

# A VISUAL GUIDE TO TAX MODERNIZATION IN UTAH

## PART TWO: USER FEES

August 2021



DAVID ECCLES SCHOOL OF BUSINESS

*“Don’t tax you.  
Don’t tax me. Tax that  
fella behind the tree.”*

- Sen. Russell Long

Utahns share a common interest in a state and local tax system that provides for our needs, keeps the economy strong, and remains viable over the long term. This visual guide, which is the second in a series, presents the economic case for user fees as an important component of an efficient and fair revenue system.

## Table of Contents

1	2	4	8	13	17
Letter	Our State's Challenge	User Fee Overview	Transportation	Water	Higher Education

August 2021

Dear Policymaker:

Over the past decade, Utah's population growth led the nation. While not a new phenomenon, Utah's growth creates challenges as it generates significant costs. To maintain and enhance Utah's high quality of life and prosperous economy, Utahns will need to continue making significant investments in transportation, water, education, and other publicly-provided goods and services.

While growth challenges abound, for infrastructure alone, proposals exist for tens of billions of dollars of projects that are not feasible with existing revenue streams. As policymakers consider alternatives to manage growth challenges, it will be important to pause and think strategically about the best way to fund essential services.

User fees are an important tool in the fiscal toolbox, providing an economically efficient and fair funding option that can lead to improved quality. Importantly, well-designed user fees allow for choice in ways taxes do not. By matching service use with service payment, government can work more like the private market, realizing cost and quality advantages. The key is to properly structure fees to maximize benefits, while mitigating costs.

This visual guide articulates Utah's challenges and provides an overview of user fees in Utah, including distinguishing between user fees and taxes, explaining user fee pros and cons, and providing comparisons on Utah's user fees. We also provide illustrative data on how user fees work in transportation, water, and higher education.

The Kem C. Gardner Policy Institute offers informed research that guides informed discussions and leads to INFORMED DECISIONS™. We share this user fee information to help you in your public service.

With appreciation,



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# Our State's Challenge: Preserving Quality of Life Amidst Relentless Growth And Change

Growth creates both tremendous opportunities and challenges that require adaptation, innovation, and realignment. User fees can help policymakers manage Utah's growth-related fiscal challenges.

Utah's population and economy continue to grow. This growth creates tremendous opportunities for Utahns. But growth also creates challenges. Some growth challenges stem from the interactions of topographical and other physical constraints with legacy transportation, land, air, and water use patterns. Other challenges arise because outdated systems poorly align with the modern economy. Yet transformational economic changes continue unabated. These pressures require constant adaptation, innovation, and realignment of Utah's fiscal systems to ensure essential services continue.

Utah's leaders face critical design decisions as they generate and spend public funds for transportation, water, education, and other public services vital to Utah's high quality of life. Taxes can harm economic efficiency, but also generate revenue to supply essential services that support the economy. Like taxes, user fees generate revenue for needed services – but when designed well, fees can **enhance** economic efficiency by balancing service demands with funding to supply those services.

In other words, all government revenue sources are not created equal. Different ways of paying for government services create differing economic effects. By making informed decisions on how best to fund vital services, Utah's leaders can support future prosperity and quality of life.

## Opportunity Cost

,äpərt(y)ōōnədə Kōst

noun

1. The potential loss or foregone gain from another alternative when one alternative is chosen.

## Four Public Finance Opportunities and Challenges

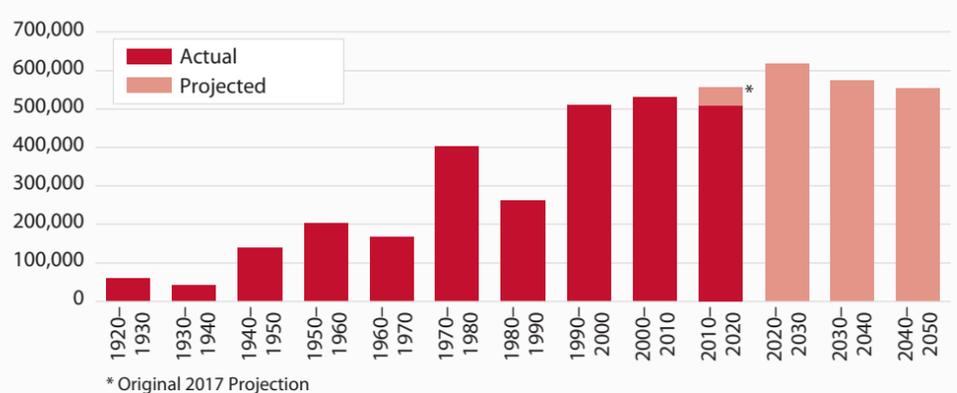
### 1 Relentless Growth

Utah's population growth rate led the nation from 2010 to 2020, reaching 3.3 million people. While our 18.4% growth rate slowed somewhat from the two preceding decades, this growth rate more than doubled the overall U.S. rate of 7.4%. New population projections will be released later in 2021, but existing projections estimate Utah's population will grow by about 1.7 million by 2050, reaching about 5 million.

Utah's demographic makeup also continues changing – becoming more diverse, older, and with smaller household sizes. As demographics change, household and government spending patterns also change. For example, more students may require English Language Development instruction, a much larger share of older people's income flows to untaxed health care expenditures, and those with smaller household sizes may demand different types of housing.

A growing population is not matched by more land, water, or air. In other words, the physical location of Utah's mountains, lakes, rivers, and other natural resources constrains many decisions. Combining these physical constraints with continued population growth and traditional patterns of land use, water use, and transportation developed in prior eras creates many challenges. Examples include air quality challenges and transportation congestion not only on urban highways and roads, but also in Wasatch Front canyons and national parks. And, as the current prolonged drought highlights, sometimes nature remaining constant is a best-case scenario.

Figure 1: Utah Population Growth by Decade, 1920–2050



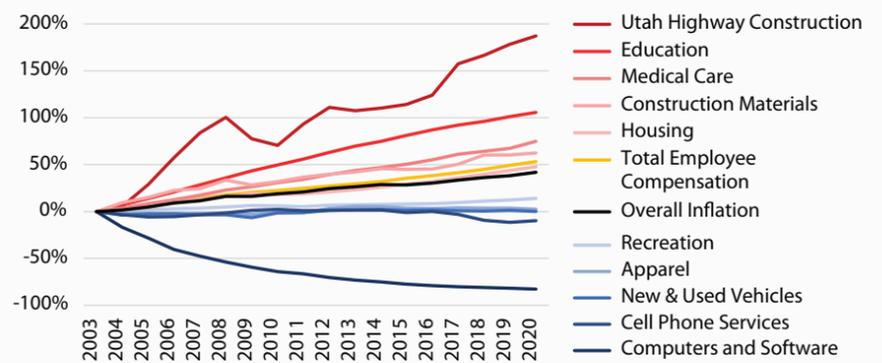
Source: Kem C. Gardner Policy Institute 2017 Projections

## 2 Changing Cost Structures

Unlike many commoditized goods bought and sold in international markets, service-intensive government is highly personnel-dependent. Government either contracts with the private sector or competes in labor markets for often-highly-educated employees in economic sectors with some of the highest inflation rates. Government does purchase goods as inputs, particularly construction materials.

This requires constant public and private sector innovation to develop new service delivery methods. It also produces many challenges when fiscal structures, such as the stagnant gas tax, simply misalign with these current economic realities.

**Figure 2: Price Changes, 2003-2020**  
Selected U.S. Goods and Services



Source: Bureau of Labor Statistics and Utah Department of Transportation

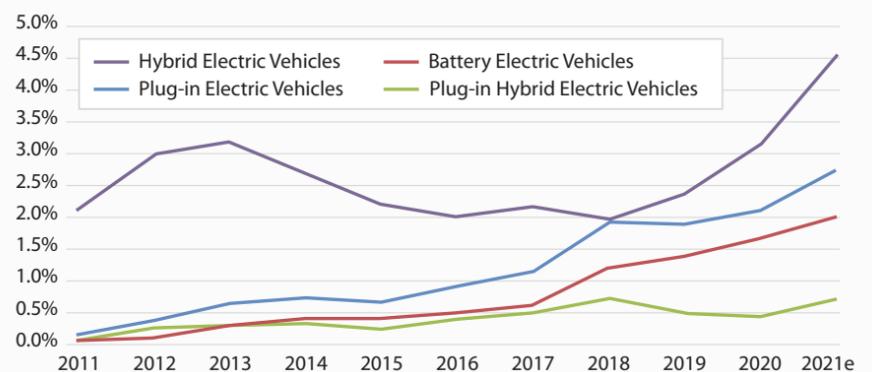
## 3 Transformational Economic Changes

Technological transformations continue to revolutionize our world by removing long-standing structural limitations. These changes create incredible economic benefits, but can also create challenges for government fiscal structures designed a century ago. Existing structural economic changes such as the shift from goods to services, ownership to subscription, brick-and-mortar to remote sales, and from less- to more-fuel-efficient vehicles already impact the long-term viability of the sales tax and motor fuel taxes.

The far-reaching impacts of pending and future structural changes also require serious consideration. In fact, some call pending transportation changes the greatest transformation since invention of the automobile. If existing trends moving toward electric self-driving rideshare vehicles accelerate, this would seriously disrupt traditional transportation patterns and funding models. Similarly, widespread broadband availability and teleworking remove the need to always physically locate at a work site, transforming the

world into a potential office. While Utah stands to benefit, this trend also creates challenges with tax-related income sourcing (with some existing tax structures designed around fixed business locations) and consumption shifting away from some locations in favor of others.

**Figure 3: U.S. Electric Vehicle Market Share as a Share of all Light Duty Vehicles, 2011-2021**



Source: Bureau of Transportation Statistics and Argonne National Laboratory

## 4 Opportunity Costs in Funding

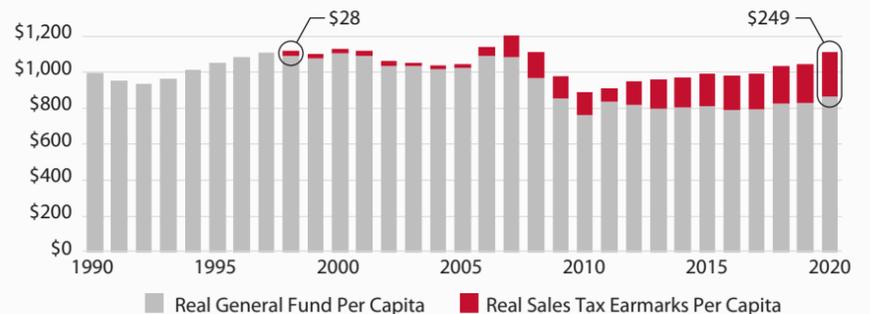
Opportunity cost is a fundamental economic principle. When you choose to do something, you choose to sacrifice something else. That is, tradeoffs accompany opportunity costs.

Policymakers constantly face opportunity cost decisions when funding public services. Deciding to fund one program means not funding another. While opportunity costs are unavoidable in totality, user fees can often help alleviate some negative implications of these tradeoffs because they can help match demand and supply.

For example, transportation taxes and fees not closely related to actual usage levels fund about \$1.9 billion in transportation costs, while level-of-use fees fund about \$550 million. While a greater emphasis on transportation level-of-use fees would generate sizable revenue amounts, Utahns would have more choice about funding these costs by choosing their usage level. Similarly, policymakers would have choices about reallocating funding, such as by reducing compulsory taxes or shifting funds to other programs.

Usage fee underutilization in some areas can affect funding for other critical programs. For example, in recent decades, state sales tax earmarks for infrastructure (which had historically been funded more through usage-based revenue sources) reallocated funds that could have been available for other programs critical to Utah's long-term viability, such as education and support for disabled people, or to reduce taxes.

**Figure 4: Real State of Utah General Fund and Sales Tax Earmark Revenues Per Capita**



Source: Governor's Office of Planning and Budget, U.S. Bureau of Labor Statistics, and Kem C. Gardner Policy Institute

# User Fee Overview

Properly constructed user fees match the level of service use with payment. Unlike taxes that only fund supply costs, the feature of choice with well designed user fees influences both demand and supply for government services.

## Unlike Taxes, Fees Allow Choice

In the private sector, prices ration scarce resources, sending signals to suppliers about how much to produce, and to demanders about how much to buy. But unlike voluntary private sector purchases, government compels people to pay taxes. Taxes often harm economic efficiency, but at the same time generate revenue for vital services.\*

Even among fees, not all are created equal. Some fees are distant from usage levels and function more like taxes, while others much more closely align with usage levels. For example, a mileage-based road usage charge much more closely aligns with road use than an annual car registration fee, which is more of an ownership fee than a true usage fee.

Properly constructed user fees harness the power of market prices to align the demand and supply of certain government services, allowing people to select the level of desired services. People can pay less for government services by changing their behavior to use less or pay more to use more. Like payments in the private market, this element of choice can increase economic efficiency, fairness, and quality. The key is

to structure user fees to properly place incentives, minimize collection costs, address regressivity, and maximize public acceptability.

Fees constitute an important tool in policymakers' toolkit. However, because user fees cannot fund all public services, taxes are necessary. Taxes have a dampening effect on the economy, so policymakers should carefully consider the balance between taxes and fees to fund services.

This guide presents state-level data on user fees and provides the economic context for considering additional and reconfigured user fees, with a focus on transportation, water, and higher education, which are heavily influenced by policy design decisions.

### User Fee | 'yōōzər fē

noun

1. a fee charged to those who use a government good or service to cover the costs of providing the good or service.

*User Fees are also called: User Charges, Usage Charges, Service Charges, Use Fees, Usage Fees, or simply "Fees"*

## User Fees vs. Taxes

Because user fees generate revenue for government, some think they are no different than taxes. But well-designed fees and taxes have important differences.

### User Fees

- Generally voluntary
- Government may be subject to some degree of competitive market forces to earn citizens' dollars
- Revenue tied to specific purpose
- Less subsidization of high volume users when fees align to usage levels (those who use more pay more, those who use less pay less)
- Set proportionate to cost of providing service for maximum economic benefit
- Payer receives benefit, sometimes immediately on receipt of payment
- Considered allocative because user fees match production of a good or service with consumer preferences based on use, creating an optimal allocation

### Taxes

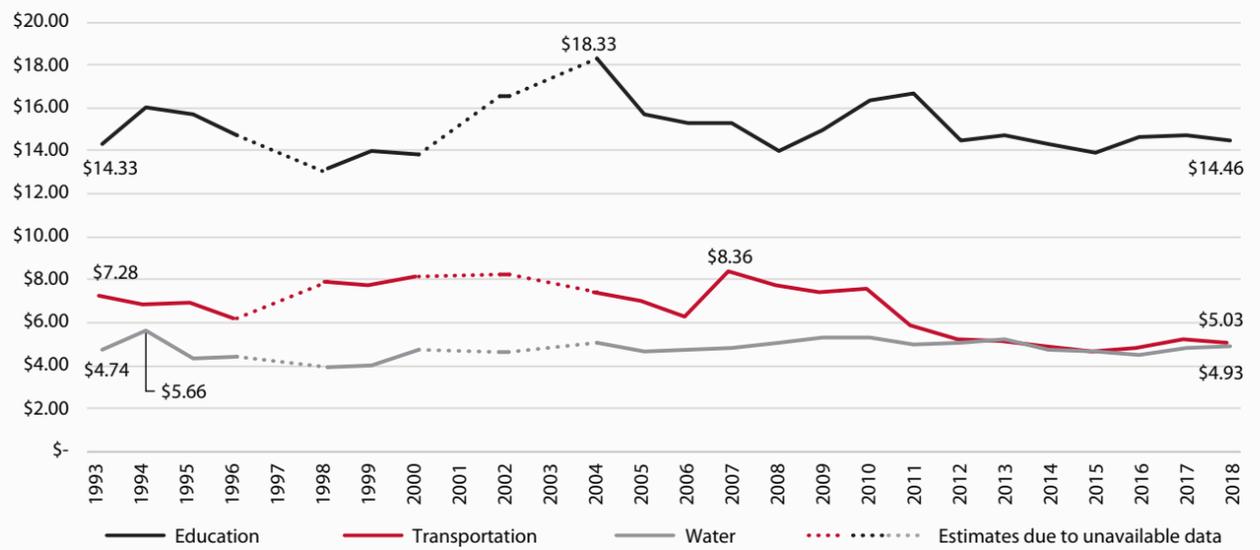
- Mandatory
- Government uses monopoly power to tax
- General revenue distributed to a variety of purposes
- More subsidization of high volume users, because taxes are usually unrelated to specific costs or usage levels of government goods or services
- Revenue used to benefit more than just the payer, payer may receive no direct benefit
- Considered redistributive because government takes from one taxpayer and distributes benefits broadly

\* For an informative discussion on how taxation affects economic efficiency, see *Economics of the Public Sector*, 4th edition (Stiglitz and Rosengard), pp 512-517

**Figure 5:**  
Select Utah State and Local Fees Per \$1,000 Personal Income, 1993–2018

Note: Data unavailable for 1997, 2001, and 2003 so graph includes estimates for these years. Transportation includes motor fuel taxes, highway tolls, motor vehicle registration, and transit. Education includes higher education and K-12.

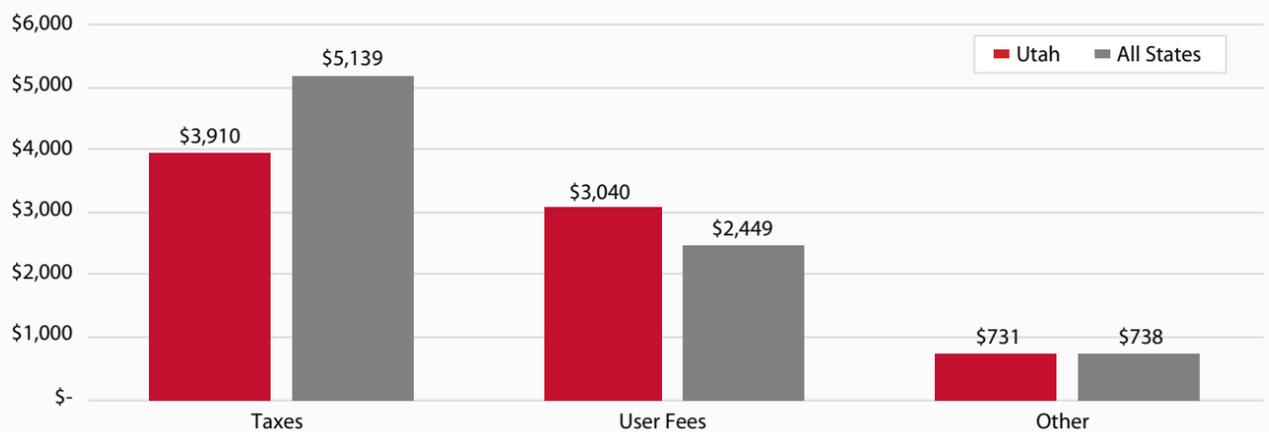
Source: U.S. Census Bureau Annual Survey of State and Local Government Finances and Bureau of Economic Analysis and Population Estimates



**Figure 6:**  
State and Local Own-Source Revenues per Capita, 2018

Note: Revenue from motor fuel tax, vehicle registration fees, and utility revenue included in the user fees category.

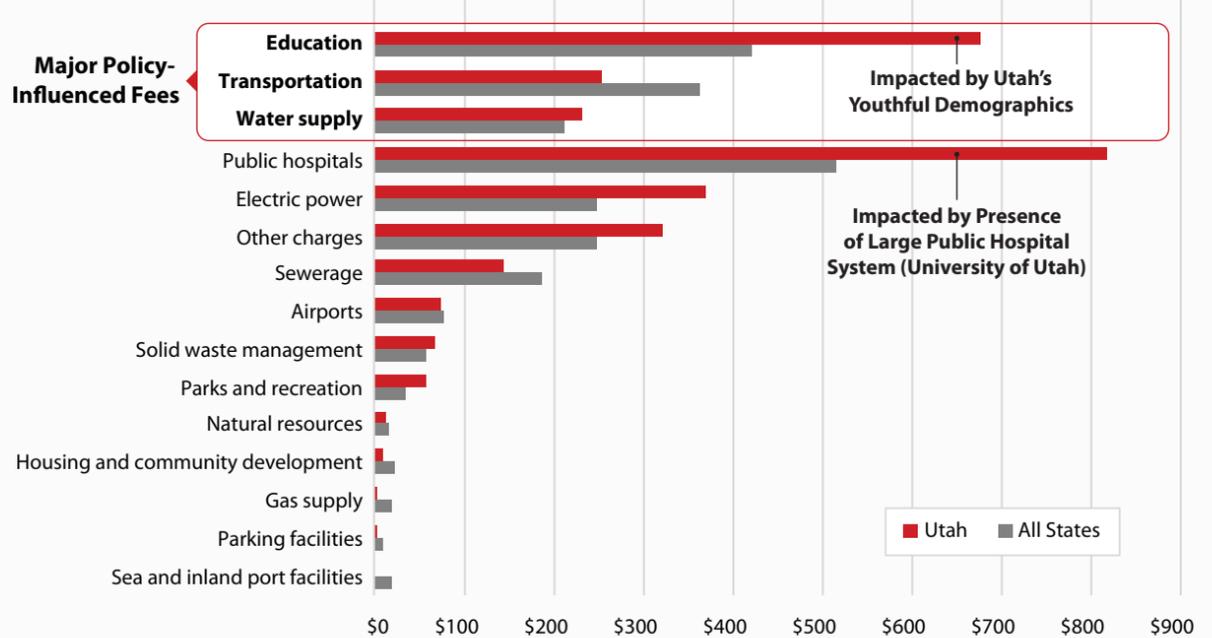
Source: U.S. Census Bureau Annual Survey of State and Local Government Finances and Population Estimates



**Figure 7:**  
State and Local User Fees per Capita, by Type, 2018

Note: "Other charges" includes charges not covered by any of the other categories, such as those derived from court and recording fees, police, fire, correction, defense, public welfare, public nursing homes, public libraries, and health activities. Transportation includes motor fuel taxes, highway tolls, motor vehicle registration, and transit. Education includes higher education and K-12.

Source: U.S. Census Bureau Annual Survey of State and Local Government Finances and Population Estimates



## Fees in Utah

Even though Utah consistently relies more on user fees overall than other states, total fees and the selected policy-influenced fees have declined from their peaks as a share of personal income in recent decades. Utah's higher fee reliance overall is primarily due to tuition fees paid by Utah's larger-than-average college-age population (despite lower tuition rates overall), hospital system fees at the University of Utah,

and publicly-provided electricity charges. Conversely, Utah relies less on fees for transportation and for certain utilities, such as sewer.

Different states fund services in different ways. For example, governments directly provide utilities in some states, while other states have more private sector providers. Similarly, some states rely more on tolls for transportation, while others rely more on fuel excise taxes. States also rely on different levels of government to provide services, with states, counties, cities, and other local governments playing different roles in different states. Because of this issue, Figures 5–7 include both state and local revenues.

### Own-Source Revenue | *ōn sōrs reve,n(y)ōō*

noun

1. Revenue a government generates itself from its own revenue sources and not provided by another level of government

# Pros and Cons of User Fees

## Pros

### Efficiency

Well-designed user fees simulate a market for government services. A transparent price allows users to change their behavior and decide if the marginal cost is worth the marginal benefit, influencing demand levels. This market-like structure facilitates more efficient resource allocation.

### Fairness – The Benefits Principle

Those who directly benefit from the service pay for it. Unlike with many taxes, low volume users tend not to subsidize high volume users.

### Flexibility

Fees can often be raised or lowered to meet demand more quickly than general taxes due to simpler processes. The Utah Legislature reviews and approves state fees and dedicated credits in its annual general session.

### Transparency

Service providers and users can observe the direct correlation between revenues collected and services provided, likely reducing costs and improving services.

### Political Acceptability

User fees are generally more accepted than taxes due to their voluntary nature and more direct tie between cost and service.

### Bond Market Access

User fees can facilitate bond market access through revenue bonds repaid by revenues from those using a service, preserving general obligation bond capacity for other purposes.

## Cons

### Collection Costs

Depending on the design, user fee collection costs could be high. Taxes on the same good or service could be less expensive to collect if designed more simply than the fee design.

### Fairness – Ability to Pay

As with many consumption taxes, lower-income individuals could pay a larger proportion of their income on a user fee than those with higher income.

### Political Acceptability

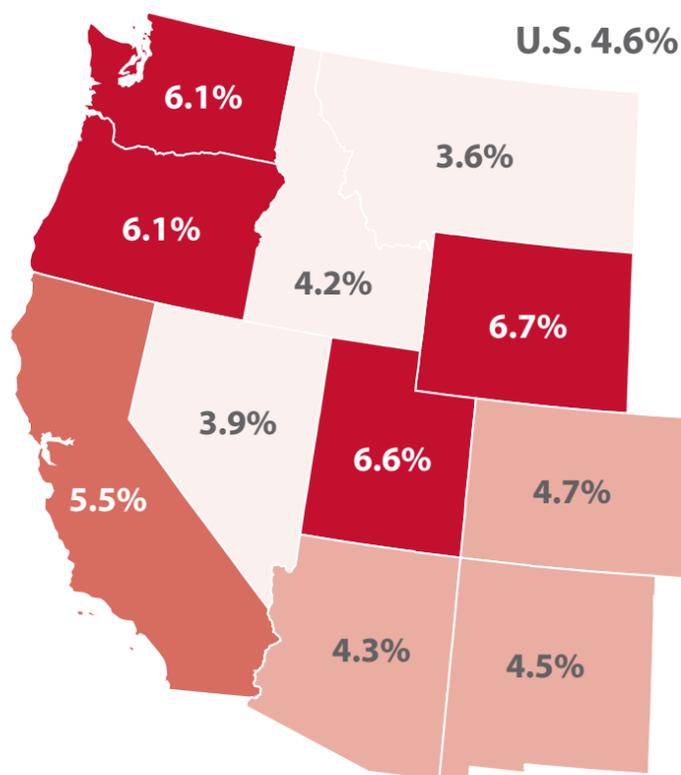
While user fees are likely more accepted than taxes, resistance could arise when fees are added or increased or when taxes are improperly labeled as fees, leading to service underprovision compared to the economically efficient level.

### Volatility

Fee collections closely tied to use may vary over time, requiring government agencies to adapt to changing conditions while still meeting service delivery expectations.

**Figure 8:**  
Fees as a Percent  
of Personal  
Income, 2018

Source: U.S. Census Bureau Annual Survey of State and Local Government Finances and Bureau of Economic Analysis



Utah's relatively large college-age population and the presence of a large public hospital system (University of Utah) contribute to higher fees as a percent of personal income.

### Dedicated Credits

'dedə,kādəd kredəts

noun

1. a state budget term for certain fees, sales, fines, penalties, and other revenue that an agency is authorized to spend for specified purposes

# Tips for Designing a User Fee

## 1 How can fee policy construct appropriate price signals?

**Incentives Matter** – Price impacts behavior, so carefully consider the intended policy effect and align fee structures with that intent. Subsidizing artificially low customer prices induces more use. Full-cost prices lead to less use.

**Marginal Costs** – Marginal cost pricing efficiently allocates scarce resources by matching consumer prices with additional costs created by incremental use. Flat fees unrelated to usage levels do not incorporate marginal costs, while level-of-use fees do.

**Effective and Efficient Service Delivery** – Consider internal agency incentive structures related to fees. Prepare to internally respond to demand changes. Review how revenue use impacts both the quantity and quality of service delivery.

**Full Cost Recovery** – Full-cost prices incorporate annual operating expenses and long-term capital costs.

## 2 How can prices be transparently communicated?

**Strong and Clear Price Signals** – User fees help balance demand and supply by sending price signals on government costs. Tax subsidies hide this cost, generally benefitting high volume users. Price signal benefits occur when users clearly understand fee prices and service costs and can reduce their fee by adjusting their behavior.

**Transparently Communicating Prices** – Maximizing real-time transparent connection between prices and usage levels creates stronger price signal effects. Examples include immediately charging payment as resource use occurs, conveying real-time information through apps and websites, and prominently articulating fee structures and use levels on billing statements.

## 3 How can fee policy mitigate regressivity?

**Regressivity Mitigation and Burden Sharing** – Like many consumption taxes, user fees could impose a disproportionate share-of-income burden on low-income households. Consider the appropriate balance between disproportionate burden, appropriate burden sharing, and efficient resource use.

**Targeted Response** – Custom-tailored efforts are more efficient than universal exemptions.

- For water, instead of subsidizing low rates for all water use, consider a low base rate coupled with rapidly increasing rates beyond basic use, or a means-tested direct subsidy covering basic use.
- For higher education, instead of subsidizing low tuition for all students, consider targeted grants to disadvantaged students.

## 4 How does fee design impact collection costs and versatility?

**Administrative Simplicity** – Some fee designs are simple. Others are more complex and costly to administer.

**Tradeoffs Between Simplicity and Versatility** – Balance a fee's versatility with collection simplicity.

- A simple mileage-based transportation fee could charge using odometer readings during annual car registrations, excluding some assumed out-of-state mileage.
- A more versatile but costly alternative could charge based on when and where each mile is driven, allowing for variable pricing – charging more during rush hour congestion and less in less-trafficked rural areas.

### Are Your Fiscal Incentives Aligned with Your Policy Objectives?

If you...	Then the economic effect is to...
<b>SUBSIDIZE</b> with revenue not closely tied to usage levels	 <b>INCREASE</b> use or activity
<b>TIE A LEVEL-OF-USE CHARGE</b> closely with actual usage levels and corresponding delivery costs	 <b>BALANCE</b> use or activity
<b>TAX</b> the activity	 <b>DECREASE</b> use or activity

# Transportation

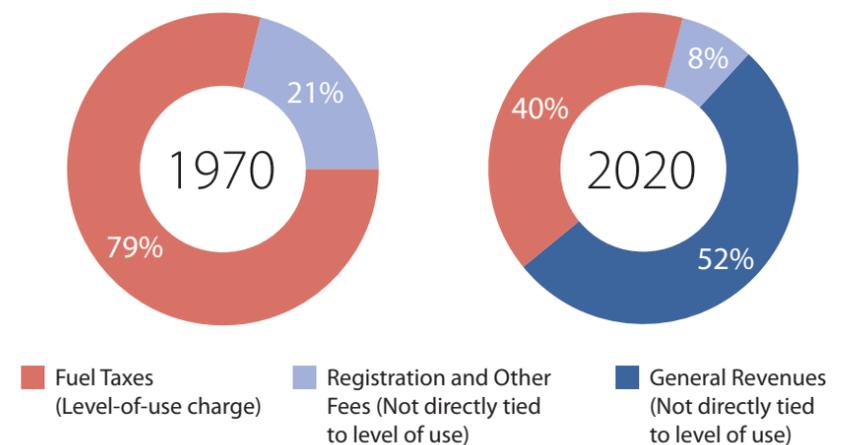
In recent decades, Utah shifted away from user fees to fund transportation. Funding transportation through general taxes encourages more use compared to full-cost user fee pricing. Direct road user charges can help balance transportation demand and supply.

## Transportation Funding Has Shifted to Emphasize General Taxes More Than User Fees

General taxes and user fees fund transportation in Utah, including revenue generated by federal, state, and local governments. Utah taxes include sales, property, and other taxes imposed by the Utah Legislature and by local governments. User fees include fuel user fees (excise taxes)<sup>1</sup>, annual vehicle registration fees, transit fares, and direct mileage-based road usage charges. In recent decades, Utah has shifted away from a predominant reliance on user fees by placing more of the transportation revenue burden on general sales taxes imposed by state and local governments for both roads and transit. This increased general tax subsidy lowers consumers' perceived cost of transportation, thereby encouraging increased use. Full-cost user fee pricing, particularly fees closely related to road usage levels, would send stronger price signals to consumers about the true costs of transportation.

**Figure 9:**

Utah State-level Transportation Funding Sources, 1970 and 2020



Source: Office of the Legislative Fiscal Analyst and Utah State Tax Commission

**Figure 10:**

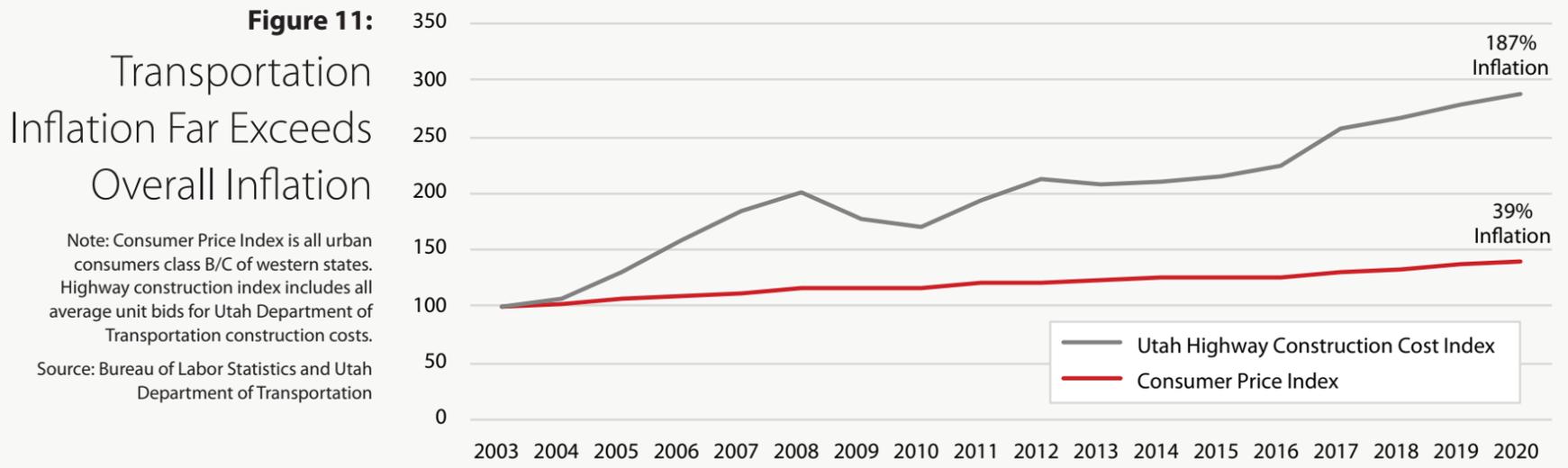
Future of Transportation

Existing	Future <sup>3</sup>
<p><b>Household-Level Car</b></p>  <ul style="list-style-type: none"> <li>• Ownership</li> <li>• Car sales - \$580 million state and local sales tax revenue</li> <li>• Inefficient use of idle vehicles</li> <li>• More parking spaces</li> <li>• Individual insurance</li> </ul>	<p><b>Transportation as a Service (TAAS)</b></p>  <ul style="list-style-type: none"> <li>• On-demand service</li> <li>• Vertical integration – fewer taxable car sales</li> <li>• Fleet vehicles in continued use</li> <li>• Fewer parking spaces</li> <li>• Business fleet insurance</li> </ul>
<p><b>Gas Powered</b></p>  <ul style="list-style-type: none"> <li>• Fuel excise tax - \$515 million state revenue</li> <li>• Many moving parts (more vehicle maintenance and repairs) - \$170 million state and local sales tax revenue</li> </ul>	<p><b>Electric Powered</b></p>  <ul style="list-style-type: none"> <li>• Less fuel excise tax</li> <li>• Fewer moving parts (less vehicle maintenance and repairs)</li> </ul>
<p><b>Human-operated</b></p>  <ul style="list-style-type: none"> <li>• More jobs for drivers</li> <li>• Over 90% of accidents involve human error<sup>2</sup></li> </ul>	<p><b>Self-driving</b></p>  <ul style="list-style-type: none"> <li>• Fewer jobs for drivers</li> <li>• Fewer accidents from human error</li> </ul>

1. While fuel user fees are technically excise taxes, they are generally considered user fees because revenue from Utah's fuel excise taxes is dedicated to transportation expenses.

2. National Highway Traffic Safety Administration. Traffic Safety Stats. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115>

3. While the exact magnitude, timing, and integration of these trends is unclear, automotive companies' efforts are focused on moving this direction.



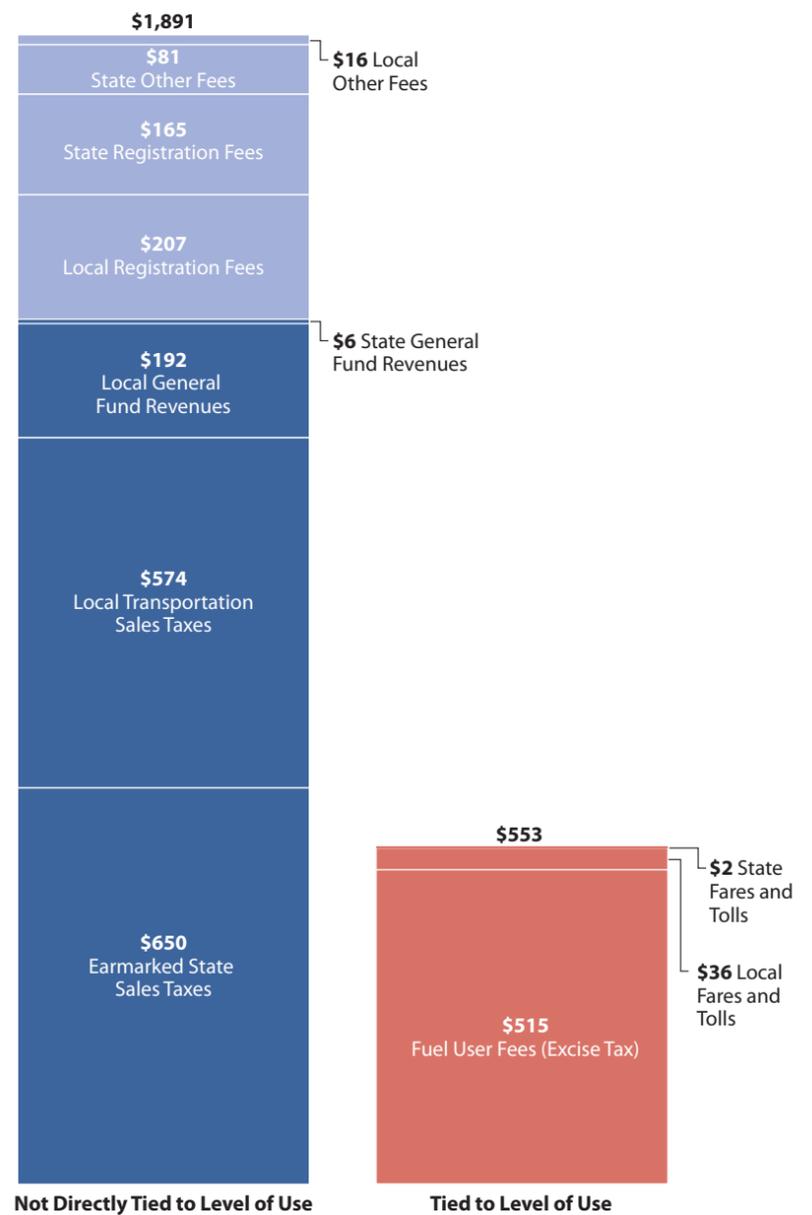
## Revenue Base Not Pacing With Increasing Costs and Demand

Historically, fuel user fees (excise taxes) and registration fees covered most transportation costs. However, this revenue base in both Utah and the U.S. has failed to pace with increasing demands and costs in recent decades. A combination of economic and policy causes create this mismatch. Major factors include flat registration fees that increase slower than demand and costs; a fuel user fee (excise tax) revenue base that also grows more slowly than the economy due to more fuel-efficient vehicles and, more recently, electric vehicles; and costs that consistently rise faster than general inflation.

This lagging revenue base requires consistent rate increases to keep pace. Although some minor rate increases coupled with rate and registration fee inflation indexing have occurred in recent years, these adjustments do not come near to offsetting prior lack of rate increases or fully funding increasing transportation demands.

Moreover, widespread electric, hybrid, and other alternative fuel vehicle adoption would dramatically undermine the sustainability of already-stagnating fuel user fees (excise taxes). Although the transportation future remains uncertain, projections by credible entities forecast that a third or more of cars sold by 2030 could be electric, and General Motors recently announced its intent to be all electric by 2035.

**Figure 12:** Major Utah State and Local Transportation User Fees and Taxes, FY 2020 (\$ in millions)

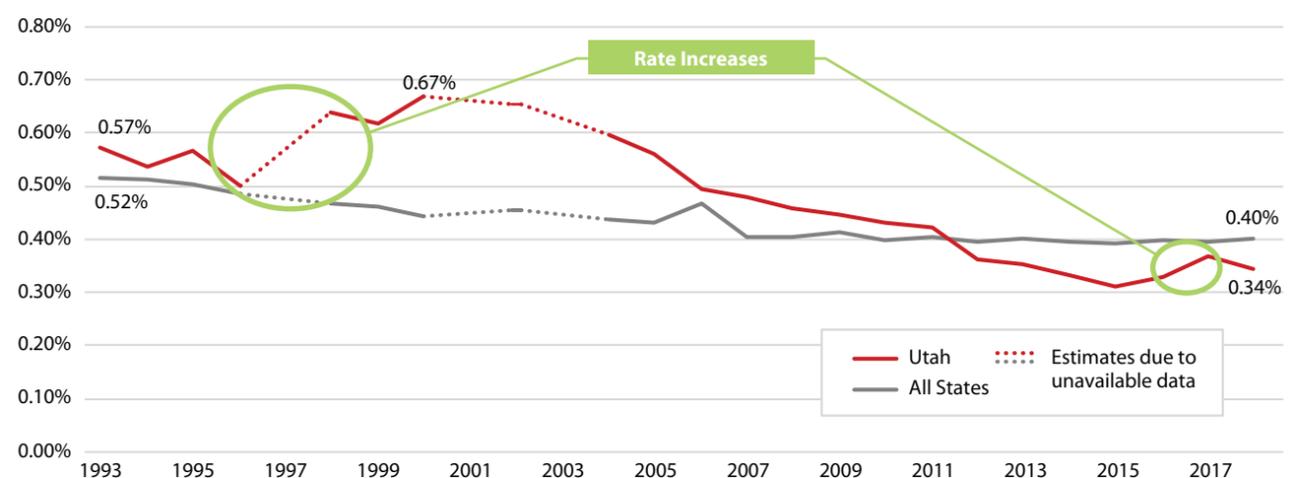


Source: Office of the Legislative Fiscal Analyst, Office of the State Auditor, and Utah State Tax Commission

**Figure 13:** Fuel Excise Tax and Highway Tolls as a Share of Personal Income, 1993-2018

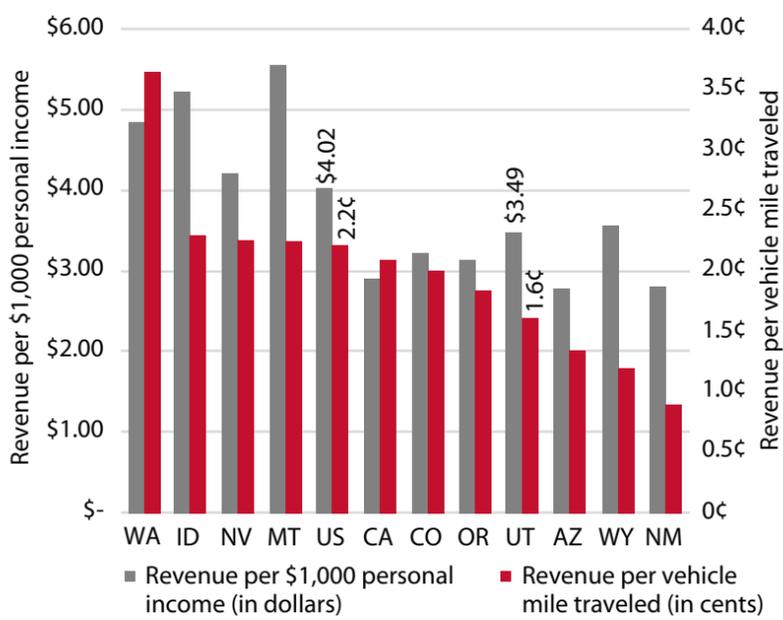
Note: Data unavailable for 1997, 2001, and 2003 so excluded from this graphic.

Source: U.S. Census Bureau Annual Survey of State and Local Government Finances and Bureau of Economic Analysis



**Figure 14:**

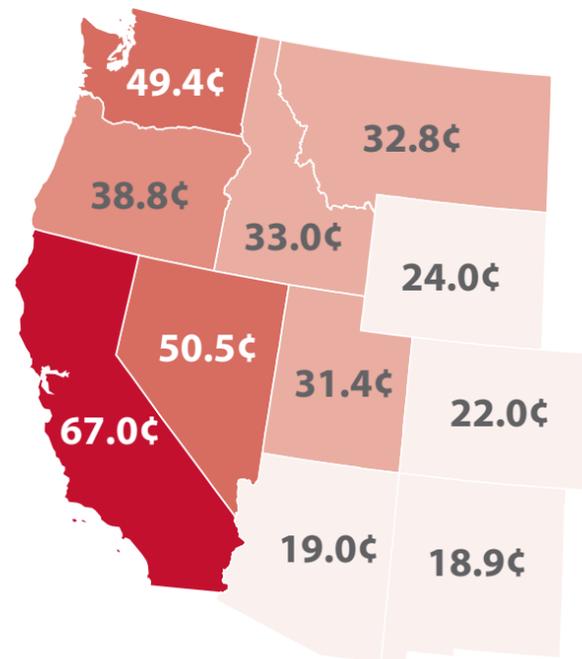
Revenue from Fuel Excise Taxes and Highway Tolls in Western States, 2018



Source: U.S. Census Bureau Annual Survey of State and Local Government Finances, Bureau of Economic Analysis, and Bureau of Transportation Statistics

**Figure 15:**

Total State Gasoline Fuel Taxes and Fees, in Cents Per Gallon, July 2021



Source: American Petroleum Institute

**Table 1:**

### Utah Motor and Special Fuel Excise Tax Rates

\*Subject to a reduced sales tax, but not an excise tax  
 Note: Does not include federal excise tax rates.  
 Source: Utah State Tax Commission

Tax Type	Tax Rate	Effective Date
<b>Motor and special fuels</b> (except as listed below)	\$0.314 per gallon	January 1, 2021
<b>Electricity and propane</b>	Exempt*	January 1, 2009
<b>Natural Gas</b> (Compressed Natural Gas (CNG) and Liquid Natural Gas (LNG) Hydrogen)	\$0.171 per GGE/DGE	January 1, 2021
<b>Aviation Fuel</b>		
Non-federally certificated air carriers	\$0.090 per gallon	July 1, 2001
Federally certificated air carriers	\$0.040 per gallon	July 1, 2001
Federally certificated air carriers (SLC Airport)	\$0.025 per gallon	January 1, 2009

## Travel Patterns Impact Tax Burden Measures

Figure 14 shows western states' fuel excise tax and highway toll revenue compared to personal income and vehicle miles traveled. Unlike Utah, some states rely more heavily on direct tolls. Note that more rural states have larger differences between the two measures because personal income and vehicle miles traveled in a geographic area may not align. Similar in-state differences between urban and rural income and road use also exist. Utah ranks 8th of 11 for revenue per mile and 6th of 11 for the revenue per \$1,000 of personal income. Figure 15 shows the total state gasoline fuel taxes and fees in cents per gallon for western states.

## Fuel User Fee (Excise Tax) Rates

Vehicle fuel user fees (excise taxes) differ from many other taxes because the state imposes them based on quantity used (a fixed rate per gallon), rather than as a percentage of a purchase price. Utah imposes a fuel tax on motor fuels, aviation fuels, and special fuels. Different fuels have different rates, as summarized in Table 1.

## Considering External Costs

In addition to many direct benefits, transportation creates various negative and positive externalities. Motor vehicles create air and water pollution, contributing to poor air quality and a changing climate. Drivers contribute to traffic congestion that affects others. Cleaner transit and active transportation options provide positive externalities by reducing pollution.

When full-cost road usage fees are charged, the costs of negative externalities can be accounted for and internalized into market prices. Similarly, transit and active transportation may merit consideration for lower user fees due to positive externalities.

### Excise Tax | 'ek,sīz takz

noun

1. A tax applied on the sale of particular products, often applied on a quantity (per-unit) basis instead of a price basis and often imposed on the seller and embedded in prices. Common examples include taxes on tobacco, alcohol, and gasoline.

### Externality | ,ekstər'nalədē

noun

1. A cost or benefit incurred by someone other than the user of a good/service that is not reflected in the market price.

**Figure 16:**

## U.S. Household Gasoline and Diesel Consumption as a Share of Annual Household Income, 2019



Source: Bureau of Labor Statistics Consumer Expenditure Survey

## Regressivity

Sales taxes and fuel user fees (excise taxes) are regressive because they take a higher share of annual income from low-income households than high-income households. Moreover, because electric car purchases currently skew heavily to those with higher incomes, lower-income households are subsidizing road use for these higher income households. Policymakers may wish to consider the distribution of the overall tax and fee burden as they set transportation tax and fee policies.

## Some Fees Much More Closely Tie to Demand Than Other Fees and General Taxes

Historically, fuel user fees (excise taxes) functioned as a nearly pure user fee because a very strong relationship existed between miles driven and amounts paid. But over time, this relationship has deteriorated, with continued deterioration likely.

While the sales tax base includes general automotive goods that help fund transportation, the relationship between the sales tax charged and actual road usage levels is very distant; these sales taxes do not influence demand like a direct and immediate usage fee would. Moreover, to the extent Transportation as a Service (TAAS) becomes widespread as many automotive companies project, vertical integration of transportation companies eliminates many of these taxable sales.

Similarly, although annual registration fees have a distant tie to use in that households with more cars pay more, the relationship of payment to use is not nearly as strong as with fuel user fees (excise taxes) and direct mileage-based road usage charges.

## Road Usage Charge

For these reasons, mileage-based road usage charges are attracting interest. Utah and Oregon are the only two states with permanent road usage charge programs. In Utah, electric and hybrid vehicle owners can opt into the Road Usage Charge Program in lieu of paying a higher alternative fuel vehicle registration fee.<sup>1</sup> Those who opt in pay 1.5 cents per mile up to the cost of the registration fee. Under Utah Code §72-1-213.1, the Road Usage Charge Program is intended to expand in coming years to garner the many benefits of direct user fees as a primary mechanism for funding transportation, including the benefit of drivers becoming more cognizant about the costs of transportation services demanded from government. In addition to funding transportation costs, road usage charges could also meet other policy goals such as reducing wear and tear on roads, improving air quality, and reducing congestion. Given the federal government's role in transportation, federal buy-in will be key to achieving these goals.

### Need | nēd

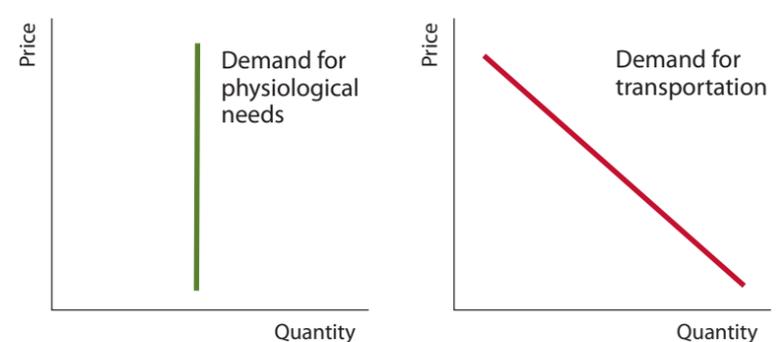
*noun*

1. A physiological or psychological requirement for the well-being of an organism
2. A requirement, necessary duty, or obligation

While some use the word "need" loosely, most goods and services called "needs" actually reflect choices about wants. Pure needs do not allow choice because they have a vertical demand curve (perfectly inelastic demand). This means a user would pay for the good or service no matter the price and occurs because no substitution options exist.

True essentials such as a certain number of calories and about a gallon of water a day meet this level of criticality. But even for food and water, as long as the basic physiological need is met, a wide variety of choices exist. In other words, all types of food and water use are not truly needs. A consumer can choose to eat a pricey meal at a restaurant or a simpler meal at home. Similarly, a consumer can choose to overwater a large and lush landscape or be more judicious in water use. The key question is who pays for the cost of those choices – those making them or someone else.

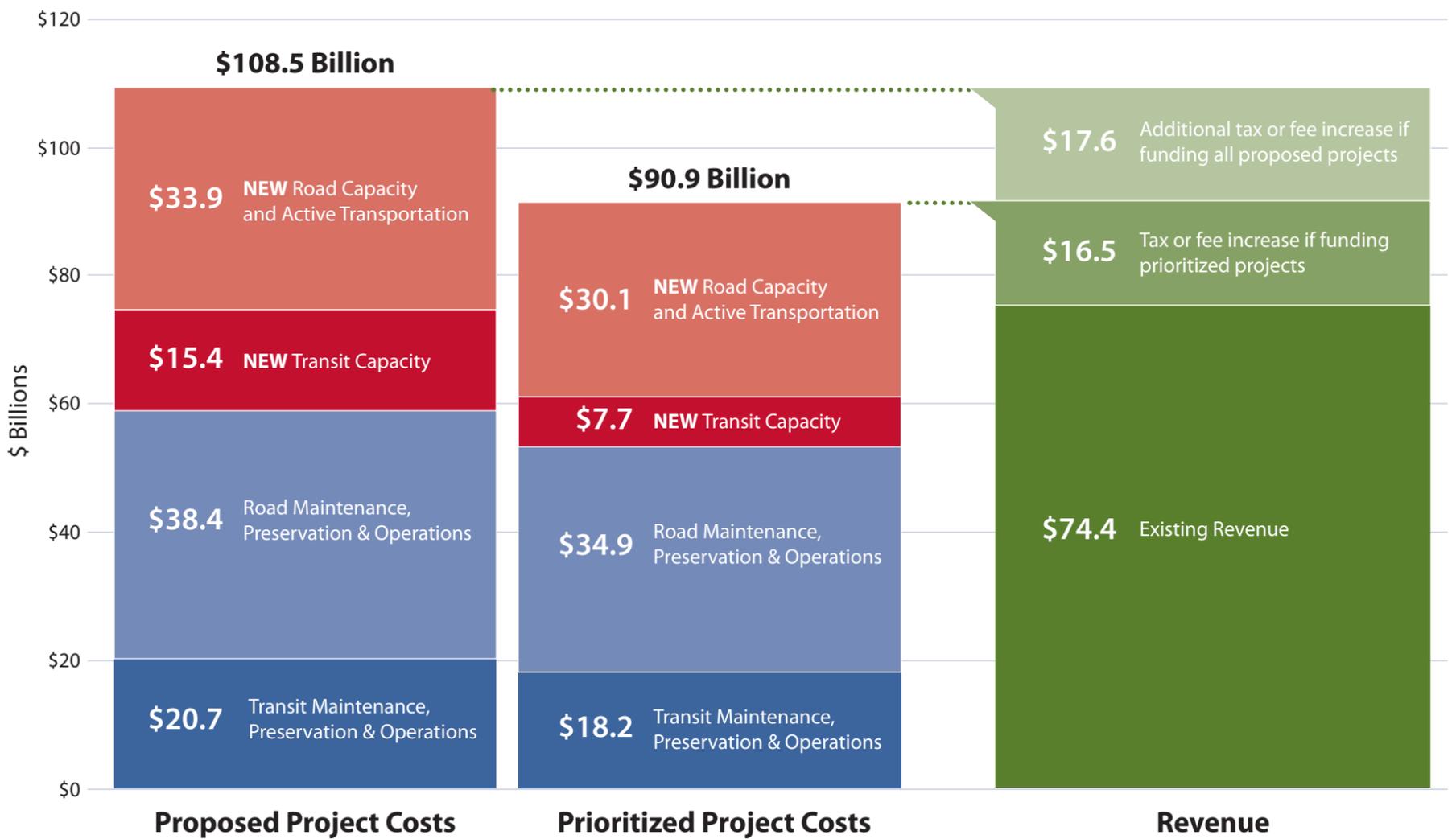
In fact, while transportation, water, education, parks, and other government services are all important, they fundamentally represent choices about wants and not pure needs. In other words, usage varies with consumer prices. With subsidized low prices, people use more. With full-cost prices, people use less. Policymakers should carefully consider the effects of their pricing policies.



1. This fee is included in the vehicle's annual registration fee. Lawmakers instituted this fee in 2018 for these vehicle owners to contribute to transportation costs since they do not contribute through the motor fuel tax.

**Figure 17:**

Projected State and Local Costs and Revenue for Transportation, 2019-2050  
(All totals in billions )



Source: Utah's Unified Transportation Plan, 2019

## Long-Term Transportation Proposals

In the most recent estimates, Utah's Unified Transportation Plan recommends proposed projects through 2050 costing an estimated \$108.5 billion. With existing revenue sources estimated to generate about \$74.4 billion over the same time period, a funding gap of \$34.1 billion over the coming three-decade period remains. Even with a pared down list including the highest priority proposals, a staggering gap remains.

As policymakers contemplate this mismatch along with stagnating fuel user fees (excise taxes) due to greater fuel efficiency and potential transportation transformations, they may also want to contemplate the underlying transportation supply and demand assumptions and opportunities for appropriately altering the trajectories of both transportation supply and demand.

The full opportunity cost of government spending money on one particular approach to an issue should always be considered. For example, a massive increase in teleworking during the recent pandemic dramatically altered the transportation landscape. While many commuters have

returned, many firms and workers have decided to make permanent changes. If teleworking from home remains a significant feature of the work landscape for many, this change in transportation demand has important implications for what may have previously been perceived as a transportation supply "need".

Paying for supply-side solutions such as new road and transit infrastructure and maintenance will be essential. Demand-side solutions will also be key, including increased teleworking; shifting commuting patterns to more efficiently use the idle transportation capacity available during most times of the day and reduce discretionary trips during peak traffic times; and adopting different land use patterns to promote active transportation, enhance public transportation service, and improve road network connectivity.

Transportation user fees can serve an important role in this balancing act by both providing revenue to pay for critical infrastructure and also encouraging more efficient use of transportation infrastructure.

# Water

Utah funds water with taxes and fees. Marginal water rates tied to water use levels influence efficient water use in ways other funding sources, including taxes, impact fees, and base water rates, do not.

## Water Funding Sources Influence Demand Differently

Various providers supply Utah's water, including cities, special/local districts, and private entities. These providers use different revenue sources to fund costs (see Figure 18).

Most water revenues originate from monthly charges and impact fees, although many of these fees are not closely tied to water use levels. Water retailers such as cities and private providers tend to fully pass on costs through user fees. Property taxes imposed by local water wholesalers and state sales taxes comprise the other major revenue sources. Federal funds and various other sources (like interest) also fund costs.

These different funding sources influence consumers differently. Although taxes and base water charges provide stability, they do not directly impact consumer behavior in the same way level-of-use marginal water charges do. Like consumption taxes, water fees (particularly base charges) can be regressive. For example, a \$30 base monthly charge constitutes 3% of income for a person earning \$1,000 monthly, but only 0.3% of income for someone earning \$10,000 monthly.

## Taxes for Water

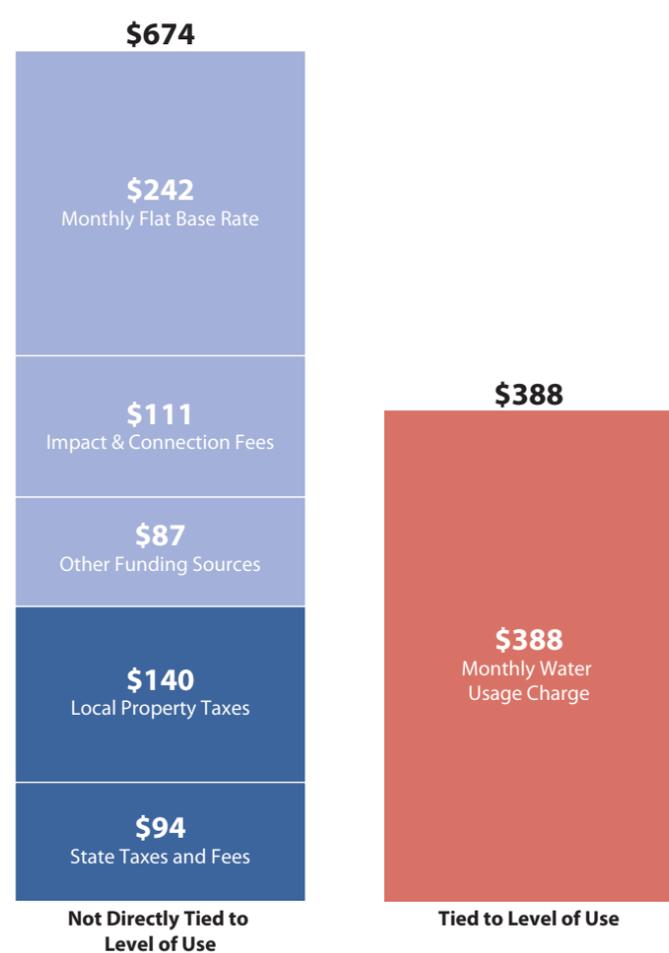
Water conservancy districts, improvement districts, and other local government entities impose about \$140 million in property taxes, with property tax rate caps ranging from twenty cents to a dollar for every \$1,000 of property value. Taxing entities can also pledge future property taxes through general obligation bonds, although other revenue sources

**90%** More than 90% of Utahns pay subsidized water rates because they live within a jurisdiction using property taxes. Lower perceived consumer prices increase the quantity demanded, leading to overconsumption of water relative to a full-cost fee structure.

Source: Utah Foundation. (October 2019). Paying For Water. <https://www.utahfoundation.org/wp-content/uploads/rr770.pdf>

**Figure 18:**

Utah State and Local Water Revenues - FY 2020 (in millions)



Note: Does not include wholesale water sales to avoid double-counting revenues  
Source: Office of the State Auditor, Division of Water Rights, and Governor's Office of Planning and Budget

could also be used to repay these bonds. While rare, cities may also transfer general revenues generated from taxes, such as property, sales, and business franchise taxes, to provide water, or sometimes also transfer water fees for general purposes, subject to certain restrictions.

At the state level, the Legislature annually appropriates funding to the Department of Natural Resources' Division of Water Resources and Division of Water Rights, and to the Department of Environmental Quality's Division of Drinking Water and the Division of Water Quality for general water-related statewide oversight, project funding, direct services like endangered species protection, and administrative functions. After a five-year phase-in, FY 2022 state sales tax earmarks for water will total about \$100 million.

## Future Demand and Supply Imbalance At Current Water Use Levels

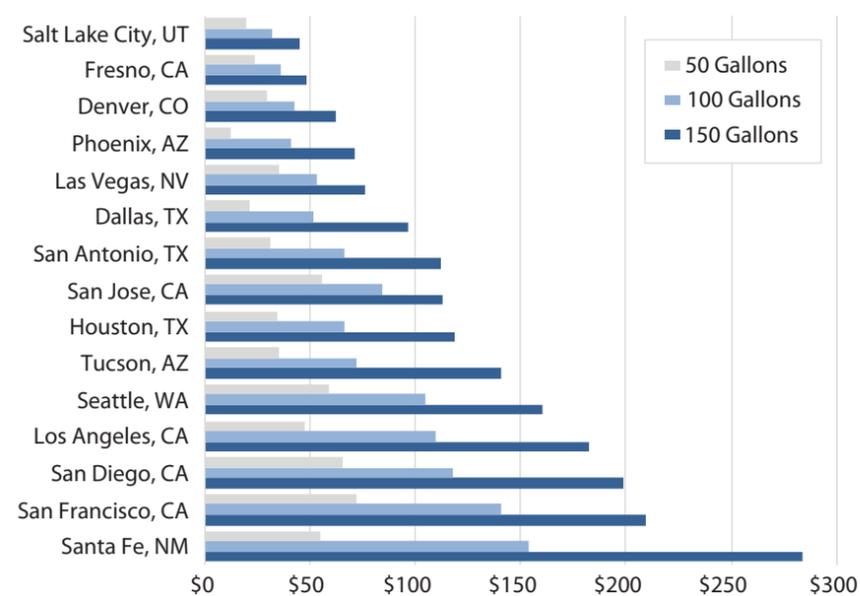
As population growth occurs, water demand may exceed water supply if current water use levels continue. Because of this demand and supply imbalance and the current drought, water scarcity is an increasingly pressing issue with Utah policymakers, who will need to decide about the balance between more efficient use of existing water supply and funding new supply costs.

## Ample Opportunities Exist for More Efficient Outdoor Water Use

Even for legacy turf-dominant landscapes, Utahns overwater extensively. Figure 20 compares the water amounts needed to sustain turf vegetation to actual water use in the Wasatch Front, Wasatch Back, and St. George areas. All three locations use about 1.5 to 2.5 times the water needed. In other words, greater awareness and meaningful pricing tiers could create significant efficiency gains, even with existing landscapes.

Fee structures designed with poor economic incentives and lack of consumer awareness contribute to this excessive use. For unmetered water, flat annual fees provide no financial incentive for judicious water use, as incremental water use incurs zero marginal cost. Additionally, many residents are simply unaware of their water use levels. Saratoga Springs and the Weber Basin Water Conservancy District have experienced 20-40% reductions in outdoor water use by installing meters on unmetered water, thereby informing residents of use levels. Investing in structural water efficiency infrastructure such as secondary meters and smart controllers could help curb excessive outdoor use.

**Figure 19:**  
Family Average Monthly Water Cost by Usage Level for Select U.S. Western Cities, 2018

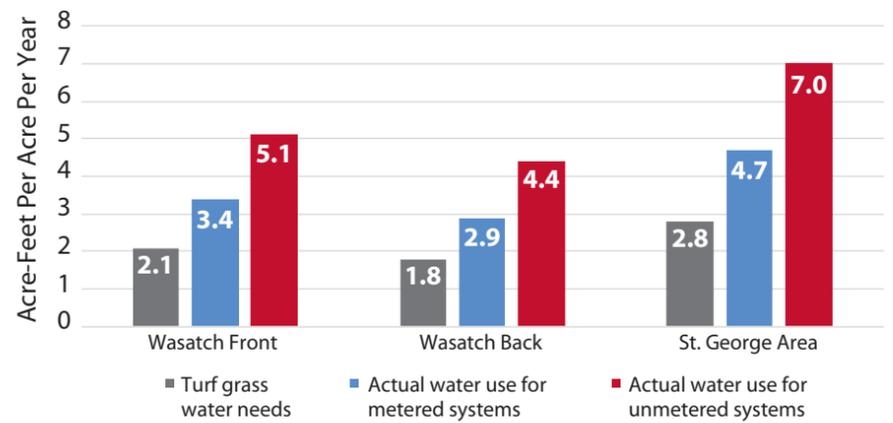


Note: Data is a monthly bill for a four-person household using 50, 100, and 150 gallons per person per day.

Source: Circle of Blue

**Figure 20:**

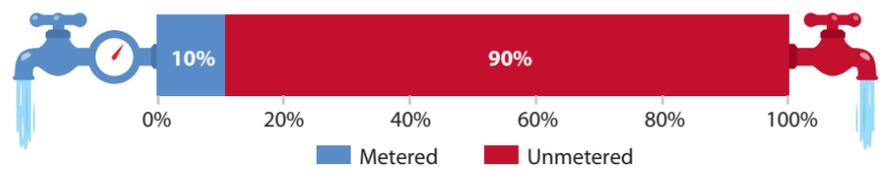
Estimated Lawn Watering Use Compared to Plant Needs, 2018



Source: Utah Department of Natural Resources - State of Utah Water Use Data Collection Program Report

**Figure 21:**

Progress on Investing in Water Efficiency Infrastructure - Secondary Meters



Best-available figures indicate that roughly **10%** of Utah's estimated 260,000 secondary water connections are metered, with most installed over the past decade.

Source: Utah Department of Natural Resources

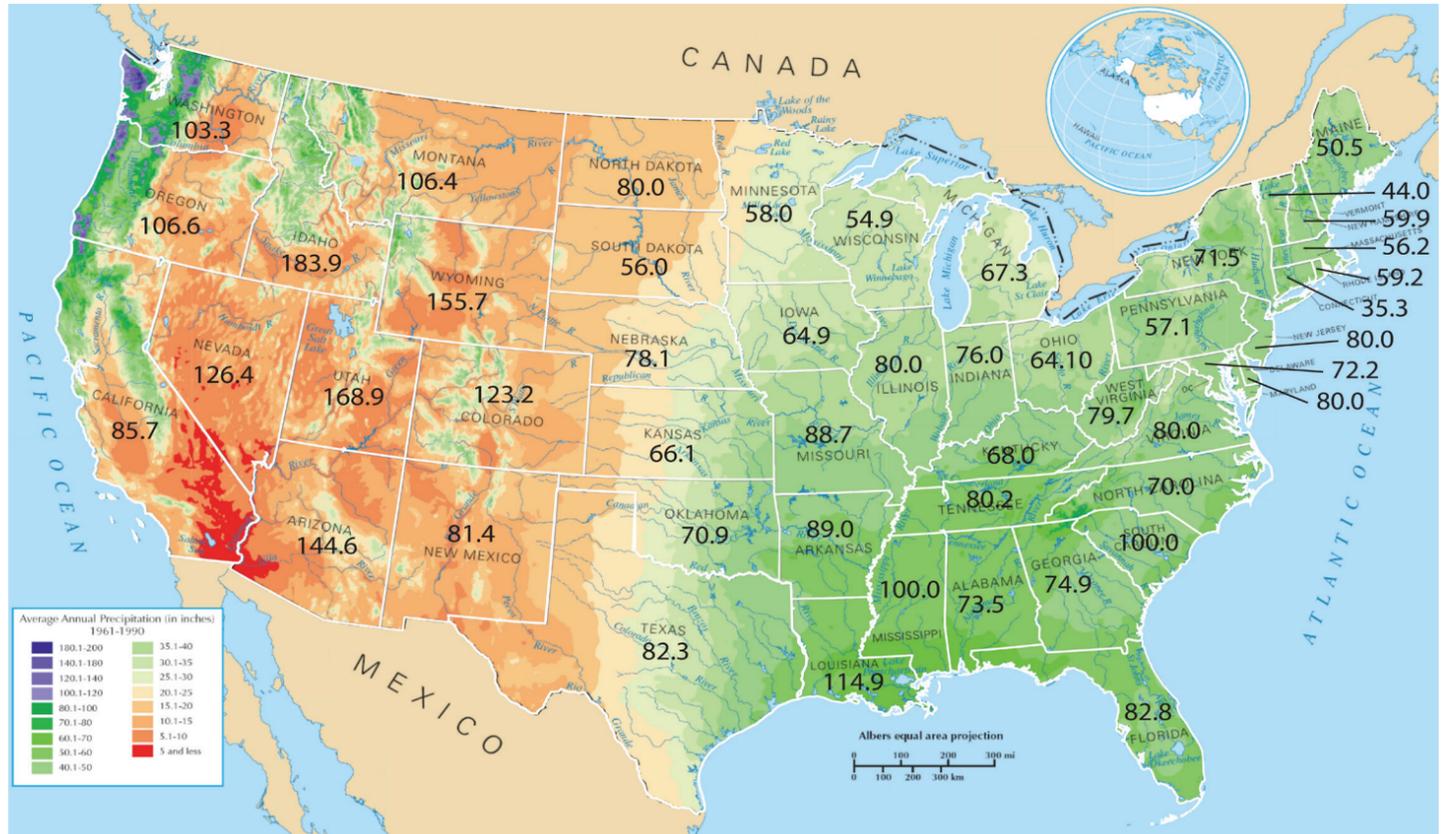
Climate is an important factor to consider when comparing water use between states due to its influence on outdoor water use. Drier states consume more water for outdoor use compared to other states because they receive less rainfall, so the choice to maintain landscapes similar to wetter states will require more irrigation. Utah is one of the driest states, with annual precipitation of about 12 inches. Figure 22 shows that much of the western United States consists of dry, semi-arid, and desert climates. Water comparisons are often made to other western states since these states share similar climate characteristics. Many of these states share water resources under the Colorado River Compact.

## Water Delivery Costs Influence Utah's Water Rates

Underlying costs and tax subsidy levels influence water rates. As shown in Figure 23, even though Utah is a dry state overall, most of Utah's population benefits from living close to mountainous areas receiving significant water in the form of snowfall. This annually-replenished water source melts and is transported largely by gravity to nearby communities. This natural process reduces purification and pumping costs compared to many other locations.

**Figure 22:**

Map of U.S. Precipitation with Domestic Water Use by State (Gallons Per Capita per Day), 2015



Note: 2015 is the most current data available. Domestic water use includes both potable and non-potable water.

Source: U.S. Department of the Interior, U.S. Geological Survey

However, costs are likely to rise significantly going forward. With the closest and easiest water development projects already completed, future development projects will likely be much more costly, involving transporting water over longer distances, purifying less pristine water, and incurring other costs such as pumping water uphill.

### Level-of-Use (Tiered Water Pricing) Charges Encourage Efficient Water Use

While fees make up a majority of water revenue, debate continues about whether Utah's water system would benefit from limiting its use of property taxes and sales taxes in favor of fees more closely tied to use. Direct user fees tied to use levels encourage more efficient water use, while taxes unrelated to use do not.

Very basic water use for drinking and basic hygienic use has highly inelastic demand. And while water demand is considered inelastic overall—because the consumption change is generally smaller than a price change—water use does respond to prices. This is particularly true when the water use constitutes less of a need and more of a want competing against other wants, such as excess water used on a lawn or for a pool. Most water elasticity studies show that a 10% price increase would generally reduce consumption by between 2.5% and 7.5%<sup>1</sup>, although some studies fall outside this range - particularly for more discretionary outdoor water use that has more elastic demand.

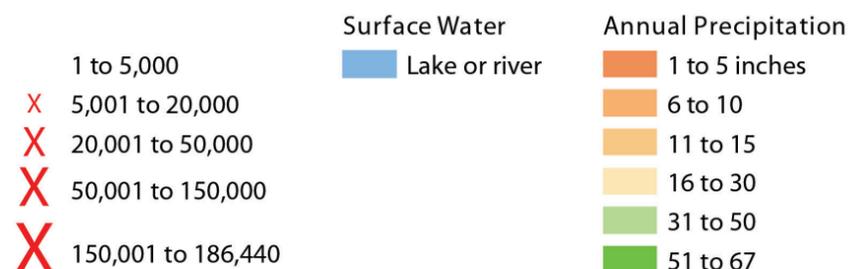
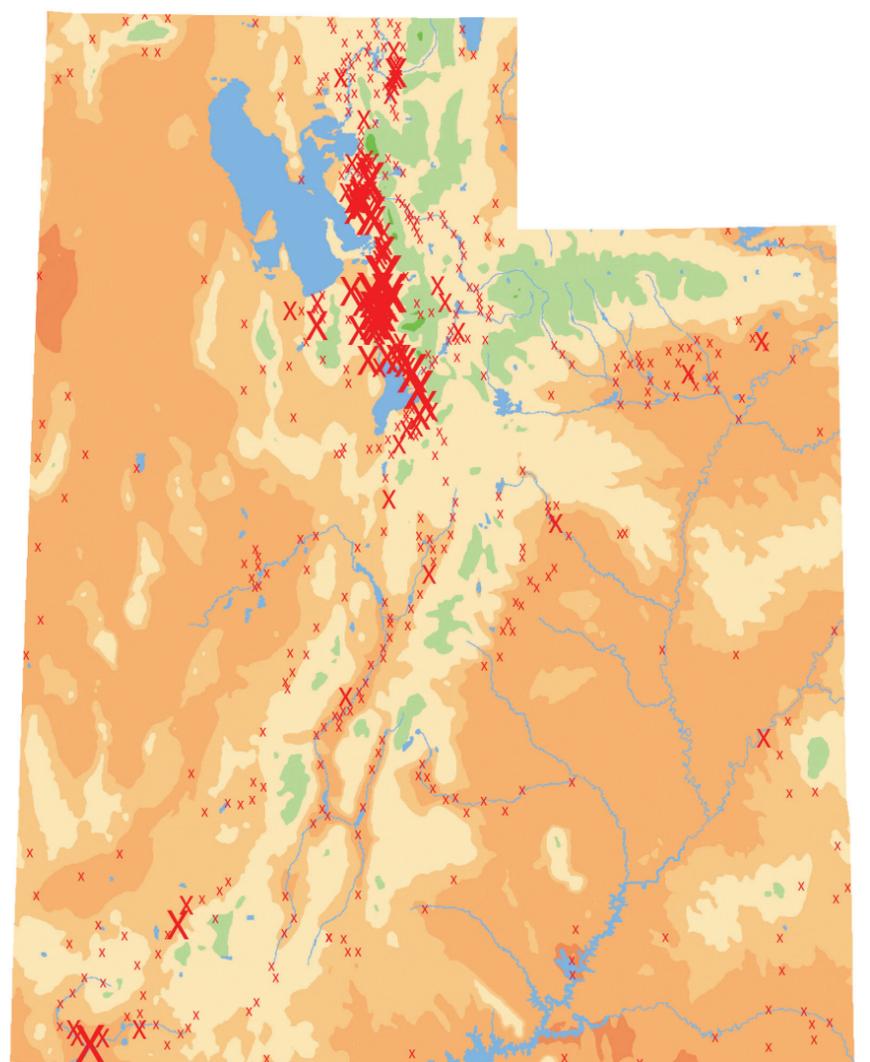
### Elasticity | ē,la'stisədē

noun

1. An economic measure of how price influences quantity demanded. Higher elasticity indicates that the quantity demanded changes more in response to price changes.

**Figure 23:**

Map of Utah's Precipitation, Surface Water, and Population, 1981–2010



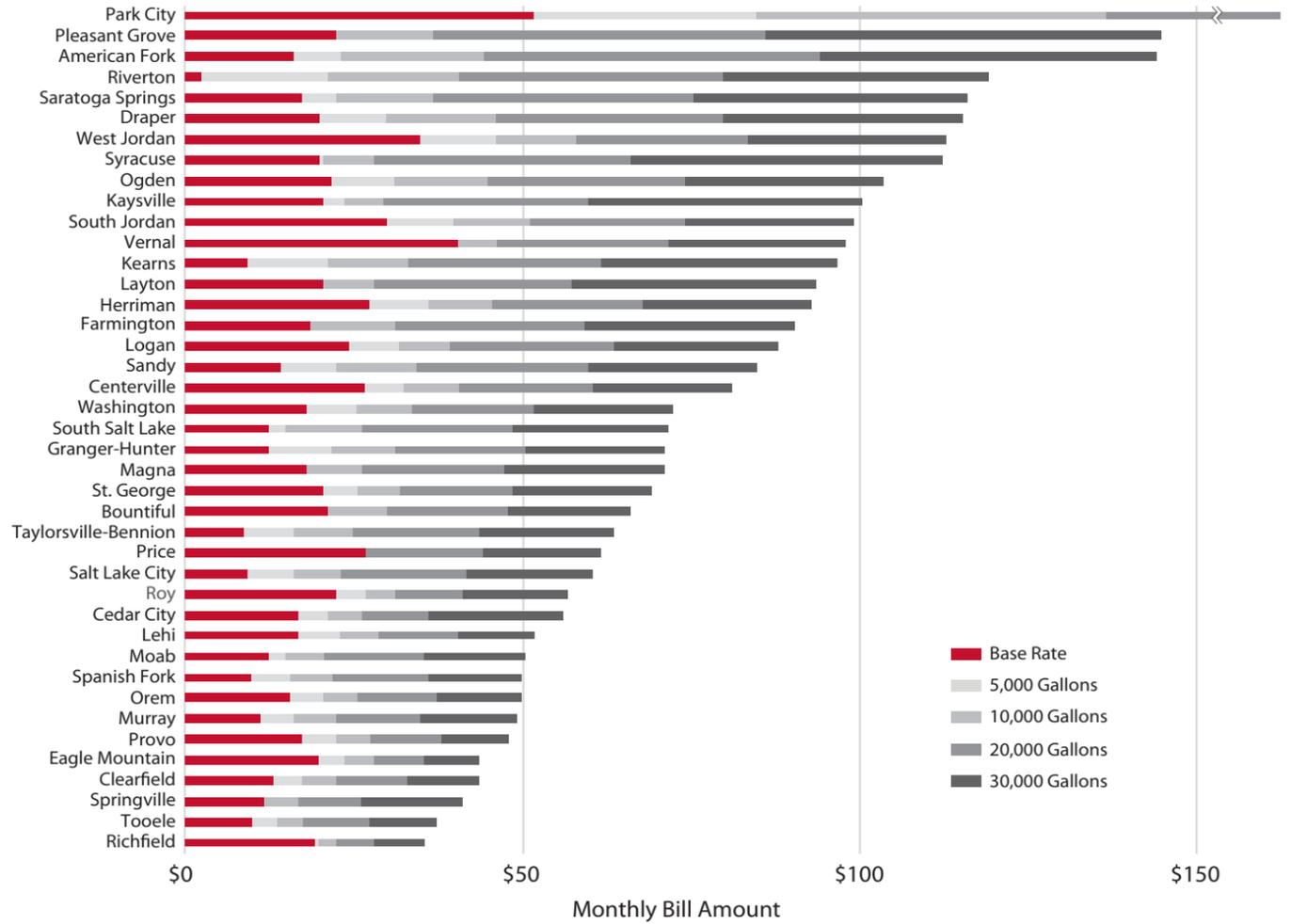
Source: Kem C. Gardner Policy Institute and Governor's Office of Planning and Budget analysis of data from the Utah Automated Geographic Reference Center (AGRC).

1. Utah Foundation (2019). High and Dry: Water Supply, Management and Funding in Utah. <https://www.utahfoundation.org/reports/14309/>

**Figure 24:**

## Residential Monthly Water Charges by Usage Level, 2020, For Selected Cities

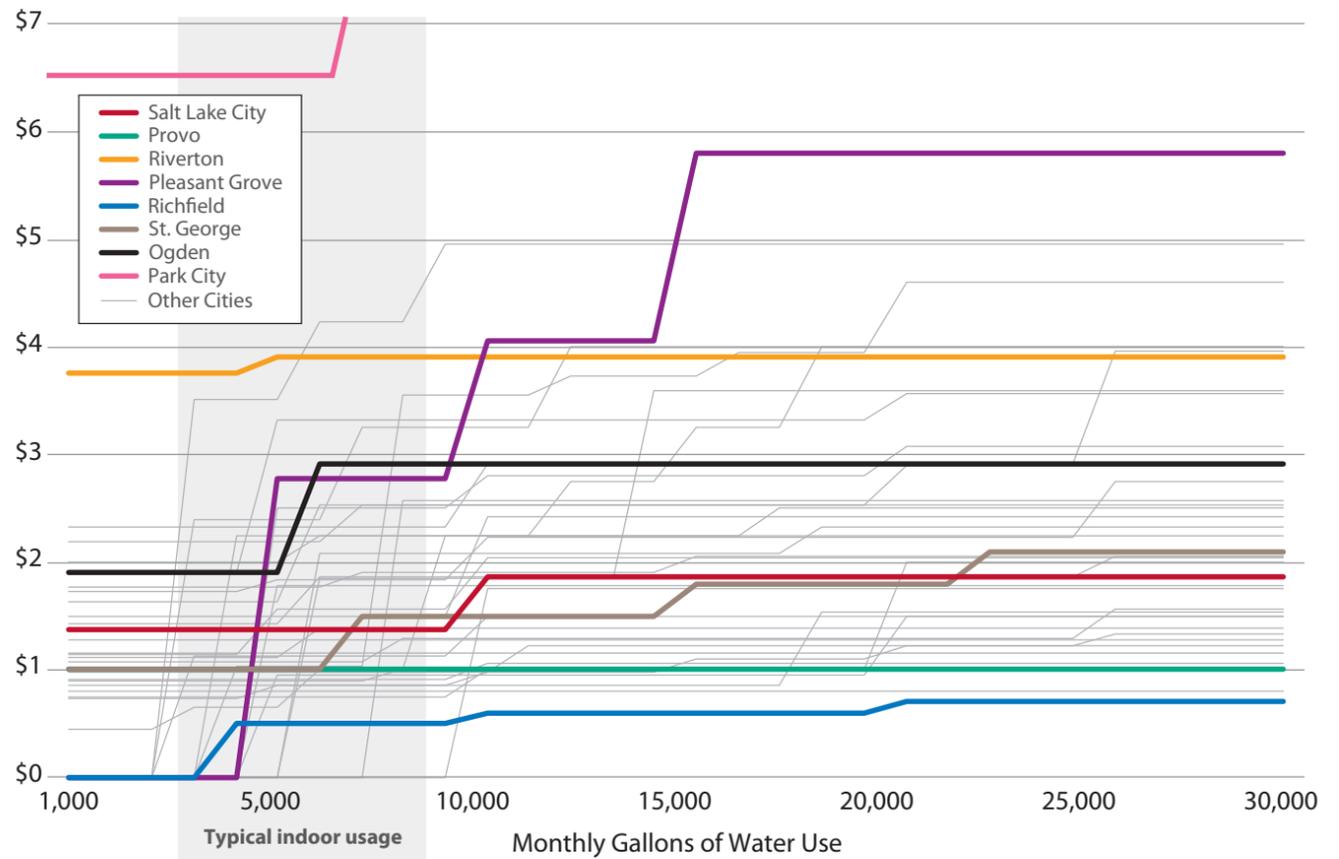
Note: Includes all Utah cities with population over 25,000 and other regional centers. Park City is truncated due to its higher rates skewing the visual.  
 Source: Governor's Office of Planning and Budget calculations based on water rates reported on local government websites.



**Figure 25:**

## Residential Marginal Water Rates, 2020, 0-30K Gallons Per Month, For Selected Cities

Note: Includes Utah cities with a population over 25,000 and other regional centers. Park City is truncated due to its higher rates skewing the visual.  
 Source: Governor's Office of Planning and Budget based on water rates reported on local government websites.



To encourage more efficient water use, many states use tiered water pricing, where the price per gallon of water becomes increasingly expensive as water consumption increases. This design structure encourages both structural and behavioral changes that influence water use levels. To curb excessive water use, lawmakers enacted legislation in 2016 requiring retail water providers to institute increasing tiered pricing for culinary water.<sup>1</sup> However, some tiers are much more meaningful than others.

Figures 23 and 24 provide insight into how different Utah water retailers use tiered pricing. Some entities rely much more on base rates unrelated to water use levels, while

others rely much more on marginal rates based on water use levels. Average indoor water use generally falls in the range of 3,000 to 9,000 gallons monthly per household (roughly 60 gallons daily per person), which is where many marginal rate tiers begin increasing.

Even with Utah's tiered pricing mandate, its water rates in many locations are low compared with other states. For example, average monthly residential water prices in drier western U.S. cities show that Salt Lake City residents pay between two and three times less on average. Low water rates, particularly at high use levels, undermine stated goals of efficiency.

1. Utah Code § 73-10-32.5.

# Higher Education

Utah has some of the lowest tuition rates in the nation. However, the two-year college rates are closer to the average of peer institutions and higher than most western states.

Higher education encompasses a variety of institutions, including four-year universities, two-year colleges, and technical colleges. In addition to educating students, some institutions of higher learning also provide research and innovation, community events, athletics and performing arts, and in some cases, health care. This service variety necessitates diverse funding sources. Figure 26 shows an example of the variety of university revenue sources.

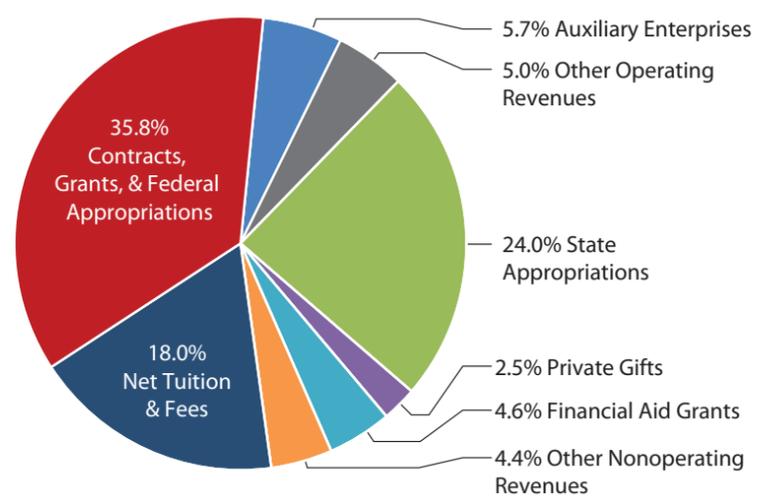
## Tuition and State Appropriations

Tuition and state appropriations are two of the major funding sources for higher education. Policymakers disagree on which of these sources should provide the majority of funding. On one end of the spectrum, higher education provides private benefit for those seeking education, attending concerts and athletic events, or using health care services, suggesting funding through user fees such as tuition, entrance fees, contracts, and health care charges. On the other side, society as a whole benefits when the population becomes more educated and research improves human conditions, suggesting that, similar to K-12 education, higher education should be funded through state appropriations, i.e. taxes.

Both the individual and society at large benefit from higher education, as Table 2 summarizes. Higher education creates many positive externalities, benefits that extend beyond the user. Yet individual graduates also receive significant personal benefits. For this reason, many public finance experts assert that both taxes and tuition should contribute to higher education costs. The ratio, however, requires careful balancing.

Figure 27 shows how this ratio has changed in Utah over time for Utah's two-year and four-year institutions. In the early 2000s, state appropriations provided much more funding per full-time equivalent (FTE) student than tuition. As per-student state contributions fell, tuition rose, resulting in a nearly evenly split ratio for the last decade. Similar to Utah, tuition and fees have also risen much faster nationwide than general inflation, particularly at 4-year universities, as shown in Figure 28.

**Figure 26:**  
University Revenue Sources  
Example, 2020



Source: USHE Budget and Finance

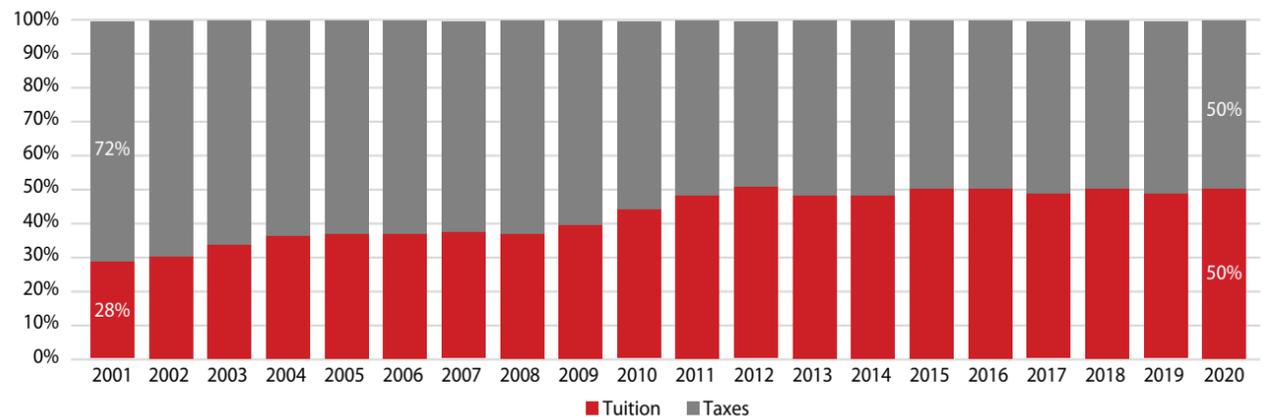
**Table 2:**  
Benefits of Education

Individual Benefits	Societal Benefits
<ul style="list-style-type: none"> <li>■ Increased earnings</li> <li>■ Increased economic mobility</li> <li>■ Healthier lifestyle</li> <li>■ More likely to receive employer-provided health insurance</li> <li>■ More likely to do educational activities with their children</li> </ul>	<ul style="list-style-type: none"> <li>■ Increased GDP</li> <li>■ Decreased crime</li> <li>■ Increased volunteerism</li> <li>■ Increased voter participation</li> <li>■ Increased tax contributions</li> <li>■ Lower unemployment rate</li> <li>■ Reduced reliance on public assistance</li> <li>■ Reduced healthcare costs</li> <li>■ Decreased poverty rate</li> </ul>

Source: Kem C. Gardner Policy Institute based on literature review

**Figure 27:**  
Utah Expenditures per Full-time Equivalent (FTE) Student by Major Revenue Source, FY 2001–2020

Source: Utah System of Higher Education



**Table 3:**  
Utah Undergraduate Tuition and Mandatory Fees Comparison, 2020

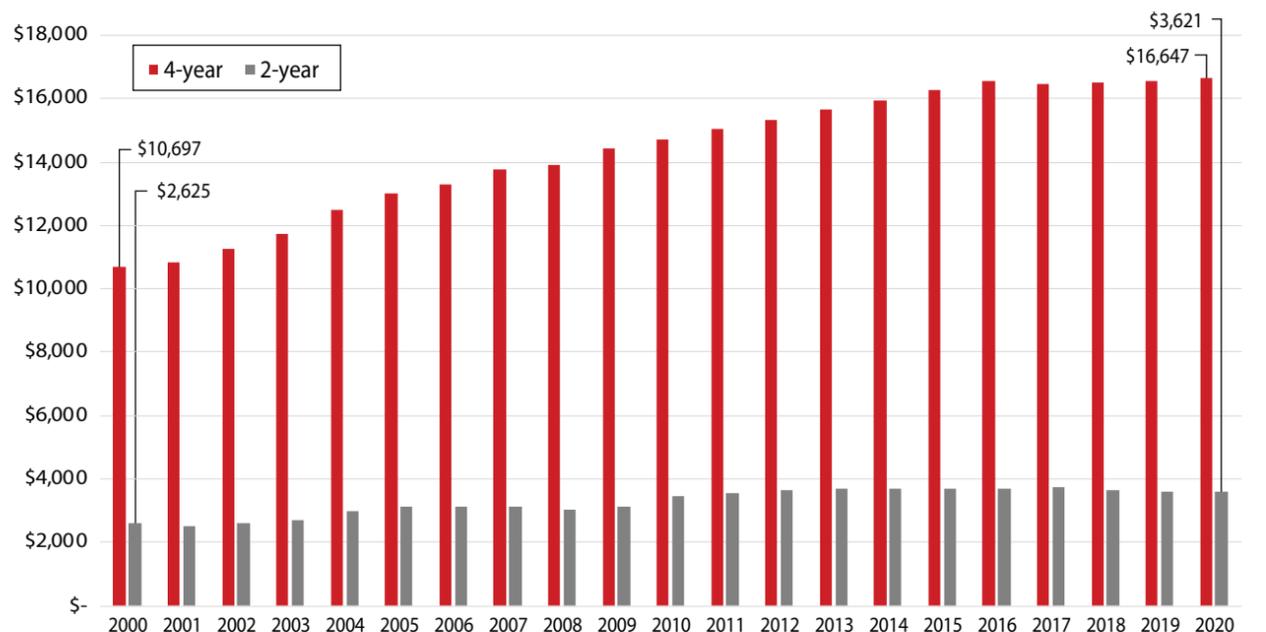
Note: USHE institutions are reported at the 12-credit hour per semester for 2 semesters rate. Comparison group average is a simple average. USHE institutions are ranked within the comparison group, with a ranking of "1" being the highest tuition and fee level.

Source: Utah System of Higher Education

Utah Institution	Utah Institution Resident Tuition/Fees	Peer Institutions' Average Resident Tuition/Fees	Utah Institution Resident Tuition/Fees Ranking Compared to Peer Institutions	Utah Institution Non-Resident Tuition/Fees
University of Utah	\$8,615	\$12,609	10 of 11	\$27,220
Utah State University	\$7,659	\$8,994	8 of 11	\$22,197
Southern Utah University	\$6,770	\$8,845	9 of 11	\$20,586
Weber State University	\$5,986	\$8,669	9 of 11	\$15,969
Utah Valley University	\$5,820	\$8,161	11 of 11	\$16,570
Dixie State University	\$5,496	\$8,283	11 of 11	\$15,792
Salt Lake Community College	\$3,929	\$3,969	5 of 11	\$12,460
Snow College	\$3,836	\$4,140	7 of 10	\$12,876

**Figure 28:**  
Real Average Tuition & Mandatory Fees at U.S. Public Universities, 2000–2020 (Inflation Adjusted to 2020 dollars)

Source: National Center for Education Statistics



## Tuition Rates in Utah

Table 3 compares tuition and mandatory fees for Utah institutions. Each institution is unique, so each is also compared with similar institutions in other states. All Utah public institutions have tuition and mandatory fee costs below their comparison group average. However, while tuition at Utah's four-year institutions all rank on the low end of tuition relative to their peer institutions, tuition at the two-year colleges ranks near the average of peer institutions. Table 4 shows average tuition at 2-year and 4-year institutions for western states. Utah has the 3rd highest tuition and fees among 2-year institutions in western states while Utah ranks 9th for average tuition and fees at 4-year institutions.

As shown in Table 3, non-residents pay higher tuition than residents at levels closer to the full cost of providing services. An oft-stated rationale for this practice is that residents have

**Table 4:**

Average Undergraduate Tuition and Mandatory Fees in Western States, 2019

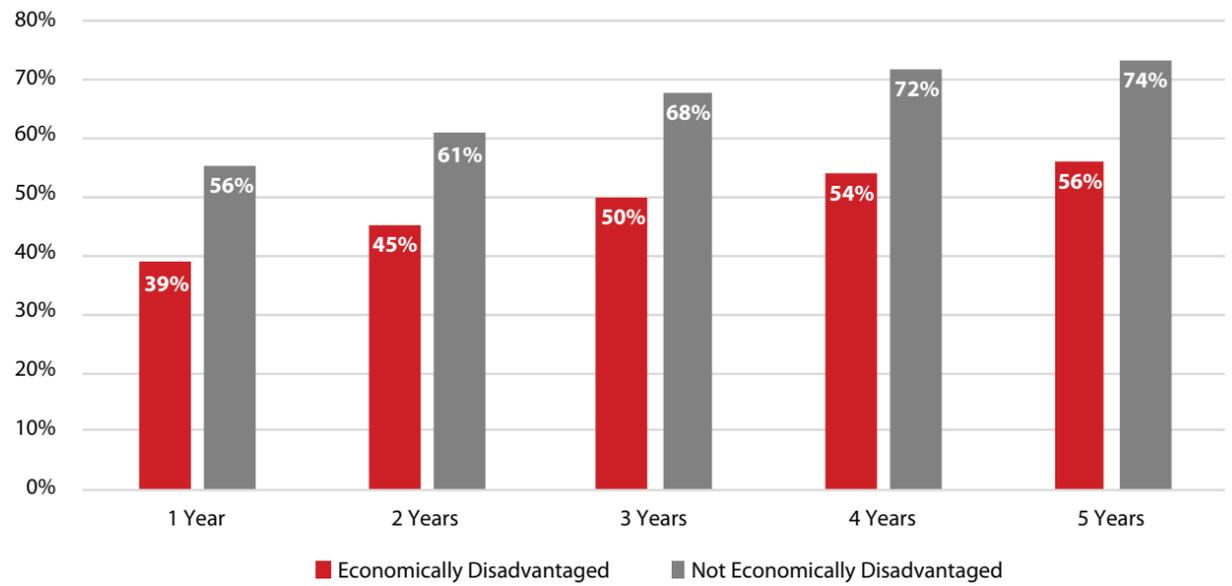
	2-year		4-year	
	\$	Rank	\$	Rank
Arizona	\$2,161	8	\$10,666	1
California	\$1,271	10	\$8,118	4
Colorado	\$3,655	5	\$9,394	3
Idaho	\$3,345	6	\$7,586	5
Montana	\$3,756	4	\$6,972	7
Nevada	NA	NA	\$5,845	10
New Mexico	\$1,705	9	\$6,902	8
Oregon	\$4,709	1	\$10,286	2
<b>Utah</b>	<b>\$3,843</b>	<b>3</b>	<b>\$6,731</b>	<b>9</b>
Washington	\$4,169	2	\$7,036	6
Wyoming	\$3,219	7	\$4,596	11
<b>United States</b>	<b>\$3,313</b>		<b>\$9,212</b>	

Note: Includes only public institutions.  
Source: National Center for Education Statistics

**Figure 29:**

### Utah College Enrollment by Economic Advantage Within 5 Years of Graduating High School (Cohorts 2009–2013)

Note: Economically disadvantaged measured by a student's eligibility for free or reduced price lunch. Source: USHE Report on College Participation and Completion of Utah High School Graduates



contributed to Utah's taxes for much longer than non-residents and are more likely to stay in state after graduation, working and contributing to Utah's economy.<sup>1</sup>

Utah's technical colleges within the system of higher education provide short-term training that is intensely focused on job placement. Examples of programs include training to become a welder, electrician, truck driver, cosmetologist, nursing assistant, or phlebotomist.

Table 5 shows tuition rates per membership hour for Utah's technical colleges. Program lengths can vary significantly, with some programs requiring fewer than 600 membership hours and other programs over 900 membership hours. An FTE is based on 900 membership hours.

As the table shows, the cost per membership hour is fairly consistent among institutions, with tuition for a 600-hour program generally costing in the range of \$1,200 to complete, while a 900-hour program would generally cost in the range of \$1,800.

For some universities that provide both technical and academic preparation, students receiving technical education services pay higher academic instruction tuition rates. Policymakers have discussed differentiated tuition rates to address the comparatively high tuition rates for students receiving technical instruction.

## Income Levels Influence Higher Education Enrollment

The amounts shown in Tables 3 through 5 represent the total "sticker price" for tuition and mandatory fees. Mandatory fees are not always included in published tuition prices and can result in additional unexpected sticker shock. However, tuition and fees are sometimes offset by grants or scholarships that do not require repayment. Even though the net price after these benefits could be much lower than the stated tuition amounts, tuition costs can discourage some

**Table 5:**

### Utah Technical College Tuition Per Membership Hour, FY 2020

Utah Technical College	Tuition per Membership Hour	Total Cost for 900-hour Program
Bridgerland Technical College	\$2.00	\$1,800
Davis Technical College	\$2.10	\$1,890
Dixie Technical College	\$2.25	\$2,025
Mountainland Technical College	\$2.00	\$1,890
Ogden-Weber Technical College	\$2.10	\$1,800
Southwest Technical College	\$2.00	\$1,800
Tooele Technical College	\$2.00	\$1,800
Uintah Basin Technical College	\$2.00	\$1,800

Source: Utah System of Higher Education

who are not fully aware of grants and similar opportunities from pursuing higher education. For others, navigating the process and the actual net price itself can represent a significant financial challenge, particularly for those with incomes slightly above grant income cutoff levels.

As Figure 29 shows, students from low income households enroll in Utah higher education at much lower levels. While many factors influence this outcome, the demand for higher education is likely more price elastic at the lower end of the economic spectrum. Non-tuition opportunity costs also likely influence this outcome.

As policymakers contemplate the individual and societal benefits of higher education, they may wish to consider the extent to which the state's tuition and fee policy for four-year, two-year, and technical institutions reflects the appropriate balance of private costs compared to public costs for those across the economic spectrum. Policy considerations include not only ensuring total degree costs and the student-funded portion of those costs are set at appropriate levels, but also ensuring these net amounts are appropriately communicated to and understood by students.

1. Stahle, C. & Cain, T. (2020 February). In-State Workforce Retention of Utah's Postsecondary Graduates. Utah Data Research Center. <https://udrc.utah.gov/workforceretention/report.pdf>

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