

ROAD INFRASTRUCTURE INVESTMENT SUMMARY

Illinois vs. Texas



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Investment in quality infrastructure is a high-road economic development strategy for Illinois. As the primary component of the transit network, improving and expanding the state's road and bridge infrastructure system is a principal function of Illinois' state government. One means of funding such investment is through user fees, such as motor fuel taxes, so that residents who use the transportation infrastructure pay for the service. Another possible revenue source is to reallocate sales tax revenues generated by new and used vehicle sales to transportation needs, as discussed by the Texas Legislature.

This ILEPI Economic Commentary investigates all aspects of road and bridge infrastructure, comparing and contrasting the vehicular infrastructure systems of Illinois and Texas, another large U.S. state. The analysis initially details recent developments in Texas before providing an overview of the state economies. A comparison of state government revenues ensues, followed by a discussion of user costs in both states. Then, the physical infrastructure and usage by state are evaluated. The study concludes by recapping key findings.

Recent Developments in Transportation Funding: Texas vs. Illinois

In 2015, the Texas Legislature agreed to increase funding for the Texas Department of Transportation. Under the deal, an additional \$2.5 billion from the general sales tax and 35 percent of future motor vehicle sales taxes beyond \$5 billion would be directed to the highway fund. The deal would require Texans to amend the state's Constitution so the funds could be allocated to transportation beginning in 2020. For the \$2.5 billion transfer to occur, annual state sales tax revenue must also be over \$28 billion.

Texas Governor Gregg Abbott called transportation funding one of his five emergency matters for Texas' 2015 legislative session due to both deteriorating roads and future population growth (Batheja, 2015). Investment in transportation infrastructure alleviates safety and congestion issues, while allowing businesses to thrive and boosting the economy. Currently, automobile sales in Texas generate about \$4.4 billion per year in sales tax revenues (NADA Data, 2014). Prior to the deal, none of this money was explicitly designated for transportation purposes.

Like Texas, Illinois has crumbling roads and bridges that require revenues to repair the current transit systems. While the Texas Legislature has taken action to increase revenues to fix failing transportation structures, the Illinois General Assembly and Governor have not even agreed on a budget over the past year. Illinois needs to increase transportation revenue in order to support economic growth, reduce congestion, and ensure that firms are able to efficiently transport their products to the market. Investments in quality infrastructure is a high-road economic development strategy for both states.

Economic Indicators

The economies of both Illinois and Texas depend on high-quality, efficient transportation networks. Texas is the 2nd-largest state by total area and the 2nd-most populated state in the country. With 19.9 million residents who are 16 years and older, Texas has approximately twice (1.95 times) as many

people as Illinois. Similarly, Texas' workforce of 11.8 million employees nearly doubles (1.97 times) the 6.0 million workers in Illinois. The employment rate is essentially the same in both states, with about three-in-five residents over 16 years old working. The average Illinois household earns \$4,608 more in annual income (\$78,521) than its counterpart in Texas (\$73,913).

The Texas economy is also 2.23 times as large as the Illinois economy. In 2014, the Gross Domestic Product (GDP) of Texas was \$1.64 trillion, while the economic output of Illinois totaled \$736 billion. It is worth noting that Texas' large GDP relative to Illinois was partly due to the oil and energy boom in 2014. In Texas, a portion of the taxes collected from the oil industry is disbursed to the state highway fund for transportation infrastructure, helping to fund transit needs across the state (Figure 1).

Figure 1: Comparison of State Economies, Illinois vs. Texas

Economic Indicators	Illinois	Texas
Population, 16 Years and Older, 2014	10.2 million	19.9 million
Employed, 16 Years and Older, 2014	6.0 million	11.8 million
Employed % of Population	59.3%	59.5%
<i>Economic Output</i>		
2014 Real GDP	\$736 billion	\$1.64 trillion
<i>Income</i>		
Average Household Income, 2014	\$78,521	\$73,913

Source(s): "Selected Economic Characteristics" by the 2014 American Community Survey, 5-Year Estimates, available at <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. "Real GDP by State" by the U.S. Department of Commerce Bureau of Economic Analysis, available at bea.gov/itable/index.cfm.

State Government Revenues

Texas is investing more in transportation than Illinois. In part, this is because Texas receives significantly more revenue from the federal government than Illinois. In 2014, the federal government bankrolled 39.4 percent of revenues in Texas' General Fund compared to just 22.5 percent of Illinois' General Fund revenues (Figure 2). If the federal government paid for 39.4 percent of Illinois' General Fund like it did for Texas, the state would have received \$7.2 billion more in 2014.

The federal government subsidized \$36.3 billion of Texas' General Fund (State of Texas, 2014). By contrast, Illinois received only \$9.5 billion from the federal government— \$26.8 billion less than Texas (State of Illinois, 2014). To put that in perspective, the Illinois Office of Management and Budget expects the state to generate just \$12.3 billion in total revenue from the 3.75 percent individual income tax (OMB, 2016). The \$26.8 billion in extra payments that Texas receives from the federal government is more than twice the amount (2.18 times) that Illinois collects in personal income taxes. Recall that Texas is about two times as large as Illinois by population, workforce, and GDP.

This substantial federal subsidy, in part, allows Texas to have no income tax. Even without an income tax, Texas still has over twice as much revenue in its General Fund than Illinois (Figure 2). Both states have a 6.25 percent sales tax on goods and services. Texas can spend relatively more on roads, bridges, and other modes of transportation infrastructure than Illinois without an income tax due to both the large federal subsidy and its considerable oil production.

If Illinois received the same proportionate revenue from the federal government as Texas, the Illinois budget deficit would vanish almost entirely. However, since Illinois currently gets less support, the state needs an income tax to fund services, programs, and infrastructure projects.

Figure 2: State Government Funds, Illinois vs. Texas

State Government Funds	Illinois	Texas
General Fund Revenue, 2014	\$42.5 billion	\$92.2 billion
Federal Government Share of General Fund	22.5%	39.4%
<i>Income Tax Rate, 2015</i>		
Income Tax Rate: \$25,000	3.75%	-
Income Tax Rate: \$50,000	3.75%	-
Income Tax Rate: \$100,000	3.75%	-
Individual and Corporate Income Tax Revenue, 2014	\$18.5 billion	-
Sales Tax Rate	6.25%	6.25%

Source(s): “Comprehensive Annual Financial Report” (FY 2014) by the State of Illinois, available at http://ledger.illinoiscomptroller.com/ledger/assets/File/CAFR/CAFR_2014.pdf. “Comprehensive Annual Financial Report” (FY 2014) by the State of Texas, available at http://www.texastransparency.org/State_Finance/Budget_Finance/Reports/Comprehensive_Annual_Financial/14/pdf/CAFR-2014.pdf. “Facts & Figures: How Does Your State Compare?” by the Tax Foundation, available at taxfoundation.org/article/facts-figures-2013-how-does-your-state-compare.

User Costs

Some commentators argue that motor fuel taxes are too high in Illinois. In Illinois, the per-gallon gasoline tax rate is \$0.19 cents and the diesel rate is \$0.215 cents per gallon. In Texas, the rates are essentially the same: the per-gallon gasoline tax rate and diesel rate are both \$0.20 (Figure 3). Advocates of high-quality infrastructure investments in both states claim that the motor fuel tax rates need to be adjusted for inflation. Neither state has raised its motor fuel tax rate since the early 1990s— even though construction costs have increased.

In 2012, Texas spent \$11.9 billion on its state roads while Illinois spent \$6.0 billion (Figure 3). Per capita, both states receive a similar amount of revenue to spend on road construction and maintenance. Texas spent \$598 per capita on its state highway system. This is \$10 more than the \$588 per capita spent by the State of Illinois.

Figure 3: User Fees and Revenue Sources, Illinois vs. Texas

User Cost of Revenue Source	Illinois	Texas
<i>Motor Fuel Tax Rates</i>		
Gasoline Per Gallon	\$0.19	\$0.20
Diesel Per Gallon	\$0.215	\$0.20
<i>Road Revenues</i>		
State Revenues Used for Highways, 2012	\$6.0 billion	\$11.9 billion
State Revenues Used for Highways per Capita, 2012	\$588	\$598
<i>Personal Cost</i>		
Repairs from Poor Roads Per Motorist	\$449	\$373

Source(s): “State Motor Fuel Taxes: Rates Effective 1/1/2016” by the American Petroleum Institute, available at <http://www.api.org/~media/Files/Statistics/StateMotorFuel-OnePagers-January-2016.pdf>. “Comprehensive Annual Financial Report” (FY 2014) by the State of Illinois, available at http://ledger.illinoiscomptroller.com/ledger/assets/File/CAFR/CAFR_2014.pdf. “Comprehensive Annual Financial Report” (FY 2014) by the State of Texas, available at http://www.texastransparency.org/State_Finance/Budget_Finance/Reports/Comprehensive_Annual_Financial/14/pdf/CAFR-2014.pdf. “2014 Report Card for America’s Infrastructure: Illinois” and “2012 Report Card for America’s Infrastructure: Texas” by the American Society of Civil Engineers, available at <http://www.infrastructurereportcard.org/states/>.

Illinois and Texas have diverse climates that affect roads, bridges, and railways differently. Texas does not face the infrastructure-damaging snow, ice, and wintery conditions that Illinois experiences. Despite

similar levels of spending, these conditions are likely to deteriorate Illinois’ infrastructure at a faster pace. As a result, the back-end personal costs of poor roads are higher in Illinois, at \$449 annually per motorist compared to \$373 in Texas.

Transportation Usage and Statistics

Texas has twice as many vehicles registered than Illinois, with 20.2 million registrations in Texas compared to 10.1 million in Illinois. Illinois drivers traveled 104.6 billion vehicle miles and consumed 6.1 billion gallons of fuel. By contrast, Texas motorists drove 237.8 billion vehicle miles traveled (2.27 times more) and consumed 16.9 billion gallons of fuel (2.78 times more) in 2012 (Figure 4).

Relative to population and vehicle registrations, Texas motorists drove more miles in a car, truck, van, or SUV and used significantly more fuel (Figure 4). Part of the reason is that Illinois workers are more likely to commute to work by public transportation, including buses— despite the fact both states have a similar share of public roads in urban areas (31.8 percent in Illinois and 31.0 percent in Texas). Fully 8.9 percent of Illinois workers traveled to work via public transit compared to 1.6 percent in Texas. Nevertheless, congestion is slightly more significant in Illinois, with an average commute time to work of 28.2 minutes compared to 25.2 minutes in Texas (Figure 5).

Figure 4: Infrastructure, Usage, and Method of Commute to Work, Illinois vs. Texas

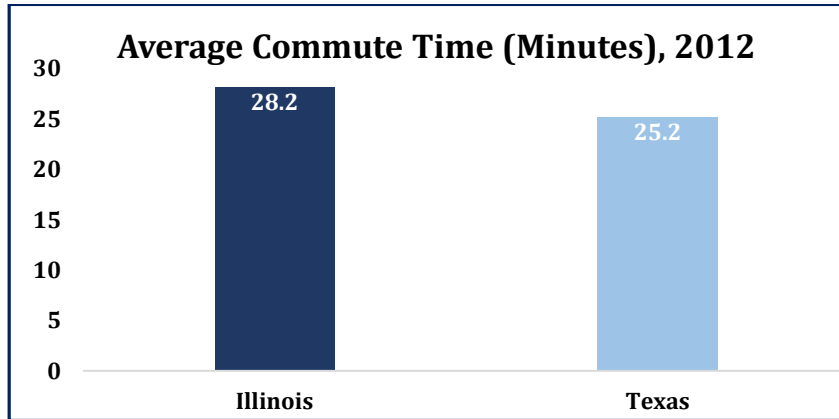
Roads, Usage, and Demand	Illinois	Texas
<i>Infrastructure</i>		
Total Public Road Miles, 2012	144,337	313,210
Rural	68.2%	68.0%
Urban	31.8%	32.0%
<i>Usage</i>		
Vehicle Registrations, 2012	10.1 million	20.2 million
Vehicle Miles Traveled, 2012	104.6 billion	237.8 billion
Total Motor Fuel Gallons, 2012	6.1 billion	16.9 billion
<i>Method of Commute to Work</i>		
Car, Truck, Van, or SUV	82.1%	91.0%
Public Transit	8.9%	1.6%
<i>Annual Vehicle Sales and Tax Revenue</i>		
Annual New and Used Vehicle Sales, 2013	\$28.4 billion	\$70.8 billion
Sales Tax Revenues from Vehicle Sales, 2013	\$1.8 billion	\$4.4 billion

Source(s): “Highway Statistics Series” for Illinois and Texas, “Selected Economic Characteristics” by the 2014 American Community Survey, 5-Year Estimates, available at <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>, and “Annual Financial Profile of America’s Franchised New-Car Dealerships,” available at <http://www.nadafrontpage.com/upload/wysiwyg/NADAData2014.pdf>.

Illinois also has more fuel-efficient cars than Texas. Dividing vehicle miles traveled by the total motor fuel gallons consumed provides an estimate of the average miles-per-gallon efficiency in both states. In Illinois, the average car on the road traveled approximately 17.21 miles per gallon in 2012. That same year, the average fuel efficiency of Texas cars was just 14.08 miles per gallon. Because Texas residents drive fewer miles per gallon than Illinois residents, they fill up more frequently at the gas pump. Given the previously-mentioned fact that gasoline and diesel rates are essentially the same in both states, this means that Texans pay more in gas taxes to their state than Illinois residents do to the State of Illinois. Thus, Illinois receives less revenue from motorists to spend on transportation needs due to environmentally-friendly consumer demand in the vehicle market.

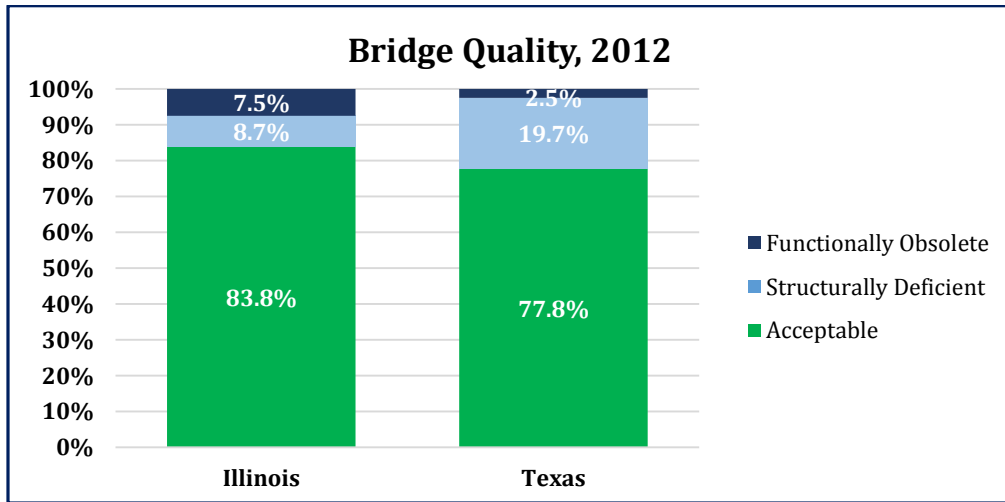
In addition, Texas has 1.97 times as many workers and the same 6.25 percent sales tax rate. If Illinois workers and Texas workers tend to purchase new and used vehicles with the same frequency, it might be expected that sales tax revenues from annual vehicle sales would be 1.97 times higher in Texas than in Illinois. In fact, sales tax revenues from new and used vehicle sales were about \$4.4 billion in 2013, which is 2.50 times as high as the \$1.8 billion generated in sales tax revenues from car sales in Illinois. This means either that Texas residents buy cars more frequently than Illinois residents or that Texas residents purchase cars that are bigger and more costly, or both. Whatever the case may be, the deal struck by the Texas Legislature would allocate a portion of these vehicle sales tax revenues to transportation funding, investing in the roads and bridges that those automobiles will use. In Illinois, these sales tax revenues go to the General Fund and are not dedicated to transportation needs. This move positions Texas to invest more in infrastructure over the long run than Illinois.

Figure 5: Average Commute Time to Work in Minutes, Illinois vs. Texas



Source(s): "Selected Economic Characteristics" by the 2014 American Community Survey, 5-Year Estimates, available at <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

Figure 6: Bridges, Number and Quality, Illinois vs. Texas



Source(s): "2014 Report Card for America's Infrastructure: Illinois" and "2012 Report Card for America's Infrastructure: Texas" by the American Society of Civil Engineers.

With that said, Texas does better in some infrastructure areas and Illinois has better quality infrastructure in others. Both states have extensive vehicular infrastructure networks. According to the Reason Foundation, a libertarian-leaning think tank, Texas ranked 8th in nation by rural road quality in 2012 while Illinois ranked 15th. Illinois, however, ranked 3rd in the nation by urban road quality compared to 27th for Texas (Hartgen et al., 2014). Furthermore, Texas has the largest bridge inventory in America

with 51,557 bridges and Illinois has the 3rd-largest bridge inventory with 26,514 bridges (Figure 6). Approximately 16.2 percent of Illinois' bridges are either "structurally deficient" or "functionally obsolete." Illinois' bridge infrastructure compares favorably to Texas' infrastructure, where 22.2 percent are in bad condition (Figure 6). Finally, the fatal crash rate in Illinois is 9.1 fatal crashes per billion vehicle miles traveled, significantly less than the Texas rate of 14.3 fatal crashes per billion vehicle miles traveled. In some instances, Texas has better vehicular infrastructure than Illinois. But in others, Illinois has superior quality that helps save lives.

Conclusion

Texas invests slightly more in transportation per capita than Illinois. Texas has 1.95 times as many people over 16 years of age as Illinois and 1.97 times as many workers. By contrast, the people of Texas drive 2.27 times as many miles and consume 2.78 times as much fuel. This disproportionate usage and fuel consumption lead to relatively higher motor fuel tax revenues in Texas than in Illinois—allowing the state to fund more investments.

However, Texas also receives a considerable amount more in revenue from federal government subsidies. The Federal Government bankrolls 39.4 percent of Texas' General Fund revenues compared to just 22.5 percent of Illinois' General Fund. Texas has about twice as many people and workers as Illinois but has no income tax in part because of the difference in federal government transfer payments. The difference in federal receipts is equivalent to Illinois' individual income taxes multiplied by two, meaning that Texas essentially gets free funding equivalent to a 3.75 percent personal income tax.

There are similarities and differences between Illinois and Texas. On the one hand, they both have a large workforce that needs an efficient transportation network to get to work, with about three-in-five residents employed in both states. In addition, nearly one-third of the public road miles in each state are in urban areas. On the other hand, however, more Illinoisans use public transit (8.9 percent compared to 1.6 percent) and the average Illinois vehicle gets better gas mileage (17.21 miles per gallon compared to 14.08 miles per gallon). Wintery conditions are also a challenge unique to Illinois as compared to Texas.

As a result, Texas does better in some areas of transportation infrastructure and Illinois does better in others. Texas has rural roads that are in better condition, has lower back-end personal costs to motorists from driving on poor roads, and has lower commute times to work. Illinois has urban roads that are in better condition, has fewer bridges in "structurally deficient" or "functionally obsolete" condition, and has a lower fatal injury crash rate.

To address their deficiencies, the Texas Legislature has proposed a new plan to increase transportation infrastructure investment by capturing a portion of general sales tax revenues from vehicle sales. Illinois should consider doing the same. Due to crumbling infrastructure and future population growth, both Texas and Illinois need to raise revenues or reallocate funds to boost transportation investment. Unfortunately, Illinois cannot rely on federal government assistance like Texas can – Illinois must raise its own revenue through taxes or fees to fix existing transportation structures and build a competitive, multi-modal network. Infrastructure investment is an important public safety concern and an economic development imperative.

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