



## SOCIAL EQUITY CONSIDERATIONS

Most people believe the tax system needs to be just, fair or equitable. However, it is rather difficult and complicated to devise a tax system that meets these criteria. To devise an equitable tax system some consider taxation based on either benefit received and/or ability to pay. Under the benefit received concept in the transportation field, drivers pay for the benefit they receive from using the transportation system. Tolls, for instance, are based on benefits received: Drivers get the benefit of using a road and pay a toll for that benefit. On the other hand, the ability to pay concept considers vertical and horizontal equity when determining tax structures. Under vertical equity the proportion of taxes paid increases with the amount of income earned- people with higher income pay more tax. Under horizontal equity, people under similar circumstances should be taxed similarly. Taxation based on the ability to pay is considered progressive, otherwise, it is considered to be regressive. Minnesota good tax policy guide, as developed by the Minnesota Department of Revenue, should strive to be fair and equitable (pay for what you use), transparent and visible, and simple and economical to collect.

Social equity is an old concept but has become a rather important issue in public policy since equal rights movements in the 1960s. All societies have treated people unevenly based upon gender, age, income, and race, among other classifications. Access to health care, education, and wealth has been distributed unevenly. The discussion of social equity in transportation is rather a new phenomenon. Policymakers are starting to wonder whether transportation policies and taxation are treating all people in an equitable manner (not equal). Equal transportation means, for instance, that everybody gets to drive a 4-door sedan, while equitable transportation means that people get to drive a sedan, SUV, Truck, etc. based on the need and purpose of the trip.

It is known that the driving patterns of men and women are different (Bianco & Lawson, 1998). Women more typically engage in trip chaining as they are mostly responsible for caregiving activities such as picking kids up from daycare, grocery shopping, and taking family members to appointments. Due to these different household roles, women's commuting trips are different from men who may just commute from home to work and back. Women also travel more during off-peak hours and travel less after dark. Similarly, a low-income person might have more than one job which requires multiple trips to various workplaces. People of color experience higher unemployment and poverty, which may either result in not owning an automobile or need to drive.

The externalities imposed by transportation such as environmental degradation and traffic congestion also impact populace differently.

The following paragraphs discuss social equity implications of several state and local transportation revenue sources.



## **Motor Fuel Tax**

The State of Oregon enacted the nation's first gasoline tax of one cent per gallon in 1919. Soon other states followed suit. It took till 1932 when President Hoover authorized the creation of national gas tax of one cent per gallon. Federal gas tax has been raised 10 times and now it is 18.4 cents a gallon. Currently the Minnesota motor fuel tax rate is 28.5 cents per gallon. The gas tax was based on the "user pays" concept. Gas prices were rather cheap till early 70s (about 36 cents a gallon) and most cars had very similar fuel economy, concept of user pay nearly held firm. Since the first energy crises of the 70's it has started to change with the introduction of highly gas efficient vehicles and even more so with the introduction of hybrid and electric vehicles. As gas tax is based on the gas use, vehicles with higher miles per gallon (MPG) pay less than vehicles with lower MPG. Various studies have found that low-income households own older and less efficient vehicles,<sup>1</sup> and therefore a higher proportion of their income goes to pay motor fuel taxes compared to high-income households (West, 2005; Bento, Goulder, Jacobsen, & vonHaefen, 2009). The motor fuel tax, therefore, has both horizontal and vertical equity issues and is therefore considered regressive.

Some states across the U.S. have adopted a fee levied on electric and hybrid vehicles to offset the loss in revenues from the motor fuel tax. In Minnesota, the \$75 fee is levied on all-electric vehicles on an annual basis. In the country 29, states have levied a similar fee that ranges between \$50 and \$200. Few states have implemented a differentiated rate for fully electric vehicles and hybrid vehicles, and typically the rate is higher for fully electric vehicles.

## **Motor Vehicle Sales Tax (MVST)**

In Minnesota, the motor vehicle sales tax is imposed on the purchase or acquisition of a motor vehicle. It is based on the total purchase price or fair market value of the vehicle, whichever is higher. The rate of the MVST is 6.5 percent. There is however a minimum of \$10 fee if the car is 10 years or older and if the value of the vehicle is less than \$3,000. Individuals who purchase a higher value vehicle pay a larger amount in MVST as the ability to purchase an expensive vehicle is assumed to correlate with the ability to pay more MVST. In this regard, the MVST is correlated with the ability to pay and is considered to be a progressive tax.

## **Vehicle Registration Fee**

On passenger automobiles, vehicle registration tax is \$10 plus an additional tax equal to 1.25 percent of the base value of the vehicle. The base value means the manufacturer's suggested retail price including destination charges. The vehicle registration fee also will be considered mostly progressive as it increases with the value of the vehicle.

---

<sup>1</sup> According to EPA (2020), real world economy of vehicles has increased 29 percent between 2005 and 2019.

## **Wheelage Tax**

A wheelage tax is a minimum of \$10 tax that is levied by the Minnesota counties board of commissioners on vehicles kept in that county. Most of the counties have wheelage tax between \$10 to \$20. Considering wheelage tax is a fixed fee without any consideration of ability to pay or use of the vehicle, it will be considered a regressive fee.

## **Local Option Sales Tax**

In Minnesota, county boards can implement a 0.5 or 0.25 percent local sales tax in addition to the sales tax to fund transportation or transit capital or operating costs. For example, in Hennepin county, this local option sales tax is used to partially fund construction and operating costs of several light rail lines (Hennepin County, 2017b). The local option sales tax is mostly regressive because low-income people pay a higher percentage of the income in sales tax. In Minnesota sales tax is not as regressive because in Minnesota food and most clothing are exempt from sales tax.

## **High Occupancy Travel (HOT) Lanes**

Studies conducted to study HOT lanes also found that higher-income families use HOT lanes more frequently. Sullivan (2000) learned that while there was little variation in use of SR 91 in California among families with income levels between \$40,000 and \$100,000, families earning more than 100,000 use SR91 twice as frequently. In San Diego, through surveys of I-5 users, researchers found that higher income users (with an annual income of \$80,000 or more) used I-5 more frequently. In Minnesota, studies conducted on I-394 MnPASS lanes also found that families with higher-income using MnPASS benefited more than lower-income residents by paying larger tolls and by traveling a longer distance.

Supporters of HOT lanes point out that while HOT lanes provide more direct benefits to higher-income residents, lower-income families benefit by using lanes occasionally when it is important and provides them with some sort of insurance. HOT lanes also provide reliable service to transit and moving some vehicles to HOT lanes reduces congestion in general-purpose lanes.

## **Transportation Network Companies (TNC)**

Uber, Lyft, and many other companies have experienced tremendous growth during the last decade. It seems these companies are everywhere. These companies are in reality the product of dense urban cities. After tremendous financial growth and valuations, these companies went public with IPOs in early 2019. Recently the valuations have experienced a downward slope with losing billions of dollars. There is a serious question about the long-term viability of these companies especially if level 5 self-driving vehicles do not materialize in near future. Clewlow & Mishra (2017) identified serious equity issues with ride hailing companies. For example, only 4 percent of those aged over 65 and older have used ride-hailing services, as compared to 36 percent of those 18 to 29. College-educated, affluent American have adopted ride-hailing services at double the rate of less educated, lower income populations. Also, 29 percent of those who live in more urban neighborhoods of cities have adopted ride-hailing and use them regularly, while only 7 percent of suburban Americans in major cities use them to travel in and around



their home regions. Another interesting finding was that among adopters of prior ridesharing services, 65 percent have also used ride-hailing. More than half of them dropped their membership. And 23 percent cites their use of ride-hailing services as the top reason they have dropped carsharing.

In early 2018, a number of companies and public agencies got together to announce that they are going to make cities more equitable, accessible and environmentally friendly by eliminating the personal car and using technology driven solutions. Robin Chase of Zipcar announced that by being successful they mean ride-hailing, Carsharing, cycling, public transit etc. together replacing personal cars. There is however concern that carsharing and ride-hailing may have a negative impact on transit which is mode of transportation for many low-income urban populations.

Fee and licensure of ride-hailing can also create equity issues. Different communities are applying different taxes and license fees. These may vary from annual TNC licensing fee, an annual driver licensing fee to per-trip fee. For example, per trip fee can have more negative impact on women who take multiple and short strips. Safety and security are also major concerns for women users of Ride-hailing services.

### **Distance-Based Fees (DBFs)**

A number of studies have looked at the equity implications of various DBF deployment strategies and reached conflicting results depending upon different assumptions and deployment strategies. In the deployment of a flat rate (that is equivalent to the motor fuel tax), as proposed in the demonstration, a DBF system is likely to be more progressive than the gas tax. Lower income drivers driving old and less fuel-efficient vehicles will pay less than higher income drivers driving more fuel-efficient vehicles. Higher income families will also pay more because there is a positive relationship between income and VMT (Oak Ridge National Laboratory, 2001). Higher income households drive more miles, on average, than lower income households. Higher income families have higher transportation budgets and a greater ability to pay. DBFs can be made more progressive if the rate changes depending on the time of the day and/or congestion because women and low-income populations tend to drive less during peak periods. The exact number of peak period drivers is unknown, but relative to men, a higher proportion of women work in part-time jobs which may give some flexibility in their driving demand, especially reducing their need to drive during peak hours. According to the Bureau of Labor Statistics, women's labor participation rate was 57.1 percent with 24 percent working part-time and men's labor participation rate was 69.1 percent with only 12 percent working part-time in 2018 (BLS).

### **Tribal Nations**

Minnesota is home to 11 reservations and 12 federally recognized sovereign nations. These reservations are different in size, density of population, method of travel, and infrastructure. Some of these nations are rather remote, have many unpaved roads and severe weather conditions can create serious connectivity issues. How revenues are collected and spent in these nations are also different. Ownership of the infrastructure within tribal nations is also in flux. As we try to develop an equitable DBF, we need to fully understand these differences and engage the tribal nations in the decision-making process.



While a significant part of this study is to test the technical viability of DBF through carsharing, as we analyze the data and conduct the study, we should be aware of the equity implications of DBFs, ride-hailing and carsharing. We may consider use of time of day, traffic accounts or low-income travel credit like strategies to overcome some of these equity concerns. Increased cost to collect tax also will be considered regressive as there is no benefit received by the driver.



## WORKS CITED

- Bento, A. M., Goulder, L. H., Jacobsen, M. R., & vonHaefen, R. H. (2009, June). Distributional and Efficiency Impacts of Increased US Gasoline Taxes. *American Economic Review*, 99(3), 667-699.
- Bianco, M., & Lawson, C. (1998). *Trip-Chaining, Childcare, and Personal Safety: Critical Issues in Women's Travel Behavior*. Women's Travel Issues - Proceedings from the Second National Conference.
- Clewlow, R. R., & Mishra, G. S. (2017). *Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States*. UC Davis Institute of Transportation Studies.
- Hennepin County. (2017b). *Sales and Use Transportation Tax Implementation Plan*. Hennepin County.
- Oak Ridge National Laboratory. (2001). *1995 NPTS Databook - Based on Data from the 1995 Nationwide Personal Transportation Survey (NPTS)*. Oak Ridge, TN: U.S. Department of Transportation.
- Sullivan, E. (2000). *Continuation Study to Evaluate the Impacts of the SR 91 Value-Priced Express Lanes - Final Report*. California Department of Transportation.
- West, S. E. (2005, January). Equity Implications of Vehicle Emissions Taxes. *Journal of Transport Economics and Policy*, 39(1), 1-24.