively cut measurable/quantifiable private sector transportation costs by fully funding Utah's *Unified Plan - Total Needs*.

Most of the savings to system users will occur because of adequately maintained pavements, bridges and transit lines, reduced congestion, more reliable deliveries and the increased productivity that businesses can enjoy when the transportation system works as efficiently as possible.

These cost savings, combined with the business attraction and construction effects of the improved transportation system will enable Utah's households and businesses to both invest and spend more in Utah's economy. The impacts of households and businesses investing and spending the proceeds of the improved transportation system can create nearly 240,000 jobs, \$166.8 Billion in household income, \$531.7 Billion in business output, and \$273.7 Billion in GDP by 2050. This expansion of the state's economy will create approximately \$15.4 Billion in state and local government revenues and \$22.2 Billion in federal government revenues at current tax rates.

Even if the state makes the more modest investment level of \$90.9 Billion as supported by current revenue streams, the investment will save Utah's households and businesses \$236.1 Billion by 2050 in comparison to a future with no transportation investment. The cost savings of this more modest investment can enable Utah's economy to produce over 213,000 new jobs, \$150.5 Billion in household income, \$482.4 Billion in business output and \$248.2 Billion in GDP by 2050. This expansion of the state's economy will create approximately \$14.1 Billion in state and local government revenues and \$20.1 Billion in

Utah Mobility Coalition: Unified Plan Investment Impact Report

federal government revenues at current tax rates. Table 11 summarizes the key outcomes available to Utah’s economy from investing in *the* transportation system at different levels from 2019 to 2050.

**Table 11: Economic Impacts of Transportation Investment at Different Levels
Comparative Outcomes of Different Investment Levels in Utah’s
Transportation System**

Investment Levels	Investment In Transportation System		Effects on Utah's Economy				
	\$ Invested in <i>Unified Plan</i> (\$B)	\$ Invested in System Expansion (\$B)	\$ Private Sector Savings (\$B)	Jobs	Household Income (\$B)	Business Output (\$B)	GDP (\$B)
<i>No Investment Whatsoever</i>	\$0	\$0	\$0	0	\$0	\$0	\$0
<i>Maintain Existing System</i>	\$38.2	\$0.0	\$113.2	87,758	\$82.0	\$264.1	\$137.4
<i>Unified Plan - Priority Needs scenario</i>	\$90.9	\$52.7	\$236.1	212,964	\$150.5	\$482.4	\$248.2
<i>Unified Plan - Total Needs scenario</i>	\$108.7	\$70.5	\$245.7	239,585	\$166.8	\$531.7	\$273.7

Source: IMPLAN Software

Overall, the dollars the state of Utah invests in improving its transportation system are expected to bring additional revenue and wages to Utah’s households and businesses at levels substantially above the dollars invested by the state. While the state’s outlays in the infrastructure and services envisioned by the *Unified Plan - Total Needs* can be expected to save Utah’s private sector more dollars than the state would invest in the improvements, the direct savings are only a small share of the overall payoffs to Utah’s private economy. The greatest payoffs to the economy are likely to occur in the additional output that Utah businesses can produce when the congestion and reliability costs of travel are reduced. This output creates jobs and wages for Utah workers, and ultimately leads to a substantially larger economy than would occur without any transportation investment, or if the system were left in the condition as it stood in 2019.