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The Benefits of Congestion Pricing

This paper explores the idea of why the U.S. would benefit from a congestion pricing program, particularly in urban areas. It looks at specific examples of successful cases of congestion pricing both within the U.S. and around the world. Additionally, it focuses on both larger and smaller scales of congestion pricing and its impacts. Finally, this paper will explain how congestion pricing will create economic value for governments and other organizations that own the roadway infrastructure that implement said program. (We should clarify that we do not favor government ownership of the roads in the first place. Instead, we favor privatization of these thoroughfares. For more on this see Anderson, 2007; Beito, 1988, 1989, 1993; Beito and Beito, 1998; Benson, 2005, 2007; Block, 1983, 1996, 1998, 2009; Block and Block, 1996; Butler, 1982; Caplan, 1996; Carnis, 2001, 2003; Cadin and Block, 1997; Cobin, 1999; De Palma and Lindsey, 2000, 2001; Foldvary, 1994; Friday, 2019; Hibbs and Roth, 1992; Hudgins, 1987; Klein, 1990; Klein and Fielding, 1992, 1993a, 1993b; Klein, Majewski, and Baer, 1993a, 1993b; Knipping and Wellings, 2012; Lemennicier, 1996; O'Toole, 2009; Roth, 1966, 1967, 1987, 2006; Roth and Butler, 1982; Semmens, 1981, 1983, 1985, 1987, 1988a, 1988b, 1991a, 1991b, 1992a, 1992b, 1993, 1994a, 1994b, 1995a, 1995b, 1996a, 1996b).

Congestion pricing has been used successfully all over the world in many different types of areas, from London to Singapore (Brown, 2013). The benefits of congestion pricing vary from environmental, to traffic control, to increased productivity (Berger, 2019; Flamm, 2019; Griswold, 2019; Hawkins, 2019; Poole, 2019; Vielkind, 2019; Vielkind and Berger, 2019). Charging a fee in order to drive through crowded areas in urban cities and on highly travelled major highways will create a deterrent for people who cannot afford the tolls. This will lessen the number of vehicles owned and therefore decrease the number of cars driven every day. The benefits will include less but faster moving traffic, diminished air pollution, and a reduction in pressure on key infrastructures such as roads and bridges. In addition, congestion pricing creates an incentive for people to utilize mass transportation which is widely underutilized in urban areas. Another advantage is that it increases societal wealth: traffic congestion in urban cities is reported to lower its GDP by as much as as 3.5 percent (Congestion Charges for Ur-

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ban Cities, 2015). With various proven benefits of congestion pricing, the U.S. would gain economically from implementing a driving fee during rush hours.

Business firms are also likely to be led by Adam Smith's (1776) "invisible hand" to stagger start and end times of the workday. If they do so, they will save their employees and customers money, and thus be able to pay the former less and charge the latter more without losing either and thus earn greater profits.

Congestion pricing has recently become very popular in countries around the world. In the U.S., since 1998, the I-15 freeway in San Diego has taken full advantage of tolls, which have been classified as variably priced lanes. Drivers using the High Occupancy Vehicle (HOV) lanes pay a fee based on the amount of congestion at any given time. Tolls go up in twenty-five cent increments up to every six minutes in order to control the amount of traffic in the HOV lanes (Congestion Pricing: Examples, 2018). This project has been wildly successful earning seven million dollars in revenue since its creation in 1998, and these funds have been used to maintain and upgrade the freeway, benefiting the community of San Diego. In addition, the number of carpools has increased by 50 percent between 1998 and 2006, decreasing the number of automobiles on the road with little loss in passenger travel. (Congestion Pricing: Examples, 2018). This project has been accepted by the Southern California community as a positive change that boosts the local economy. Although this is not an example of full privatization, peak pricing allows the supply and demand for driving on the freeway to be brought into line with one another; as a result, this facility is used to its fullest extent.

Another example took place in Lee County Florida on the Midpoint and Cape Coral toll bridges. Here, drivers were offered a 50 percent discount if they traveled during certain times, encouraging motorists to shift from peak periods of travel to off-peak hours. As a result, the amount of traffic during peak periods fell.

Congestion pricing has recently been discussed in New York City which would make it the first city in the U.S. to charge all drivers for operating a vehicle in the overcrowded core of the city. This huge change is expected to lead to a 6.7 percent reduction in vehicle miles traveled below 86th street. The cost of the toll is expected to be upwards of ten dollars. The planning had been implemented with the goals of reducing the amount of traffic and air pollution in New York City (Congestion Pricing: Examples, 2018). Currently there is a lot of controversy surrounding this plan, particularly on the part of small business owners and commuters. Critics claim that this financial burden will push lower socioeconomic classes out of New York City, yet a study conducted by the urban planning company in late October of 2017 ranked New York City with the best public transportation in the country (Batten, 2017). Congestion pricing will force those who cannot afford the toll to resort to public transportation. In addition, congestion pricing in New York City would generate billions of dollars to improve the conditions of not only roads, but also public transportation. Congestion pricing in the Big Apple is an initiative that would bring positive change to the city and help solve its traffic problem while also providing a viable option for those who cannot afford the toll.

Although there is much debate over congestion pricing in big U.S. cities, the i-

dea has been proven to be successful in all corners of the world. Singapore was one of the first areas to introduce congestion pricing in 1975. Cars with one or two people were charged one U.S. dollar in order to enter Singapore's central business district and those with three people or more were considered a carpool and were exempt. This toll was only implemented during peak times which encouraged drivers to travel during off peak times, reducing traffic. In 1998 after extensive field testing, congestion pricing expanded extensively in Singapore and many new charge-point locations were added. Prices vary based on location and time of day. The effects shortly after its implementation in 1975 included a reduction of 73 percent of cars entering the city-state, the carpool rate went from 8 percent to 19 percent, and the bus share increased from 33 percent to 46 percent. Long term impacts after the expansion of congestion pricing following 1998 included an increase in public transportation from 33 percent to 69 percent, and weekday traffic decreased by 24 percent from 271,000 vehicles to 206,000 vehicles per day (Federal Highway Administration, 2017). Overall, evidence suggests that congestion pricing in Singapore has had positive impacts on mobility, environment, and revenue.

London has a long history of congestion pricing which dates back to 2000, when a five-pound charge was imposed for vehicles entering the Congestion Charge Zone. As of 2019 the charge has been increased to eleven and a half pounds. London's system of congestion pricing is similar to that of Singapore. It was started to control traffic and limit the amount of air pollution. Six years after the program was introduced, Transport for London reported a 15 percent decrease in traffic and congestion, and more

recently it reported a 25 percent decrease in traffic from the 2006 report (Badstuber, 2019). Not only has traffic in London decreased, but bike trips increased 79 percent from 2001 to 2011, and bus usage reached a fifty year high in 2011 with 30 percent more service and a 20 percent less waiting time compared to 2001. In 2008 the congestion charge's revenues were 268 million pounds, or roughly 435 million U.S. dollars. About 50 percent of that revenue was used for the congestion charge expenses, so the net revenue would have been about 137 pounds or 222 million U.S. dollars (Kamanoff, 2013). British law requires all congestion pricing net revenue collected in London to be spent on transportation in the greater London area. In 2008, 82 percent of revenue was spent on bus improvements, 9 percent was spent on repairing roads and bridges, and the remaining 9 percent was used to improve road safety (Kamanoff, 2013). Without peak load pricing, all of these improvements would come from taxes; this policy ensures that road users themselves pay for its maintenance and upkeep. Another result is that travel fatalities and serious injuries have fallen which has been noted in a study regarding road accidents in relation to London's congestion charge (Green, 2016).

Stockholm is also a part of the "Smart Cities" movement. Their system works in a similar fashion to London's congestion pricing, where drivers are charged a fee to enter the Stockholm Central Business District. To promote travel and tourism, vehicles with foreign registration are exempted from payment. Nor are motorcycles or public transportation required to pay. Charges are limited to rush hours; early morning and evening drivers are not charged to enter the Central Business District. Since the charge has been im-

plemented, Stockholm has seen an 18 percent decrease in traffic, a 50 percent decrease in time waiting to enter the city during peak hours, and carbon emissions have been decreased by 14 to 18 percent (Peach, 2011). At first, congestion pricing was unpopular, but after time passed and residents of Stockholm saw improvements of traffic flow, it became widely favored (Meyer, 2017).

By looking at the results of congestion pricing in places such as San Diego, Singapore, London and Stockholm it can be seen that this tool can be used to address many different problems. One of its biggest positives is that it creates a deterrent for private vehicle ownership. We have no *per se* objection to automobiles and trucks. Our reservation stems from the fact that without peak load pricing, our economy overinvests in them. A reduction, therefore, brings us closer to their optimal level. This system creates an incentive for commuters to carpool, take public transportation, and even walk, bike, or skate to the city center. The charge decreases the number of cars owned by families, and also limits the number of cars driven in the target area. Another benefit is that it improves mobility, especially in urban areas. Bumper to bumper traffic can add hours to commutes and, unchecked, has driven congestion in city centers to an all-time high (Downs, 2018).

Congestion pricing also leads to improvements in mass transportation. In most big cities this mode is largely underutilized. Peak load pricing changes this by allowing revenues to be used to improve public transportation. The initiative also encourages people to actually use public transportation in order to avoid the fee, improving both air quality and reducing traffic.

Creating safer roads is another benefit of the pricing mechanism. By lowering the number of cars on the road the accident rate falls. Congestion pricing has been known to create safer conditions on the roads, which is important since auto accidents are a main cause of death around the world (Block, 2009a).

Congestion pricing raises a significant amount of revenue for local governments. Even after costs of the charge are taken into account, cities are left with a large sum of money which can be put towards improving roads, public transportation, and public infrastructure. Since the congestion charges revenue is usually put towards street lighting, signals, road repair, and other road related costs, a large sum of money is freed up for the government to make other improvements within the city.¹

Critics of congestion pricing argue that the toll will promote social inequality since the rich will be paying the same amount as the poor, creating a further gap in wealth which will only hurt low income neighborhoods located in urban areas. This argument is invalid since the congestion charge is only applied to drivers of private vehicles, who are not likely to be poverty stricken. Yes, the payment is in effect regressive, but the same applies to the prices of ships and sealing wax. Bill Gates pays the same price for shoes and celery as anyone else, and the poor are not thereby disadvantaged. Indeed, a proportional price system, let alone a progressive one, would be so complicated it would impoverish us all.

¹Should this be counted as a positive or a negative? Those who view government as a benevolent force will incline toward the former. Those who see perceive the state in the opposite direction will take the latter position.

Further, as a general rule, those at the bottom of the income and wealth distribution do far better in a free market economy than in a highly regulated, restricted one (Gwartney, 1976). Pricing of *all* goods and services is part and parcel of the *laissez faire* capitalist system. Therefore, since this correlation holds, the poor will be better off even though they now have to pay for a service they previously consumed for free. Nor is it a mere correlation. The free market consists of nothing but voluntary interactions, all of which necessarily benefit all participants (at least in *ex ante* and usually *ex post* as well). Furthermore, the very poor are exceedingly unlikely to own automobiles, or rent them, or afford taxis. So, they are unlikely in the extreme to lose out directly from these new payments. Will the poor, or anyone else for that matter, really gain if traffic grinds to a standstill, an eventuality we are fast approaching under the present system? Hardly.

It has been shown that congestion pricing works in different environments all over the world and big cities have taken advantage of the benefits in different ways to meet the needs and desires of their citizens. There are many different ways congestion pricing can be accomplished. Some cities chose to only implement the charge during rush hours, while other areas have the charge at all times, and most cities chose to remove carpoolers and motorcyclists from the charge since their impact to traffic and pollution is limited. The benefits to congestion pricing are manifold. It has proven to reduce traffic, decrease accidents, increase the bike and carpool population, and reduce the amount of air pollution, while generating funds to improve roads and public transportation. Congestion pricing should be implemented in urban areas all over the world to improve the quality of life of the people living in them.

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