NJTPA NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

REPORT ON FUNDING ALTERNATIVES

Plan 2045: Connecting North Jersey

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INTRODUCTION

The NJTPA Board of Trustees adopted Plan 2045: Connecting North Jersey in November 2017. The plan calls for $112.8 billion in transportation infrastructure spending for northern and central New Jersey over 28 years. Plan 2045 also identifies what could be accomplished with additional funding under an Aspirational Funding Scenario and presents a Limited Funding Scenario with lower revenue and expenditure levels.

The purpose of this document is to outline potential transportation funding alternatives that could be pursued at the federal or state level. Securing adequate resources for all the projects and programs outlined in Plan 2045 plan remains a challenge, although the plan is based on reasonably anticipated revenues over the life of the plan. Despite recent increases in federal and state funding for the short- and medium-term, funding needs continue to far outstrip available resources. Even though increased efficiencies in project delivery may be attained through greater use of public/private partnerships and other techniques, existing dedicated state revenue sources for transportation will not keep pace with the cost of increasing transportation needs. Over time, either an increase in the gas tax, the identification of new revenue sources, or both will be needed.

This report summarizes a number of potential options for generating additional revenue to pay for transportation investments, absent consideration of political feasibility. These potential revenue sources are comprised of the following:

- **Gas Tax**
- **Vehicle Miles Traveled (VMT) Tax or Carbon Tax**
- **Motor Vehicle Fees**
- **Highway Express Lanes with Tolls**
- **Tax on Demand-Based Transportation Services**
- **NJ TRANSIT Fares**
- **NJ TRANSIT Advertising / Sponsorship Fees**
- **Tax on E-Commerce or Package Delivery Tax**
- **Business Tax**
- **Value Capture**

This report evaluates each funding option through multiple lenses, which helps explain the various facets of the funding option as well as strengths and weaknesses. Accordingly, this report applies the following nine measures in the evaluation of each option. Identification of these measures were in part informed by Delaware Valley Regional Planning Commission's (DVRPC) publication, "Options for Filling the Region's Transportation Funding Gap".

List of Measures with Descriptions

1) **Elasticity of Demand** A measure of how much a change in price will have on demand for a particular good. For this report, elasticity of demand is discussed in relation to transportation services and driver choices.

2) **Network Impact** Impact of revenue source on regional travel patterns and overall congestion.
3) **Economic Impact** Impact of revenue source on economic activity such as the ability to conduct business and access jobs.
4) **Revenue Generation** A general estimate of the amount of money that may be generated based upon a hypothetical amount of increase. Hypothetical increases are calculated and presented in the sidebar for each potential funding option. Potential revenues for the NJTPA region are calculated based on hypothetical unit amounts, based on the assumption that seventy percent of statewide revenue is allocated to the NJTPA region as are most transportation resources in New Jersey. Discussion of potential offsetting costs is and anticipated sustainability of revenues is also provided.
5) **Ease of Implementation** Whether or not there are systems already in place, or that could realistically be put into place, to ensure consistent collection of revenue.
6) **Economic Equity** Taxes that are higher relative to the income of higher income households and a lower relative to the income of lower income households are considered progressive. Regressive taxes are higher relative to the income of lower income households and lower relative to the income of higher income households.
7) **Social Equity** The degree to which the revenue source will disproportionally impact individuals with a lower socioeconomic status.
8) **Geographical Equity** The degree to which the revenue source will disproportionally impact any particular type of place.
9) **Modal Equity** The degree to which the revenue source will disproportionally impact any particular mode of transportation.

In order for the adoption of any new fee or tax to achieve wide acceptance by the general public, it is important for government agencies to demonstrate to the public that they are efficient in their spending of transportation dollars and that there is wisdom in the choice of investment priorities. Institution of good government practices, and a communications and marketing strategy to explain how funds will be used efficiently and wisely can help to garner public support.

GAS TAX

The gas tax long has been the main source of revenue, on both the federal and state levels, for funding transportation investment projects. All states have motor fuels taxes – as of July 2017, the average state rate is 31.6 cents per gallon. The current rates range from 12.25 cents per gallon in Alaska to 58.2 cents per gallon in Pennsylvania. New Jersey increased the tax on gasoline from 14.5 cents to 37.1 cents per gallon in 2016, which provides revenue to cover debt service for eight years of new spending. The tax is pegged to the level of consumption. Each year the state Treasurer is required analyze tax collections and adjust the tax rate on motor and diesel fuels to ensure they meet revenue targets.

In recent years, however, the growth of gas tax revenues has slowed because of increased vehicle fuel efficiency, use of alternative fuel vehicles, and less driving as reflected in decreasing vehicle miles traveled (VMT) per capita. As a result, New Jersey has raised its gas tax twice in two years; the last increase in 2018 was 4.3 cents per gallon. Other states have adopted legislation that establishes regular increases or adjustments including Florida, Maryland, Nebraska, New York, North Carolina, Rhode Island, and West Virginia. A subset of these states including Florida, Maryland, North Carolina, and Rhode Island base these adjustments in part on the consumer price index in effort to keep pace with inflation. Even with the current trends in VMT, fuel types, and fuel efficiency and after the recent increase in the gas tax, future increases in the gas tax may be a source of substantial revenue because of the relative price inelasticity of gas.

For many of the same reasons that revenue from numerous state fuel taxes are lagging, the revenue from the federal fuel tax, which has not been raised since 1993, has not kept pace with cost of the surface transportation spending authorized by Congress since the recession began in 2007. As a result, since 2008 Congress has covered the shortfall in Federal Surface Transportation Program (STP) funding by supplementing fuel tax revenues with transfers from the U.S. Treasury general fund. The current Federal Transportation Bill, Fixing America's Surface Transportation Act (FAST Act), expires September 30, 2020, at which point the transfers from the U.S. Treasury general fund will cease and the STP will only be funded by revenue from the federal fuel tax. The Congressional Budget Office (CBO) projects that the STP will again be underfunded by 2021 unless additional revenue is provided.

Elasticity of Demand An increase in the gas tax will be very price inelastic, meaning that it will only marginally reduce the amount of driving. This is predominantly because of people's dependence on gas powered vehicles to make work and non-work trips particularly where transit choices are limited.

Network Impact Because an increase in the gas tax will be price inelastic, it will have a limited impact on vehicular traffic.

Economic Impact Research has reached differing conclusions on the overall economic impact of an increased gas tax. Some research indicates that an increase in the gas tax has negative impacts on economic activity, resulting in less job creation and

HYPOTHETICAL RATE	1 cent per gallon
INCREASE OVER CURRENT TAX	2.7%
NEW REVENUE TO NJTPA REGION	$38 m

Based on the Office of Legislative Services (OLS) Tax and Revenue Outlook for FY 2018, which estimates revenue from the Petroleum Products Gross Receipts Tax (PPGRT) and Motor Fuels Tax, combined total revenues from the PPGRT and Motor Fuels Tax are projected by OLS to be $2 billion for FY 2018. A one cent increase in the gas tax will generate an additional $54 million annually statewide, of which $38 million will be allocated to the NJTPA region.

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decreased real income. Other research indicates that an increase in the gas tax has a positive impact on economic activity because the proceeds are used for transportation infrastructure improvements, which reduce traffic congestion, boosting economic efficiency.

Revenue Generation A substantial amount of new revenue could be generated for the immediate future from an increase in the gas tax. However, as the proportion of fuel-efficient and alternatively fueled vehicles on the road increases, the potential revenue from a gas tax will diminish.

Ease of Implementation Implementing a higher gas tax will be easy because a revenue collection system is already is in place.

Economic Equity A gas tax increase will be regressive because lower-income persons who drive expend a higher percentage of their income on this tax than do higher-income persons.

Geographic Equity A gas tax increase could have a greater impact on outlying and rural areas since there are significantly fewer transit options and drivers typically make longer-distance trips.

Modal Equity A tax increase will affect those who rely on gas powered motor vehicles, which range from passenger vehicles to transit and heavy duty trucks.

VEHICLE MILES TRAVELED (VMT) TAX AND CARBON TAX

A vehicle miles traveled (VMT) tax is a charge for all miles traveled by a vehicle. Such a tax will require that New Jersey assess the amount of miles traveled for vehicles registered in the state.

There are numerous ways to track vehicle miles traveled. One option is for the New Jersey Department of Motor Vehicles (DMV) to report odometer readings that are taken at the time of vehicle inspection to a VMT taxing authority. Oregon, the first state to implement a pilot VMT tax, demonstrates another option. In 2015, it initiated a program that uses GPS transmitters to record vehicle mileage for up to 5,000 voluntary participants. The fee is 1.5 cents per mile, and participants receive tax credits for the gas that they purchase. Oregon is now considering expanding the pilot program to a statewide basis. Many people have privacy concerns with governmental use of GPS sensors and Oregon's system is voluntary. The odometer reading option would avoid privacy concerns.

Elasticity of Demand Similar to a gas tax, a VMT Tax will be price inelastic, meaning that it will only marginally reduce the amount of driving because of people's dependence on personal vehicles to make work and non-work trips, particularly where transit choices are limited.

Network Impact Because a VMT tax will be relatively price inelastic, it will have a limited effect on vehicular traffic volume.

Economic Impact Similar to a gas tax, research has reached differing conclusions on the overall economic impact of a VMT tax. Some research contends that a VMT Tax has a negative impact on economic activity, resulting in less job creation and decreased real income. Other research indicates that a VMT Tax ultimately has a positive impact on economic activity because the proceeds are used for transportation infrastructure improvements, which reduce traffic congestion, boosting economic efficiency.

Revenue Generation Over the near term, a VMT tax will likely generate funding at levels similar to that of a gas tax, assuming that the per mile assessment is set to mimic the existing gas tax. Analysis of the Oregon pilot program found that the VMT tax will generate relatively more funding than a gas tax over the medium to long term because it is not affected by increased vehicle fuel efficiency or a transition to non-gas powered vehicles.

Ease of Implementation The new tax will require authorizing legislation, and it may require substantial investment depending upon the type of tracking and reporting system that is used. The new fee will also require the formation of a system for collecting and allocating revenue to transportation investment. The system will require monitoring and reporting of VMT, which will require additional administration.

HYPOTHETICAL RATE	1 cent per gallon
NEW REVENUE TO NJTPA REGION	$520 m

According to NJDOT's latest figures, total statewide VMT in New Jersey in 2016 was 75,393,420 million, which includes VMT by vehicles of all types, registered in New Jersey and other states. Assuming 70% of this total is attributed to the NJTPA region and trucks and trailers are not included because of likelihood that some of these vehicles are not registered in the state, the total VMT considered for the NJTPA region was 51,666,796 million. A one cent tax per mile traveled will yield an estimated $520 million per year.

Economic Equity A VMT will be regressive because lower-income persons who drive expend a higher percentage of their income on this tax than do higher-income persons.

Geographic Equity Similar to a gas tax, a VMT Tax could have a greater impact on outlying and rural areas since there are significantly fewer transit options and drivers typically make longer-distance trips. On the other hand, most of the costs of highway maintenance are related to miles driven. However, analysis of the Oregon program found that rural drivers save money with a VMT tax in lieu of a gas tax because they tend to have less fuel-efficient vehicles. The system will likely not account for miles driven in New Jersey by non-residents and perhaps will not account for miles driven by residents outside the state.

Modal Equity The new fee will apply only to vehicles registered in New Jersey. Since the fee will be based on miles driven and thus not factor fuel efficiency, fuel efficient vehicles will not be incentivized.

Carbon Tax A variant of the VMT tax is the carbon tax, which will levy a fee on the amount of carbon dioxide generated by a vehicle, thereby creating an incentive to use a vehicle with a lower carbon footprint. There are numerous ways to apply a carbon tax. One straightforward approach is to apply a VMT tax that has a rate adjustment based on a vehicle's fuel efficiency, which could be administered in a manner akin to a VMT tax.

MOTOR VEHICLE FEES

In New Jersey, motor vehicle fees include registration fees, fees related to transfer of ownership, registration documentation reproduction, and registration transfers due to changes in weight classes. Discounted fees are available for those eligible for SSI, the lifeline program and the Pharmaceutical Assistance to the Aged and Disabled program (aged 65 or older or with a disability). Current Motor vehicle fees in New Jersey are based on the model year and weight of the vehicle under Motor Vehicle Registration Law R.S. 17:33B-63, 39:3-1-39:3-42.

Several other states have recently increased registration fees as part of efforts to raise additional funding for transportation capital investment. In 2017, Indiana and Tennessee included increased registration fees as part of new transportation funding legislation. Specifically, Tennessee raised its registration fee by $5 from $21.50 to $26.50 for passenger vehicles, which is a 23% increase. Indiana added a $15 Transportation Infrastructure Improvement Fee (TIIF) to registered vehicles with the exception of heavy duty vehicles (≥ 26,000 lbs.). The added TIIF fee amounts to a 70% increase in the passenger vehicle registration fee, which previously was $21.35.

Elasticity of Demand Because motor vehicle fees usually represent a very small fraction of the overall cost of owning and operating a vehicle, it is likely that increasing these fees will have a negligible impact on whether or not people drive their personal vehicles.

Network Impact Research could not be found to support whether or not increased motor vehicle fees will be likely to have an impact on driving behavior or an impact on the transportation network. However,

Economic Impact The impact on the regional economy will be minimal because the increase in fees in absolute dollars will be modest.

Revenue Generation Increased fees will generate a modest amount of new sustainable revenue. Ease of Implementation Increased fees will be easy to implement because a revenue collection system is already in place through the Department of Motor Vehicles. There will be a need to amend Title 39 to authorize collecting the increased fee and allocating the revenue. It is estimated that collecting the additional fees will cost about 1% of the increased revenue.

Economic Equity Increased fees will tend to be regressive because lower-income travelers will pay a relatively higher percentage of their income in fees than will higher-income travelers.

Geographic Equity The geographic impact of fee increases will vary by area based upon geospatial distribution of residents of driving age and vehicle ownership rates.

Modal Equity Owners of registered vehicles will be affected by an increase in these fees.

HYPOTHETICAL RATE	1.0 percent
NEW REVENUE TO NJTPA REGION	$4.6 m

New Jersey collected an estimated $659 million in motor vehicle fees in FY 2017. A one percent increase in motor vehicle fees will yield an additional $6.6 million annually in additional revenue of which $4.6 million will be attributed to the NJTPA region.

HIGHWAY EXPRESS LANES WITH TOLLS

Creation of new express lanes on existing highways, or adding tolls to existing express lanes, may generate new revenue depending upon how it is instituted. Express lanes with tolls are adjacent to and easily accessible from free general purpose highway lanes. Willing users pay a toll to avoid traffic congestion. Tolls can be collected with a cashless electronic system. Dynamic pricing can be easily added to mitigate traffic congestion and increase revenues. Electronic tolling can be turned off to assist with incident management. Dynamic pricing has been used on high occupancy toll lanes of the interstate system to manage traffic and to raise revenues, with many examples nationwide including the Capital Beltway in Virginia (I-495). As per the FHWA's Priced Managed Lane Guide, 2017, the per-mile tolls with dynamic pricing can range from as low as $0.20 per mile during less busy times to more than $1.00 per mile during peak hours.

Express lanes with tolls have been installed along highways in many metropolitan areas across the country including Baltimore, MD; Seattle, WA; Washington DC; Miami, FL; Minneapolis, MN; Houston, TX; Denver, CO; Seattle, WA; and San Diego, CA. All of these examples also incorporate dynamic pricing. Cost-benefit analysis was prepared for systems in Houston, TX; Minneapolis, MN; and Orange County, CA and found that benefits outweigh costs, while considering such factors as travel time savings, changes in emissions, vehicle operating and ownership costs, and cost of infrastructure.

Elasticity of Demand Driver willingness to use highway express toll lanes will vary depending upon the relative amount of congestion on free lanes and the price to use express lanes. Drivers will consider the anticipated travel time savings and reliability of the express lanes in making their decision to use them.

Network Impact Will have some effect in reducing traffic volume on the free lanes. The specific impacts will vary on a case by case basis. In Miami, analysis indicates that after express lanes with tolls opened on I-95, the average peak hour speeds for general and high-occupancy vehicle lanes increased from 20 MPH to 40 MPH for general lanes and 50 MPH for express lanes with tolls. Furthermore, analysis of I-405 in Seattle indicates that the average speed for adjacent general lanes increased by 7 MPH after express lanes with tolls opened.

Economic Impact Can have a positive economic impact where it frees up roadway capacity. Analysis by the Chicago Metropolitan Agency for Planning (CMAP) has found that express toll lanes result in increases in labor supply, consumer market access, job and income, and ultimately gross regional product.

Revenue Generation Determining the extent of revenue generation is difficult, but express lane tolls have the potential to generate a modest amount of new sustainable revenue, but frequently require significant upfront costs and continuing operational costs.

Calculation of potential revenue generation requires evaluation of specific roadways and costs. A review of other express toll lanes by Fitch Ratings found a wide range of net revenue generation, ranging from minimal to $2 million per mile annually with a small minority of jurisdictions operated at a net operating loss of up to $50,000 per mile annually.

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Ease of Implementation Express lane tolls may require authorization from the FHWA and FTA, as well as state agencies. Also the potential infrastructure improvements and deployment of tracking and reporting technology can be substantial. Managing a toll system is complex, involving system development, operations, maintenance, and enforcement.

Economic Equity Although express lane tolls are optional, they have a regressive component. Some travelers are less able to afford tolls and hence will likely experience less benefit from these express lanes.

Geographic Equity Express lane tolls are frequently located in metropolitan areas as opposed to rural areas. On a more granular scale, geographic equity will be highly dependent on the precise location of the express lane tolls.

Modal Equity Automotive vehicles including light-duty (most passenger cars) to heavy-duty vehicles (buses) are the sole users of Express lane tolls.

TAX ON DEMAND-BASED TRANSPORTATION SERVICES

Demand-based transportation services refers to the flexible delivery of transportation services that are coordinated by technology and can dynamically adapt to demand. Such transportation services dynamically and efficiently determine routes based on passengers' pickup and drop-off locations, and can be provided by a collection of independent drivers using personal vehicles that are coordinated through a Transportation Network Company (e.g. Uber and Lyft) or a single corporation providing shuttle bus services using commercial vehicles (e.g. Bridj). A tax on demand-based services will be levied on revenue generated by these providers. Although available data is limited on the extent of such services in the NJTPA region, it is estimated that there are over 10 million annual Uber trips in New Jersey with total revenue of more than $215 million. It is anticipated that these services will grow over time and potentially integrate with autonomous vehicles, potentially yielding increasing revenues.

In August 2016, Massachusetts became the first state to levy a tax on demand-based transportation services. The tax consists of a $0.20 surcharge per ride on all demand-based transportation service providers. In an effort to limit potential increases in the cost of the service to consumers, the state passed legislation prohibiting companies from passing along the tax to consumers.

Elasticity of Demand If fees or increased costs are not passed on to consumers then elasticity of demand is not applicable. Otherwise, this new fee will likely not significantly reduce the demand for service provides such as Uber and Lyft as research indicates that the elasticity of demand for demand-based services for Chicago, Los Angeles, New York and San Francisco is relatively inelastic at -0.6 to -0.7.

Network Impact Demand based transportation services have both positive and negative potential impacts. They can potentially provide needed services in areas not supported by mass transit, and can potentially divert travelers from existing bus and rail services to automobiles. The relative inelasticity of demand suggests that a tax will not itself have a network impact.

Economic Impact Additional research is needed to assess impact to the regional economy.

Revenue Generation The new tax will generate a moderate amount of sustainable new revenue.

Ease of Implementation The new tax will require authorizing legislation and establishing a system for collecting the taxes and allocating the revenue for transportation investment purposes.

Economic Equity Additional research is needed to assess equity.

HYPOTHETICAL RATE	1.0 percent of revenue
NEW REVENUE TO NJTPA REGION	$1.5 m

A one percent tax on demand-based transportation services could generate at least $1.5 million annually for the NJTPA region from an estimated annual revenue of more than $21.5 million. This revenue estimate is based upon available data on fare structure, number of Uber drivers, mileage figures, trip lengths, etc. This estimate does not include higher-priced Uber luxury cars or other demand-based services such as Lyft.

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Geographic Equity There will be a greater impact in areas that have greater intensity of usage or that require longer travel distances.

Modal Equity The new fee will narrowly affect demand based transportation service providers and users.

NJ TRANSIT FARES

Transit fare increases are regularly implemented to help defray a portion of a transit agency's operating costs and to reduce pressure on governmental subsidy sources. Transit fare increases decrease ridership. Given the previous fare increases, public policy objectives and NJTPA's goal of promoting multi-modal transportation options, it is expected that regular fare increases (generally tracking inflation) will be implemented to maintain a certain level of operating expenses funded by system users. However, it is not expected that fares will be increased to such a level to represent significant increased funding. NJ TRANSIT last raised its fares in 2015, and the previous increase was in 2010.

Elasticity of Demand Transit fare increases decrease ridership. According to the Victoria Transport Policy Institute, the extent of decreased ridership will depend on various factors, including the type of payment method – increasing the cost of transfers or eliminating discount passes will have a greater effect on low-income populations. In addition, there will be greater impacts upon riders in smaller cities, off-peak riders, and riders who do not receive a fare subsidy from another source.

Network Impact Increased fares will lead to increased automobile travel, which can result in congestion, greater wear and tear on roadways, increased crashes, and reduced air quality.

Economic Impact Recent research shows that increasing investment in public transit can lead to greater economic activity; thus, to the extent that increased revenues fund transit investment, the increased fares will have a positive economic impact.

Ease of Implementation Fare collection mechanisms are already in place.

Economic Equity Increased fares will have a regressive impact (particularly on bus ridership, based upon the socio-economic profile of transit users) because lower-income persons expend a higher percentage of their income on transportation than do higher-income persons, and tend to be more transit dependent. This impact can be mitigated through reduced fare structures for low income, elderly, and disabled riders.

Geographic Equity The increased fares will predominantly affect areas close to transit service, which are primarily urban and suburban in nature.

Modal Equity The increased fares will affect only public transit users.

NJ TRANSIT ADVERTISING/SPONSORSHIP FEES

Transportation agencies may use fees from advertising and sponsorships to generate revenue. Examples include rest area sponsorships, naming rights for transit stations, and advertisements at stations, platforms, and on trains and buses. For instance, the Southeastern Pennsylvania Transportation Authority (SEPTA), the transit agency for the Philadelphia area, recently entered into three contracts that will generate over $11 million in revenue. Two agreements are for station naming rights, and one is for a business to be the dominant advertiser at another station. NJ TRANSIT already generates revenue through advertising sales in and on NJ TRANSIT facilities through advertisements at train and bus stations, at train and light rail platforms, on the outside walls of bus shelters, and on trains and buses. NJ TRANSIT generated $17 million in FY 2016 through advertising sales. There may be potential to generate additional revenues in the future through expansion of advertising at NJ TRANSIT facilities.

Elasticity of Demand Advertising and or sponsorship fees have no impact on travel demand.

Network Impact There is no impact on the transportation network from advertising and or sponsorship fees.

Economic Impact These fees have no impact on the regional economy.

Revenue Generation NJ TRANSIT already generates considerable advertising revenue. NJ TRANSIT continually explores opportunities for increasing revenues through advertising and sponsorship fees.

Ease of Implementation NJ TRANSIT already sells advertising space at its stations and on its vehicles, so the mechanism is already in place. Successful expansion of advertising and sponsorship opportunities should be "good neighbors" in the communities where the transportation facilities exist. They should adhere to local signage and zoning requirements, and be sensitive to local cultural or aesthetic standards.

Economic Equity Since travelers do not pay the advertising or sponsorship fees, there are no economic inequities.

Geographic Equity There are no geographic equity issues.

Modal Equity There are no modal equity issues.

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TAX ON E-COMMERCE

A tax on e-commerce will be an additional sales tax on purchases made via the internet. In 2017, there was nearly $10 billion of e-commerce transactions in the NJTPA region. During 2017, New Jersey had a 6.875% sales and use tax on mail orders and internet purchases, which applies to online purchases from business that have a physical presence in New Jersey, such as a warehouse, store, and office. In November 2018, an additional e-commerce tax took effect following a U.S. Supreme Count ruling allowing such taxes by states that requires most e-commerce websites to collect sales taxes whenever they sell products to Garden State residents.

E-commerce has increased in recent years, so an additional tax on E-Commerce could be an expanding revenue sources provided this trend continues. Elasticity of Demand A tax on e-commerce will not have a direct impact on the travel demand of travelers because they will not be assessed these taxes. Additional research is needed to determine the potential impacts on travel demand of delivery vehicles, which in part deliver purchases made via the internet.

Network Impact The impact to the overall transportation network will be inconsequential due the small volume of delivery vehicles on the road compared to the total number of vehicles on the road. There may be localized impacts.

Economic Impact Impact may be dependent upon amount of tax or fee, elasticity of demand for e-commerce, and other factors. Additional research is needed.

Revenue Generation This tax will generate a substantial amount of new revenue. If current trends continue, revenue generation will grow over time.

Ease of Implementation Authorizing legislation will be required to increase the rate of this tax and allocate the marginal increase in revenue for transportation funding. The revenue collection system is already in place, which will ease implementation.

Economic Equity Sales taxes are generally regressive because lower income people generally spend a higher portion of their income on goods that are subject to taxation than do higher income people. However, additional study is needed to adequately assess economic equity of a sales tax on e-commerce.

Geographic Equity Online shopping is increasing in all place types. Parcel delivery costs are higher for carriers in suburban and rural areas than for urban areas due to relative dispersion of package end destinations in suburban and rural areas. Additional research is needed to determine if these geographic variations in operating costs by parcel delivery services are passed on to consumers.

Modal Equity This tax will have greatest impact on retail truck deliveries.

HYPOTHETICAL RATE	1.0 percent of sales*
NEW REVENUE TO NJTPA REGION	$74.8 m

*Only hypothetical revenue from tax on e-commerce was calculated. Calculation of hypothetical revenue from a tax or fee on package delivery was constrained by lack of data on the number of parcels delivered.

According the US Census Bureau, nationwide retail sales amounted to nearly $5 trillion in 2016 with approximately 8% or nearly $400 billion of this total consisting of e-commerce. Assuming New Jersey's share of national e-commerce is in proportion to its population, e-commerce generated by New Jersey customers in 2016 can be estimated at approximately $10.7 billion. A 1 % sales tax on this amount generates $107 million in revenue statewide. Allocation of 70% of this revenue to the NJTPA region amounts to $74.8 million.

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PACKAGE DELIVERY

A tax or fee per package delivered will be a mechanism to assess delivery vehicles for using the roadway. No data is available regarding the number of package deliveries, therefore an estimate of potential revenue cannot be calculated for a package delivery tax. Package deliveries have increased in recent years largely due to the growth in e-commerce, so a tax on Package Delivery could be an expanding revenue sources provided this trend continues. There is already a sales and use tax on delivery fees in New Jersey on packages delivered to homes and offices. However, the future of this tax as a reliable revenue source is in question due the prevalence of free shipping provided by retailers. A tax on package delivery will be a means of adapting to this trend, ensuring more consistent funding.

Elasticity of Demand A tax on package delivery will not have a direct impact on the travel demand of travelers because they will not be assessed these taxes. Additional research is needed to determine the potential impacts on travel demand of delivery vehicles.

Network Impact The impact to the overall transportation network will be inconsequential due the small volume of delivery vehicles on the road compared to the total number of vehicles on the road. There may be localized impacts.

Economic Impact Impact may be dependent upon amount of tax or fee, elasticity of demand for package delivery, and other factors. Additional research is needed.

Revenue Generation This tax will generate a substantial amount of new revenue. If current trends continue, revenue generation will grow over time.

Ease of Implementation Implementing this tax will require authorizing legislation and establishing a new system to collect and allocate the revenue for transportation funding.

Economic Equity Additional study is needed to assess economic equity of a tax on package delivery.

Geographic Equity Online shopping is increasing in all place types. Parcel delivery costs are higher for carriers in suburban and rural areas than for urban areas due to relative dispersion of package end destinations in suburban and rural areas. Additional research is needed to determine if these geographic variations in operating costs by parcel delivery services are passed on to consumers.

Modal Equity This tax will have greatest impact on retail truck deliveries.

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BUSINESS TAX

The State of New Jersey maintains a corporate franchise tax on the business net income of corporations, which according to the NJ Office of Legislative Services, generated $2.5 billion in tax revenues from all incorporated businesses in the state in fiscal year 2017. Unincorporated business income (UBI) is taxed separately under personal income by the Gross Income Tax Act, and includes rental income, S-Corporation income, and partnership income. Tax revenue from UBI was an estimated in $1.7 billion in fiscal year 2017. A surcharge on either or both of these taxes could be a source of additional funding for transportation capital investment.

Elasticity of Demand Additional research is needed to assess the impact to travel demand.

Network Impact These additional taxes will have no impact on the transportation network.

Economic Impact The economic impact of these additional taxes is subject to more detailed analysis.

Revenue Generation These additional taxes will generate a modest amount of new revenue.

Ease of Implementation Raising the rate of business taxes in New Jersey will require authorizing legislation and establishing a system to collect and allocate the revenue for transportation funding. These additional taxes will use New Jersey's existing tax collection system, but will require a mechanism for accounting and allocating the revenues for transportation capital investment purposes.

Economic Equity These additional taxes will not be regressive, as they will predominantly apply to corporations and higher-income households.

Geographic Equity Additional study is needed to assess the geographic distribution of impact.

Modal Equity Additional study is needed to assess the impact to providers of transportation services.

HYPOTHETICAL RATE	1.0 percent surcharge on taxes already collected
% INCREASE (IF APPLICABLE)	NA
NEW REVENUE TO NJTPA REGION	$30 m

An estimated $4.2 billion in taxes was collected from incorporated and unincorporated businesses in FY 2017. A one percent surcharge on this tax revenue amounts to $42 million new revenue statewide, and allocation of 70 percent of this new revenue to the NJTPA region amounts to approximately $30 million. Alternatively, a one percent increase in business tax rates instead of a one percent surcharge will yield greater revenues.

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VALUE CAPTURE

Publicly funded transportation investments that increase system reliability, provide new access, or yield additional capacity, many times result in property value increases near the access points to the investment. New or improved transportation access provides an important catalyst for facilitating development. Value capture is a means to capture some of the increased value of new development or redevelopment that is catalyzed by the transportation investment for the purpose of helping to fund transportation investments. There are numerous mechanisms for value capture, including special assessments, developer impact fees, and creation of a Revenue Allocation District (RAD) or Tax Increment Financing (TIF) that sets aside a portion of the normal property tax revenue that is collected on the marginal increase in value of the land or property that is attributable to proximity to the infrastructure investment.

Transportation agencies have a long history of leveraging this benefit through value capture techniques that provide funding towards projects. For example, Fairfax and Loudon counties in Virginia have imposed special taxing districts along the Route 28 corridor to fund highway improvements and to provide funding towards the construction of the Metro Silver Line. At the high end, New York City uses TIF to finance the transportation infrastructure and amenities required to support the 45 square block Hudson Yards redevelopment district on the west side of Manhattan, which at completion will include more than 18 million square feet of commercial and residential space. Specifically, New York City issued $3 billion of bonds to fund a 1.5 mile extension of MTA's 7 line to Hudson Yards and Hudson Park & Boulevard that transects the district. Through TIF, the city uses the increase in taxes collected due to redevelopment within the district to service a large portion of the bond issuance.

Elasticity of Demand Value capture will not have an impact on travel demand because travelers will not be assessed a fee or tax.

Network Impact Dependent upon nature of development and transportation investments.

Economic Impact To the extent that value capture may enable transportation investment that would otherwise not occur, value capture will likely complement economic development efforts within a narrow targeted area. There are potential tradeoffs, and the costs and benefits to developers and local governments of various value capture mechanisms should be evaluated.

Revenue Generation Potential revenue will vary greatly dependent on a number of factors such as size and location of value capture district, scale of development, development costs and potential rents, and details of the negotiated deal.

Ease of Implementation Complex task that requires case by case negotiation amongst multiple interests. For a RAD, ease of administration will be dependent upon local jurisdictional authority.

HYPOTHETICAL RATE	2.49 percent of assessed value*
NEW REVENUE TO NJTPA REGION	$2.5 m per $100 m assessed value

*Using the average effective municipal tax rate within the NJTPA region of 2.49 percent, nearly $2.5 million could be allocated to adjacent transportation projects annually for every $100 million worth of increased property value within a Revenue Allocation District (RAD)

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Economic Equity No direct assessment to travelers.

Geographic Equity The impact of this fee will be focused on the value capture zone that most directly benefits from the transportation investment, which commonly will be located adjacent to intensive transportation infrastructure.

Modal Equity The fee is typically applied to areas adjacent to public mass transit investment, but there will not be an impact on any mode of transportation because the fee will not apply to travelers.

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