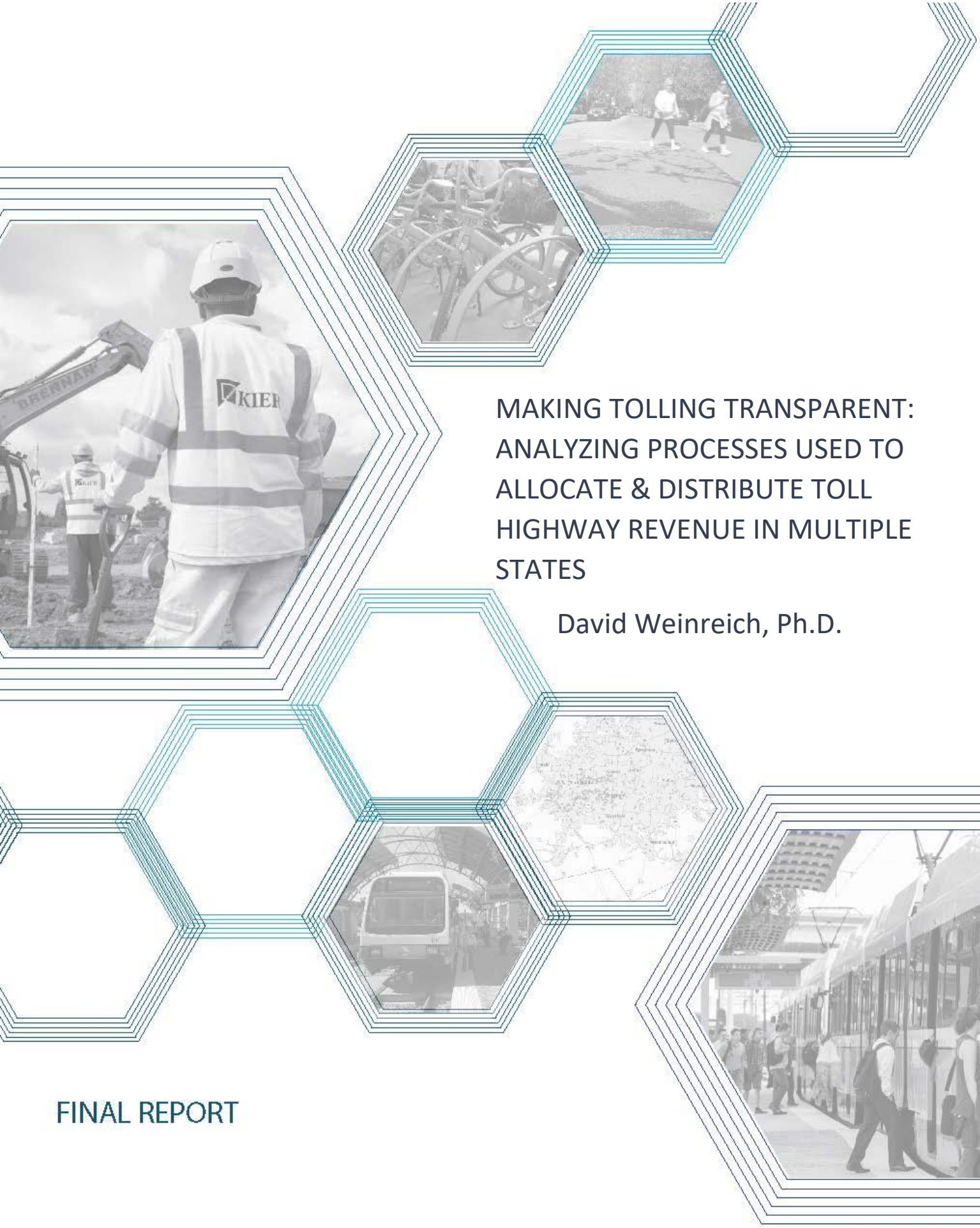

MAKING TOLLING TRANSPARENT: ANALYZING PROCESSES USED TO ALLOCATE & DISTRIBUTE TOLL HIGHWAY REVENUE IN MULTIPLE STATES

David Weinreich, Ph.D.

FINAL REPORT

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Center for Transportation Equity, Decisions & Dollars

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FINAL PROJECT REPORT

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16. Abstract

Transportation finance has become increasingly unreliable in recent years, due to the declining revenue available from the motor fuel tax, increasing auto efficiency, and political reluctance to raise taxes. Some states have relied on toll revenue and other user fees to overcome these revenue challenges. However toll roads are often unpopular, due to poor transparency stemming from uncertainty over whether tolls will be used to support the facility and the drivers who use it, or support other uses generally deemed to be socially equitable. Despite growing interest in toll finance, there is little understanding in the transportation literature of how independent local tolling agencies decide to raise and spend money. This study hypothesizes that different toll road governance models provide varying incentives to raise tolls and spend them on various purposes. This study catalogues toll roads from across the US, using state enabling legislation to classify toll roads by governance type (e.g. private, public-private-partnership, public corporation, independent regional/local special agency, independent state agency, state-managed, though there may be others). This study selects a representative sample of 60 toll roads across 20 US states, chosen based on their governance type, centerline miles, and rate of toll increase since 2007. This study examines meeting minutes, comprehensive annual financial reports and other primary sources to identify whether/how much tolls were increased/decreased, and for what purpose, identifying incentives for toll roads to spend money differently based on motivations like public or private status, geographic scope and level of government, among other motivating factors. This study also interviews staff members and elected officials from five toll road agencies, providing further details on why they made decisions to raise or lower tolls, how they intended to use the money, and their relationship to other state and local governments.

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SECTION 1: ABSTRACT

Transportation finance has become increasingly unreliable in recent years, due to the declining revenue available from the motor fuel tax, increasing auto efficiency, and political reluctance to raise taxes. Some states have relied on toll revenue and other user fees to overcome these revenue challenges. However toll roads are often unpopular, due to poor transparency stemming from uncertainty over whether tolls will be used to support the facility and the drivers who use it, or support other uses generally deemed to be socially equitable. Despite growing interest in toll finance, there is little understanding in the transportation literature of how independent local tolling agencies decide to raise and spend money. This study hypothesizes that different toll road governance models provide varying incentives to raise tolls and spend them on various purposes. This study catalogues toll roads from across the US, using state enabling legislation to classify toll roads by governance type (e.g. private, public-private-partnership, public corporation, independent regional/local special agency, independent state agency, state-managed, though there may be others). This study selects a representative sample of 60 toll roads across 20 US states, chosen based on their governance type, centerline miles, and rate of toll increase since 2007. This study examines meeting minutes, comprehensive annual financial reports and other primary sources to identify whether/how much tolls were increased/decreased, and for what purpose, identifying incentives for toll roads to spend money differently based on motivations like public or private status, geographic scope and level of government, among other motivating factors. This study also interviews staff members and elected officials from five toll road agencies, providing further details on why they made decisions to raise or lower tolls, how they intended to use the money, and their relationship to other state and local governments.

SECTION 2: INTRODUCTION

Highway finance has become increasingly unpredictable, with declining gas tax proceeds due to inflation and fuel efficiency. As many regions and states move towards greater use of tolls and public-private partnerships for their funding, toll road governance and its impact on funding decisions needs to be better understood. This report examines how the decision process over revenue distribution is related to the road ownership model itself. It examines whether there are incentives built into legislation and the system of ownership that might incentivize use of funds toward continual road construction, road maintenance, or more socially redistributive uses like support for public transit.

This is a particularly pressing question because of the large amounts of money involved, the growing use of tolls, and the sometimes-limited access to toll revenue streams by non-tolling transportation providers like MPOs and transportation agencies. In particular, toll roads are known to create social inequities simply by denying use to people with inadequate income to pay the tolls. However, this could be rectified by using tolls to offer transit services. This study theorizes that some governance models may incentivize use of revenues for non-tolling purposes that promote equity, while other models may not.

This report builds upon an existing literature on toll road finance, which has not previously examined the process for using funds in great detail, though tens of billions of dollars are at stake, and tolls are an increasingly important source of revenue as motor fuel tax revenues

stagnate due to inflation. Pitfalls for poorly managed toll roads can be costly, as seen from SR 91 in California, which cost public agencies hundreds of millions of dollars (the exact cost is unclear) to correct. This report provides insights that will help academics and practitioners better understand the connection between governance method and revenue allocation decisions. The results will help design toll road institutions that support intended policy goals and ensure transparent decisions over use of the money.

SECTION 3: BACKGROUND LITERATURE

Toll finance has continued to grow in importance as a revenue source for roads in the United States, as gas tax revenues have gradually declined due to increasing fuel efficiency, and inflation. Many states have turned to toll finance to pay for transportation programs, but many of these initiatives have already revealed a number of pitfalls to avoid, if tolls were to be expanded to the national level.

Past literature has identified two consecutive models of alternative road finance in the US, the first being a private sector-led model, which was popular in the late 1980s; the second being a collaborative public private partnership (P3) model, which emerged in the mid 1990s Wand, 2015). The private model gave way to the P3 model due to excessive risks from the private model—namely, financial, revenue, administrative/regulatory, and contract risks. Having more government participation made it possible to have the public and private sectors share responsibility for ensuring sufficient financial resources and revenue, shepherding the project through complex environmental regulations, and ensuring a contract that was both profitable for private investors, and equitable for the public (Wang, 2016). Private projects often were managed by companies without the experience navigating the regulatory process, while public agencies had trouble developing contracts with private investors that were unquestionably in the public interest, making it desirable for states looking to establish toll finance facilities to do so using P3s, with better legislation, more detailed contracts, and more assistance with the regulatory process—all requiring staff with stronger experience with P3s (Wang, 2015).

An often-cited example of the challenges that occurred with the first generation private projects is the non-compete clause that was part of the agreement governing California SR 91's express lanes, a project in which a private company built high occupancy toll lanes in a busy corridor in Southern California, between Orange County and Riverside (Iseki et al., 2012; Boarnet et al., 2004). The project was built expeditiously, unlike the other private projects authorized under the same program, most of which never were constructed due to community opposition, lack of finance, or environmental regulations (Wang, 2015). However years after its construction, when the Orange County Transportation Authority and the state DOT attempted to add lanes to the adjacent freeway, the private partners sued, demanding compensation under a non-compete clause in the original agreement governing the concession. At the time the contract was signed for California SR 91, such language was seen as routine, boiler plate wording by the industry, while state public servants were inexperienced about the dangers it could lead to, and poorly written legislation (Wang, 2015). Though the DOT presented this as a safety issue, they found that the only way to build the lanes was to purchase the concession back from the private consortium at a loss for $207.5 million; more than the cost of construction (Boarnet et al., 2004).

This experience has weighed heavily on lawmakers authorizing subsequent toll programs in Texas and Virginia.

A reverse situation emerged in Virginia, however—the lack of a non-compete clause allowing the state to build a nearby highway, resulting in reduced traffic and bankruptcy for the Dulles Greenway, a highway into a lightly developed area outside DC. In this circumstance, the project was built without much support or cooperation with the Virginia DOT, providing no incentive for the public agency to refrain from improving nearby roadways. The CEO of the private group noted that he would never consider doing a purely private arrangement with the government again, only a partnership would be acceptable (Garvin et al., 2008).

The complexities of developing P3s have led some to write that there is no precise formula for developing a good P3. Instead, what is needed is complex contracts that account for any potential circumstances that may arise, and protecting the public interest through lack of non-compete clauses, as well as shared risk. Specifically, Iseki & Houtman (2012) identify six risk factors to address in P3 contracts: pre-construction and construction risks; asset valuation, traffic demand, and revenue risks; non-compete provisions; facility performance standards; early termination terms; and public and political acceptance, echoing Wang's (2015) finding that P3 contracts have become more sophisticated and complex over time (Iseki et al., 2012).

The need for public acceptance has been a constant challenge for toll projects, and is a recurring theme throughout the literature. Transparency is particularly difficult for private projects, when bidders deem particular information about the project to be commercially sensitive (Iseki et al., 2012). In particular, the allocation of toll proceeds is an important point of contention, requiring transparency similar to that required for tax proposals to gain public acceptance (Giuliano, 1992). The comparison is not unwarranted, considering that the case studied in one oft cited article on toll distribution found that tolls in Orange County, CA were actually more regressive than a sales tax in the same county, and tolls were easier for low income people to avoid; however the tax is spread across many small transactions, leaving criticism more focused on tolls (Schweitzer et al., 2008). Indeed, an article looking deeper into the equity challenges of road financing noted that the reason for public perception that tolls are less equitable than taxes is due more to an inconsistent application of equity principles than to reduced equity (Taylor et al., 2009).

Sometimes it can be hard to connect tolls directly to costs, making it more difficult to explain their purpose to the traveling public. Tolls are often designed to cover more than just maintenance costs. Evidence does suggest that the tolls are usually used in the operating budget with any excess being used for capital projects. Looking at the fiscal year budget for 2017/2018 for the Bay Area Infrastructure Financing Authority, the overall tolls were only 33% of projected revenue, but even this much was more than enough to cover the total expenses of the authority (which were only 8% of projected costs). The report stated that any excess budget was to be used to help improve the mobility in the I-680 corridor (Bay Area Infrastructure Financing Authority, 2018). Sciara et al. (2007) noted another instance in the Bay Area, where road tolls were intentionally priced in excess of costs, intending to direct proceeds towards transit and road projects approved by the voters (Sciara et al., 2007). Weinreich (2016) discusses a similar case

of revenues collected by the Bay Area Toll Authority being used for public transit and other non-toll road uses.

Toll authorities, sometimes under the guidance of their region's MPO, or state agencies, bear a great amount of responsibility for ensuring that tolls are directed toward appropriate uses, but this decision can often be contentious. Given the great variety of toll road governance models, ranging from private to P3 to public (Grimsey et al., 2002; Kwak et al., 2009), employing various risk mitigation strategies (Wang, 2015; Iseki et al., 2012), it remains to be seen how these different management approaches may influence decisions over the distribution of excess proceeds.

Early in the resurgence of toll financing, Giuliano (1992) identified three key pitfalls for toll projects: 1) setting the price too high or too low; 2) implementation too limited, resulting in spillover effects to other roads; and 3) redistribution not realized. There have been many articles writing about the financing tools, the complexities of P3 relationships, and some looking at the equity challenges of toll roads. However discussion of the connection between the authorizing legislation, the tolling arrangement type, and the equity of distribution has so far been absent from the literature.

This study develops that connection, building a framework for analyzing the varying institutional approaches used to manage toll roads, and how institutional variance can manifest in toll road decision making—focusing on the most important decisions toll roads can make, whether to raise or lower toll rates, and for what reason.

SECTION 4: RESEARCH QUESTIONS

1) *This study seeks to understand the extent to which variation in toll road governance institutions is related to decisions over use of anticipated funds from toll increases.*
2) *This study seeks to provide evidence that helps develop tolling institutions that are more transparent and ensure a public sense of equitable use of the revenue.*

SECTION 5: METHODOLOGY

This study collects governance data on a wide sample of toll road facilities from across the United States, managed by divergent governance structures. It develops a typology for analyzing governance structure, and then examines primary sources to identify decisions to raise tolls and for what purpose, analyzing for variation across governance types.

We began by collecting the most recent inventory of toll roads available, published by USDOT in 2017, along with a separate list of bridges published by the International Bridge, Tunnel and Turnpike Association. For each facility, we collected enabling legislation for each facility or toll road agency.

To understand which categories to use, we began with an initial list, and chose the most complex and largest toll road systems for pilot study, including Harris County Tollway Regional Authority, North Texas Tollway Authority, NY State Thruway Authority, Chesapeake Express and the Dominion Boulevard Veterans Bridge, and the Bay Area Toll Authority (BATA),

because of their complexity, diversity of governance type, and diversity across states/regions. To accomplish this, we researched each authority through its website and corroborated findings with state and local legislation and legislative actions. Based on these findings, we limited our scope to focus on toll roads within US boundaries,[1] excluding binational roads because of their unique circumstances, and limiting ourselves to toll roads, because they have a greater potential to divert revenue to other uses like public transit. We refined our typology of governance types relevant to toll road decision making, settling on: *State DOT, State-Owned Entity, Local Government, Toll Road Authority, Transportation Authority, Private, Public-Private Partnership (P3)* (Table 1). Classification was done using authorizing legislation, agency web sites and comprehensive annual financial reports, looking for ownership of the toll road agency and method for appointing the board. We separately classified facilities according to road type—toll roads, HOV/HOT express lanes, bridges and organization owning or operating the road (or multiple organizations in the case of P3s). We recognize that additional categories might be included for roads governed by interstate compact, though we found most of the toll roads were single state entities; the one that was interstate we classified under Toll Road Authority. We also identified several binational toll bridges, but did not include in this study, as our scope is within the United States.

We then analyzed the details of the decision making process and sorted roads by state and governance type, examining how these factors may have affected their decision to raise/lower tolls and how to use them.

Table 1: Typology of Toll Road Governance

State DOT	• Owned and operated by the State DOT
State-Owned Entity	• Organization is owned by the state, or a state department other than the Department of Transportation.
Local Government Managed	• Owned and operated by a general purpose local government, for example city or county.
Toll road Authority	• A sub-state organization charged with building and/or managing toll roads, which is independent from general purpose local governments, state DOT, and other transportation authorities.
Transportation Authority	• A sub-state organization that operates transportation including, but not limited to toll roads. • Independent from general purpose local governments, and state DOT, but may operate other forms of transportation such as public transit, free highways, or airports, among others.
Private[2]	• Owned solely by a private organization or individual, usually for-profit. • These are roads that are usually allowed through state or local

[1] Some states refer to all their toll projects as Turnpikes or other vernacular, which we use interchangeably here. Likewise Express Lanes and HOT Lanes are referred to interchangeably.

[2] Combined with P3 for our analysis, due to few private agencies in our sample.

	ordinances and have the power to impose tolls given by the ordinance.
Public-Private Partnership (P3)	• Operated or created by an agreement between a public organization (federal, state, or local government entity) and a private organization. • These are projects that utilize both Private and Public organizations in some combination to operate a toll facility. Usually this would involve the public sector providing the land or property (usually through a lease) and the private entity handling the financing and the operation of the project. The public agency can also provide loans and legal guidelines for the toll project, including the power to create bond measures. • These contracts usually have a fixed time period that the private company can collect tolls on the road.

SECTION 6: CASE SELECTION & CATEGORIZATION

We selected 60 toll roads across 41 different toll road agencies/owners, in 20 states for comparative analysis based on the presence of significant toll increases/decreases over time. To do this, we used toll rate records provided by CDM Smith, a consulting agency, using the average rates per user for personal vehicles from 2007-2017 (the most recent ten year period available), as this would provide the best chance of corroboration from records and interviews. We then narrowed our search based on rate changes that were either higher than 15% increase in a single year or greater than a 5% decrease from the previous year.[3] We also included roads that had implemented a consistent annual increase over multiple years, even if it was less than the 10% threshold, reasoning that a gradual but consistent increase over time would have just as great an impact, or greater, than a single large increase.

Since the goal was to identify differences in decision making based on governance type, we sorted roads by state, reasoning that governance laws would be different in each state. We further organized roads by managing agency/owner. If a single agency had multiple roads, we collected data on all their roads, but the data in Figure 1, below, only includes the longest two roads by centerline miles in order to not over-represent roads that were under the institutional circumstances. In each instance, we researched and recorded the reasons for increasing/decreasing the toll rate, looking at meeting minutes from times when decisions were made over whether/how much to raise tolls, and how to use the revenues. We also drew data from comprehensive annual financial reports, newspaper articles, enabling legislation, requests for proposals (RFPs), concession agreements, third party documents, newspaper accounts, agency press releases, letters to transponder owners from the time, and other relevant sources. In cases where the same toll road raised tolls more than once since 2007, we looked up meeting minutes from each meeting date, and recorded them separately in Section 7, below. However in Section 8, the summary data was collapsed into a single row per road, with a maximum of two roads per agency, in order to represent all reasons for raising or lowering tolls that were associated with each road.

[3] On the whole, decreases weren't as large as increases, meriting a lower threshold.

We coded the use of the anticipated toll revenues from primary source documents, and emails and interviews when these were unclear. Categories were identified from the data through an iterative process, beginning with pilot cases including: *maintenance and operations, capital costs, public transit funding, automatic incremental adjustments, bond repayments, state mandates, and other*. We also coded for the seven roads that never responded to Freedom of Information Act requests for information, and three roads for which there was no public financial information available.

Table 2: Toll Revenue Use Typology

Maintenance & Operations	• The toll revenues are partially used to fund operations expenses such as administrative costs, maintenance fees, and other day to day expenses.
Capital Spending	• Toll revenues are used to pay for large scale expenses. These expenses can be for new roads, expanding existing roadways, or other large expenses. • Toll revenues were increased to pay to pay for debt or costs associated with the capital budget.
Public Transit Funding	• Toll revenues were used to subsidize an aspect of public transportation. This could be roads built for transit, funding for public transit operations, fare subsidies, or other related uses.
Automatic Incremental Adjustments	• The toll rate is increased in annual increments. This could be an inflation increase or linked to the Consumer Price Index (CPI). • The toll rate is increased due to public policy requiring regular increases within every X number of years (usually annual).
Bond Repayments	• The toll rate is increased so the authority can repay bonds taken out to fund road construction. • The toll rate is increased to have better debt coverage or reduce its ratio of liabilities to assets. • Toll rate was increased to improve authority's credit rating.
State Mandates	• The toll rate is altered to comply with state requirements, including legislative statutes and mandates from state regulators.
Profit	• Cases where written documentation, interviews or emails from the operator or managing agency indicated the revenue was going to profit for a private operator. (Most private operators likely are motivated by profit, but a lack of willingness to share records meant that we were only able to definitively identify a profit motivation for one road in our sample). Since private operators were not usually willing to share financial records, we deduced a profit motivation in cases where tolls were consistently raised to the maximum level, or raised by the maximum percentage, allowable by state regulations.
Other	• Actions that do not fit into the other categories, and were too infrequent to merit a category of their own. Examples include rebates for veterans, congestion reduction, or financial support for

	an emergency fund to supplement state funding.
No Response	• Agency did not reply to emails or phone calls regarding request for information.
No Data	• Information was unavailable from public sources, and the agency did not return emails or phone calls requesting data.

SECTION 7: TOLL ROAD GOVERNANCE AND FUNDING DATA BY STATE

State: California

Road	Public Entities	Private Entities	Years of Inquiry
Toll Brides in the Bay Area	Bay Area Toll Authority		1997, 2004, 2019[4]
Foothill Toll Road	Transportation Corridor Agencies		2009 (17%) 2011-2017 (2-3% per annum)
South Bay Expressway (SR 125)	San Diego Association of Governments		2012 (-29%)
I 10	LA Metro		2019
I 110	LA Metro		2019

[4] Some of these years were outside the scope of the study, but we analyzed them to establish a pattern of the process used by the agency to raise tolls and determine their use.

Transportation Corridor Agencies

Transportation Corridor Agencies (TCA) operates both the Foothill Toll Road and the San Joaquin Hills Toll Roads. TCA's functions are limited to toll road operations, so we classify it here as a *Toll Road Authority* (California Code, Government Code - GOV § 66484.3). They operate these roads through two separate boards of directors, one for each road. These boards are manned by members selected by the cities and counties that are serviced.

Authority to authorize bonds:

The 2009 San Joaquin Hills and Foothills/Eastern Financial Statement says that if the projected revenues are not considered enough to cover the required debt servicing, then the toll rate will be increased.

Toll rate changes and rationale:

Toll rate data indicates a 17% increase in 2009, a 4% increase in 2011, and steady 2-3% annual increases between 2011-2017. In our interview with the Chief External Affairs Officer of TCA, we learned how and why the agencies increased their tolls. She identified debt service as a key motivation for toll increases, as well as regular inflation adjustments, designed to ensure the agency can maintain its buying power over time.

Interview data indicates the reasons for the 2-3% annual toll rate increases were to adjust for inflation gradually over time, rather than impose a larger, irregular increase, as the agency did before 2011. The rate is increased to cover debt and to meet future debt coverage within the Consumer Price Index (CPI). An interviewee from TCA stated that the previous method of raising rates for the toll roads was liable to create political controversy (Cole, 2019).

Prior to the implementation of automatic inflation adjustments, significant increases were for similar reasons, but they were more political, less frequent, and less regular. Meeting minutes also indicate the reasons for increasing tolls are as the Chief External Affairs Officer stated (Transportation Corridor Agencies, June 13, 2019).

TCA's Joint Board Package from June 2017 for the 2018 budget described the use of toll revenues for debt servicing. The reasons for the inflationary toll increases were discussed as part of a refinancing deal from 2013, which put the agency in a better financial position, enabling future credit upgrades and building cash reserves for the agency's capital improvement plan (Transportation Corridor Agencies, p. 171, June 8, 2017). Under this deal, the net toll revenue was required to provide at least 115% of that year's debt payments and 130% of senior lien debt payments.

Table 3: Transportation Corridor Agencies substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Ot**
2009	Foothill Toll Road					✔			

2011+	Foothill Toll Road		✔		✔	✔			

Methodology:

We interviewed staff members of the Transportation Corridor Agencies about the operations and policies of the agency. We picked the interviewees by contacting members of the staff and board appointees. We recorded the interviews with the permission of the interviewees and triangulated interview findings with information from meeting minutes, budgets and budget proposals, and financial statements for the TCA. Through the interviews we added LA Metro and got information about their next board meeting on increasing the toll rate.

San Diego Association of Governments

The San Diego Association of Governments (SANDAG) owns and operates the South Bay Expressway (also referred to as SR 125 or the SBX). Originally the expressway was a privately-owned road. This changed in 2011, when SANDAG purchased it. Thus it transferred from *Private* ownership to an agency we would classify as a *Transportation Authority*, due to its management of both highways and public transit. A history of toll rate changes indicates that the tolls were raised by 10% in 2009, when the road was private, but lowered by 29% in 2012, following the takeover by SANDAG.

Research into the toll road's history showed that part of the reason the private owners sold the toll road was because the company, California Transportation Ventures Inc., had faced chapter 11 bankruptcy, and reached a deal with SANDAG to repay creditors. The bankruptcy was caused primarily because of ongoing litigation regarding a contractor who built the South Bay Expressway, or SBX, (as it was then named), and partially because SBX's toll revenues were lower than projected.[5] SANDAG purchased the expressway intending to lower the tolls, and consequently, open the road for use as an alternate route to the heavily congested Interstate 805.

Authority to authorize bonds:

The October 2011 Regional Transportation Plan (RTP) for SANDAG states that the toll road and port of entry funding was gained via debt financing, with toll revenues used to repay the debt.[6]

Toll rate changes and rationale:

On May 18, 2012 the San Diego Association of Governments voted to reduce its tolls by 29%,[7] which they followed through on shortly after acquisition of the roadway. The stated reason for the acquisition was to fulfill the Board's goal of reducing traffic impacts on Interstate 805 while meeting financial obligations.[8] Their FAQ states that the toll reduction amount was based on the revenues needed to pay for operations, maintenance, debt servicing, future improvements, and contingencies (South Bay Expressway, 2012). However, none of these was the primary purpose for the toll rate reduction. According to SANDAG meeting minutes from August 26, 2011, one of the purposes for purchasing the franchising rights of the road from the original private company was to reduce the toll price, increase usage the road, and reduce congestion on I 805 (SANDAG, 2011).

The original owner of SR 125 was a private, for-profit company, which charged $7 on SR 125.[9] This led to the buy-out of the road for $341.5 million to better serve the public's interests. SANDAG purchased the road in December 2011, and the rate was lowered by 40% in May 2012[10], when the Board of Directors approved a "Balanced Toll Reduction," following the

[5] https://www.transportation.gov/policy-initiatives/build-america/south-bay-expressway-sr-125-san-diego-ca
[6] https://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf p. [5-4]
[7] https://www.sandag.org/uploads/meetingid/meetingid_3195_14731.pdf
[8] https://www.sandag.org/uploads/meetingid/meetingid_3222_14734.pdf P. 2
[9] https://www.sandag.org/uploads/projectid/projectid_399_14608.pdf
[10] https://www.sandag.org/uploads/meetingid/meetingid_3195_14731.pdf

Transportation Committee's recommendation. The Transportation Committee recommended this plan after reviewing the alternatives, performing a survey of the South Bay Expressway,[11] reviewing written comments in favor of the item, and comments from representatives of the Otay Mesa Chamber of Commerce, the South County Economic Development Corporation, and the Sweetwater Community Planning Group.[12] As noted before, the meeting minutes indicate that when they voted on the toll reduction, the motivation was focused most strongly on their goal to reduce congestion on I 805 and encourage motorists to take the SR125 as an alternate route.

The San Diego County Regional Transportation Commission (also SANDAG) also approved an ordinance that the toll rate can be reconsidered within 12 years of voter approval of a countywide half cent transportation sales tax extension, known as TransNet, which would offer additional funding, potentially affecting the toll rates SANDAG would need to impose.[13] The October 2011 RTP for SANDAG states that the toll road and port of entry funding was gained via debt financing, with toll revenues used to repay the debt.[14]

Table 4: San Diego Association of Governments substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other***
2012	South Bay Expressway (SR 125)								✔

*The rate was lowered to encourage the use of the expressway and reduce the congestion on I 805.

Methodology:

We focused on the Meeting Minutes of SANDAG, since they are the current owner of the road, and because they were the agency that purchased it and decided over the most recent and significant changes in toll rates. The website contained a timeline of events leading to the purchase and the reduction of the toll rate, which helped us compile our analysis and identify key meetings to analyze.[15]

[11] https://www.sandag.org/uploads/meetingid/meetingid_3222_14354.pdf p. 273 & 304 (for summary)
[12] https://www.sandag.org/uploads/meetingid/meetingid_3222_14734.pdf
[13] https://www.sandag.org/uploads/publicationid/publicationid_1944_19143.pdf p. 4-5
[14] https://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf p. [5-4]
[15] https://www.sandag.org/index.asp?classid=13&projectid=399&fuseaction=projects.detail

Bay Area Toll Authority

The Bay Area Toll Authority (BATA) is a regional Toll Road Authority that operates with the same board, and in close coordination with the Metropolitan Transportation Commission (MTC)—the region's Metropolitan Transportation Commission. We classify BATA as a *Toll Road Authority* due to their focus on developing and maintaining toll roads in the Bay Area. They do not run any other mode of transit.

Authority to authorize bonds:

The Bay Area Toll Authority can issue bond measures and uses toll revenues to repay bonds. The first two regional measures were used to create new bonds.[16]

Toll rate changes and rationale:

Regional Measure 3 (RM3) authorized the most recent toll rate increase in the BATA service area. This was a voter-approved toll rate increase, proposed by the legislature, and approved by 55% of the electorate of a nine-county area.[17] The proposal contained funding for a variety of projects, which were selected during the legislative process. The nine voting counties were chosen because of their connection to the Bay Area toll bridges; and the vote was tallied on an aggregate basis (Only 30% of Solano and 45% of Contra Costa county voters supported the measure). Across all nine counties, the proposal received 55% support, and was approved.

The revision process indicates how spending priorities changed as the bill went through the legislative process. The RM3 ballot process was first added to the bill on April 18, 2017. Subsequent versions of the bill amended details about the process and scope of the measure; while the July 19 version specified what the toll revenues could be used for (specified in SEC 6. Subsection 30914.7).

The language in RM3 specified that funds would be used to purchase cars for BART; build express lanes; transit routes; ferry enhancements, facilities and fleet expansions, and other major transportation improvements. Thus, the expenditures the toll increase was designed to support included capital expenses as well as public transit subsidies. The measure also supported increases in transit operations. The September 8, 2017 assembly floor analysis indicate RM3 these expenditures were selected in order to reduce congestion or make travel improvements in the toll bridge corridors. This was included with 16% of annual roll revenue for transit operating assistance and the development of improvements for transit projects that were underperforming (Assembly Floor Analysis; September 8, 2017: pg. 2).

Notably, the decision to provide significant support to public transit came from the legislature but was approved by voters. Projects were likely selected for their perceived popularity with the electorate, as well as their nexus with bridge corridors, which are ultimately the core of BATA's mission as an agency.

Table 5: Bay Area Toll Authority substantial rate changes between 2007-2017

Reasons for change

[16] https://mtc.ca.gov/sites/default/files/RM_3_FAQ_3-1-18.pdf

[17] Included Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma counties. https://mtc.ca.gov/our-work/fund-invest/toll-funded-investments/regional-measure-3

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	O
1997	BATA Bridge System	✔	✔	✔					
2004	BATA Bridge System	✔	✔	✔					
2019	BATA Bridge System	✔	✔	✔					

Methodology:

We learned about BATA toll increases and expenditures through their website, minutes for their Board of Directors' meetings, as well as financial meetings and their operations meetings. The legislative history behind California SB 595 of 2017 (authored by State Senator Beall of San Jose) also provided important details on the process for increasing tolls, the motivations for doing this, and how the increased revenue was intended to be allocated.

We researched these sources and focused on years where BATA's tolls raised by the highest percentage. These toll increases correlated to the passage of Regional Measures 1, 2 and 3 (1988, 2004 and 2018), though our discussion focused on the most recent one, from 2018. These Regional Measures all raised tolls and added money to support roadway and bridge improvements. All favored projects with a perceived nexus to toll corridors. However, the specific projects differed. We focused our analysis on SB 595 and BATA Resolution 123, which provided details of the history and intentions for use of the revenues, as well as the sources of support and opposition throughout this process.

Los Angeles County Metropolitan Transportation Authority

The Los Angeles Metropolitan Transportation Authority (LA MTA, or Metro) is classified here as a *Transportation Authority* due to its management of a range of transportation modes, including highways and public transit across Los Angeles County. In 2013 and 2014 LA Metro converted HOV lanes along highways I 10 and I 110 to HOT use, with tolls set dynamically in accordance to traffic; lanes remain free to vehicles with two or more occupants.[18]

Authority to authorize bonds:

The Metro uses bond measures to help fund the organization. Both tax measure revenues and toll revenues are used to pay the interest on the bonds.

Toll rate changes and rationale:

The ExpressLanes were added in 2019 on the I 10 system as a pilot program, supported by a $210.6 million federal grant, in agreement with USDOT and Caltrans. Details of the tolling program were proposed in April 2018 by Director John Fasana and implemented January 2019. The implementation occurred too recently for there to have been any toll rate changes. However, we analyzed the priorities for allocating the revenues of the new program.

LA Metro, as a transportation authority, which supports many forms of transportation was incentivized to use revenue to support discounts and alleviate congestion on its other services. The revenues gained from the ExpressLanes are used to supplement other LA Metro projects. These projects include transit, vanpooling and ridesharing, road maintenance (Fasana, 2019). The ExpressLanes were judged in the January meeting to be self-funded, requiring only toll revenues for their operation. Staff predicted outcomes from the ExpressLanes: 4% increase in persons using the freeway, an increase in travel time using the lanes by 51 seconds, and improved travel times on the general-purpose lanes (LA Metro, 2018; 2019).

Additionally, LA Metro's service area covers all of Los Angeles County, and accordingly, Metro requires a proof of Los Angeles County residency for riders receiving a toll discount based on low income level. Additionally, it is likely due to LA Metro's status as a public agency that they provide extensive discounts to low income drivers in its lanes, as well as subsidies to public transit.[19]

Table 6: Los Angeles County Metropolitan Transportation Authority substantial rate changes between 2007-2017

[18] https://www.metroexpresslanes.net/en/about/history.shtml

[19] Discounts are provided for drivers who can present proof of LA County residency and have an annual household income of less than double the federal poverty level. Applicants must present proof of enrollment in MediCal, Lifeline, Public Benefit, LAUSD Lunch Program or EBT.

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2019	I 10	✔	✔	✔					
2019	I 110	✔	✔	✔					

Methodology:

Though the ExpressLanes had not been in existence long enough to identify a significant toll increase (normally our criterion for inclusion in our analysis), we decided to add them to our examination due to the unique circumstances they presented as a series of managed lanes, operated by a public transportation agency that also ran a public transportation system (potentially providing incentives to use tolls to support that system), potentially providing contrast with private agencies as well as toll road agencies that did not also provide public transit services. We were persuaded to look at the ExpressLanes after an interview with a staffer from the Transportation Corridor Agencies brought this to our attention. To find information about the roads we researched the Los Angeles County Metropolitan Transportation Authority and their website, including history of the roads, and board decisions related to their implementation. The research team additionally interviewed executive officers from the agency, including the Chairman of the Board of Directors and the Executive Officer for Congestion Relief.

Road: Northwest Parkway

State: Colorado

Type: PPP

Public Entity: Northwest Parkway Public Highway Authority

Private Entity: Northwest Parkway LLC

Legislation: Public Highway Authority Law in part 5 of article 4, title 43, C.R.S.

Northwest Parkway Public Highway Authority

The Northwest Parkway Public Highway Authority was created in June 1999, pursuant to the Colorado Public Highway Authority Law: Part 5, Article 4, Title 43, C.R.S. (City and County of Broomfield, 2014). The Authority was created by the City and County of Broomfield, the County of Weld, and the City of Lafayette through what is referred to as their Establishing Contract (City and County of Broomfield, 2014). The purpose of the Authority was to finance, construct, operate, or maintain the Northwest Parkway, a portion of the beltway around the northwestern perimeter of the Denver metropolitan region, beginning at the interchange of Interstate 25 and E 470, proceeding southwesterly, and ending at State Highway 128 (City and County of Broomfield, 2007).

Beginning October 1, 2007, the Authority entered into the Northwest Parkway Concession and Lease Agreement with the Northwest Parkway LLC (Northwest Parkway Public Highway Authority, 2007). The Northwest Parkway LLC was jointly owned by Brisa in Lisbon, Portugal and Companhia de Concessões Rodoviárias in Sao Paulo, Brazil (Northwest Parkway Public Highway Authority, 2007). Based on this arrangement, we classify this road as a *Public-Private Partnership (or P3).*

A media release stored on the Authority's website states the concession will "retire all bonded debt, provide a mechanism for future expansion of the road, and turns over operations to a professional team" (Northwest Parkway Public Highway Authority, 2007). In the media release, Karen Stuart, Broomfield mayor and Authority board chair, is quoted as saying the agreement "retires all bonded debt, provides a mechanism for future expansion of the road and turns over operations" to the Northwest Parkway LLC (Northwest Parkway Public Highway Authority, 2007).

Toll rate changes and rationale:

In the 2007-2017 period we studied, this road saw tolls increase by 25% in 2008, 24% in 2010, 6% in 2012 and 2014, and by a consistent 3% per year from 2015-2017. The Concession Agreement between the Northwest Parkway Public Highway Authority and the Northwest Parkway LLC laid out stipulations for how the toll rate is set, modified, or applied, how excess revenue should be used, placed money aside for parkway expansions, and set conditions for compensation should the Authority authorize action that diminishes the value of the parkway or competes with parkway revenues (Northwest Parkway Public Highway Authority, 2007). With regards to the toll rate, the Concession Agreement stated that until the year 2010, the maximum toll value that could be set was $3 for two axle vehicles, or $3 for the first two axles plus $3 for each additional axle (Northwest Parkway Public Highway Authority, 2007). After January 1, 2010, the Agreement specified that the maximum tolls could be increased per year beyond $3 were based on inflation, per capita GDP, or a 2% increase (Northwest Parkway Public Highway Authority, 2007). In the case of increasing the rate, the Northwest Parkway LLC must inform the public prior to such changes (Northwest Parkway Public Highway Authority, 2007).

Expansions to the parkway were also considered during the Lease Agreement should the construction to connect the parkway to HWY 128 and HWY 93. $100 Million was set aside in escrow to assist funding the expansions, should the construction be approved by December 2020 (Northwest Parkway Public Highway Authority, 2007). If the construction does not occur, $40 Million is returned to the Authority for any use they desire and $60 Million will be returned to

the LLC, and the LLC can contribute the amount to extend the parkway to HWY 128 (Northwest Parkway Public Highway Authority, 2007). If approved in the second instance, after December 2020, the LLC will have the right to operate, toll, and maintain the newly built extension (Northwest Parkway Public Highway Authority, 2007).

Lastly, pertaining to the Lease Agreement, the conditions require compensation to the LLC in the case that the Authority authorizes actions that diminish the value or compete with the revenues of the parkway. (I.e., a 'noncompete clause.') While the agreement states it "does not limit the right of any governmental entity to build a transportation facility that may compete with or reduce revenues on the Parkway," it then proceeds to define specific transportation facilities that, if negatively impacting toll revenue, can require compensation (Northwest Parkway Public Highway Authority, 2007). Those included are: (i) a comparable highway that runs for a certain length and within a certain distance of the Parkway; (ii) the extension of 160th Avenue West of Sheridan Parkway to connect to 120th Street; and (iii) a mass transit or rapid transit facility, with the exception of the US 36 Bus Rapid Transit Corridor and any Northwest Rail Corridor projects that were approved by the RTD prior to the execution of the Agreement (Northwest Parkway Public Highway Authority, 2007).

Table 7: Northwest Parkway Public Highway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2008	Northwest Parkway					✔			
2010	Northwest Parkway					✔			
2012	Northwest Parkway					✔			
2014	Northwest Parkway					✔			
2015	Northwest Parkway				✔	✔			
2016	Northwest Parkway				✔	✔			
2017	Northwest Parkway				✔	✔			

Differentiating between what the LLC was allowed to do and what has historically happened, the toll road incurred multiple significant[20] increases within the scope of the research

[20] Significant toll rate increases include percent changes equal or greater than 15% and steady increases over multiple years

analysis. Data collected on the toll road indicates a 25% increase in the toll rates occurred in 2008 and a 24% increase in 2010. Then rates increased by 6% in both 2012 and 2014, with a 3% increase each year since. Beginning in January 2019, toll rates will exist as $4 for two axle vehicles or $4 for the first two axles and $4 for each additional axle, with additional fees for emailing or mailing riders not utilizing GO PASS electronic tolling (Northwest Parkway Public Highway Authority, n.d.).

Any toll increase's previous public notice and rationale for the toll increases are not available on the LLC's website. Nor did the LLC respond to requests for information. The research team was not able to find public information about the private LLC and must rely only on what the concession agreement allows.

As of Feb. 2019, the mentioned extensions to the parkway had not occurred. Furthermore, and contrary to the specified competing clause laid out in the Agreement, in 2008 the Operations Director of the Northwest Parkway LLC at the time was reportedly in opposition to the improvements of a parallel roadway. The Denver Post wrote a story outlining the concern of the Operations Director, and the response of the managing administrator for the Parkway Authority, stating that the alterations to West 160th Avenue did not constitute a competing transportation facility (Leib, 2008).

In 2017 the Northwest Parkway LLC obtained new ownership, through another joint venture of three companies: HICL Infrastructure Company, DIF Infrastructure IV CooperatiefUA, and Northleaf Infrastructure Capital Partners (Northwest Parkway Public Highway Authority, 2017). The new owners will continue the existing concession agreement with no changes and for the remaining 90 years.

Methodology:

The research team began by collecting by reviewing the Northwest Parkway LLC website. Local minutes were reviewed for additional information. This was followed by web searching and review of Colorado's State code and SCC filings. The Authority manager, Charles Ozaki, was contacted through email, but we did not receive a response. The Northwest Parkway LLC does not have publicly available information that would be equivalent to public organization meeting minutes. Therefore, we were not able to find details regarding the decisions and discussions surrounding the increases, nor the motivations for pursuing them, though some were identifiable from the contract and news articles about the agency.

State: Delaware

Road	Public Entities	Private Entities	Years of Inquiry
Delaware Turnpike (95)	Delaware Department of Transportation		2007 (33%)
Korean War Veterans Memorial HWY (1)	Delaware Department of Transportation		2007 (18%) 2014 (200%)

Delaware Transportation Authority

The Delaware Transportation Authority is an entity under the state of Delaware and Delaware Department of Transportation (DOT), created by the Delaware Transportation Authority Act (Delaware Transportation Authority, 2008). For this reason, we classify it as a *State DOT*. Powers provided to the Authority through the enabling legislation allow it to charge and collect tolls, issue bonds, and finance transportation improvement projects throughout the state of Delaware (Delaware Transportation Authority, 2008). The Authority owns two toll roads, the Delaware Turnpike (part of Interstate 95) and the Korean War Veterans Memorial Highway (State Route 1).

Authority to authorize bonds:

The Authority is provided the power to issue debt through bonds for funding transportation projects and covering operational and maintenance costs of existing infrastructure (Delaware Transportation Authority, 2008). In order to issue bonds, the Authority must gain approval from the state's Bond Issuing Officers (Delaware Transportation Authority, 2008).

Toll rate changes and rationale:

Within the scope of the research study, toll rates have significantly[21] increased twice since between 2007—once in 2007, toll rates increased for all travelers on both the Delaware Turnpike (by 33%) and the Korean War Veterans Memorial Highway (by 18%). In 2014, the toll rate was raised once again for the Korean War Veterans Memorial Highway; indeed, this increase was quite significant, at 200% in one year.

Table 8: Delaware Transportation Authority substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2007	Delaware Turnpike	✔	✔						
2007	Korean War Veterans Memorial HWY	✔	✔						
2014	Korean War Veterans Memorial HWY		✔						

[21] Significant increases are defined within the scope of this study as percent increases greater than or equal to 15%.

On September 27, 2007, the Delaware DOT issued a press statement indicating that the toll rates would increase effective October 1, 2007 (Delaware Department of Transportation, 2007). The official press release's stated reason for raising the rates was: "the increases will help provide additional revenues to fund a transportation program that is needed to support the growth of our state and maintain our existing infrastructure" (Delaware Department of Transportation, 2007). The increase also introduced variable tolling for weekday and seasonal traffic. It is not known what other advanced notices were provided to members of the public, but registered E-ZPass customers were noticed in advanced about the pending changes.

Regarding the 2014 increase, a press statement from July 14, 2014 notified State Route 1 users that there would be a toll increase effective August 1, 2014 (Delaware Department of Transportation, 2014). The $1 increase would only be in effect for weekend traffic. The reason provided in the press release for the toll increase simply stated that "the new revenue will be used to fund paving and other transportation projects statewide" (Delaware Department of Transportation, 2014). While the 2007 increase included that a portion of the additional revenue would fund maintaining existing infrastructure, the 2014 increase solely indicated new capital projects.

Methodology:

The research team began the study using general keyword searches on the internet. After verifying the public owner as the Delaware Transportation Authority, specific details were sought on the DOT website. Information is not presented in an organized way, which made the reason behind toll increases and the specific group that would propose increases difficult to find. The team contacted a staff member at the Council of Transportation via phone to provide clarification, but she could not provide sufficient information. After denial of the FOIA request, press releases from the Delaware DOT were used to identify the reasons for increases.

Online meeting minutes for the Delaware Economic and Financial Advisory Council (DEFAC) could not be found. Additionally, no other entity with authority to set toll rates had meeting minutes available for the specific time periods of study. A FOIA request (FOIA #19-0087) was sent receive the meeting minutes, but was denied due to lack of citizenship in the state of Delaware. Therefore, the meeting minutes and possible resolutions that resulted in the observed toll increases could not be obtained.

State: Florida

Road	Public Entities	Private Entities	Years of Inquiry
Miami Airport Expressway (SR 112)	Miami-Dade Expressway Authority		2007-2017
Pinellas Bayway System	Florida Department of Transportation		2007-2017
Alligator Alley (I 75)	Florida Department of Transportation		2007-2017
Martin Anderson Beachline Expressway Central (SR 528)	Central Florida Expressway Authority		2007-2017
East-West (Dolphin) Expressway (SR 836)	Miami-Dade Expressway Authority		2007-2017
Florida Turnpike Homestead Extension	Florida Turnpike Enterprise		2007-2017
Martin Anderson Beachline Expressway West (SR 528)	Florida Turnpike Enterprise		2007-2017
East-West	Central Florida		2007-2017

Expressway (SR 408)	Expressway Authority		
Lee Roy Selmon Crosstown Expressway	Tampa-Hillsborough County Expressway Authority		2007-2017
Sawgrass Expressway (SR 869)	Florida Department of Transportation		2007-2017
Seminole Expressway	Florida Turnpike Enterprise		2007-2017
Central Florida Greenway (SR 417)	Central Florida Expressway Authority		2007-2017
Veterans Expressway (SR 589)	Florida Turnpike Enterprise		2007-2017
Osceola Parkway	Osceola County		2007-2017
Southern Connector Extension (SR 417)	Florida Turnpike Enterprise		2007-2017
Daniel Webster Western	Central Florida Expressway Authority		2007-2017

Beltway (SR 429) - OOCEA

Miami-Dade Expressway Authority

The Miami-Dade Expressway Authority (MDX) was classified as a *Toll Road Authority* due to its exclusive focus on toll roads, and authorized under Florida Statutes Title 26 Chapter 348 Section 0003-0004. The Authority manages the Miami Airport Expressway (SR 112) and the Dolphin Expressway (SR 836), among other turnpikes in the region (i.e. Gratigny Parkway, Don Shula Expressway and Snapper Creek Expressway). During the period of analysis (2007-present), percentages of toll rate increases varied somewhat between these two roads, with SR 112 showing a 40% increase in passenger car tolls in 2014; and SR 836 showing a 200% increase in 2007, and a 60% increase in 2014. (Note that at the time of writing, the future of MDX remains uncertain, but is being decided by the Florida state government).[22]

Authority to authorize bonds:

The reasons for a rate modification can be to act with the provisions of the MDX's Trust Indenture or Debt Management policies, system maintenance, or for a project related to public safety or maintenance required by either the Florida Transportation Commission or the MDX's Trust Indenture.[23] The policy also states that any future construction project that adds center line mileage to an existing MDX road must be funded through toll revenues. The agency's 2018 Comprehensive Annual Financial Report corroborates this, showing contributions from the operating and non-operating revenues to the capital budget.[24] The tolls must be enough to cover the principal and interest of any debt related to the projects funding (p. 2).[25] The June 13, 2013 board meeting minutes stated that debt structure, the debt coverage, and the interest payments of the bond proceeds were reasons for the 2014 toll rate change.[26]

Toll rate changes and rationale:

During the 2007-2017 period we analyzed, tolls on SR 112 rose by 40% in 2014, while tolls on SR 836 rose by 200% in 2007 and 60% in 2014. Though records were unavailable for the 2007 increase, we identified substantial records for the 2014 decision. The March 19, 2013 MDX board meeting minutes state the use of revenues raised by the Authority. At the time of the decision to raise tolls, the Authority was about to become Open Road Tolling (cashless electronic tolling), so the minutes indicate the board outlined their use of the funds and other implications of the increase. The board considered tying State Roads (SR) 112 and 836's toll rates to the Consumer Price Index (CPI). While this motion failed, they did raise tolls in March of 2013. The purpose of the increase was to better cover the operating expenses needed at the

[22] https://www.miamiherald.com/news/local/community/miami-dade/article233589127.html

[23] https://www.mdxway.com/pdf/Amended%20and%20Restated%20Trust%20Indenture.pdf p. 1-2

[24] https://www.mdxway.com/pdf/annual_reports/CAFR_2018.pdf p. 65

[25] https://www.mdxway.com/pdf/TollRatePolicy.pdf?1

[26] https://www.mdxway.com/events/transcripts/772/original_Summ_Minutes_JUNE_18_2013.pdf?1379938152 p. 6

time.[27] Minutes note lower than projected revenues. Some documents, such as the 2014 Comprehensive Annual Financial Report,[28] approved in December 2014, show as much as a $5 million shortfall between projected and actual revenues.[29]

The most recent change was started July 2017, as a bill,(HB 1049 of 2017), that both authorizes FDOT to require authorities to use an interoperable transponder for toll collections and for certain toll operators to reduce their tolls by a specified amount.[30] The bill also requires any toll increases to be justified with an independent study. The toll reduction was required by the Florida legislature, rather than by MDX, with a caveat that if they did not reduce their tolls, the entire authority's board would be removed.[31] The MDX board discussed the reduction on December 5, 2017, as well as the results of their analysis of the effects a rate decease would have on operations, using four scenarios to discern the impact of the proposed reductions,[32] though the minutes do not specify exactly how much the scenarios impacted their decision. The committee members' goal was to reduce the tolls, with the reduction taking place May 29, 2018.

The MDX website identifies both what MDX toll revenue can be used for, as well as how the toll rates can be modified by the agency. MDX's latest toll rate policy was first adopted on March 2013 and edited December 2018. The policy states that MDX intended for toll revenue to be used for operations, maintenance, and improvements to the MDX system, including other MDX projects, and development of alternative transportation options. The 2018 CAFR showed this with their contributions to the Dolphin Station Park and Ride, saying the money was used to subsidize construction and operation of the facility, though not the transit service.

[27] https://www.mdxway.com/events/transcripts/772/original_Summ_Minutes_JUNE_18_2013.pdf?1379938152 p. 6-7

[28] https://www.mdxway.com/pdf/annual_reports/2014_CAFR-FINAL.pdf

[29] https://www.mdxway.com/events/transcripts/865/original_Summ_Minutes_Dec._9_2014.pdf?1435242980 p. 4

[30] https://www.flsenate.gov/Session/Bill/2017/1049

[31] https://www.mdxway.com/events/transcripts/1195/original_Summ_Minutes_May_29__2018.pdf?1531231414 p. 3

[32] https://www.mdxway.com/events/transcripts/1146/original_Summ_Minutes_December_5__2017.pdf?1522851476 p. 6

Table 9: Miami-Dade Expressway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2014	Miami Airport Expressway (SR 112)	✔							
2007	East-West (Dolphin) Expressway (SR 836)	✔	✔	✔					
2014	East-West (Dolphin) Expressway (SR 836)	✔							

Methodology:

Using records of toll rate changes since 2007, we found that the rate has changed significantly two times over the past decade: once in 2007 and again in 2014. We researched the organization by searching for meeting minutes leading up to these years, either on the same year or in the last three to four months the previous year. If we were unable to find the information we were looking for in that period, then we expanded our search until we found it. Unfortunately, meeting minutes leading up to the 2007 increase were unavailable, so the analysis focuses on the latter increase.

Central Florida Expressway Authority

The Central Florida Expressway Authority (CFX), known as the Orlando–Orange County Expressway Authority (OOCEA) until 2014, which we classify as a *Toll Road Authority* due to its focus on toll roads.[33]

Authority to authorize bonds:

In 2009, OOCEA discussed increasing the toll rate. The meeting minutes for the OOCEA Board stated that the bond covenants required a 1.2 debt service ratio coverage and the agency had enacted a policy requiring a 1.3 ratio in order to ensure credibility with credit rating agencies and avoid any threat of default. Their target coverage is 1.5, with the rating agencies expecting them to surpass this regularly (Orlando–Orange County Expressway Authority, p. 09-025 – 09-026, February 16, 2009).

The CFX's current debt policy has not changed significantly from under OOCEA, stating that CFX must show its revenues can cover existing and new debts at a 1.2 ratio. The CFX's current policy is designed to maintain a minimum coverage ratio of 1.45 on existing and planned debt issues for senior lein debt servicing, though they have usually tried to maintain a ratio of 1.6. (Central Florida Expressway Authority, p. 4, 2017).

Toll rate changes and rationale:

The Florida Statutes (FS 338.165) detail the process through which an Authority can alter its toll rates (a law approved in 2003). The statute stated that toll rates had to be indexed to the CPI or other inflation indicator for then-existing facilities, and authorities could further adjust their toll rates for inflation at a minimum, once a year, and no less frequently than every five years (FS 338.165). In addition, the statute states how the revenue is to be used, providing that any revenue-producing projects on the Florida state highway system are to use surplus toll revenue for the construction, maintenance, or improvement on any road in the highway system that is within the counties served by the road. This also applies for revenues going to non-highway system roads. The main way agencies and authorities can raise toll rates is by adjusting for inflation, set to the Consumer Price Index. CFX has needed to raise tolls at least once every five years. It appears that they can raise their rates above this limit, though only through bond documents, covenants, governing body authorization, or passage of a department administrative rule.

The two roads operated by the OOCEA that raised tolls during 2007-2017 over the threshold amount saw increases in 2009 of 25% for SR 429, 40% for SR 408, 29% for SR 528, and 33% for SR 417. OOCEA also raised tolls at 10%, 9%, 9% and 10%, respectively, in 2012, though this was below our 15% threshold for inclusion in our quantitative analysis.

The February 16, 2009 minutes discussed raising tolls for the OOCEA system. Part of the reason for doing this was in response to the 2007-2008 recession. The revenue from the toll roads was dropping and the Authority was concerned about its ability to cover debt servicing agreements. Most of the discussions on the toll increases were related to the bondholders, and the

[33] https://www.cfxway.com/wp-content/uploads/2019/07/07.10.19CFXCorporate-Brochure-FY19-Final-for-Web.pdf

effects of the increase on the public. Meeting minutes also mentioned in the responses that the Wekivia Parkway (SR 429) would not be constructed if there was no toll increase.[34]

There were also rate increases in 2012, though the increases were below our threshold (only 10% and 9% increases). Minutes from the process of raising tolls this time indicate the increases were intended to support general operations and bond measure financing, as well as fulfill a legislative mandate (January and April, 2012, OOCEA Meeting Minutes). Statements recorded in both the April and the January 2012 minutes also indicate that part of the increase could be used for capital improvements or construction along the Beachline roads and Bee Line roads. A look at the CAFR for the Authority confirms that revenue uses were tied to operations, capital improvements, debt servicing and other internal uses.[35]

Records found in the operations committee meeting minutes from April 10, 2012 show that the Authority enacted sweeping toll increases to support debt servicing for better financingthe roads. These increases were also meant to be done in accordance with increases done by the Florida Department of Transportation (FDOT) on its own roadsThe meeting minutes showed that the increase was coordinated with FDOT (OOCEA Operations Committee meeting, April 10, 2012). These increases were mandated by the legislature for a portion of a road operated by FDOT and Florida Turnpike Enterprise (FTE). The OOCEA is in partnership with FDOT and FTE to collect and index toll revenues the CPI for SR 528. The reason for this is that OOCEA had signed an MOU agreement with FDOT that allows them to collect a $0.25 toll on the SR 528 Beachline Main Toll Plaza (managed by OOCEA). FDOT had to have OOCEA's approval for any such increases in the toll rate (OOCEA board meeting minutes, p. 6, April 25, 2012).

Discussions from the January 2012 OOCEA minutes show how they allocated revenues from the roads and how they decided if a road would continue to be tolled. The discussion in question were in reference to a turnpike in the Beeline Expressway. Part of the discussion was regarding the language of the MOU between FDOT and OOCEA. The focus of the debate was on whether it was good policy to charge for the use of one toll road to pay for the improvements for a different highway (SR. 520).

On February 9, 2017 the (then renamed) CFX had a meeting that involved a substantial change in toll policy. CFX had changed the original schedule for a toll adjustment every five years at either 3% per annum or based on the Consumer Price Index (CPI) (whichever is higher) to a "Consumer First" policy that involved the following toll adjustments: electronic toll adjustments were 1.5% annually or CPI adjustments; Cash toll adjustments involving an adjustment to the next $0.25 when the electronic toll rate was within 10% of the cash rate; and the rate for Pay-by-Plate collection, which would be set by CFX based on the actual costs. There was no stated reason for such a change to CFX's policy; however, changing financial circumstances may have played a part, as revenues collected were well above projections, 5% above projections and 8% above the previous year.

[34] February 2, 2009 Orlando-Orange County Expressway p. 09-30,

[35] https://www.cfxway.com/wp-content/uploads/2019/01/12.23.18CAFR-2018FINAL.pdf

Table 10: Central Florida Expressway Authority/Orlando-Orange County Expressway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2009	Martin Anderson Beachline Expressway Central (SR 528)	✔	✔		✔	✔	✔		
2009	East-West Expressway (SR 408)	✔	✔		✔	✔	✔		
2009	Central Florida Greenway (SR 417)	✔	✔		✔	✔	✔		
2009	Daniel Webster Western Beltway (SR 429) - OOCEA	✔	✔		✔	✔	✔		

Methodology:

Meeting minutes associated with the years preceding rate increases were obtained through records requests and used to analyze the reasoning for toll increases. Financial records, legislative actions, and bills were also researched and reviewed to understand the motivations behind the toll rate increases.

Florida Turnpike Enterprise/Florida Department of Transportation

The Florida Turnpike Enterprise (FTE) is a business unit that is part of the Florida Department of Transportation (FDOT). Thus, for classification purposes, we categorized it as *State DOT*, and because FTE operates every toll facility of FDOT, we discuss the two entities together here.[36] The Pinellas Bayway System was originally a series of bridges on a toll road system that was nested within the Florida DOT, however a legislative change in 2016, HB 7027, allowed the system to be transferred to the Florida Turnpike Enterprise, an organization under the Florida Department of Transportation, along with funds to be used to repair or replace the transferred facilities. Alligator Alley (I 75) was originally a toll facility that operated a two-lane road between Naples and Fort Myers, and Fort Lauderdale and Miami. The Florida Turnpike Homestead Extension (HEFT), and the Sawgrass (SR 869), Seminole (SR 417), and Veterans Expressways (SR 589) all are designated as either mainline projects (HEFT) or expansion projects (the Expressways).

Authority to authorize bonds:

The 2018 CAFR states that the interest payments for the bond measures given were paid for by the toll rate increases. Debt servicing was an important criterion for measuring toll reveneus for the 2019 fiscal year from FTE's perspective (Florida's Turnpike System, p. 8, 2018).

Toll rate changes and rationale:

The six roads operated by FTE that had toll increases between 2007-2017 at or above the 15% threshold all increased by 33-50% in 2012, followed by 1-3% annual increases between 2013-2015, no increase in 2016, and 1% increases in 2017. Indeed, the Florida Turnpike Toll Operations Annual report states that in 2012 there was an increase in the cash tolls across the Pinellas Bayway System as well as all other facilities. [37] This was for both the facilities with both FTE and FDOT. However, there was a decrease in tolls for SunPass users on many of the toll facilities. The same report also stated that the Legislature required the Turnpike System to adjust its rates based on the Consumer Price Index every 1-5 years. The rate changes were made in accordance with the requirement, with much of their expenses reserved for operating and maintenance costs.[38]

The Florida Traffic Engineer's 2012 report clarified the reasons for why, when the original Consumer Price Index (CPI) based adjustments were enacted in 2007, the toll rates did not change until 2012, due to a legislative provision that gave the Turnpike system five years to enact the modifications. The Turnpike decided to delay the increase until 2012 to soften the impact just after the economic recession.[39] As this demonstrates, the Enterprise is ultimately

[36] http://www.floridasturnpike.com/about.html

[37] http://www.floridasturnpike.com/documents/reports/Toll%20Operations%20Annual%20Report/2012/Department-owned%20Facilities.pdf p. 51-60

[38] http://www.floridasturnpike.com/documents/reports/Toll%20Operations%20Annual%20Report/2012/Department-owned%20Facilities.pdf p. 51-60

[39] http://www.floridasturnpike.com/documents/reports/Traffic%20Engineers%20Annual%20Report/2012/Executive%20Summary%20Draft.pdf

controlled by the Legislature, though the board had a degree of control over toll pricing decisions within prescribed boundaries.

Specifically, the Florida Administrative code was changed in 2011 to Rule: 14-15.0081[40] regarding the process for the DOT/Florida Turnpike Enterprise to change toll rates for their system. Thereafter, the toll rates for all their toll facilities were to be changed based on the annual adjustments in accordance with the Consumer Price Index.[41] The effect of the new policy is apparent in toll rates. Indeed, all adjustments after 2012 appear to be based off the changes to the CPI. Records of the toll rate changes show a consistent 2% adjustment between 2013 and 2017 (with only one year, 2016, being 0%). Also, the increases changed from occurring once every five years to once every year, in accordance with the new law. (The new law also stipulated that a negative adjustment in the CPI would result in no change.[42]) Indeed, similar changes were seen in the other toll systems managed by FTE (not only Pinella Bayway System).

State law also limits the impact DOT rules can have, specifying that the Department of Transportation is allowed to create new rules in relation to transportation law as long as they do not adversely impact small businesses, nor increase regulatory costs more than $200,000 within one year (Department of Transportation RULE NO.: RULE TITLE: 14-15.0081).[43] Based on the information gathered and email attempts to receive information, it appears that DOT is able to make rule changes to alter the toll rate, within clear parameters.

Table 11: Florida Turnpike Enterprise/Florida Department of Transportation substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2012	Florida Turnpike Homestead Extension	✔			✔	✔	✔		
2012	Martin Anderson Beachline Expressway West (SR 528)	✔			✔	✔	✔		
2012	Seminole Expressway	✔			✔	✔	✔		

[40] https://www.flrules.org/gateway/readFile.asp?sid=2&tid=10446529&type=1&File=14-15.0081.htm
[41] https://www.flrules.org/gateway/readFile.asp?sid=2&tid=9287088&type=1&File=14-15.0081.htm
[42] https://www.flrules.org/gateway/ruleNo.asp?id=14-15.0081
[43] https://www.flrules.org/gateway/readFile.asp?sid=2&tid=10446529&type=1&File=14-15.0081.htm

	(SR 417)								
2012	Veterans Expressway (SR 589)	✔			✔	✔	✔		
2012	Southern Connector Extension (SR 417)	✔			✔	✔	✔		
2012	Pinellas Bayway System	✔			✔	✔	✔		
2012	Alligator Alley (I 75)	✔			✔	✔	✔		
2012	Sawgrass Expressway (SR 869)	✔			✔	✔	✔		

Methodology:

The research team started used history of the Pinellas Bayway to begin its data search; from there we searched for the reports that help explain the 7% reduction from 2012. We found the administrative code changes on FTE's website and saw that the toll rate policy had changed in 2012 to an annual rate change. We then checked the Florida Turnpike Enterprise website to find older reports and records of actions. However, we were able to find how the toll rate changed. While the large scale of the agency meant we were unable to find the meeting minutes that related directly to the rate changes of a single road, we were able to locate 2012 reports on toll operations that stated how the rate has changed and for what reasons they changed. Reading the report, we found that other roads managed by the agency appear to have followed a similar pattern, changing from larger scale, infrequent, rate changes to smaller 2% annual rate increases. We also contacted DOT staff by email to clarify anything that was not apparent from documentary evidence.

Further study of norms regarding management of FTE roads might indicate whether local municipalities have a say in the day to day operations or toll variations, or if all decisions are at the sole discretion of FTE.

Tampa-Hillsborough County Expressway Authority

The Tampa-Hillsborough County Expressway Authority (THEA) operates the Lee Roy Selmon Expressway for Hillsborough County, Florida. According to statute, THEA's purpose is "to facilitate transportation, including managed lanes and other transit supporting facilities…" For this reason, we classify it as a *Transportation Authority* (Chapter 348, §53).

Authority to authorize bonds:

Debt servicing is listed as an important goal on THEA's 2015 Annual Report.[44] The long-term debt is an important topic for the Authority. Servicing this debt, and paying off bond liabilities, is considered a significant topic on the THEA Financial Statement.[45]

Toll rate changes and rationale:

Information regarding their toll rate change policies is sparse. THEA's 2015 Annual Report states that since 2012 the Authority indexed its toll rate to adjust based on inflation. Rate changes were variable and infrequent prior to 2015, with rates increasing by 25% in 2007, and 8% in 2014 (though this was below our analysis threshold, and not included in the quantitative analysis). Beginning in 2015, rates have increased annually, at a 2-3% rate.[46] Documents to not provide specific reasons for the toll rate increases.

Financial statements taken from the Authority show that revenues from their expressways are used primarily for infrastructure maintenance and capital improvements. Documents also indicate the Authority spent money annually on routine maintenance, renewal, and replacement costs.[47] The Operating Budget shows that toll operations and maintenance are the main use of revenues, as well as debt service payments.[48] However documents were not specific as to the actual motivation for raising tolls in 2007 and 2015, so in Table 12, we only check those reasons that we could find evidence for.

Table 12: Tampa-Hillsborough County Expressway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Othe
2007	Lee Roy Selmon Crosstown Expressway								
2015+	Lee Roy Selmon				✔				

[44] https://www.tampa-xway.com/wp-content/uploads/2019/03/THEA_2015_Annual_Report_final.pdf p. 27
[45] https://www.tampa-xway.com/wp-content/uploads/2019/02/THEA-Finanical-Statements-FY-2018.pdf p. 11
[46] https://www.tampa-xway.com/wp-content/uploads/2019/03/THEA_2015_Annual_Report_final.pdf p. 25
[47] https://www.tampa-xway.com/wp-content/uploads/2019/02/THEA-Finanical-Statements-FY-2018.pdf p. 5
[48] https://www.tampa-xway.com/wp-content/uploads/2018/07/FY19-BUDGET-Adopted-May-21-2018.pdf

	Crosstown Expressway								

Methodology:

Using records of toll rate changes over 10 years, we found that the rate had changed significantly two times over the past decade: once in 2007 and again in 2014. We researched the organization by searching for meeting minutes around these years, either on the same year or in the last three to four months the previous year. A Freedom of Information Act request was sent regarding information and meeting minutes relating to the 2007 increase but did not receive a response.

Osceola County Expressway Authority

The Osceola County Expressway Authority (OCEA) covers Oceola County. The tollway connects Disney World with Interstate 4 and with the Florida Turnpike. This was a free road until 1995, when it was converted into a toll road in order to pay its widening. The May 2012 Osceola County Transportation Funding Study stated that the intention of the toll facilities operated by the Osceola County Transportation System was for the facilities to be funded exclusively through the toll revenues.[49] Since this authority's responsibilities were limited to toll road operation, we classify it as a *Toll Road Authority.*

Authority to authorize bonds:

The 2009 Comprehensive Annual Financial Report (CAFR) states that the toll revenues are used to pay for bonded debt.[50]

Toll rate changes and rationale:

OCEA raised tolls on Osceola Parkway by 17% in 2009, as well as 14% in 2014 (though the latter was below our threshold for quantitative analysis). The 2009 toll rate increase was discussed during a regular Board County Commissioners meeting on March 30, 2009. In the meeting they stated that the toll increase was a result of a contractual agreement (a trust indenture) when the parkway was originally built. When the Parkway was originally financed in 1992 there were four scheduled toll increases: 1999, 2004, 2009, and 2014. These increases were beyond the power of the board to alter.[51]

The 2009 Osceola County CAFR stated that the Parkway was part of their proprietary fund (enterprise fund). This was for business-type activities and was supported by service charges (tolls) and interest earnings. The CAFR also stated that the Parkway was created to fund the operations and maintenance of the roadway.[52] The 2018 CAFR makes a similar statement,

[49] https://www.osceola.org/core/fileparse.php/2865/urlt/071112_TransportationFundingStudy_FinalReport.pdf p. 2-15

[50] https://www.osceola.org/core/fileparse.php/2725/urlt/0407100_2009OsceolaCountyCAFR.pdf p. 46

[51] Board of County Commissioners of Osceola County, Florida, March 30, 2009 Regular Meeting Minutes (P. 17)(318271.PDF)

[52] https://www.osceola.org/core/fileparse.php/2725/urlt/0407100_2009OsceolaCountyCAFR.pdf p. 11

while also stating that the toll road funds had been used for another toll road (Poinciana Parkway Toll Roads) as well as this one, supporting both maintenance and operations of Poinciana Parkway and financing of Osceola Parkway.[53]

Table 13: Osceola County Expressway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2009	Osceola Parkway				✔	✔			

Methodology:

Recovered reports provided information about the financial and operational status of the county. We requested relevant meeting minutes, providing information about toll increases in the May 30 minutes. As the Osceola County Expressway Authority no longer exists, all their projects have been transferred over to the Central Florida Expressway Authority.[54]

[53] https://www.osceola.org/core/fileparse.php/2731/urlt/040219_Osceola-County-FL-2018-CAFR.pdf p. 12

[54] https://www.mynews13.com/fl/orlando/news/2018/12/11/osceola-county-expressway-authority-coming-to-an-end

State: Illinois

Road	Public Entities	Private Entities	Years of Inquiry
Reagan	Illinois State Toll Highway Authority		2012, 2015, 2016, 2017
Tri-state	Illinois State Toll Highway Authority		2012, 2015, 2016, 2017
Skyway	The City of Chicago	Skyway	2007, 2011, 2013, 2015, 2017

Illinois State Toll Highway Authority

The Illinois State Toll Highway Authority is established by the Toll Highway Act. According to the Act, the Authority is governed by a board of eleven state-appointed members (Illinois State Toll Highway Authority, n.d.). Since this Authority is separate from the state Department of Transportation, we classify it here as a *State-Owned Entity*. The Illinois State Toll Highway Authority board is responsible for the decisions made on the operations and maintenance, as well as the collection and rate of tolls. The board is advised by the Customer Service and Planning Committee and Finance Administration and Operations Committee with regards to toll rate increases.

Authority to authorize bonds:

The Authority has the ability to issue bonds for the improvements, operations, and/or maintenance of the tollways under the Authority's system (605 ILCS 10/17). The bonds are not a debt of the state and should be made payable solely though toll revenues (605 ILCS 10/17). In accordance with the Toll Highway Act, the Authority must submit to the Governor the planned use and cost estimates for which the bonds are to be issued for their approval (605 ILCS 10/14.1).

Toll rate changes and rationale:

The Toll Highway Act provided the Authority the power to collect toll revenue and adjust toll rates. The rates must be set at the "lowest reasonable toll rates" that still provide the requirements specified as (605 ILCS 10/19):

> *(a) the cost of the construction of a toll highway authorized by joint resolution of the General Assembly pursuant to Section 14.1 and the reconstruction, major repairs or improvements of toll highways,*
>
> *(b) the cost of maintaining, repairing, regulating and operating the toll highways including only the necessary expenses of the Authority, and*
>
> *(c) the principal of all bonds, interest thereon and all sinking fund requirements and other requirements provided by resolutions authorizing the issuance of the bonds as they shall become due. (605 ILCS 10/19)*

The revenues, except for a portion retained for operations, that are collected must be transferred to a special fund, the Illinois State Toll Highway Authority Fund that is under the control of the Treasurer of the State of Illinois (605 ILCS 10/24).

During the timeline and scope of the research study, and using the data collected for toll rate changes, the research team identified four years of significant[55] toll increases on two tollways managed by the agency: Reagan Memorial Tollway by 89% in 2012, and the Tri-State Tollway by 88% in 2012.

[55] Substantial amount defined as an increase of above 15% or an increase of a steady pace during multiple years

Table 14: Illinois State Toll Highway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustment	Bond Repayments	State Mandate	Profit	Other
2012	Reagan Memorial Tollway	✔	✔	✔			✔		
2012	Tri-State Tollway	✔	✔	✔			✔		

The November 2008 Board Meeting saw the adoption of Resolution No. 18516, which provided a schedule for future toll increases beginning in 2015 and then continuing in subsequent years, for a ten-year time period (Illinois State Toll Highway Authority, 2008). The schedule provided the maximum rate that could be applied, but was not required to go into effect. The reasons discussed during the meeting included future capital improvements in accordance with the Tomorrow's Transportation Today Capital Plan (Illinois State Toll Highway Authority, 2008).

The increase in 2012 was voted on during the July and August board meetings. During the July 28 meeting, the proposal to raise the tolls to fund priority capital projects was first introduced (Illinois State Toll Highway Authority, 2011a). The majority of the discussion was on the toll increase effects on drivers and the impact of the capital improvements, which included expansions and increased lanes that were thought to provide "significant congestion relief on the arterial lanes in the local area as well as some congestion relief on the Tollway" (Illinois State Toll Highway Authority, 2011a). The proposed toll increase was intended to provide 50% of the funding for the capital improvement, estimated at $12.1 billion over 15 years (Illinois State Toll Highway Authority, 2011a). During the August board meeting, the board heard the formalized plan for the capital improvements and prepared for a vote. Conversations about the minimal toll increase were had as well as an amendment to the resolution that would encourage Illinois construction companies and materials for the capital improvements (Illinois State Toll Highway Authority, 2011b). The resolution and plan passed.

Methodology:

The research team began with a general search of the toll road leading to the Authority's website. The process including locating the board meeting minutes, beginning in 2007, and moving forward. Searches for specific keywords[56] helped locate the information. While information on the toll authority was generally available through their website, the minutes were

[56] Keywords include "toll" "rate" "increase"

organized in such a way that they required significant manual work to obtain the relevant information, and were not easily searchable. Therefore, additional information that could provide levels of insight could have been missed simply due to the manual extraction methods necessary.

Skyway Concession Company LLC

The Chicago Skyway Toll Bridge (Skyway) was built by the city in 1958 (Skyway Concession Company LLC, n.d.). The current 7.8 mile toll road is located in south Chicago and connects the Indiana Toll Road to the Dan Ryan Expressway (Skyway Concession Company LLC, n.d.). After the Skyway was built, it was operated and maintained by the City of Chicago (Skyway Concession Company LLC, n.d.). In 2005, the City of Chicago leased the operations and maintenance to the Skyway Concession Company, LLC on a 99-year term (Skyway Concession Company LLC, n.d.). The Concession and Lease Agreement (the "Agreement") for the operation of the Chicago Skyway Toll Bridge System, stipulating the requirements of the operator with regards to debt obligations, rate changes, general limitations, and use of revenues (The City of Chicago, 2004). Since this road is operated through a concession with the City, we classify it as *Public-Private Partnership (or P3).*

Toll rate changes and rationale:

Attached to the Agreement was a maximum toll rate schedule. This schedule included the maximum possible rate for a given time period the operator may charge. The summary of the maximum rates is included below for a 2-axle vehicle.

Table 15: Chicago Skyway Toll Bridge maximum toll rate for 2-axle vehicles (The City of Chicago, 2004)

Begin Year	End Year	Rate
Jan. 2005	Dec. 2007	2.50
Jan. 2008	Dec. 2010	3.00
Jan. 2011	Dec. 2012	3.50
Jan. 2013	Dec. 2014	4.00
Jan. 2015	Dec. 2016	4.50
Jan. 2017	Dec. 2017	5.00
Beginning each one (1) year anniversary of January 1, 2017, any increase can be the greater of adjusting for inflation, adjusting for per capita GDP, or 2%.		

According to this agreement, at any time, the operator can choose to charge a rate that is less than the maximum possible rate (The City of Chicago, 2004).

Within the scope of the research team's study, the toll rate for the Skyway has significantly[57] increased in five years, aligned with the Agreement's maximum rate (20% increase in 2008, 17% in 2011, 14% in 2013, 13% in 2015, and 11% in 2017, though the last three were below our threshold for quantitative analysis). According to the Agreement, the operator has the power to set the toll rate of their choice so long as it is at or below the maximum rate specified for the time period. The research team was not able to find stipulations that the operator needed to have written approval or provide publicly available information as to the decision to change the toll rate. The operator is required to notify the city no later than ninety days prior to the implementation of the changes and to the public sixty days prior to the change (The City of Chicago, 2004).

Table 16: Chicago Skyway Toll Bridge substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustment	Bond Repayments	State Mandate	Profit	Other
2008	Chicago Skyway Toll Bridge	✔				✔		✔	
2011	Chicago Skyway Toll Bridge	✔				✔		✔	

Article 7 of the Agreement specifies the use of the Skyway's toll revenues. "The Concessionaire shall use all toll revenues for debt service related to the Skyway and for the costs necessary for the proper operation and maintenance of the Skyway" (The City of Chicago, 2004). Only after the debt, operation, and maintenance costs are accounted for, can the operator then distribute the remaining revenues to the holders of equity interest (The City of Chicago, 2004).

In 2015, the Skyway Concession Company LLC's primary equity owners, Cintra and Macquarie, announced their sale of the Chicago Skyway (Federal Highway Administration, n.d.). The new owners, as of November 2015, are three Canadian investment companies (Federal Highway Administration, n.d.). The sale did not make changes to the limitations and restrictions of the Agreement, in accordance with Section 17(a) (ii) (The City of Chicago, 2004; The City of Chicago, 2016).

Methodology:

The operator in this instance only manages a single toll road, so road selection was not a necessary consideration. The specific years selected for analysis were chosen because they,

[57] Significant increases are defined as an increase of 15% or more, a decrease of 5% or more, or a steady increase over years

initially, increased by over 15%. Following the first years of increase, there existed a pattern of increase that can be attributed to the single concession agreement.

The research team began information collection with a general online search for the Skyway. This resulted in information from the Federal Highway Administration and the private LLC's website. Initially, it was difficult to find the concession information as there is no direction or documentation presented on the private LLC's website. However, the research team directed focus to the City of Chicago's website where the concession agreement, and other documents were available.

The private operator of the Skyway Bridge is not required to publicly announce its intentions or rationale behind adjusting toll rates. Therefore, we did not find the exact reason for the rate increases from documentation, though it can be interpreted. Since the operator has raised the rate to the maximum amount at each opportunity, the operator is likely raising the toll rate to ensure debt, operations, and maintenance are covered with a remaining amount leftover. Only then can the remaining revenues be distributed to the owners of the LLC.

State: Indiana

Road	Public Entities	Private Entities	Years of Inquiry
Indiana Toll Road	Indiana Finance Authority	Indiana Toll Road Concession Company	2017 (131%)

Timeline: Built by Indiana Toll Road Commission (1950s) -> Concession agreement w/ ITRCC (Cintra-Macquarie Consortium) (June 2006) -> ITRCC files bankruptcy (September 2014) -> IFM acquires ITRCC (May 2015)

Indiana Toll Road Concession Company, LLC

The Indiana Toll Road (ITR) began operation in 1956 and was controlled by public entities for the majority of the existence (Federal Highway Administration, n.d.). In 2006, operation and management was leased to the Indiana Toll Road Concession Company, LLC (ITRCC) through a concession agreement (the "Agreement") with the Indiana Finance Authority (IFA) (Federal Highway Administration, n.d.). Consequently, we classify the ITR as a *Public-Private Partnership (P3).*

The IFA, through the Major Moves legislation championed by Indiana Governor Mitch Daniels, was authorized to investigate and select proposals for the ITR concession (Federal Highway Administration, n.d.). At the time of the 75 year lease Agreement, ITRCC was owned equally by Cintra and Macquarie (Federal Highway Administration, n.d.). For a total of $3.8 billion, the concession was awarded and full operational responsibility was given to ITRCC in June of 2006 (Federal Highway Administration, n.d.). As part of the Major Moves program, the lease of the ITR funded the majority of the Major Moves transportation infrastructure projects (Indiana Department of Transportation, n.d.).

Toll rate changes and rationale:

Within the time frame and scope of this research project, the ITRCC increased the toll rates by either a substantial single-year amount in 2017.[58] The 2017 personal vehicle toll rate increase was included as a substantial percent increase (131% in one year).

Table 17: Indiana Toll Road Concession Company, LLC substantial rate changes between 2007-2017

Reasons for chan

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Oth
2017	Indiana Toll Road				✔			✔	

The lease agreement between the Indiana Finance Authority and the Indiana Toll Road Concession Company, LLC outlines the maximum possible toll rate the ITRCC could set for a given time period (Indiana Finance Authority, 2017). This schedule includes increases that can be set, primarily for vehicles containing 3 or more axles, with the exception in the 2017 amendment to include an increased rate for personal vehicles as well (Indiana Finance Authority, 2017). The logic expressed in the schedule and updated lease contained calculations and estimates for GDP and CPI historical changes to guide the regulation of toll increases (Indiana Finance Authority, 2017). The research team found no requirement of the concessionaire to provide a reason for increasing tolls based on the approved schedules.

[58] Substantial amount defined as an increase of above 15% or a decrease of at least 5%

Methodology:

The research team began with a general internet search using keywords from the toll road name. After the previous public and current private operators were identified, the research team began to locate the authorizing legislation and lease agreements. In the search to find authorization and the lease agreement, motives for the original selling of the ITR were identified and considered relevant.

As the Indiana Toll Road Concession Company, LLC is a private entity, they do not provide meeting minutes or other documents that contain reasons or justification for their toll rate decisions. It must be assumed that the company operated in the interest of their equity lenders and stakeholders, within the confines of their legal responsibilities.

State: Maine

Road	Public Entities	Private Entities	Years of Inquiry
Maine Turnpike	Maine Turnpike Authority		2007-2017

Maine Turnpike Authority

The Maine Turnpike Authority (MTA) was created by the Maine Legislature to operate the Maine Turnpike. The turnpike was financed with revenue bonds and Maine Department of Transportation (MDOT) transfers, though because MTA is a separate entity from MDOT, we classify it here as a *State-Owned Entity*. The turnpike is a section of Interstate 95 that goes from Kittery to Houlton.[59]

Authority to authorize bonds:

The MTA is primarily funded through revenue bonds. However, there is no mention of the bonds or other debt servicing when the toll rate increases. As such it doesn't seem that debt servicing is one of the reasons for toll rate changes.

Toll rate changes and rationale:

Toll rates between 2007-2017 increased by 20% in 2009 and 34% in 2012. The need to increase rates began in 2008, as revenues from toll collections decreased. In response, a toll rate increase was approved by the MTA Board of Directors in December 2008 to pay for highway and bridge repairs.[60] Funds were also reallocated from the operating budget.

Several years later, in 2012, the Authority board approved new tolls for the Maine Turnpike. The reason given was so the Authority could continue to maintain and rehabilitate the MTA's bridges interchanges, and pavement network.[61] The rate increase was given final approval in August 2012.[62]

Table 18: Maine Turnpike Authority substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2009	Maine Turnpike	✔							
2012	Maine Turnpike	✔							

[59] https://smpdc.org/vertical/sites/%7B14E8B741-214C-42E2-BE74-5AA9EE0A3EFD%7D/uploads/KACTS_Full_2019_LRTP_DRAFT_01_31_19.pdf p. 19

[60] http://www.maineturnpike.com/getattachment/Business-With-MTA/Investor-Relations/MTA-Annual_Report_2008.pdf.aspx?lang=en-US p. 11

[61] http://www.maineturnpike.com/News/Recent-News/Turnpike-Authority-Board-Gives-Preliminary-Approva.aspx

[62] http://www.maineturnpike.com/News/Recent-News/Maine-Turnpike-Board-Gives-Final-Approval-to-Raise.aspx

Methodology:

The research team used records of the toll rate and toll revenue changes between 2007 and 2017 to identify years for study of primary sources. We searched the MTA website for information, using the search function to locate reports and news articles regarding the rate changes, which provided reasons for the increases. We searched the annual reports to corroborate these findings for the 2009 toll increase, as there were no meeting minutes available on the MTA website. Further searches helped us find the LRTP, TIP and State Transportation Improvement Plan.

State: Maryland

Road	Public Entities	Private Entities	Years of Inquiry
JFK Memorial Highway	Maryland Transportation Authority		2007-2017
Inter County Connector	Maryland Transportation Authority		2007-2017

Maryland Transportation Authority

The Maryland Department of Transportation (MDOT) supervises most transportation in the state, but the Maryland Transportation Authority (MDTA) funds toll facilities with toll revenues (MDTA's Chairman is also the Transportation Secretary, and appointed by the Governor).[63] As an independent entity from the DOT, we classify MDTA as a *State-Owned Entity*. MDTA operates facilities across the state, including the John Fitzgerald Kennedy Memorial Highway (JFK; MD 200) and the Intercounty Connector (MD 200), which we selected for analysis based on their significant rates of increase/decrease (JFK Memorial Highway tolls increased by 33% in 2014, and decreased by 17% in 2015; Intercounty Connector tolls increased by 10% in 2014 and decreased by 12% in 2015).

Authority to authorize bonds:

The United States Department of Transportation lists the Intercounty Connector as relying on bond funding, backed by toll revenues.[64] Reports from the state of Maryland also indicate MDTA relies heavily on both revenue bonds and toll revenues.[65]

Toll rate changes and rationale:

The 2014 toll rate was approved by the MDTA Finance Committee on September 2013, and approved by the Board of Directors that same month. There were no specific reasons given for the 2014 increase.[66] The rates were stated to be set at the same level as the Intercounty Connector.[67]

The 2015 toll rates were reduced as part of a political promise by Governor Larry Hogan. There does not appear to be any other reason for the rate decrease of 2015 aside from this political mandate.[68] On March 26, 2015 MDTA's Board of Directors started to gather approval for the reduction.[69] The toll rate was reduced on May 7, 2015 based on staff recommendations.[70]

Table 19: MDTA substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Increases	Bond Repayments	State Mandate	Profit	Other
2014	JFK Memorial Highway (I								

[63] https://mdta.maryland.gov/About/About_the_MDTA.html
[64] https://www.transportation.gov/tifia/financed-projects/intercounty-connector
[65] https://mdta.maryland.gov/sites/default/files/Files/Board_Policies/Debt%20Management%20Policy%20Approved%208%2030%2018.pdf
https://mdta.maryland.gov/sites/default/files/Files/Board_Policies/Board_Policy_Revenue_Bonds_02-27-2014.pdf
[66] Maryland Transportation Authority Finance Committee Monthly Meeting Thursday, September 5, 2013 Minutes
[67] Maryland Transportation Authority Monthly Capital Committee Meeting Thursday, September 5, 2013 Minutes
[68] https://mdta.maryland.gov/blog-category/mdta-news-releases/governor-hogan-rolls-back-tolls-statewide-saving-marylanders-54-million-a-year
[69] Maryland Transportation Authority Board Meeting Thursday, March 26, 2015
[70] Maryland Transportation Authority Board Meeting Thursday, May 7, 2015

	95)								
2015	JFK Memorial Highway (I 95)						✔		
2015	Intercounty Connector (MD 200)						✔		

Methodology:

The research team researched MDTA based on the toll records from 2007-2017. We examined the Authority's website and the governor's mandate over the agency. We received meeting minutes through a FOIA request, looking at the MDTA's board's reasoning for altering toll rates.

State: Massachusetts

Road	Public Entities	Private Entities	Years of Inquiry
Massachusetts Turnpike	Massachusetts Department of Transportation		2013 (74%), 2016 (-10%)

Massachusetts Department of Transportation

Previously, the Massachusetts Turnpike was under the operation and management of the Massachusetts Turnpike Authority. In 2009, the Massachusetts Turnpike Authority, with the powers to maintain, operate, issue bonds, and collect tolls on the Turnpike, was disbanded and absorbed into the Highway Division within the Department of Transportation (DOT) (Massachusetts Secretary of State Department, 2019), which we classify as a *State DOT* for this study.

Authority to authorize bonds:

In accordance with the Department of Transportation's absorption of the responsibilities and assets of the Massachusetts Turnpike Authority, the DOT was provided all powers relevant to the duties and expectations of issuing bonds. In the Act Modernizing the Transportation Systems of the Commonwealth, the Department of Transportation assumed the powers to issue bonds, collect tolls, operate and maintain the Massachusetts Turnpike (Mass. Gen. Laws ch. 25).

Toll rate changes and rationale:

The research team identified two years of significant[71] toll rate changes for the Turnpike in Massachusetts. Therefore, the focus in this section is limited to the Massachusetts Turnpike toll rate 74% increase in 2013, and 10% rate decrease in 2016. A toll increase was also proposed in 2008; however, it was avoided by merging the Massachusetts Turnpike Authority into the Department of Transportation (Massachusetts Department of Transportation, 2012).

Table 20: Massachusetts Department of Transportation substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2013	Massachusetts Turnpike (I 90)		✔						
2016	Massachusetts Turnpike (I 90)						✔		

Effective October 15, 2013, the Board of Directors for the Department of Transportation reinstated tolls at six interchanges on the Massachusetts Turnpike (Massachusetts Department of Transportation, 2013). This action was first approved through legislation by Chapter 46, Section

[71] Significant rate changes are identified as increases equal to or greater than 15% and decreases equal to or greater than 5%.

13 of the Acts of 2013. In an article found on MassLive, the press secretary at the time for the Massachusetts DOT, Sara Lavoie, said the six reinstated tolls' revenue was intended for "road projects" (Johnson, 2013).

In 2016, the Massachusetts Department of Transportation introduced the all-electric tolling system that would replace the toll plazas prevalent at the time. As part of the new tolling system, public meetings were set in September of 2016 to discuss the implementation of electronic tolling and toll rate structure changes (Massachusetts Department of Transportation, 2016). Along with the implementation of electronic tolling, DOT provided E-ZPass transponders with a new discount (Massachusetts Department of Transportation, 2016). Additionally, during the first half year of implementing the new system, they offered a discount on E-ZPass usage to all drivers who registered online during a specified grace period (Massachusetts Department of Transportation, 2017).

Methodology:

The research team began through general web searches including the Massachusetts Turnpike title and like keywords. It was identified in state legislation that the Department of Transportation has authority over the Turnpike. Meeting minutes and documentation surrounding the dates of significant toll rate changes were sought. A FOIA request was necessary to retrieve relevant Department of Transportation board meeting minutes. News articles were also identified to fill in the gaps where meeting minutes were not available.

State: New Hampshire

Road	Public Entities	Private Entities	Years of Inquiry
Central (Everett)Turnpike (39.5)	New Hampshire Department of Transportation http://www.snhpc.org/ www.nashuarpc.org		2007 (33%)
Spaulding Turnpike (33.2)	New Hampshire Department of Transportation http://www.strafford.org		2007 (51%)

Other notes:

The Department requested and was authorized by the Governor and Council, to increase the rate of tolls effective October 22, 2007 in Hooksett, Bedford, Dover, Rochester Mainlines, and Hampton Side by $0.25 for single rear tire vehicles (classes 1-4) and by $0.50 for dual rear tire vehicles (classes 5–12). Further, the rate was also increased for the Hampton Mainline Toll by $0.50 for single rear tire vehicles (classes 1-4) and by $1.00 for dual rear tire vehicles (classes 5–12). This additional revenue will be used to fund Turnpike expansion programs.[72]

[72] https://www.nh.gov/dot/org/operations/turnpikes/documents/TPK2007AnnualReport.pdf

Bureau of Turnpikes (New Hampshire Department of Transportation)

The Bureau of Turnpikes is a division of the New Hampshire Department of Transportation, and therefore we classify it as a *State DOT*. The Bureau operates the Turnpike System of New Hampshire and is allowed to set toll rates, collect toll revenue, and make decisions for the use of the funds (New Hampshire Department of Transportation, n.d). As written on the Bureau's website, "…tolls have been set at levels at least sufficient to meet operating expenses and maintenance costs, sustain a capital improvement and renewal and replacement program as well as repayment of debt service on bonds issued for Turnpike System purposes" (New Hampshire Department of Transportation, n.d).

Authority to authorize bonds:

The Turnpike System, under the authority of the Department of Transportation, is able to issue bonds pursuant of their powers and responsibilities. The bonds are in the name of the state and must mature up to 30 years into the future from the date they are issued (N.H. Rev. Stat. Ann. § 237:8).

Toll rate changes and rationale:

The research team focused on two roads, Everett Turnpike and Spaulding Turnpike, due to the significant[73] toll rate increases in 2007 (33% increase for Everett, 51% for Spaulding). Additionally, the two roads are the longest operating toll roads in the Turnpike System, being 39.5 miles and 33.2 miles, respectively. (The third road operated by the Bureau of Turnpikes is the Blue Star Turnpike, which saw a 50% increase in 2007, and a 33% increase in 2009). The 2007 toll increases were approved by the Governor and Executive Council during an October 3, 2007 meeting (New Hampshire Governor and Executive Council Minutes, 2007).

Table 21: Bureau of Turnpikes substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Increases	Bond Repayments	State Mandate	Profit	Other
2007	Everett Turnpike	✔	✔						
2007	Spaulding Turnpike	✔	✔						

The October 3, 2007 meeting minutes do not include the motivations that led to the toll increase and the Governor's Advisory Commission on Intermodal Transportation meeting minutes are not available online. However, multiple public documents indicate that the toll increase originated out of a desire to fund capital improvements.

New Hampshire's 2007 Turnpike System Comprehensive Annual Financial Report indicated that the additional revenue from the toll rate increases "will be used to fund Turnpike expansion

[73] Significate increase within scope includes toll rate increases greater than 15%

programs" (Comprehensive Annual Financial Report, 2007). The Turnpike expansion programs mentioned were considered collectively as the "Turnpike Capital Program," focused on addressing bridge improvements, reducing congestion, and other capital projects (New Hampshire Department of Transportation, n.d.). In the 2009 – 2018 Ten Year Plan, the document specifically stated "…these improvements are facilitated by the toll increase implemented in October 2007" (New Hampshire Department of Transportation, 2008).

Methodology:

The research team began information collection through web searches using key words of the Turnpikes. After the turnpikes were identified as operated under New Hampshire's Department of Transportation, the primary research was conducted through navigation of the Department and Bureau's publicly available information and documents. Documents indicating capital projects funded by an October 22, 2007 toll increase were found. From there, Governor and Executive Council meeting minutes were reviewed starting at October 17, 2007 and moving back in time. Additionally, a FOIA request was issued for Governor's Advisory Commission on Intermodal Transportation meeting minutes as they are not available leading up to the 2007 toll rate increase, but we received no response. A paper trail was identified that indicates the motivations of the toll increase and the use of additional revenue using Comprehensive Annual Financial Reports and other DOT documents; however, it is possible that key information from the meeting minutes would have provided evidence of additional motivations.

State: New Jersey

Road	Public Entities	Private Entities	Years of Inquiry
New Jersey Turnpike	New Jersey Turnpike Authority		2007-2017
Garden State Parkway	New Jersey Turnpike Authority		2007-2017
Atlantic City Expressway	South Jersey Transportation Authority		2007-2017

New Jersey Turnpike Authority

The New Jersey Turnpike Authority (NJTA) is a state agency used to build and manage toll roads and turnpikes, which we classify as a *State-Owned Entity* due to its status as separate from the DOT. The Authority's board is appointed by the Governor of New Jersey, and the Governor has statutory authority to veto an action of the Authority.[74]

Authority to authorize bonds:

The NJTA's Financial Management Principles and Guidelines document was used to guide the Authority in effective financial management. The document details how the Authority should manage its debt servicing and bond resolutions as well as other obligations they have. They are to maintain and improve the credit rating of the Authority, maintaining bond coverage at a minimum of 1.4 times the debt. This gives the Authority both a high credit rating, with lower interest ratings consequently, resulting in extra funds for maintenance and operations.[75]

Toll rate changes and rationale:

The two roads selected for analysis both experienced significant toll increases: On the New Jersey Turnpike, 66% in 2008 and 53% in 2012; on the Garden State Parkway, 43% in 2008 and 50% in 2012. On September 2008 the NJTA met to discuss raising tolls for both the New Jersey Turnpike and the Garden State Parkway. They had planned for adjustments in 2009, 2012, and once again in 2023 (10%, though this is below our 15% threshold). The September 2008 board of commissioners meeting minutes stated that the reason for the toll increases was to better support capital projects that included the widening of certain bridges and roads, the maintenance of the system, and the investment into a mass transit tunnel known as the ARC Project. They had public comments in that meeting to receive feedback. After feedback showed that the resolution had public support, the board passed a recommendation for the October 2008 meeting, both recommending the toll increase and authorizing a public hearing (New Jersey Turnpike Authority, September 2008).[76]

At the October 2008 meeting, the NJTA approved adjusting the toll rate increase, along with discounts for particular target groups that were important to the board—indicating how the agency's status as a state-level public entity incentivized their decision making. Discounts included were given to off-peak hours for E-ZPass users. These discounts applied to trucks, senior citizens, toll payers with high-mileage, and reduced emission vehicles.[77] The discounts changed in 2011, replacing the off-peak toll rate discount with a 25% off-peak discount for New Jersey E-ZPass customers for Class One Vehicles. This change increased tolls for non-New Jersey E-ZPass users by 34% on off-peak hours while not affecting New Jersey residents,[78] indicating how the agency was incentivized to provide discounts to residents of its own state over those of its neighbors. Also, notably, these changes were made one at a time, through separate decision processes, rather than through annual indexing to the CPI.

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[74] https://www.njta.com/about/board-of-commissioners
[75] https://www.njta.com/media/1043/fin_mgmt_principles-guidelines_revised_2017_01_20.pdf
[76] https://www.njta.com/media/1162/bm_m_09-09-08.pdf
[77] https://www.njta.com/media/1158/bm_m_10-10-08.pdf
[78] https://www.njta.com/media/1247/minutes_5-24-2011.pdf p. 23

Table 22: New Jersey Turnpike Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2008	New Jersey Turnpike	✔	✔	✔					
2012	New Jersey Turnpike	✔	✔	✔					
2008	Garden State Parkway	✔	✔	✔					
2012	Garden State Parkway	✔	✔	✔					

Methodology:

Using records of toll rate changes over 10 years, we found that the rate has changed significantly two times over the past decade: once in 2008 and again in 2012. We researched the organization by searching for meeting minutes around these years, either on the same year or in the last three to four months the previous year. If we were unable to find the information in that period, then we expanded our search until we found it. We found that NJTA minutes were readily available for the entire study period, and minutes were also very detailed, containing full records on each agenda topic.

South Jersey Transportation Authority

The South Jersey Transportation Authority (SJTA) is a corporation established within the New Jersey Department of Transportation. However, SJTA is independent from the DOT (NJ Rev Stat §27:25A-4), with the majority of its board appointed by the Governor, with the consent of the New Jersey Senate. Thus, we classify SJTA as a *State-Owned Entity*. SJTA is charged with managing tollway facilities, as well various modes of public transportation as well as marine transportation and airport facilities (NJ Rev Stat §27:25A-7).

Authority to authorize bonds:

The SJTA uses bond covenants to establish some of the SJTA funds. These debts are paid and financed through toll revenues, and the Agency maintains a reserve fund for debt servicing. The bonds are required to be at least A-3, A-1, or similar ratings.[79]

Toll rate changes and rationale:

Within the 2007-2017 study period, tolls were increased by 50% in 2008. The minutes for September 2008 state that the SJTA received public comments related to a proposed toll rate change,[80] with the agenda for the October 2008 Special Commission Meeting including the final vote for the toll increase, providing that the toll adjustment would occur no earlier than November 17.[81] While there are no minutes to provide details on the discussion, other documents do so, including the SJTA 2008 Annual Report, which stated that the toll rate was to increase in mid-November.[82] Both the agenda and the report state that the toll increase was approved to finance regional transportation projects, including the widening of expressways, airport repairs and improvements, as well as bridge repairs, including re-decking. Therefore, the toll raise was used for capital, operational, and maintenance expenses. Notably, the expenses span a wide range of transportation modes, following SJTA's own wide scope.

Table 23: South Jersey Transportation Authority substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Increases**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2008	Atlantic City Expressway	✔	✔						

[79] https://www.sjta.com/sjta/publish/library//2019%20SJTA%20Annual%20Report%20-%20final-LR%2007-10-19.pdf

[80] https://www.sjta.com/sjta/publish/library/minutes%20sept%209,%202008%20special%20meeting.pdf

[81] https://www.sjta.com/sjta/public_notices.asp?param=2&PublicationID=19&pn_subcat=1&ID=1139&pn_year=2008

[82] https://www.sjta.com/sjta/publish/library/SJTA_2008_full.pdf p. 11

Methodology:

The research team focused on the Atlantic City Expressway because it was the only roadway that had a recorded toll rate change from 2007-2017. Using these records, we found that the rate had changed once in this period, in 2008. From there we researched both 2008 and 2007 meeting minutes for explanation of the rationale for the toll increase. We also researched the MPO and how they interacted with the SJTA, first through the Regional Transportation Plan and then the Transportation Improvement Plan. The SJTA documents were reasonably transparent, with meeting minutes going as far as 2007 and financial reports going back to 1999.

State: New York

Road	Public Entities	Private Entities	Years of Inquiry
New York Thruway	New York State Thruway Authority		2007-2017
New England Thruway (I 95)	New York State Thruway Authority		2007-2017
Niagara Thruway (I 190)	New York State Thruway Authority		2007-2017

New York State Thruway Authority

The New York State Thruway Authority is a public benefit corporation that operates some of the thruways and turnpikes in the state of New York; for this reason, we classify as a *State-Owned Entity*, being a state-level corporation, though independent from the New York Department of Transportation. The Authority's board consists of seven members appointed by the governor, with consent of the New York Senate. Its purposes are defined as being to "…finance, construct, reconstruct, improve, develop, maintain or operate a thruway system" (NY Public Authorities Law, Article 2, Title 9, § 353).

Authority to authorize bonds:

The Authority is funded with bonds and toll revenues. Part of the financing goes to the New York Multi Year Capital Program. The Capital Program is a financial plan that helps finance the capital programs of the state of New York and plans to finance debt.[83] While the bonds are not state supported debt, they fall under the State's Capital Planning.

Toll rate changes and rationale:

In this section, we analyze three toll roads operated by the Authority, which raised tolls above the project threshold: New York Thruway (17% in 2008); New England Thruway (27% in 2008, 16% in 2009); and Niagara Thruway (40% in 2008). The December 2007 meeting minutes for the Thruway Board described discussions for the preparation of toll rate adjustments for the Authority. Resolution N0. 5651 stated that the toll rate adjustments were made in order to provide sufficient revenue to finance the Authority's Multi Year Capital Program, to comply with the general revenue bond resolution, the New York Codes, Rules and Regulations (NYCRR), and the Authority's fiscal management guidelines.[84] From the minutes, it is clear that the Authority accepted a significant amount of public feedback in its meetings ahead of any decisions to raise tolls. They enacted the proposed rate increase after a board meeting in April 2008. They adopted the new toll increase for the purposes listed above. The reasons they stated were also intended to ensure compliance with Public Authorities Law Section 2804[85] and to fund their capital programs as well as operating expenses.[86]

[83] https://www.budget.ny.gov/pubs/archive/fy20/exec/cp/fy20cp-ex.pdf
[84] http://www.thruway.ny.gov/news/meetings/thruway/twy-663.pdf p. 38
[85] https://www.nysenate.gov/legislation/laws/PBA/2804
[86] http://www.thruway.ny.gov/news/meetings/thruway/twy-666.pdf p, 39

Table 24: New York State Thruway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandates	Profit	Other
2008	New York Thruway	✔	✔			✔	✔		
2008	New England Thruway (I 95)	✔	✔			✔	✔		
2009	New England Thruway (I 95)	✔	✔			✔	✔		
2008	Niagara Thruway (I 190)	✔	✔			✔	✔		

Methodology:

In our study we focused on the New York Thruway, the New England Thruway, and the Niagara Thruway, as these three roads had single year toll rate increases above our 15% threshold for inclusion. We focused on 2007-2009 as these were the years tolls had changed (plus 2007, being the year leading up to the change). Meeting minutes were readily available online, going back to 2005.

State: North Carolina

Road	Public Entities	Private Entities	Years of Inquiry
Triangle Expressway	North Carolina Turnpike Authority		2007 (2012)-2017

Other notes: The roadway opened in 2012 and has had a regular toll increase since 2014.

North Carolina Turnpike Authority

The North Carolina Turnpike Authority (NCTA) is an authority under the North Carolina Department of Transportation (NCDOT). Since it is not an independent agency, we classify it here as a *State DOT*. The NCTA operates, maintains, and finances the Triangle Expressway.

Authority to authorize bonds:

The Department of Transportation has the authority to issue bonds to finance projects.[87]

Toll rate changes and rationale:

Tolling records indicate tolls increased by 34% in 2013, followed by 5% annual increases from 2014-2016, and a 3% increase in 2017. NCTA changed tolls for the Triangle Expressway as the project completed new sections in 2012 and 2013. The changes were outlined by NCTA in a comprehensive traffic and revenue study in 2009. The study stated the assumed future toll rates by year. When the second phase opened in 2013, the average route revenues increased.

The June 2013 minutes state that the overall revenue was higher than projected. This allowed the NCTA to defer from increasing tolls for the year. The deferred rate increase happened on January 2014 instead along with the scheduled phase three increase. Following this large increase, NCTA decided to raise tolls by a consistent annual amount in subsequent years (3%), following the rate of inflation.[88]

Toll revenues were stated to be used for funding construction costs, reimbursing the North Carolina Department of Transportation for expenses and interest payments, though capital improvements were not stated as a reason for toll increases, so are not marked in Table 25. The Authority has enough reserve funds to cover maintenance and operations as well as to pay current interest payments, with the toll rate being flexible thanks to recent refinancing. This helped the toll revenue bonds to be upgraded and rated Aa1 and AA+.[89]

Table 25: North Carolina Turnpike Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Othe
2013	Triangle Expressway				✔	✔			
2014+	Triangle Expressway				✔	✔			

[87] https://www.ncleg.net/EnactedLegislation/Statutes/PDF/BySection/Chapter_136/GS_136-18.pdf p. 4-5
[88] https://www.ncdot.gov/divisions/turnpike/turnpike-projects/Documents/triangle-expressway-traffic-revenue-study.pdf p. 6-16
[89] https://www.ncdot.gov/divisions/turnpike/investor/Documents/ncta-annual-report-fy18.pdf p. 5

Methodology:

We used records of the toll rate changes and the toll revenue changes from 2007 to 2017, helping us focus our efforts on the 2013 and 2014 meeting minutes. We also examined the financial records and the North Carolina State Transportation Improvement Plan for further information about the agency and its financing structure.

State: Ohio

Road	Public Entities	Private Entities	Years of Inquiry
Ohio Turnpike (I 80)	Ohio Turnpike and Infrastructure Commission		2007, 2014-2017

Ohio Turnpike and Infrastructure Commission

This is a state-owned public corporation separate from the Ohio Department of Transportation, which is why we classify it as a *State-Owned Entity*. The Ohio Turnpike and Infrastructure Commission is authorized to operate the Ohio Turnpike system and enter into agreements with the Ohio Department of Transportation. A majority of its board is appointed by the governor, with additional representatives appointed by the Ohio Senate and the Ohio House of Representatives (ORC 5537.02).

Authority to authorize bonds:

The Turnpike and Infrastructure Commission has the authority to issue revenue bonds to be paid for solely through toll revenues.[90] They maintain a positive bond rating with Fitch, Moody, and Standard & Poors.[91]

Toll rate changes and rationale:

In January 2007, the Commission instituted a 15% toll rate increase, with additional increases of 10% in 2012, and 2-4% annual increases from 2014-2017. The Commission's Annual Report from 2007 mentions the increase from that year, but does not state the reason for it. They did mention that there was little feedback, though the feedback they did receive was positive.

In 2013 the Commission passed a resolution that established a consistent annual increase of 2.7%. The reason stated was to better pay for operating costs and to pay for debt servicing. They had provisions in the resolution in case the toll rate increase should be above or below the inflation rate. If above, then they decided they would make the rate free after 10 years. If below, the Commission would revisit the toll rate.[92]

Revenues for the Commission include tolls, fuel tax allocations, and investment earnings. The Commission uses those revenues for Operating and Maintenance costs, payments to the Ohio Department of Transportation, and Interest payments.[93]

[90] http://codes.ohio.gov/orc/5537.04
[91] https://www.ohioturnpike.org/business/investor-relations#
[92] https://www.ohioturnpike.org/docs/default-source/resolutions/resolutions-2013/43-2013-new-toll-rate-schedule.pdf
[93] https://www.ohioturnpike.org/docs/default-source/annual-report-files/2018-cafr-final.pdf?sfvrsn=2 p. 22

Table 26: Ohio Turnpike and Infrastructure Commission substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2007	Ohio Turnpike (I 80)								
2014+	Ohio Turnpike (I 80)	✔			✔	✔			

Methodology:

We used toll records from 2007-2017 to begin our research, researching the rate percentage changes in 2007, 2012, and the start of regular annual rate changes in 2014. Because only the 2007 and 2014 rate changes were within our parameters (15% increase or regular annual increases) we focused on this change, as well as the decision to introduce consistent annual increases. Although they had no meeting minutes covering the decision to increase tolls, we identified all resolutions passed by the Commission since 2010. Despite the lack of minutes, we were able to find the increases from 2012-the present; however the lack of information about the 2007 increase means there are potential motivations that we may have missed, due to lack of documentation.

State: Oklahoma

Road	Public Entities	Private Entities	Years of Inquiry
Indian Nation Turnpike	Oklahoma Turnpike Authority		2009 (16%) 2017 (14%)
Bailey Turnpike	Oklahoma Turnpike Authority		2009 (16%) 2017 (14%)

Oklahoma Turnpike Authority

The Oklahoma Turnpike Authority (OTA or the "Authority") was established and guided by Oklahoma State Code §1701-§1735. The OTA is governed by a Board of Directors, guided by a Finance Committee of staff members regarding toll rates. As a separate entitity from the Department of Transportation, we classify OTA as a *State-Owned Entity*. Under the code, OTA is authorized to construct, maintain, repair, and operate turnpike projects (O.S. §1701).

Authority to authorize bonds:

OTA is permitted to issue bonds. No unordinary circumstances were found in the legislation that would modify the standard behavior of issuing and repaying bonds. The bonds are the sole responsibility of the Authority.

> "*Turnpike revenue bonds issued under the provisions on this article shall not at any time be deemed to constitute a debt of the state or of any political subdivision thereof or a pledge of the faith and credit of the state or of any such political subdivision, but such bonds shall be payable solely from the funds herein provided therefor from revenues*" (O.S. §1702).

Toll increases:

OTA manages ten toll roads within the state. However since these roads all experienced a similar pattern of toll increases (in 2009 and 2017), this report focuses on the two with the longest miles of operation, known as the Indian Nation Turnpike and Bailey Turnpike. Over the ten year period of study, travelers saw an approximately 16% increase in toll rates in 2009, followed by about a 14% increase in 2017.

Table 27: Oklahoma Turnpike Authority substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2009	Indian Nation Turnpike	✔	✔			✔			
2009	Bailey Turnpike	✔	✔			✔			

The Board met on July 15, 2009 to discuss what would become the first toll increase since 2001 (Oklahoma Turnpike Authority, 2009). July 2009 meeting minutes indicate toll revenue had decreased since late 2007 and projections for 2009 predicted revenue of $21 million (Oklahoma Turnpike Authority, 2009). The reason for the increase was attributed to the national economic downturn. In order to continue capital improvements, maintenance, and uphold bond obligations, the Authority would need to consider at least a 16% increase (Oklahoma Turnpike Authority, 2009). It should be noted that revenue estimates were considered between 12.5% increase and

25% increase.[94] Before this 16% increase unanimously passed the board, board president Doug Riebel is quoted as saying "I would certainly prefer that we did not have to, but I think to be responsible to not just our Bondholders but our customers and users of our System that we must approve this toll increase" (Oklahoma Turnpike Authority, 2009).

During the September 27, 2016 meeting, staff member Wendy Smith addressed the Finance Committee with a schedule for toll rate increases. The proposed schedule included an approximate 12% increase on January 1, 2017, a 2.5% increase on January 1, 2018, and another 2.5% increase on July 1, 2019 (Oklahoma Turnpike Authority, 2016b). The details for the reason behind the increase were not made apparent through the meeting minutes other than the statement: *"…it was important that the Authority have Board action on the toll increase so that the revenues generated from the increases could be reflected in the Rating Agency presentations"* (Oklahoma Turnpike Authority, 2016b).

When the motion was presented to the general Board of Directors, on the same date, the schedule for rate increases was approved unanimously (Oklahoma Turnpike Authority, 2016a). The only discussion and reasons presented were (1) the continual improvement and expansion of the Turnpike system, and (2) the increase would still result in a toll rate below the national average (Oklahoma Turnpike Authority, 2016a). It should be noted that the rate increase went into effect on March 1, 2017, instead of the scheduled January 2017 (Oklahoma Turnpike Authority, 2017). The reason for the delay was not found.

Methodology:

The research team identified the Authority as the operator and manager of the turnpikes. As mentioned above, the two toll roads we focused on were chosen because of their significant toll rate increases and their status as having the longest centerline mileage, thus being the two largest and most significant facilities operated by the Authority. As with other agencies, we used the threshold of 15% rate increases to determine years for examination of minutes and other primary documents. In the case of 2017, the majority of toll roads managed by OTA experienced a 12-15% increase, which was true for all roads of the OTA in 2009. For the 2017 increase, most were below this threshold, including the two examined; however we still report on it here as another rate increase decision for these roads. Meeting minutes were searched using the key words: "increase" and "rate."

The information about Oklahoma's Turnpikes was generally available on the Authority's website. It was necessary to send Freedom of Information Act requests for information to OTA for the Finance Committee minutes from 2016 and 2017, as they were not included online. Unfortunately, there were no video recordings of the meetings, leaving the meeting minutes as the only documentation of the decision making process and its context.

[94] The 25% would be equivalent to the Consumer Price Index increase since the 2001 toll increase.

State: Pennsylvania

Road	Public Entities	Private Entities	Years of Inquiry
Pennsylvania Turnpike Mainline (I 76/I 70/I 276)	Pennsylvania Turnpike Commission		2007-2017
Pennsylvania Turnpike Northeast Extension (I 476)	Pennsylvania Turnpike Commission		2007-2017
Mon-Fayette Expressway (Turnpike 43)	Pennsylvania Turnpike Commission		2007-2017
James E. Ross Highway (I 376)	Pennsylvania Turnpike Commission		2007-2017
Amos K. Hutchinson Highway (Toll 66)	Pennsylvania Turnpike Commission		2007-2017
Southern Beltway (Turnpike 576)	Pennsylvania Turnpike Commission		2007-2017

Other notes: We are focusing Pennsylvania Turnpike Mainline and Northeast extension because they have the highest mileage in the Pennsylvania Turnpike Commission. However, since they all are operated by the same organization, we include any information that is relevant to the other roads as well.

Pennsylvania Turnpike Commission

Pennsylvania Turnpike Commission (PTC) is a separate state agency from the Pennsylvania Department of Transportation, with its own revenue sources from road tolls, which is why we classify it as a *State-Owned Entity*, though it is by law a funding source for PennDOT (Pennsylvania Act 44).

Authority to authorize bonds:

The financial policies regarding debt management determine how the PTC can use bonds. Bonds are used to finance planning, design, capital purchases, equipment purchases and debt refinance. However, the Commission does not fund operation costs or maintenance with long-term bonds.[95] PTC's 2014 Strategic Plan stated that its financial goals were to maintain its credit rating, maintain growth in operating budget, increase total toll revenues, and increase innovation.[96]

Table 28: Pennsylvania Turnpike Commission substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2009	Pennsylvania Turnpike Mainline (I 76/I 70/I-276)	✔	✔	✔	✔	✔	✔		
2013	Pennsylvania Turnpike Mainline (I 76/I 70/I 276)	✔	✔	✔	✔	✔	✔		
2014	Pennsylvania Turnpike Mainline (I 76/I 70/I 276)	✔	✔	✔	✔	✔	✔		
2009	Pennsylvania Turnpike Northeast Extension (I 476)	✔	✔	✔	✔	✔	✔		

[95] https://pol.paturnpike.com/api/PolicyLetters/7.03/ p. 1-2
[96] https://www.paturnpike.com/pdfs/about/PTC_Executive_Summary.pdf p. 10

2008	Mon-Fayette Expressway (Turnpike 43)	✔	✔	✔	✔	✔	✔		
2010	Mon-Fayette Expressway (Turnpike 43)	✔	✔	✔	✔	✔	✔		
2009	James E. Ross Highway (I 376)	✔	✔	✔	✔	✔	✔		
2009	Amos K. Hutchinson Highway (Toll 66)	✔	✔	✔	✔	✔	✔		
2013	Southern Beltway (Turnpike 576)	✔	✔	✔	✔	✔	✔		

Toll rate changes and rationale:

Six PTC roads had toll increases of 25% or more in a single year between 2007-2017. We focus on the Turnpike Mainline and the Northeast Extension, as these are the two with the highest mileage, but we found the patterns and motivations for toll increases were broadly consistent across the agency's facilities. However, the Southern Beltway was an exception, as its rates were increased infrequently. At its July 13, 2010 board of directors meeting, the Pennsylvania Turnpike Commission voted to increase tolls by 10% for cash customers (and a 3% increase for E-ZPass customers), while the only road that did not receive an increase was the Southern Beltway (Turnpike 576). The meeting minutes did not state the reasons for the increase, or its purpose.[97] A subsequent toll increase for the Pennsylvania Turnpike Mainline (I-76/I-70/I-276), on July 18, 2013 also did not indicate a reason for toll increases, though did mention that the Virginia Drive toll schedule was adjusted to reflect a proportional toll methodology developed by CDM Smith, a consultant firm.[98]

The toll rate has also been raised in response to two acts by the Pennsylvania Legislature—Act44 and Act 89, designed to support PennDOT activities, as well as public transportation. Act 44 made the PTC pay the Pennsylvania Department of Transportation $450 million annually for highways, bridges, and public transportation. Act 89 modified the payments to be solely for public transit. The PTC website states that these acts are the reason that the toll

[97] https://www.paturnpike.com/pdfs/about/meetings/071310_Minutes.pdf p. 11
[98] https://www.paturnpike.com/pdfs/about/meetings/07182012Minutes.pdf p. 11-12

rates were increased regularly since 2008, and why the PTC's capital plan has been reduced by 13%.[99]

The most recent Comprehensive Annual Financial Report (CAFR) for the PTC indicates that main agency expenses include bond payments, operations, payments for Acts 44 and 89, and maintenance. Statements made while discussing the financial position imply that the main purpose of toll rate increases was to better secure the Commission's ability to pay its debt. Pages 28 and 29 specifically state that part of the future financial plans of PTC depend on the ability to raise tolls[100](Pennsylvania Turnpike Commission, 2018).

Methodology:

We started by searching the minutes for the agency. We started at the earliest recorded minutes, from 2010. We then examined historic financial documents, which identified Acts 44 and 89 as reasons for the toll increases.

[99] https://www.paturnpike.com/business/act44_plan.aspx
[100] https://www.paturnpike.com/pdfs/business/PTC_CAFR_18-17.pdf p. 28-29

State: South Carolina

Road	Public Entities	Private Entities	Years of Inquiry
Cross Island Parkway	South Carolina Department of Transportation		2007-2017
Greenville Southern Connector	South Carolina Department of Transportation	Connector 2000 Association & Interwest Carolina Transportation group, LLC	2007-2017

South Carolina Department of Transportation

South Carolina Department of Transportation (SCDOT) is the operating agency for the Cross Island Parkway (U.S. Route 278), which we classify as a *State DOT*. The parkway is financed through state highway bonds.

Authority to authorize bonds:

The parkway is financed primarily through state highway bonds. This is different from the toll revenue bonds that most toll facilities use in that they are paid for with revenues from SCDOT. The bonds are also backed by the South Carolina general fund, allowing them to maintain a much lower interest rate due.[101]

Toll rate changes and rationale:

The only toll increase on this highway since collections began in 1998 was in 2008. SCDOT's commission approved a $0.25 increase of the toll rate on September 20, 2007, to be enacted March 31, 2008. This was intended to meet the costs of construction, maintenance, and operations for the road.[102] Toll revenues were placed in a state gas tax trust fund. The funds can be used for other projects by the Department of Transportation.[103]

Table 29: South Carolina Department of Transportation substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2008	Cross Island Parkway	✔	✔						

Methodology:

As the only road by SCDOT with toll increases over the threshold 15%, there was no need for further selection. We examined online sources with information about the road and SCDOT's process for toll increases. SCDOT had no minutes posted online, and we had difficulty finding much information from the road's website, though some administrative and financial information was available. We sent an email to SCDOT for their annual reports and other financial statements. We also found a document that discussed the financing of the South Carolina branch of US Route 278. The document in question is an old report from SCDOT that

[101] https://www.webcitation.org/6EUEd12WN
https://www.fhwa.dot.gov/ipd/project_profiles/sc_277.aspx
https://www.scstatehouse.gov/CommitteeInfo/SenateFinanceS535SpecialSubcommittee/April102013Meeting/Tab%203%20-%20SC%20Bond%20Overview,%20Generally.pdf
[102] http://info2.scdot.org/SCDOTPress/Lists/Posts/Post.aspx?List=f5ea57f8-d1b4-4b81-abca-d25008f2b5db&ID=543&Web=5b43d736-51b2-4822-ab3c-f719a3f0ddb2
[103] https://www.scdot.org/inside/pdf/trustfund/IMTF-Statement-June-2019.pdf

has been saved by an online archive. This document helped provide important details on how the Parkway was financed.

Connector 2000 Association

Connector 2000 Association (C2A) is a nonprofit company that is part of a public-private partnership with the Department of Transportation; thus, we classify this road as a *Public-Private Partnership, or P3*. The nonprofit organization operated the Southern Connector as part of a development team. The Connector was not able to reach its original revenue forecasts, making C2A unable to make interest payments on its bonds. C2A filed for chapter 9 bankruptcy and restructured its debt, leading to 35% toll increases in 2012.

Authority to authorize bonds:

C2A issued bond measures, in fact some of its current issues can be traced to its bond measures. C2A issued these bonds during 1998 to finance the Connector, to be repaid with toll revenues. C2A was unable to keep up with the interest payments and was downgraded to a CC ranking by the Standard & Poor's Rating Service. The failure of the C2A to manage its debt led it to default in 2008.[104] In 2011, C2A issued a new series of bonds to manage the 1998 debt. This was part of their debt adjustment plan after filing for bankruptcy.[105]

Toll rate changes and rationale:

C2A raised their toll rate by 33% in 2009, after being granted permission by the South Carolina Department of Transportation. The rate was raised for the sole purpose of paying off the debt owed by the Association.[106]

In 2012 the toll rate was raised again, this time by 35%. This increase came with the approval of the Bankruptcy Court, as part of the C2A's debt adjustment. The increase was set in accordance with a Debt Management Plan created during the restructuring process.[107]

Table 30: Connector 2000 substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2009	Greenville Southern Connector					✔	✔		
2012	Greenville Southern Connector					✔	✔		

[104] https://www.southernconnector.com/pdfs/eventnot_09-04-08.pdf
[105] https://www.southernconnector.com/pdfs/2012%20Annual%20Report.pdf p. 3
[106] https://www.southernconnector.com/pdfs/Update%20-%20August%2015,%202009.pdf p. 3
[107] https://www.southernconnector.com/pdfs/2012%20Annual%20Report.pdf p. 5-6

Methodology:

We examined online sources on the road and its ownership. Upon identifying the ownership as a private organization, we searched its history, finding information about its bankruptcy. We then focused our search on financial and court records containing information about toll increases. We also searched other primary records on their debt management situation. As a private organizations, we were unable to locate meeting minutes from C2A; nor did SCDOT keep records of the meetings. However we made up for this gap with information from bankruptcy filings, which stated the reasons for each action was taken.

State: Texas

Road	Public Entities	Private Entities	Years of Inquiry
Dallas North Tollway	North Texas Tollway Authority		2007-2017
Hardy Toll Road	Harris County Toll Road Authority		2007-2017
Sam Houston Toll Road	Harris County Toll Road Authority		2007-2017
President George Bush Turnpike	North Texas Tollway Authority		2007-2017
Camino Colombia Toll Road	Texas Department of Transportation		2007-2017
Westpark Tollway	Harris County Toll Road Authority		2007-2017
Fort Bend Parkway Toll Road	Fort Bend County Toll Road Authority		2007-2017
Fort Bend Toll Road Extension	Harris County Toll Road Authority		2007-2017
Fort Bend Westpark Tollway	Fort Bend County Toll Road Authority		2007-2017
Sam Rayburn	North Texas Tollway		2007-2017

Tollway (SH 121)	Authority		
Loop 49	North East Texas Regional Mobility Authority		2007-2017
SH 45 North	Texas Department of Transportation		2007-2017
SH 130	Texas Department of Transportation	SH 130 Concession Company	2007-2017
Loop 1	Texas Department of Transportation		2007-2017
183A	Central Texas Regional Mobility Authority		2007-2017
President George Bush Turnpike Western Extension	North Texas Tollway Authority		2007-2017
SH550	Cameron County Regional Mobility Authority		2007-2017
Grand Parkway (SH 99)	Texas Department of Transportation		2007-2017
Manor Expressway	Central Texas Regional Mobility Authority		2007-2017

The Texas Department of Transportation (TxDOT), which we classify as a *State DOT*, manages several highways, tollways, and parkways, and assists in the funding and operation of many others throughout the state of Texas. The research team initially examined the records of five TxDOT roads with single-year rate increases over the 15% threshold between 2007-2017. However we focus here on the two facilities with the highest centerline mileage: State Highway 130 (SH 130) and Grand Parkway (SH 99); we also focus on these two facilities because they have different governance types, though they are within the same operating agency (SH 130 a P3 road, SH 99 a State DOT road). We also focus our attention on the years where the tollways had large spikes in toll rates above our 15% threshold, or decisions to implement regular annual increases.

SH 130 is a state-owned toll road that was developed as a public-private partnership (P3). The state owns the road, with a concession to a private operator to manage the road and collect tolls. The conditions of the agreement have included requiring the concessioner to request permission from TXDOT to change the toll rate, through advance submission of their proposed toll rate schedule.

This particular concession agreement constituted the fifth and sixth phases of the road, lasting from 2007 to 2057. However severe problems arose with the concession company, which fell into debt due to lack of revenues and a lack of confidence that they would be able to make their June 2014 bond payment.[108] Despite numerous attempts to rectify their finances, the SH 130 Concession Company filed for Chapter 11 bankruptcy. The road then went to the primary creditors. They assumed ownership of the company and conducted extensive repairs due to poor management by the previous owners.[109] The original agreement with TxDOT still stands and the new owners are attempting to improve the road, receiving a federal loan to conduct this work.[110]

The Grand Parkway (SH 99) is a state highway, owned and operated by TxDOT. The tollway is operated by a nonprofit corporation created by the Texas Transportation Commission. This corporation issued bonds for construction and operates the system, which must be repaid with toll revenue. The corporation has an agreement with TxDOT committing the Department of Transportation to allow loans for project costs, operations and maintenance. TxDOT and the seven counties Grand Parkway traverses signed a Market Valuation Waiver Agreement that helps determine the policies involving toll rate changes and pricing. The agreement sets annual toll escalation, based on the Harris County Toll Road Authority's toll rates, beginning in 2009; and it prohibits the corporation from using revenues for any project other than Grand Parkway until the project is completed and operational.[111]

While SH 130 and Grand Parkway (SH 99) have differing structures and operators, they both operate under some direction from the DOT. TxDOT has a large interest in both corporations, and ultimately becomes the operator after a set period of time. Both have restrictions on what revenues can be used for. Grand Parkway revenues appear to be used for the

[108] https://www.texastribune.org/2013/10/23/threat-toll-road-default-could-hurt-future-project/
[109] https://www.kxan.com/news/investigations/former-sh-130-executives-accused-of-hiding-road-defects-from-lenders/1594506814
[110] https://communityimpact.com/austin/transportation/2019/03/22/toll-project-east-of-austin-snags-46-9m-federal-loan-for-construction/
[111] http://www.dot.state.tx.us/grandparkwaysystem/about-us.htm

repayment of their bonds, operations expenses, and maintenance costs. SH 130 has information within its original concession agreement regarding their rate schedule and requiring the concessioner to justify additional changes to the rate schedule to TxDOT. The agreement also states that the toll revenues cannot be used to pay debts, liabilities, or obligations that are outside the state highway. Additionally, the agreement states that the developer is not entitled to a return, compensation or any other profit save for cost savings. This was to ensure that the developer a reasonable rate of return, while limiting charges.[112]

Authority to authorize bonds:

TxDOT finances projects with the Texas Mobility Fund Bonds (TMF). TMF bonds can be used to construct projects including both toll roads and public transportation. Revenues from TxDOT are used to pay for the bond measure, however if they are unable to do so, the state it the ultimate guarantor of the debt.[113]

Toll rate changes and rationale:

Because SH 130 is operated by concession, there are no agendas or meeting minutes to identify why the organization increased its toll rates that were not regularly scheduled toll increases. The nearly annual 1-2% increases between 2014-2017 were almost certainly inflation adjustments; however, it is unclear why the company decided to raise rates by 33% in 2008 and 25% in 2012. As mentioned before, the agreement also stated that the toll revenues could not be used to pay debts, liabilities, or obligations that are outside SH 130and that the developer is not entitled to a return, compensation or any other profit, save for cost savings. This was to ensure that the developer had a reasonable rate of return without giving them the opportunity to charge more than necessary.[114] Additionally, many increases for SH 130 were required as part of their bankruptcy settlement, almost certainly to repay bond obligations.

Grand Parkway (SH 99), as a road managed by the DOT, had more records. A 2007 memorandum with the Harris County Toll Road Authority established the policy rationale for potential future toll rate increases on this road. The policy required that tolls not supersede other toll rate covenants, that the Harris County Toll Road Authority's investment grade remain at least "A," and allow for the maintenance of the roads. Harris County Toll Road Authority adopted a corresponding policy with Grand Parkway, with similar parameters for increasing tolls.[115]

Our records indicate toll rate increases in 2014 (by 310%) and 2016 (by 179%). While there are no meeting minutes that explain why the rate was increased, memorandums of understanding and market valuation documents between Harris County and TxDOT indicated that Harris County Toll Road Authority could not increase SH 99's toll rate so drastically without good reason. One possibility for the rate increase was that this was based on the increased number of toll facilities within the toll road system, as there were segments being

[112] http://ftp.dot.state.tx.us/pub/txdot-info/tta/sh130_cda/facil_concession_agmt.pdf p. 8-9
[113] https://www.txdot.gov/business/investors/tmf-bond.html
[114] http://ftp.dot.state.tx.us/pub/txdot-info/tta/sh130_cda/facil_concession_agmt.pdf p. 8-9
[115] http://ftp.dot.state.tx.us/pub/txdot-info/dmo/grand-parkway/market-valuation-waiver.pdf (p. 31; p. 35)

added as the project neared completion; otherwise the need for revenue to fulfill bond obligations was a likely reason. As noted above, Grand Parkway could not fund other outside projects until the road was complete.

While these two TxDOT tollways had differing structures and operators, they both operated under limited direction from the DOT. TxDOT has a large interest in both corporations and is scheduled to become the operator after a specified period. While information on SH 130's restrictions with toll revenue usage was more difficult to obtain because it is a Public-Private Partnership, Grand Parkway (SH 99) had restrictions to what they can use their revenues for. Grand Parkway revenues appear to be used for the repayment of their bonds, operations expenses, and maintenance costs.

Table 31: TxDOT substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2014	Grand Parkway (SH 99)	✔	✔			✔	✔		
2016	Grand Parkway (SH 99)								
2008	SH 130				✔	✔			
2012	SH 130				✔	✔			

Methodology:

Grand Parkway (SH 99) and SH 130 were chosen to represent the toll roads managed by TxDOT because they had the longest mileage of the TxDOT roads that had increased tolls over the 15% threshold in a single year. Additionally, these two roads represented two management types within a single agency, allowing for comparison. The research team examined the TxDOT website for information about these roads, including market and bond documents and the State Transportation Improvement Programs. For SH 130, research was done on controversy surrounding the road and how it eventually was managed. We tried to contact members of the Texas Transportation Commission and TxDOT staff for further information about these roads but did not get a response. We also were unable to get a response from the SH 130 Concession Company.

North Texas Tollway Authority

The North Texas Tollway Authority (NTTA) is an independent agency, which we classify as a *Toll Road Authority*, due to its exclusive focus on toll roads. NTTA manages toll roads and sets toll rates, while the Regional Transportation Council (RTC) of the North Central Texas Council of Governments (NCTCOG) makes decisions over whether and where to build new toll roads, independently from the state. Tolls collected by NTTA are funneled back into the agency (Title 6 Subtitle B Texas Transportation Code, Chapter 366).

Authority to authorize bonds:

NTTA's budget indicates that much of their toll collections were used for operations expenses and debt servicing (North Texas Tollway Authority, 2018). Indeed, a 6% toll rate increase on the President George Bush Turnpike Western Extension in 2011 was approved in conjunction with approval of a new bond measure for further capital development. Their website stated that toll revenue was to be used for bond repayment for NTTA projects and programs.[116] Based on the agency's website, it appears that projects funded by the agency are limited to roadway improvements and developments.[117]

Toll rate changes and rationale:

Increases of 15% or higher occurred for the Dallas North Tollway (2007 &2009), the President George Bush Turnpike (2007, 2009, 2011), the Sam Rayburn Tollway (2009 & 2011), and the President George Bush Turnpike Western Extension (120% in 2012). Additional increases of 5-6% for all four roads occurred in 2013, 2015 and 2017. The final NTTA budgets for 2017, 2019, and the CAFR for 2017 consistently indicate the use of toll revenues for administrative and operational services, regarding the internal allocations of funds; with other expenses being debt service, capital improvements, and agency investments. As such it seems that most toll increases will be either capital projects (such as improvements and developments) or for inflation adjustments. The inflation adjustments occur at a 2.75% compounded rate increase every odd numbered year with the compounding being reset every odd year, however the board of directors will review the financial obligations and determine if there is a need for an increase.[118]

Table 32: North Texas Tollway Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Increases	Bond Repayment	State Mandate	Profit	Other
2007	Dallas North Tollway	✔	✔			✔			

[116] https://www.ntta.org/whatwedo/tollcollrates/Pages/default.aspx
[117] https://www.ntta.org/roadsprojects/projprog/Pages/default.aspx
[118] https://www.ntta.org/whatwedo/tollcollrates/Pages/Toll-Collection-FAQs.aspx

2009	Dallas North Tollway	✔	✔			✔			
2007	President George Bush Turnpike	✔	✔			✔			
2009	President George Bush Turnpike	✔	✔			✔			
2011	President George Bush Turnpike	✔	✔			✔			
2009	Sam Rayburn Tollway (SH 121)	✔	✔			✔			
2011	Sam Rayburn Tollway (SH 121)	✔	✔			✔			
2012	President George Bush Turnpike Western Extension	✔	✔			✔			
2013+ (odd years)	NTTA System-wide	✔	✔		✔	✔			

Methodology:

Primary sources included meeting minutes, beginning in the year preceding a significant toll increase, up to the time of the increase. Sources also included budgets and comprehensive annual financial reports, indicating the use of toll revenues. Minutes did not provide detailed discussions of financing decisions. We filled in gaps in knowledge gaps by contacting staff members and elected officials from NTTA regarding their policies and motivations behind toll increases. Interviews were conducted on phone, with follow up emails. (See Section 10 below).

Harris County Toll Road Authority

The Harris County Toll Road Authority (HCTRA) owns and operates the toll roads within the Houston-Galveston Area Council planning area. The HCTRA is nested within the Harris County government, with its Executive Director appointed by the Harris County Commissioners Court.[119] Thus, we classify it as an agency managed by *Local Government*. HCTRA operates several projects now active, and has plans to expand in the future.

Authority to authorize bonds:

The Authority uses toll revenue bonds as a way to finance capital costs. The bonds are also used to pay for operating and capital costs. (https://auditor.harriscountytx.gov/CAFR/Toll%20Road%20Authority%20Final%202018.pdf)

Toll rate changes and rationale:

The records indicate the Authority is both operated by the County Commissioner's court as well as the Houston-Galveston Area Council. These organizations ensure the toll revenues are used as revenue sources to sustain the Regional Transportation Plan (RTP). Revenue could be spent on capital developments and expansions, operational, or maintenance of facilities. Tolls were increased by 20%-50% in 2007; 73% on the Fort Bend Toll Road Extension in 2009; and smaller rates on other roads in 2009; 2011, 2012; 2013 and 2015. Increases were not consistent over time, and do not appear to have been tied to the CPI or other index (Houston-Galveston Area Council, April 2016).

Table 33: Harris County Toll Road Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2007	Hardy Toll Road	✔	✔	✔					
2007	Sam Houston Toll Road	✔	✔	✔					
2007	Westpark Tollway	✔	✔	✔					
2007	Fort Bend Toll Road Extension	✔	✔	✔					
2009	Fort Bend Toll Road	✔	✔	✔					

[119] https://www.hctra.org/AboutUs#overviewsection

	Extension								

Methodology:

The research team used records of the toll rates from 2007-2017 to select time periods to focus our analysis. HCTRA doesn't appear to have independent board meetings, or minutes available online. However, the County Commissioners meeting agendas state when they decided on toll rates. Over the ten year period, the toll rate increased most significantly for all four roads on June 19, 2007,[120] with a separate file stating that the resolution had passed.[121] We were unable to recover the relevant meeting minutes, so we do not know the specific reason for this decision.

[120] https://agenda.harriscountytx.gov/2007/06-19-07ag.pdf
[121] https://www.cclerk.hctx.net/commctagenda/LegacyExceptions/06-19-2007.pdf

Fort Bend County Toll Road Authority

The Fort Bend County Toll Road Authority (FBCTRA) is a county toll authority that operates the Fort Bend Parkway. Since tolling decisions were made by the Fort Bend County Commissioners Court, we classify it as a *Local Government* operator.[122] Two facilities operated by FBCTRA that saw substantial increases between 2007-2017: Fort Bend Parkway Toll Road rising 25% in 2009 and 33% in 2014; and Fort Bend Westpark Tollway rising 20% in 2009 and 50% in 2017. Both roads had smaller periodic increases, not indicating annual increases tied to any index; however this changed in 2017. We focused our efforts on the year preceding significant increases, and the year of the increase, searching FBCTRA minutes during that time. Due to difficulty obtaining minutes from the Agency. our analysis is limited to the 2017 increase for Fort Bend Westpark Tollway.

Authority to authorize bonds:

The Fort Bend Toll Road Authority uses revenue bond financing to pay for the construction of toll road projects. The Authority holds a high bond rating of AA+ and AA2 from the ratings agencies. (https://www.fortbendcountytx.gov/home/showdocument?id=43485)

Toll rate changes and rationale:

The April 19, 2017 meeting passed a recommendation that the County Commissioners should change the toll rate. The recommendation went to the Commission on the October 24th regular session and was passed.[123] FBCTRA's latest toll policy states that the toll rate will increase by 2% or by the Consumer Price Index (CPI) (whichever is higher), beginning January 2018. This change could be an inflation adjustment to maintain the same purchasing power for operations and maintenance funds, however there is not enough information to confirm this, so we do not check these columns in the table below.[124] The limited information available from FBCTRA on their decision making process does not cite specific reasons for their decisions. We tried several attempts to email the agency for further information, but did not receive a reply. Therefore the table below may underestimate the intended uses of the increase. Additionally, lack of information about earlier increases means information about FBCTRA toll increases and their motivations mean that it is possible that there were additional intended uses of the money that are not selected in the table.

[122] http://www.fbctra.com/veterans/

[123] https://agendalink.co.fort-bend.tx.us:8085/agenda_publish.cfm?id=&mt=ALL&get_month=4&get_year=2018&dsp=min&seq=3048 (item 16)

[124] http://www.fbctra.com/wp-content/uploads/2018/01/fbctra_toll_rate_order_20171024.pdf

Table 34: Fort Bend County Toll Road Authority substantial rate changes between 2007-2017[125]

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2017	Fort Bend Westpark Tollway				✔				✔

Methodology:

Toll increase data indicated times to focus our analysis. We examined the years before and the year of revenue increases at or above 15%. The lack of information available online required Freedom of Information Act requests. We also sent requests by email. We received the minutes for 2013, but none of the other years requested. Further emails did not receive a response. Information from 2015 and later was available on the agency website, providing information about the most recent toll increase. The meetings occur in a law office with the contact email for public information being part of the law group's servers instead of a government server. There are not many details posted online about how they use revenues for operations or capital funding, or whether or not the Authority transfers the revenues to other county projects. Further analysis would require on-site archival examination and interviews.

[125] We have not included Fort Bend Parkway Toll Road in this table due to lack of data and no response to FOIA request.

North East Texas Regional Mobility Authority

As a Regional Mobility Authority, North East Texas Regional Mobility Authority (NETRMA) is authorized to develop a range of transportation solutions (TTC Title 6 (G) § 370.033). Therefore, we classify it as a *Transportation Authority*. Indeed, one of NETRMA's committees covers Rail, indicating the capacity to provide other forms of transportation besides toll highways.[126] The road was opened in 2006, with a second phase opening in 2008, and a third phase in 2012. In 2013, the ownership of the road was transferred from TxDOT to NETRMA.[127]

Authority to authorize bonds:

Loop 49 was financed through loans and bond measures. The 2010 minutes discussed potential funding sources and loans, including the possibility of obtaining a State Infrastructure Band loan (SIB). The loans funded construction of new segments of Loop 49. When the segments were finished, toll revenues increased accordingly.

The Texas Transportation Code[128] gives a Regional Mobility Authority the ability to issue bonds to assist in paying for transportation projects. Subchapter D specifically deals with Transportation Project Financing. Transportation Revenue Bonds can be used to pay for transportation projects using Authority revenues to repay these bonds.[129]

Toll rate changes and rationale:

Loop 49 had several toll increases at or above the 15% threshold over the 2007-2017 study period: 15% in 2008, 107% in 2012, 74% in 2013, 24% in 2014, 19% in 2015, and 10% increases in both 2016 and 2017. Bond repayment is mentioned as a reason for the tolls in the August 18, 2010 board of directors meeting minutes, after discussions about projected revenues for Loop 49, following flawed revenue projections. Revenues were used to pay bonds and SIB loans.[130]

2012 minutes indicate that on November 2012, phase 3 of the road was opened, but tolls did not start until April 2013. The minutes do not give the reason for the toll increases, but we know that the Fiscal Year (FY) 2013 and 2014 budgets show toll revenues being used for maintenance, operations, and interest payments, while all capital costs were paid through bond measures.

Additionally, the toll rate policy posted on the NETRMA website states that beginning in 2016, the rate has increased automatically on a biannual basis, according to either the Consumer Price Index (CPI), or 2.5%, whichever is higher. Tolls continue to be used for maintenance, operations funding, and debt servicing.

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[126] From their 2013 Strategic Plan (pg. 3), one of their committees is Rail. https://www.netrma.org/assets/files/FY%202013%20NET%20RMA%20Strategic%20Plan%2011-2013.pdf

[127] https://www.netrma.org/projects/toll-and-ethg/

[128] Title 6, Subtitle G, Chapter 370

[129] https://statutes.capitol.texas.gov/Docs/TN/htm/TN.370.htm#370 Sec. 370.111 – 370.113

[130] https://www.netrma.org/assets/NET-RMA-Minutes-8-18-2010-FINAL-Signed.pdf

Table 35: North East Texas Regional Mobility Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2012	Loop 49	✔				✔			
2013	Loop 49	✔				✔			
2014	Loop 49	✔				✔			
2015	Loop 49	✔				✔			
2016+	Loop 49	✔			✔	✔			

Methodology:

The research team used the toll rate history of the road to select years for examination of primary documents. We examined NETRMA's toll rate policy and dates for finalization of toll rate increases. We then searched the NETRMA board meeting minutes from the earliest records of toll increases (starting with 2012). We then searched NETRMA final budgets for the fiscal years of 2013 and 2014, which contained more information on the use of toll revenue than meeting minutes for this particular agency. We also researched the Tyler Area MPO's MTP and the Texas Department of Transportation's STIP for any mention of regional or state funding for Loop 49.

NETRMA records were incomplete, particularly the meeting minutes, which did not provide sufficient information on the use of the money or the motivations for increasing tolls, though we attempted to fill this information gap with information from the budgets. This was particularly the case for meeting minutes prior to October 2013, which were not available, though we sent FOIA requests. Even for minutes after 2013, records were sparse on this issue, with minutes only recording the decision made by the board, but not elaborating on the reasons for making it, or the discussion leading up to it.

Central Texas Regional Mobility Authority

The Central Texas Regional Mobility Authority (CTRMA) is an independent agency that operates in Williamson and Travis County. As a Regional Mobility Authority, the agency is authorized to develop a range of transportation solutions (TTC Title 6 (G) § 370.033). Therefore

we classify it as a *Transportation Authority*. The Authority operates the 183A tollway and the Manor Expressway among other projects.

Authority to authorize bonds:

The Texas Transportation Code[131] gives a Regional Mobility Authority the ability to issue bonds to assist in paying for transportation projects. Subchapter D specifically deals with Transportation Project Financing. Transportation Revenue bonds can be used to pay for transportation projects using Authority revenues to repay these bonds.[132]

CTRMA has a policy for handling debts issued and debt owned. Bonds are primarily funded with toll revenues. The CTRMA also uses Transportation Infrastructure Finance and Innovation Act loans to assist with financing the road system.[133][134]

Toll rate changes and rationale:

Toll history from 2007-2017 indicates that on US 183/183A, significant toll increases occurred in 2012 (40%), with another increase of 11% in 2010. Beginning in 2013, tolls increased by 2% every year. On the Manor Expressway, tolls increased by 218% in 2014, then increasing by 2% annually from 2015-2017. Indeed, at the April 19, 2012 CTRMA board meeting, the board of directors enacted a policy tying annual toll increases to the Consumer Price Index or other similar index.[135]

Prior to this decision, toll increases were irregular. Records of the 2012 increase on US 183A from the April 27, 2011 board meeting minutes indicate that the rate was scheduled to be altered in order to complete construction of the project in 2012. The staff reported that the toll modification would overcome the "effects of inflation on operations and maintenance of the project as well as for any other projects within the system" (Central Texas Regional Mobility Authority, 2011) . The resolution also mentioned that the toll rate also must be in line with bond requirements, which, according to the board the board, must take precedence over any policy or practice from the Authority.[136]

The Manor Expressway was partially purchased through eminent domain during 2013-2014 to obtain the land for the project. The base toll rates for the expressway (it was only opened on 2013) were set so they would start at a set amount and rise when the toll lane was fully opened in 2014. A resolution passed on February 2014 stated that the Authority was authorized to fund the project with bond obligations so long as they were sure they could repay them.[137] The eastbound and westbound main lanes were completed on May 17, 2014, with the second phase of

[131] Title 6, Subtitle G, Chapter 370
[132] https://statutes.capitol.texas.gov/Docs/TN/htm/TN.370.htm#370 Sec. 370.111 – 370.113
[133] https://www.mobilityauthority.com/upload/files/financial_information/06_financial_policies/Investment_Policy_2.28.18.pdf
[134] https://www.mobilityauthority.com/upload/files/2018_Annual_Report_121718.pdf
[135] https://www.mobilityauthority.com/upload/files/board_meetings/2012-04-19/10_8.pdf p. 2
[136] https://www.mobilityauthority.com/upload/files/board_meetings/2011-04-27/10_2.pdf
[137] https://www.mobilityauthority.com/upload/files/Feb262014.pdf p. 5

the project starting afterwards.[138] While the summary didn't specify the reason for setting the toll at this price, it stated its strategic relevance as maintaining a rate that was economically viable and sustainable.[139]

Table 36: Central Texas Regional Mobility Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustment	Bond Repayment	State Mandate	Profit	Other
2012	183A	✓	✓			✓			✓
2013+	183A				✓				
2014	Manor Expressway	✓	✓			✓			✓
2015+	Manor Expressway				✓				

Methodology:

We began by searching the CTRMA website for information about their policies and board meetings for years identified based on toll rate data. Authority meeting minutes have been posted online, going back to 2003.[140] They typically vote to increase toll rates the year before implementation (all rate changes are enacted on the first of January). Taking this into account we focused on meeting minutes the year before significant increases. While CTRMA does not have conventional minutes for some years, it has staff reports, Financial reports, the State Planning Improvement Plan, annual reports, and financial policy reports showing the justification and reasoning for any changes to its policies or practices.

[138] https://www.mobilityauthority.com/upload/files/board_meetings/2014-04-30/6_FINAL_April_30%2C_2014.pdf p. 3

[139] https://www.mobilityauthority.com/upload/files/board_meetings/2012-10-26/5_18.pdf

[140] https://www.mobilityauthority.com/board-meetings

Cameron County Regional Mobility Authority

As a Regional Mobility Authority, Cameron County Regional Mobility Authority (CCRMA) is authorized to develop a range of transportation solutions (TTC Title 6 (G) § 370.033). Therefore we classify it as a *Transportation Authority*. CCRMA was established for congestion solutions, with its initial project being initially thought of as a toll project. State Highway 550 (SH 550), also known as Interstate 169, was developed in partnership between CCRMA and the Texas Department of Transportation (TxDOT). CCRMA operates the toll facilities, and develops an independent toll policy for its roads.

Authority to authorize bonds:

The Texas Transportation Code[141] gives a Regional Mobility Authority the ability to issue bonds to assist in paying for transportation projects. Subchapter D specifically deals with Transportation Project Financing. Transportation Revenue bonds can be used to pay for transportation projects using Authority revenues to repay these bonds.[142]

Toll rate changes and rationale:

Toll records indicate CCRMA increased toll rates on SH 550 by 100% in 2013 and 50% in 2015. The CCRMA Toll Rate Policy explains the escalation policy for SH 550. The procedures for toll rate increases is an annual increase based on a ceiling provided by the Texas State Gross Domestic Product or the Consumer Price Index. These increases adjust for inflation and the cost of living to maintain a constant revenue stream. Though these indices limit the level of toll increases, the specific level must be approved by the CCRMA board.[143]

Financial statements for 2013 state that toll revenues were listed as part of the operating revenues for the Authority. These revenues were shown in the Statement of Net Position with operating expenses, debt interest, and capital contributions. The revenues, which included bond and toll revenues, were used for the aforementioned purposes, including contractors and vendors, which we classified as maintenance expenditures in the table below. CCRMA's 2017 audited financial statement also indicates they use toll revenues for maintenance.[144]

Table 37: Cameron County Regional Mobility Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2013	SH 550	✔	✔			✔			
2015	SH 550	✔	✔			✔			

[141] Title 6, Subtitle G, Chapter 370

[142] https://statutes.capitol.texas.gov/Docs/TN/htm/TN.370.htm#370 Sec. 370.111 – 370.113

[143] https://ccrma.org/wp-content/uploads/2018/07/CCRMA-Toll-Collection-Operations-Policies-Revised-9-8-16.pdf

[144] https://ccrma.org/wp-content/uploads/2018/06/CCRMA-Financial-Statements-FY17-Final-4.12.18.pdf

Methodology:

We began with examination of the CCRMA website, focusing on its policies and meeting minutes for years when tolls were increased, as well as the prior year. We then examined CCRMA financial records for information on the use of toll revenues. We checked the local MPO's records for the Metropolitan Transportation Plan and other transportation plans. We repeated the process with the State Transportation Improvement Plan. CCRMA did not have downloadable PDF files for its annual reports. Rather, the Authority posted them on a third party site, "issuu." This website shows the file, but does not allow one to download them.[145]

[145] https://issuu.com/josuhemejia/docs/ccrma_annual_report_2014

State: Virginia

Road	Public Entities	Private Entities	Years of Inquiry
Powhite Parkway	Richmond Metropolitan Authority (§ 33.2-2901)		2008 (40%)
Downtown Expressway	Richmond Metropolitan Authority (§ 33.2-2901)		2008 (40%)
Dulles Toll Road	Virginia Department of Transpiration (until 2008)		2010 (40%) 2011 (14%) 2012 (13%)
	Metropolitan Washington Airports Authority		2013 (22%) 2014 (27%)
Dulles Greenway		Dulles Greenway (Toll Road Investors Partnership II, LP)	2009 (33%) 2013 (2%) 2014 (4%) 2015 (2%) 2016 (3%) 2017 (3%)
Chesapeake Expressway	City of Chesapeake, Virginia Department of Transpiration		2011 (50%) 2014 (100%) 2016 (33%)
	Route 168 Advisory Committee		
	Transportation Toll Facilities Advisory Committee (§ 2-620.30 City Code) (Ord. No. 09-		

	O-014)		
Pocahontas Parkway		Globalvia	2011 (20%) 2016 (23%)

State Legislation: Title 33.2 chapters 5 and 6 and Virginia Highway Corporation Act of 1988

Richmond Metropolitan Transportation Authority

The Richmond Metropolitan Transportation Authority (RMTA) was classified as a *Transportation Authority* due to its authority to operate public transit in addition to toll roads (§ 33.2-2902) and its autonomy from the state government in the governance of its board. RMTA operates two toll roads that had single year toll increases of 15% or greater—Powite Parkway and Downtown Expressway, both near downtown Richmond, Virginia. Powhite Parkway extends south westward, with one end beginning just west of downtown, while the Downtown Expressway begins west of downtown, extending into the downtown. Records indicate toll rates for each of these roads increased only one time within the last ten years—both by 40% in 2008. The two roads were built by the Authority with the Powhite Parkway opening for service in 1973, and the Downtown Expressway opening in 1976 (Richmond Metropolitan Transportation Authority, n.d.).

The Authority, and the outlining powers were authorized by the Code of Virginia (§ 33.2-2900). The Authority's governing board had 16 members. Five members are appointed by the Board of Supervisors of Chesterfield County, Five members by the Board of Supervisors of Henrico County, five by the Mayor of the City of Richmond with the approval of the City Council and one ex officio member from the Commonwealth Transportation Board is appointed by the Commissioner of Highways (§ 33.2-2900).

Within the powers of the Authority, the toll rate for both the Powhite Parkway and the Downtown Expressway, increased in 2008. On their website, the increase was attributed to "the ever-increasing costs of maintaining the roadway system and implementing future improvements" (Richmond Metropolitan Transportation Authority, n.d).

Authority to authorize bonds:

Virginia's State Code permits the RMTA to issue bonds with no noteworthy circumstances other than a maximum time of maturity of 50 years (§ 33.2-2900). No information was found on required level of reserves or other nonstandard requirements that would have impacted the increase in toll decision. However the Code of Virginia specifies that revenues must be used to repay bonds, stating: "*…all revenues, when collected, and the proceeds from the sale of revenue bonds, shall be held by the Authority in trust for the benefit of the holders of bonds of the Authority issued for the construction or acquisition of Authority facilities and for properly maintaining, operating, and repairing the Authority facilities*" (§33.2-2904).

Toll rate changes and rationale:

During the Richmond Metropolitan Transportation Authority meeting in January 2008, the initial public discussion regarding a toll increase was brought before the board by staff members (Richmond Metropolitan Transportation Authority, 2008a). At the time, three options are presented for consideration (the first figure being the cash toll, the second the ETC toll):

> *"$0.70l$0.65 or $0.65l$0.65, if the Authority is to address unanticipated future costs with an additional toll increase;*
>
> *$0.70l$0.70, if the Authority is to eliminate the ETC discount and provide a safety margin for unanticipated costs; or*

$0.75l$0.70, if the Authority is to maintain the ETC discount and provide a safety margin for unanticipated costs" (Richmond Metropolitan Transportation Authority, 2008a).

Table 38: Richmond Metropolitan Transportation Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2008	Powhite Parkway	✓				✓			✓
2008	Downtown Expressway	✓				✓			✓

Two months later at the March 2008 board meeting, the increased toll rates were discussed again, this time for a vote. While the staff proposed adopting the largest increase of the three options, the board voted 6 to 5 in favor of an increase to $0.70/$0.70 (Richmond Metropolitan Transportation Authority, 2008b). It should be noted that the board considered the $0.05 on cash tolls a "relatively minor" financial contribution given the percent increase of ECT users over time (Richmond Metropolitan Transportation Authority, 2008b). The key factors in the discussion that led to the toll increase were the need to cover maintenance cost, with fear that VDOT's contributions would not last, the need to provide adequate cash reserves for unseen events, and the necessity of preparing for bond maturity in 2020 (Richmond Metropolitan Transportation Authority, 2008b).

Methodology:

The research team began information collection by reviewing the Richmond Metropolitan Transportation Authority website, after determining the ownership of the roads through online searches and examination of the Virginia State Code. From there, a FOIA request was necessary to gather the board meeting minutes for the years 2007-2008, as they are not posted on the agency website. Responses from RMTA were very prompt. Meeting minutes provided a majority of the information necessary to answer questions about the toll increases and the intended use of the money. Other information on the LRTP was publicly available and searched through the web. The research team considers the information available on this agency and its roads to be complete.

Metropolitan Washington Airports Authority

In 2006, the Metropolitan Washington Airports Authority (MWAA) was granted the right to operate the Dulles Toll Road in a transfer agreement with Virginia's Department of Transportation (VDOT) for a 50 year period (Virginia Department of Transportation, 2006). As an autonomous authority authorized to manage several modes of transportation, we classify MWAA as a *Transportation Authority*. A transfer of operations that would end in 2008. The agreement specified that toll revenues would be used for the betterment of transportation in the Dulles Corridor, including rail and road (Metropolitan Washington Airports Authority, 2005). One such project in relation to this agreement is the Dulles Metrorail Project that would extend the existing D.C. public transit network to the Dulles Airport and beyond to Ashburn, Virginia (Metropolitan Washington Airports Authority, n.d.-c). Because the rail project served the airport, it was seen as an important way to use toll revenue.

The Airports Authority is governed by a 17 member board, chosen by the President, governors of Virginia and Maryland, and the mayor of the District of Columbia (Metropolitan Washington Airports Authority, n.d.-b). The Airports Authority Board is advised by the Dulles Corridor Advisory Committee (DCAC) regarding the Dulles Toll Road. This is an eight member committee comprised of state, county, and Airport Authority designees, regarding toll road operations (Metropolitan Washington Airports Authority, n.d.-a).

Authority to authorize bonds:

According to 49 U.S.C. 49106, the MWAA is able to issue bonds at its discretion with few parameters to limit the scope. The bonds are not considered a debt of Virginia, but can be secured by the Airport Authority's general revenue (49 U.S.C. 49106). There are no other specific stipulations about the bonds that would otherwise affected toll rate decision making.

Toll rate changes and rationale:

During the 2007-2017 period of study, toll rates continued to rise incrementally between 2010 and 2014.[146] At the June 23, 2009 meeting of the DCAC, the plan for increasing the toll between the years 2010 to 2012 was discussed (Dulles Corridor Advisory Committee, 2009). In accordance with the original agreement with VDOT, the decision to increase the toll rate was based on the need "to generate sufficient gross toll revenue to support the anticipated amount of toll revenue debt" (Dulles Corridor Advisory Committee, 2009). The anticipated debt was directly related to the financing plan for the Metrorail Project, which called for the issuance of $2.9 billion in bonds over the next five years that would be repaid in toll revenue (Dulles Corridor Advisory Committee, 2009). This plan to increase tolls was unanimously accepted by the Airports Authority Board in the November 4, 2009 meeting (Metropolitan Washington Airports Authority, 2009).

[146] Significant toll increases include an increase of a steady pace for multiple years

Table 39: Metropolitan Washington Airports Authority substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Increases	Bond Repayments	State Mandate	Profit	Other
2010	Dulles Toll Road		✓	✓		✓			
2013	Dulles Toll Road		✓	✓					
2014	Dulles Toll Road		✓	✓					

The plan to increase tolls was once again revisited in 2012 to set the increase for the years 2013-2015. During the October 5, 2012 meeting of DCAC, the committee set the expected increases citing, once again, the need to increase revenue that would enable the Airports Authority to fund the Metrorail Project (Dulles Corridor Advisory Committee, 2012). In the presentation, the percentage estimated use of toll revenue did not vary much between years with respect to maintenance and operation costs, or even with regard to other Dulles Corridor improvements (Dulles Corridor Advisory Committee, 2012). However the use of toll revenue expected to fund the Metrorail Project increased from 46% of the 2012 toll revenue to 58% of toll revenue in 2013, and 61% in 2014 (Dulles Corridor Advisory Committee, 2012). The Airports Authority adopted the proposed increases for 2013 and 2014, and reserved the right to increase the rate in 2015 "dependent upon the cost of construction of the Phase 2 [Metrorail] Project" (Metropolitan Washington Airports Authority, 2012). The minutes and presentation included toll mitigation strategies to prevent future increases, including one method to request a low interest rate federal loan (Dulles Corridor Advisory Committee, 2012).

In 2014 the MWAA, Fairfax County, and Loudoun County closed on a Transportation Infrastructure Finance and Innovation Act loan of $1.876 billion to finance phase 2 of the Metrorail Project (United States Department of Transportation, n.d.). As mentioned in the October 5, 2012 meeting, federal loan assistance "…decreases the extent of planned future toll rate raises" (United States Department of Transportation, n.d.). With the importance of the Metrorail Project on toll rates, the federal loan can be attributed to the decision to not further increase toll rates over 2015-2017.

Methodology:

The research team began information collection by reviewing the minutes of the Dulles Corridor Advisory Committee meetings in 2009. This year was chosen as the year prior to a significant toll increase. Since the DCAC meets twice a year, the search was simple, and provided a history over time through additional meeting minutes of the Airports Authority, and

in later years, the DCAC. Other necessary information was found through the Virginia State Code and various websites providing documents and background. Publicly available information was sufficient to determine the intended use of the toll increases.

Dulles Greenway

The Dulles Greenway is privately-owned and operated pursuant to the Virginia Highway Corporation Act of 1988 (§ 56-542). The direct owner is known as Toll Road Investors Partnership II, L.P. (TRIP II); however this company is now financially owned by Atlas Arteria (formally Macquarie). We classify Dulles Greenway as *Private* due to its ownership by a private corporation. While regulated by the state, the road is not managed through a contract with a public entity often seen in *P3* facilities. Within the timeframe of this study, the privately-owned portion of the Dulles Greenway significantly[147] increased tolls a number of times, which we examine here.

Toll rate changes and rationale:

As a privately-owned toll road, the decisions regarding the road, including tolling decisions, are not discussed in the public domain. However there is state oversight for tolling decisions, which are limited by the Highway Corporation Act of 1988 to instances where tolls (1) are reasonable to the user in relation to benefit, (2) will not materially discourage use of the facility, and (3) allow only a reasonable return, as determined by the State Corporation Commission (SCC). Therefore, the SCC must also approve toll increases (§ 56-542).

Following the Highway Corporation Act of 1988, TRIP II increased tolls in 2007 and once in 2009 (though 2007 was below our threshold, at only 11%), leaving records for each one. In the filings with the SCC toll increases were limited by maximum rates, which served as the upper limit for TRIP II operators to set rates (State Corporation Commission, 2003). In Case No. PUE-2003-00230, the SCC approved the maximum ceiling raise of $3.00 effective July 1, 2007 (State Corporation Commission, 2003). Even though the maximum ceiling was raised, TRIP II was not required to set rates at the maximum value. Nevertheless, they did. In 2006, a similar event, Case No. PUE-2006-00081, filed with Virginia's SCC was approved that would raise the maximum ceiling to $3.40 as a base fare effective January 1, 2009 (State Corporation Commission, 2006). Once again, TRIP II chose to raise the rate to the maximum allowed. Each time a toll rate was requested, TRIP II cited that request was for the continued maintenance and operation saying that they have "lost money every year it has been in existence" (State Corporation Commission, 2006). Even with a vast public disposition to the toll increase, the SCC allowed for the toll increase because legislation was not strict enough and the three conditions were met (Kravitz, 2009).

[147] Significant toll increases are defined as percent increase equal to or greater than 15% as well as a steady percentage increase over time

Table 40: The Dulles Greenway substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other
2009	Dulles Greenway	✓						✓	
2013	Dulles Greenway	✓			✓			✓	
2014	Dulles Greenway	✓			✓			✓	
2015	Dulles Greenway	✓			✓			✓	
2016	Dulles Greenway	✓			✓			✓	
2017	Dulles Greenway	✓			✓			✓	

The year following the 2007 toll increase, Virginia State Congressmen Mark Herring and Joe T. May of District 33, the district where the Dulles Greenway resides, introduced a bill in their respective chambers to modify the Virginia Highway Corporation Act of 1988 (HB 1140 / SB 778 2008 Session). The bill passed after revisions and set the toll increase limitations during the years 2013 to 2020 to rates (1) equal to the increase in the CPI plus 1, (2) equal to the increase in the real GDP, or (3) 2.8 percent (§ 56-542). Furthermore the bill states that the operator can request, in addition, the percentage amount by which its local property taxes increased in the directly previous year (§ 56-542). For each year during the limited increase in toll rates of the study period, being 2013-2017, TRIP II increased the rate the maximum allotted by legislation. As seen in Case Nos. PUE-2012-00136, PUE-2013-00139, PUE-2014-00129, and PUE-2015-00137, this has approximately been 3% each year, beginning in 2013, and each time attributed to the maintenance and operation costs.

Transparency of tolling decisions:

While obtaining information on the Dulles Greenway, it was apparent from the public comments in the State Corporation Commission's case records that the public was made aware of the toll increases and provided opportunities to voice their opinions. Unfortunately, an instance where the public's opinion was taken into consideration was not found. Furthermore, when the research team looked into the historic records, information with regards to the oversight and decisions of the toll road were not made apparent by the private tolling company. Rather, the Dulles Greenway website only indicates that the State Corporation Commission regulated their actions (Dulles Greenway, n.d). It is only through extensively searching Virginia's SCC website that case records were found.

Methodology:

The research team began information collection by reviewing the website of the toll road. From there, we searched case records for "Toll Road Investors Partnership" and applied special attention to the results for years 2006-2017 (beginning one year before the first increase in the 2007-2017 period). Once case instances were identified for increases of 15% or more in a single year, or consistent annual increases based on indexing, we looked into these further. We conducted web searches for keywords like "Dulles Greenway" and "Toll Road Investors Partnership," and compiled information on the authority to raise tolls, based on the Virginia State Code.

City of Chesapeake

The Chesapeake Expressway is maintained and operated by the City of Chesapeake, which is why we classify it as managed by a *Local Government*. The Expressway is within the scope of the research because of significant[148] toll rate increases identified between 2007-2017. The city council provided the ultimate authority on decisions regarding the use of toll revenue and rate increases, however, the council was advised by committee. Created in 1999, the Route 168 Advisory Committee was originally responsible for advising toll road decisions (Ord. No. 99-O-129). In 2009, the city passed an ordinance to create the Transportation Toll Facilities Advisory Committee (TTFAC) to advise on the Chesapeake Expressway and, later, the construction of Dominion Boulevard (Ord. No. 09-O-014).

Authority to authorize bonds:

The City of Chesapeake is able to issue bonds for projects, including transportation capital expenditures (§ 15.2-2604). The research team found no extraordinary circumstances surrounding the issuance of bonds, or their process for repaying them.

Toll rate changes and rationale:

Tolls were increased by 50% in 2011. Discussion began in 2010, when the city of Chesapeake began evaluating an upcoming infrastructure project known as Dominion Boulevard. One of the considerations was the funding for this Dominion Boulevard project. In fact, the Dominion Boulevard project appears to have set off a new course of action and new considerations regarding the Chesapeake Expressway and the toll rate. Starting with the TTFAC meeting on October 13, 2010, the conversation to increase tolls on the Chesapeake Expressway began, and the initial consideration was to increase "credit worthiness" to support funding for the Dominion Boulevard (Transportation Toll Facilities Advisory Committee, 2010). "Our goal is to achieve the highest revenue, not only for the maintenance of the Chesapeake Expressway, but also to generate enough revenue and credit worthiness for the Dominion Boulevard project to join together with the Expressway" (Transportation Toll Facilities Advisory Committee, 2010). To further align the two roads, the city council in their October 26, 2010 meeting, voted to combine the two roads under the Chesapeake Transportation System (CTS) (City of Chesapeake City Council, 2010).

[148] A significant toll increase is defined in this project as a percent increase equal to or greater than 15%

Once the two roads were under the same system, the conversation about the impending toll increase appears to have changed. In the City Council's February 22, 2011 meeting, the public works director Eric Martin presented TTFAC's recommendation for toll increase (City of Chesapeake City Council, 2011a). As stated in the meeting, the guiding principles for the toll increase were rider safety, legal debt repayment obligations, operations and maintenance (City of Chesapeake City Council, 2011a). There were no mentions specifically regarding the credit worthiness of CTS. On March 15, 2011 TTFAC met to organize their specific toll recommendations, including variable pricing for peak weekends during the summer months, and on March 22, 2011, the city council approved the toll increase (Transportation Toll Facilities Advisory Committee, 2011; City of Chesapeake City Council, 2011b). Even while the credit worthiness was not mentioned, the City of Chesapeake closed on a $151 million state loan from the Virginia Transportation Infrastructure Bank (VTIB) (Transportation Toll Facilities Advisory Committee, 2012; Virginia Department of Transportation, 2018).

At the city council meeting on July 10, 2012, the city approved a toll rate schedule. According to the schedule, the next toll rate increase for Chesapeake Expressway would occur in May 2016 (City of Chesapeake City Council, 2012). During the meeting, the financial advisor mentioned how the toll rate schedule was created to support the revenue projections and the approval of the VTIB loan (City of Chesapeake City Council, 2012). At the time, it was clarified that the city council had the power to "revisit the tolls and frequent [sic] used toll rates" as needed (City of Chesapeake City Council, 2016). However, as of the October 8, 2015 TTFAC meeting, no changes to the toll schedule had occurred and the next increase would be in effect as of May 2016 (Transportation Toll Facilities Advisory Committee, 2015). When implemented, historical toll rate data shows a 33% increase occurred that year.

Historical toll data also indicates a 100% increase in tolls in 2014. However Additionally, the research team's data indicates a rate increase in 2014, however we found no evidence from meeting minutes or other documents provided by the City of such an increase occurring, or of discussion related to one.

Table 41: The Chesapeake Expressway substantial rate changes between 2007-2017

Reasons for change

Year	Road	Maintenance & Operations	Capital Improvements	Transit Subsidy	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Othe
2011	Chesapeake Expy.	✓	✓			✓			
2016	Chesapeake Expy.		✓						

Methodology:

The research team began information collection by reviewing the City of Chesapeake website. From there, we used the city code to understand how the Transportation Toll Facilities Advisory Committee formed and how the previous committee provided advise on toll increases and toll road policy. A FOIA request was needed to gather the city council meeting minutes

between May 2006 and December 2007. Responses from Monica Wilburn at the City of Chesapeake have been very prompt and helpful. Meeting minutes were searched using key words.[149] Other information found has been publicly available and searched through the Internet.

Pocahontas Parkway

The Pocahontas Parkway is a toll road that is currently managed and operated by Globalvia through a public-private partnership (Hence our classification as *Public-Private Partnership/P3* governance and management). The partnership is allowed under Virginia Law created with the Public – Private Highway Act of 1995 (Federal Highway Administration, n.d.). This law permitted P3s to operate, manage, collect tolls, and build upon publicly funded roads.

Originally, the parkway was constructed, tolled, and managed by the nonprofit Pocahontas Parkway Association (PPA) (Federal Highway Administration., n.d.). In June 2006, the Virginia Department of Transportation, PPA, and the private company, Transurban, entered into the Amended and Restated Comprehensive Agreement (the "Agreement"), whereby Transurban "acquired the sole rights to enhance, manage, operate, maintain, and collect tolls on the Parkway for a period of 99 years" (Federal Highway Administration, n.d.).

Toll rate changes and rationale:

The Agreement outlined the acceptable use for toll road revenue and provided a schedule for toll rate increases between the years 2006-2016. Under the acceptable use for toll road revenue, the Virginia Department of Transportation required that the revenues must first be used to pay all current and delinquent costs and expenses of operation before any other purpose (Virginia Department of Transportation, 2006b). Only after the revenue was used for operations, maintenance, and debt could Transurban distribute the equity amongst its holders (Virginia Department of Transportation, 2006b). The toll rate schedule was presented in Exhibit F of the Agreement (Virginia Department of Transportation, 2006b). Toll rate increases needed to follow a "Pending Toll Change" notice to the public and the Virginia Department of Transportation 60 days before the implementation of the change (Virginia Department of Transportation, 2006b).

The schedule attached to the Agreement included the maximum possible rate for a given time period. The summary of the maximum rates is included below for a 2-axle vehicle at the Main Toll Plaza.

Table 42: Pocahontas Parkway maximum toll rate for 2-axle vehicles at the Main Toll Plaza (Virginia Department of Transportation, 2006b)

Begin Year	End Year	Rate
Jan. 2006	Dec. 2007	2.25

[149] Keywords include "toll" "expressway" and "168"

Jan. 2008	Dec. 2010	2.75
Jan. 2011	Dec. 2012	3.00
Jan. 2013	Dec. 2013	3.25
Jan. 2014	Dec. 2014	3.50
Jan. 2015	Dec. 2015	3.75
Jan. 2016	Dec. 2016	4.00

At any time, Transurban could choose to charge a rate that is less than the maximum possible rate (Virginia Department of Transportation, 2006b). Additionally, Section 4.02 provided the option to set the tolls above the maximum yearly rate in the case that Transurban "fails to meet the debt service coverage requirements" necessary to maintain the parkway (Virginia Department of Transportation, 2006b). There is no indication such an event occurred.

Table 43: Pocahontas Parkway substantial rate changes between 2007-2017

		Reasons for change							
Year	**Road**	**Maintenance & Operations**	**Capital Improvements**	**Transit Subsidy**	**Automatic Incremental Adjustments**	**Bond Repayments**	**State Mandate**	**Profit**	**Other**
2011	Pocahontas Parkway	✓				✓	✓	✓	
2016	Pocahontas Parkway	✓				✓	✓	✓	

The research team identified two instances where the rate of increase either was at or above 15% in a single year—a 20% increase in 2011, and a 23% increase in 2016; we found no evidence of a consistent annual increase indexed to any particular measure. According to the data collected by the research team, the rate increased from $2.50 to $3.00, and $3.25 to $4.00 respectively during these two increases. These rates were in accordance with the rate schedule allowed by the state. No publicly available information was found for the specific justification for the toll increases. However we record them in the table above based on the terms of the Agreement.

Two additional details are worth noting regarding the rate increases. Between the years 2009 to the change in 2011, Transurban maintained a rate of $2.50. Therefore, it does not appear Transurban increased rates to the maximum limit at all times. Second, the parkway's management and operation was sold to Macquarie in August 2015, and once again to the current owner, Globalvia, in December 2016 (Federal Highway Administration., n.d.; Virginia Department of Transportation, 2016). It is likely that the Marcquarie Group managed the toll road during the rate increase of 2016, however, they were still bound by the original Agreement

and toll rate increase schedule. As evidence of this, their website still states "…toll rates are established in accordance with the Concession Agreement between Pocahontas Parkway and the Virginia Department of Transportation" (Pocahontas Parkway, n.d.), indicating the Agreement is still in effect.

Methodology:

The research team began information collection with a general online search on the Parkway. From there Globalvia, Tansurban LLC, and the connection to Virginia Department of Transportation was identified. A FOIA request to Virginia's Department of Transportation provided the details for the Public–Private Highway Act of 1995 and access to the Pocahontas Project's documentation. The FOIA request was conducted through email with timely responses. As a private concessioner, there were no publicly available minutes of meetings where tolling decisions were made. The history of changes in private operators made the timeline of information difficult to follow and there was no easily accessible document providing information on the trail of relevant parties over time.

SECTION 8: ANALYSIS

For the cases representing each category, researchers analyzed the content of the archival sources, focusing specifically on the process for decision making over the use of surplus toll revenue. This study achieves validity by consulting multiple sources, triangulating data, and establishing a historical chain of evidence using multiple documents. Additionally, validity was improved by using cases that provide information about their respective categories of governance (ensuring cross-case comparability), and focusing on evidence related to their respective governance types. The purpose here was to understand what the motivations were for board members responsible for deciding how to spend surplus revenues, and how the provisions of the state authorizing legislation influenced these decisions.

Figure 1: Purpose of Toll Increase/Use of Toll Revenue by Toll Road Governance Type

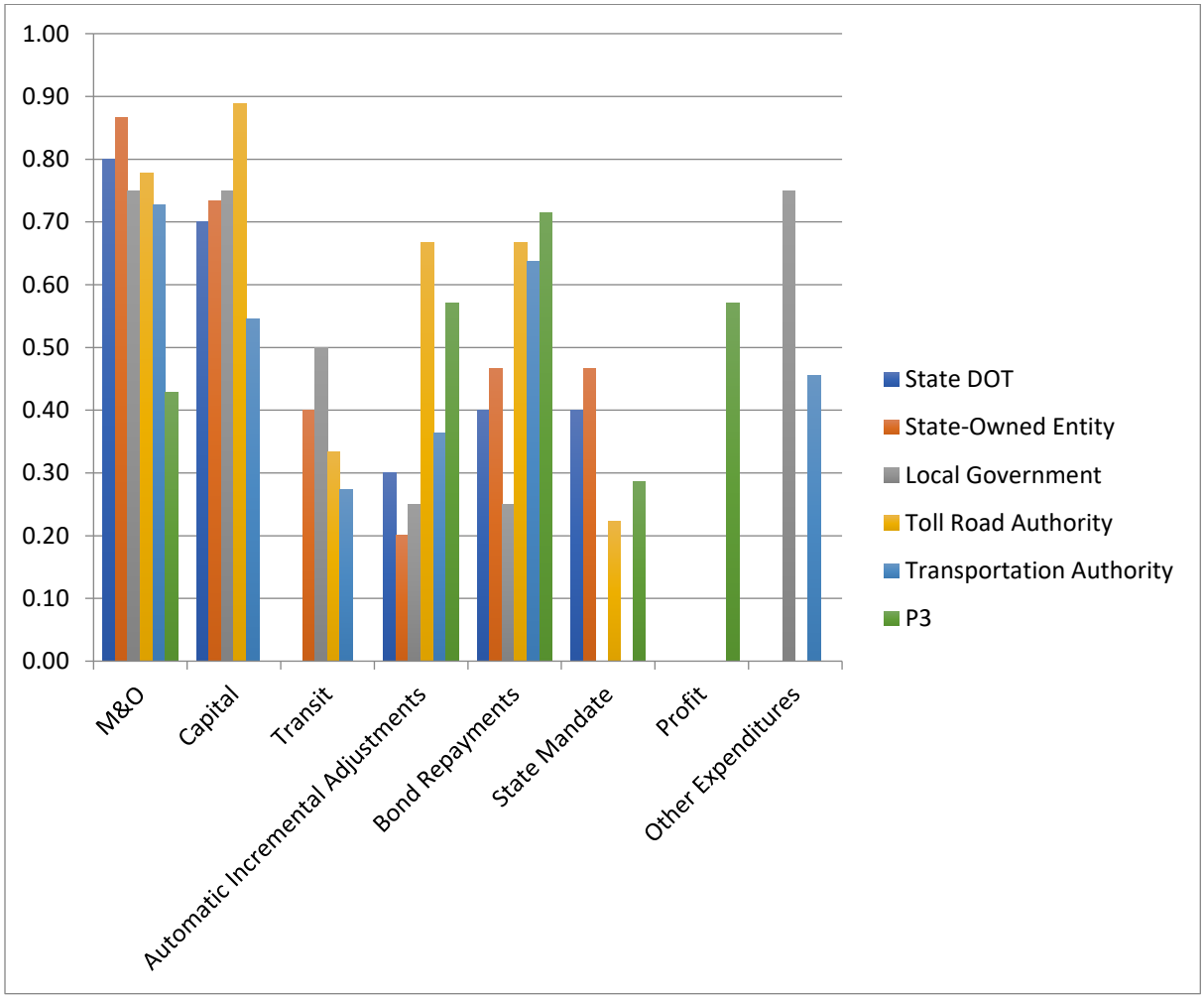

Table 44: Expenditures by Governance Type (Sample of 60 Toll Roads in 20 States, Normalized by Number of Roads in Governance Category)

Agency Type	Total Number of Roads	M&O	Capital	Transit	Automatic Incremental Adjustments	Bond Repayments	State Mandate	Profit	Other Expenditures	No Response
State DOT	10	0.80	0.70	0.00	0.30	0.40	0.40	0.00	0.00	0.10
State-Owned Entity	15	0.87	0.73	0.40	0.20	0.47	0.47	0.00	0.00	0.00
Local Government	4	0.75	0.75	0.50	0.25	0.25	0.00	0.00	0.75	0.25
Toll Road Authority	9	0.78	0.89	0.33	0.67	0.67	0.22	0.00	0.00	0.00
Transportation Authority	11	0.73	0.55	0.27	0.36	0.64	0.00	0.00	0.45	0.00
P3[150]	7	0.43	0.00	0.00	0.57	0.71	0.29	0.57	0.00	0.43

[150] We include the one fully private road in this category as well, since there were not enough private roads to analyze as a distinct group.

Table 44 summarizes the data. We coded for the presence of each expenditure type on each road. As noted above, for roads where decisions to raise tolls were made in multiple years, we counted all years together for this calculation, to represent any expenditure type associated with toll increase/decrease decisions. We divided the raw count of the number of toll roads exhibiting each expenditure category by the number of toll road facilities in the respective categories, making it possible to compare the presence of each expenditure across categories. In this analysis, we removed one road from the Local Government category and one from the P3 category, due to lack of available data.[151]

We found several highlights. For example, while many governance types were keen on raising tolls to support maintenance and operations, though this was less so for P3s (perhaps because this was less of a priority, or perhaps because there was not enough data was available). Toll Road Authorities, Local Governments, State-Owned Entities and State DOTs had the highest percentage of their toll increases motivated by supporting capital expansion, while P3s were not represented in this group (which makes sense because many of the private entities were concessionaires to operate roads previously built). The P3 model does not seem to encourage new construction so much as concessions to manage previously-built infrastructure, while the Transportation Authority, Local Governments, and the two forms of state ownership do.

The data also indicates that automatic incremental adjustments, often tied to the CPI, were most common among Toll Road Authorities and P3s. Bond repayments were most frequently seen as a motivation to raise tolls for P3s (often in the terms of their concession agreement), Toll Road Authorities and Transportation Authorities, though also for State-Owned Entities and State DOTs. State mandates were a motivation most commonly for State-Owned Entities and State DOTs, though also somewhat less so for P3s and Toll Road Authorities (P3s makes sense, because state regulations sometimes require justification or otherwise limit concessionaires' ability to raise/lower tolls). Finally, we identified profit as a motivation for toll increases only in the case of P3s, though the lack of transparency and access to data for P3s and private organizations meant limited our ability to definitively identify this motivation; nevertheless, as noted above, we coded 'profit' in cases where the tolls were repeatedly raised to the highest level permitted by state regulations or concession agreements.

Indeed, the highest rate of no responses within the 60 road sample represented in Table 44 came from public private partnerships. (Though the only fully private road, Dulles Greenway in Virginia, did provide data). This reflects a general lack of transparency under the P3 governance model, due to either lack of published data or unwillingness to respond to respond to requests for comment on their financial decisions. The only cases where we were able to obtain complete records were ones that had gone bankrupt, making much of their financial information available to the public. In fact, out of the eight P3 roads we examined, four had gone bankrupt

[151] This included the Fort Bend Parkway Toll Road, under Fort Bend County Toll Road Authority in Texas (a Local Government), which never responded to requests for data, and was not included in calculations. Other cases of nonresponse, we were able to deduce the use of toll increases from comprehensive annual financial reports, or bankruptcy statements.

during the period since 2007 that we examined, and four had to be sold,[152] making this a volatile governing type as well.

SECTION 9: EQUITABILITY OF TOLL ROAD DECISION MAKING AND GOVERNANCE

No doubt, due to the public attention to the process, finance decision making from public agencies (i.e. State DOT, State-Owned Entity, Local Government, Toll Road Authority and Transportation Authority) reveals a stronger attention to equitability of the decision than seen for P3 and Private agencies and P3s. Motivations for raising tolls are tied to the different equity incentives weighing on the agency, with public agencies more often revealing a social equity goal in their decision making. In general, statewide and municipal agencies revealed a stronger desire for geographic equity, providing benefits across their jurisdiction; and Toll Road Authorities revealed a desire to provide services that benefit the user. For example, no P3s used toll increases to subsidize transit, while no public agencies used toll increases to support profit. We provide more nuanced discussion on equity of expenditures here.

Maintenance & Operations

Maintenance and operations are core expenditures no matter what governance type, and were the most common use of toll revenues across most governance types. In fact, even toll roads that have paid off their capital construction bonds often need to remain toll facilities in order to pay for maintenance and operations—expenses the state motor fuel tax would be insufficient to cover. The Florida Turnpike is one such example. As a State DOT, they use fees cover maintenance expenses of not only their own roads, but other highways across the state (Florida Turnpike, n.d.). By contrast, Harris County Toll Road Authority in Texas (managed by a county government) uses some revenue for this purpose, stating that they need to charge tolls to cover maintenance costs due to the declining efficacy of the gas tax. However as a Local Government, they are incentivized to divert some of the revenue to other uses, and state that they do use revenues at their discretion (Harris County Toll Road Authority, 2018 & 2019).

Capital Costs

Capital costs are a common reason for toll increases across governance types, usually tied with bond payments. Toll Road Authorities, Local Governments, State-Owned Entities, and State DOTs had the highest rate of stating capital construction expenses as a reason for each toll rate increase. An example of a toll road that spent on capital costs is the North Texas Tollway Authority (NTTA), classified here as a Toll Road Authority. NTTA uses revenues from roads that have been paid to provide leverage for bonds funding new construction, allowing the agency to act self-sufficiently, with old roads supporting new ones (Natinsky, 2019; North Texas Tollway Authority, n.d.).

The Oklahoma Turnpike, a State-Owned Entity, faced similar needs, though it was a very different governance type. The Oklahoma Turnpike had a number of necessary expenses including maintenance of their roads and capital improvements, and raised tolls by 16% in 2009

[152] Dulles Greenway: Sold; Chicago Skyway; Indiana Toll Road: Bankrupt and sold; Greenville Southern Connector: Bankrupt; TX SH 130 Bankrupt; Pocahontas Parkway: Bankrupt. California SR 125 is an example we encountered that was sold to a transportation authority (SANDAG) after bankruptcy.

in order to meet a revenue shortfall and cover their bond obligation. During the ensuing discussions, practical considerations like the turnpike's age were a factor in increasing funding for their capital program (Oklahoma Turnpike Authority, 2015).

Public Transit

Toll roads sometimes use funding to supplement public transportation. The organizations that do this are usually directly owned and operated by the state or local governments. The Pennsylvania Turnpike is an example of a State-Owned Entity that helps pay for public transportation statewide. This is because, due to the Turnpike's statewide mandate and governance, the state legislature has required that it subsidize public transportation across the state (Pennsylvania Turnpike, 2019), making this expense a state mandate as well.

The Los Angeles County Metropolitan Transportation Authority, classified as a Transportation Authority, has also subsidized public transportation through its managed HOV/HOT express lane on Interstates 10 and 110, funding public transportation projects supported by the same agency, all within Los Angeles County. Metro designed the program so carpools would receive free passage in the lanes, which would also provide right of way and subsidies for bus rapid transit vehicles (Sharzad, 2019). These initiatives helped improve congestion on the highways, while also answering to a frequent criticism of toll roads, especially for a public agency—the cost and the equity of its impact on low income drivers, or people who cannot afford to drive. Public Private Partnerships and Private toll roads, which do not face similar public scrutiny, both had no recorded cases of subsidizing public transit programs.

Automatic Incremental Adjustments

We found many organizations across governance types that had changed to an automatic incremental increase within the past ten years, usually linked to the consumer price index (CPI). One of the main reasons given for this was to have a predictable rate of toll increases, ensuring enough money for maintenance in the face of ongoing inflation. Another reason was because toll rate increases are always a controversial move. Toll road operators usually had a board of directors, often appointed by elected officials, or elected directly, providing a political incentive to use automatic inflation-adjusted increases, particularly for elected boards. Consequently, members of different organizations mentioned political pressures as being an important factor in adopting this strategy (Shuey, 2019; Davis, 2019; Cole, 2019).

North Texas Tollway Authority was one such organization. Former board members we interviewed were in agreement they made this decision to obtain a regular, automatic and predictable toll increase, which would avoid politics in financing the program. The Transportation Corridor Agencies in California also switched to an incremental adjustment for similar reasons, as politics had caused challenges when raising tolls in the past (Davis, 2019; Cole, 2019).

Bond Repayments

Most toll roads use some form of debt to fund their initial capital construction costs, and owe money for decades. Often the bond covenants will state the toll rate policy. The goal of any toll road organization is to have a good debt coverage ratio, which leads to low interest payments, and lower user fees to the toll payer, with minimal revenue used for debt servicing.

This justification for toll increases was common across governance types, though less so for Local Governments. However we saw different reasons for raising bonds by governance type; for example, the Pennsylvania Turnpike Commission (PTC), a State-Owned Entity, had to raise bonds due to legislative mandates (Simmons et al., 2018), while a Toll Road Authority like NTTA mainly raised bonds for toll roads selected by their Regional Transportation Council. In another instance, the Greenville Southern Connector, a P3 in South Carolina, had to raise tolls after filing for Chapter 9 bankruptcy, after it was unable to pay its debt obligations in 2010. Rates were raised by 35% in 2012, following a debt management plan (Connector 2000 Association, Inc., 2013).

State Mandates

State-mandates were an uncommon reason for many agency types to raise toll rates, though was most commonly seen for roads owned by State-Owned Entities and State DOTs. For example the Maryland Transportation Authority, a State-Owned Entity, reduced tolls to satisfy state political needs—due to the request of a new governor, who had promised to reduce tolls if elected (Maryland Transportation Authority, 2015). In other cases, like the New York Thruway, they increased tolls to comply with state fiscal management guidelines. On the other hand, P3 roads like Pocahontas Parkway in Virginia, or the Greenville Southern Connector in South Carolina complied with state mandates limiting private providers' ability to raise tolls, or requiring justification to do so. While we did not see any increases due to state mandate for Local Government or Transportation Authority-managed toll roads, we saw use for Transportation Authorities like Central Florida Expressway Authority, where increases were mandated by the state legislature, including how and when the tolls could be raised, and for what purpose (FS 338.165).

Profit

While we are fairly certain that the toll road concessions and private operators were intending to profit from their enterprise, very few of them were willing to share their financial records with us, and in most cases, state governments or DOTs did not have data either. Consequently, it was difficult to definitively identify a profit motive except in cases of bankruptcy, though it was likely to exist in other P3 facilities. Even so, we coded the presence of a profit motive in cases where tolls repeatedly were raised to the maximum level allowed under state law. For example, the Chicago Skyway Toll Bridge (IL), Indiana Toll Road (IN), Dulles Greenway (VA) and Pocahontas Parkway (VA) were examples of toll roads that consistently raised tolls to the maximum level allowed in their Concession Agreement across multiple years (all of them P3s or Private toll roads).

Other Expenditures

There were several reasons for raising/lowering rates that were unique and did not fit into a category. For example, California State Highway 125 was originally a P3 project, but the San Diego Association of Governments (SANDAG) considered tolls to be too high, and an impediment to reducing traffic in its freeway system. When the concession company neared bankruptcy, SANDAG purchased the lease, and reduced rates. This illustrates how a change in governance type can change the incentives and the decisions over tolls—from a profit motive to a congestion reduction motive designed to benefit the entire freeway system operated by the new owner (San Diego Association of Governments, 2012). Another reason for changing toll rates

was to reduce tolls for a specific group—for example veterans or low income drivers. For example, the Fort Bend Tollway Authority, a Local Government operator, provides a discount for disabled veterans, Purple Heart, and Legion of Valor recipients (Fort Bend County Commissioners Court, 2017). However, notably, this reason for reducing tolls was something several toll roads told us they wanted to do, but couldn't due to prohibitions against the practice in their bond covenants.

SECTION 10: CASE STUDIES

Pennsylvania Turnpike Commission (Pennsylvania)

The Pennsylvania Turnpike Commission (PTC) is an independent agency, operating since 1940 with the mission of developing statewide superhighways. With its own revenue source from road tolls, and ability to allocate them independently from PennDOT, we classified it as a *State-Owned Entity*, though they have been required by law to provide some of their revenue to support PennDOT since passage of Act 44 in July 2007 (Pennsylvania Act 44). This act was intended to provide long-term funding for transportation projects across the state. The Act required the Turnpike to provide $83.3 billion to the Pennsylvania Department of Transportation ($450 annually) over 50 years. Since this time, the money has been used for highways, bridges, and public transit services. The PTC had to raise the toll rates regularly over the next 11 years to properly pay the debt following diversions required by Act 44. In 2013 the debt was amended by Act 89. This act altered the purpose of the payments to solely paying for transit and non-highway programs, and led to PTC's subsequent decision to raise tolls in 2009 to support these state-mandated programs. The PTC's payment will remain $450 million until 2022, and becomes $50 million annually until 2057.

As a state entity, the PTC plans in accordance with the laws Pennsylvania Legislature. The relationship between the PTC and Legislature is akin to an MPO for local and regional agencies, with the legislature directing PTC on the parameters for its operation, funding and allocation of resources—for example, through Acts 44 and 89, which identify funding parameters and formulae for allocation. In our interview, Craig Shuey, the current Chief Operating Officer of the PTC, stated that the PTC has autonomy to perform whatever actions they deem necessary to ensure fiscal stability. The Commissioners are selected through political appointments and they operate knowing that they are at the will of state legislature and the governor. While there is the potential for political influence, staff told us the elected officials generally let them operate as think necessary.

Shuey said that the Commission is required to finance and maintain itself. As such they are given autonomy to finance necessary improvements to their system. Some improvements have caused controversy with the state legislature, such as the move to change their staffed toll booths to electronic tolling stations. This reduced the number of employees at the booths but improved the overall efficiency of the toll roads. This also helped the toll roads improve technologically, following the example of many other toll roads across the country. The legislature was unhappy with the change, but PTC provided strong policy justification and was able to carry it out.

The financial policies regarding debt management determine how the PTC can use bonds. Bonds are used to finance planning, design, capital purchases, and for installing equipment for the PTC. The bonds are also to be used to refinance existing debt. However, the Commission

will not fund operation costs or maintenance with long-term bonds[153]. The strategic plan for the PTC states that the financial goals for the Commission are to maintain their current credit rating, maintain growth in their operating budget, maintain or increase total toll revenues, and increase innovation from the Commission.[154]

The July 13, 2010 PTC board of directors meeting approved a toll increase by 10% for cash customers of the Southern Beltway. The meeting minutes did not state the reasons for the increase, or its purpose.[155] This pattern was repeated in similar meeting minutes for later rate increases as well. On July 18, 2013 there was a toll increase with revenue adjustments. There were no reasons stated for toll increases for the Mainline facility, but they did mention that the Virginia Drive toll schedule was adjusted to reflect a proportional toll methodology developed by CDM Smith, a consulting firm.[156]

Information obtained through interviews stated that the toll rate was raised in response to Acts 44 and 89. As mentioned earlier, Act 44 required the PTC pay the Pennsylvania Department of Transportation $450 million annually for highways, bridges, and public transportation, while Act 89 subsequently modified those payments to be solely for public transit. The PTC website states that this was the reason that the toll rates were increased regularly since 2008.[157] Information obtained through interviews corroborated this, noting that the sole reason that the rate had to be changed was to provide debt servicing. Craig Shuey stated that the base toll rate pays for the Maintenance, operations, and capital costs of the PTC.

The Commission is obligated to ensure that the PTC can meet its financial obligations. Craig Shuey said that the Commission will continue to increase its toll rate continuously until the current debt "bubble" is over, allowing them to repay their debts at a lower interest rate. Shuey noted that the Legislature allows them to raise the toll rate continuously and independently because, "…when your hand is in somebody's pocket you can't tell them not to reach out for more." (Shuey; 2019). *This refers the fact that because the Legislature receives a large amount of revenues from the PTC, they cannot complain when the PTC says it needs to increase rates to remain solvent.*

The most recent Comprehensive Annual Financial Report (CAFR) for the PTC shows that main expenses included bond payments, operations expenses, payments for Acts 44 and 89, and maintenance. Statements made while discussing the financial position imply that the main purpose of toll rate increases was to better secure the Commission's ability to pay its debt. Indeed, the document specifically states that the future financial plans of PTC depend to a large extent on its ability to raise tolls.[158]

Findings on Research Topics:

1) *The extent to which toll road governance strategies (e.g. public, private, P3) have impacted equity and transparency of revenue distribution decisions.*

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[153] https://pol.paturnpike.com/api/PolicyLetters/7.03/ p. 1-2
[154] https://www.paturnpike.com/pdfs/about/PTC_Executive_Summary.pdf p. 10
[155] https://www.paturnpike.com/pdfs/about/meetings/071310_Minutes.pdf p. 11
[156] https://www.paturnpike.com/pdfs/about/meetings/07182012Minutes.pdf p. 11-12
[157] https://www.paturnpike.com/business/act44_plan.aspx
[158] https://www.paturnpike.com/pdfs/business/PTC_CAFR_18-17.pdf p. 28-29

a. As a regional toll road authority, the PTC is relatively free from political pressures. While the Commissioners are appointed by the state politicians, their autonomy allows them to perform actions that are controversial when necessary.
b. On the other hand, the Commissioners' actions are sometimes contentious with the general public. They are currently facing a lawsuit relating to Acts 44 and 89. This is related to whether their toll rate increases to pay for the acts can be considered equitable to automobile and trucking companies, who do not believe they benefit directly from the fees paid.

2) How different toll road governance strategies impacted decisions over use of funds towards maintenance versus roadway expansion versus diversion to other transportation modes (e.g. corridor express buses, vanpools, etc.).

a. For the PTC, the base toll rate is enough to pay for maintenance, operations, and capital costs. The increased toll rate is due to the expenses required under Act 44 and Act 89. The state determines how the funds requisitioned from the PTC are used and distributed. The decisions are made through a formula that is passed by state legislature, and outside PTC's control.

3) How toll road authorizing legislation impacted transparency and equitability of revenue distribution decisions.

a. Acts 44 and 89 required that the PTC help fund transportation projects and public transit. While Act 89 specified that the $450 million diverted from PTC would be earmarked for public transit across the state.
b. This act only affects PTC roads, though PTC is the only Pennsylvania toll road system that isn't a bi-state agency.

4) Any connection (or lack thereof) to traditional MPO decision making process when allocating surplus toll road revenues.

a. Looking at the most recent plan for the Philadelphia metro region, the LRTP did not mention Act 89 specifically. However the Pennsylvania Turnpike is cited under Externally Funded Major Regional Projects, and a proposed $1 regional toll surcharge on 12 Turnpike exits in the Philadelphia region is listed as a potential regional fee (providing $100 million annually in 2012 dollars), though it has not been enacted (Delaware Valley Regional Planning Commission).
b. As a State-Owned Entity, PTC is not under a specific MPO though its projects may appear in several MPOs' plans.

North Texas Tollway Authority (Texas)

The North Texas Tollway Authority (NTTA) is a regional *Toll Road Authority* that operates under the North Central Texas Council of Governments (NCTCOG). The NTTA has built and maintained eight separate facilities in North Texas, including toll roads, toll highways, and High Occupancy Vehicle/Express Lanes. They have constructed these facilities by issuing bonds backed by toll revenues. Enabling legislation allows bonding, but requires the agency to maintain a strong credit rating, requiring NTTA to maintain toll revenues sufficient to cover debt servicing.

Before 2013, the NTTA raised toll rates sporadically, with year on year increases fluctuating between 0% and 69%. Interviews and meeting minutes indicate that the NTTA Board of Directors changed the rates based on an immediate need for increased revenue to cover either new debts or decreased usage. Discussions for a change in toll rate policy began in 2009. The board agreed to an annual 2.75% (compounding) increase, every odd numbered year. This effectively was implemented as a 5.5% increase every two years across all toll roads according to Kenneth Barr, chairman of the NTTA Board of Directors from 2011-2019 (Barr, 2019). The change took place at the July 16, 2009 NTTA Board of Directors meeting. During the meeting the staff provided a recommended rate increase schedule, presented by the CFO, Janice Davis.

An interview with Janice Davis, CFO and Assistant Executive Director of Strategic and Innovative Solutions from 2008-2014, indicated that the main reason for the single year toll increase, and the following rate increase schedule was to cover debt servicing required under bond covenants. Kenneth Barr added that the reason for the change was to provide predictability to how the toll rate increased. Davis also noted that the consistency allowed provided stronger justification, avoiding bad public relations and politics. Under the system adopted, the change was to be reviewed before approval, but did no longer required the board to take the initiative to propose increases. While she referred to the change as "invisible" to the public, the change is both consistent and predictable. The predictability also allowed NTTA ensure in advance that all operations and construction were within the 2.75% increase.[159]

An interview with Anjelica Solano, Director of Public Affairs since 2013, confirmed that the main reason for toll increases was to meet future financial obligations. The revenues are used to pay for bond repayments, maintenance and operations costs, and excess revenues are used for the expansions of the toll lanes and safety improvements. The use of the toll rate increase is also to keep up with inflation. Surplus revenues return to NTTA for debt servicing and operations costs. None of the surplus revenues can be used for anything other than NTTA projects. This is due to the bond covenants, which state the intended purpose of the revenues and debts. Interviewees also noted that NTTA is unable even to give discounts to veteran's groups, low income drivers or other particular groups unless the NCTCOG (the regional council of governments) subsidizes the discount out of its budget.

The NTTA Final Budget states that the NTTA operates with a businesslike approach to its revenues. The budget corroborates that the toll revenues are the main source of revenues for the Authority. The "Flow of NTTA System Revenues" identifies uses as operations & maintenance, debt service, their Reserve Maintenance Fund, and their Capital Improvement Fund (North Texas Tollway Authority, p. 29, 2019). As mentioned by the interviewees, revenues from the tolls return to Authority. The financial report identified maintenance and operations as the primary use for these revenues, with debt servicing close behind it, with excess revenues going to reserve maintenance and capital improvements. James Hofmann, CEO of NTTA from 2013-

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https://www.ntta.org/whatwedo/fin_invest_info/NTTAsystem/Documents/2014/NTTA_System_Comprehensive_Traffic_and_Revenue_Study_03.2014.pdf

https://www.ntta.org/whatwedo/fin_invest_info/financial_Info/Documents/2018/FY2018_FY2022_Capital_Budget_Book.pdf

present, corroborated this, stating that 50% of the revenues go to their debt profile and the remaining 50% is split down the middle for maintenance and operations, and capital investment (Hofmann, 2019).

The agency is built so that it can be financially self sustaining and operate independently from state politics; this also ensures that money collected in North Texas is not used to support other (less financially viable) roads in other (often rural) parts of the state. *However, while NTTA has autonomy from the state and from TxDOT, it follows the lead of both the NCTCOG and the Regional Transportation Council (RTC; i.e. the MPO board), which make key decisions that affect NTTA*. Hofmann and Barr both stated that the NTTA is a "tool in the toolbox" for the RTC. The RTC can mandate that the NTTA build more roads or expand existing roads through their Regional Mobility Plan (the NCTCOG's version of the Long-Range Transportation Plan). The roads are created based on the mobility needs of the North Central Texas area. The RTC can decide whether to develop a new roadway (which does not have to be a NTTA road); however they are required to go to the NTTA first. Ron Natinsky, Former member and chairman of the RTC from 2007-2011, stated that the NTTA has "primacy" over the creation of new toll roads in the North Central Texas region; i.e. any desire to create a toll road must go through NTTA first, and they have first right of refusal on any toll project before the RTC can offer the project to another operator. All new roads made by the NTTA are included on the Regional Mobility Plan for the NCTCOG. The toll roads are not funded directly by the RTC, but they are planned by the RTC and implemented by NTTA at the RTC's discretion (Natinsky, 2019).

RTC's decisions to develop new roads have sometimes required NTTA to scramble to maintain its debt, made more difficult, perhaps, because NTTA does not plan its own roads. Hofmann and Davis both mentioned a time when they had to take on additional debt to sustain the toll roads. At the time, the NTTA was given a directive to create more roads by the RTC. This was in 2007, shortly before the financial crisis of 2007-2008. They took out $3 billion in bonds to pay for new roads, but the resulting financial crisis resulted in the roads costing the NTTA $5 billion. Davis stated that the NTTA had to drop a rating agency, Fitch, in order to avoid their bonds being labeled BBB and the NTTA losing access to the bond market. She stated that it was thanks to the access to the bond market that the NTTA remained financially solvent (Davis, 2019). Hofmann stated that the new construction had resulted in both an increased toll rate and started the conversation about implementing an incremental toll increase to better keep up with the rising costs and interest payments. The toll rate policy was also changed to better assure the bondholders that they would have consistent revenues to repay the bonds. (Hofmann, 2019)

The system also incentives NTTA to maintain tolls long after each road has been paid off. The board is unelected, and filled with ex mayors and ex council members from across the region. As Chairman Natinsky noted, "Everybody is part of the big club and that has an effect on how decisions are made." Indeed, the board members of both RTC and NTTA want more roads to come to their parts of the region, and NTTA even had to develop a method for allocating funds between the east and west parts of the region. Since there is a desire to build more roads, there is no incentive to reduce tolls on existing roads that have already been paid for. Davis, Natinsky, and Hofmann all mentioned that NTTA does not currently remove tolls from roads that have been fully paid for; rather they keep charging tolls to subsidize toll road construction and financing across the system. The requirement to maintain a strong debt coverage ratio disincentivizes them from removing tolls, and the need for funds to use as collateral for new debt

makes it essential to maintain tolls on existing facilities in order to support new construction (Davis, 2019; Natinsky, 2019; Hofmann, 2019). Thus, Chairman Natinsky fears that NTTA's goal may be just "…to build a bigger, more expansive operation," noting that in its history, the budget has never gone down.

In researching the NTTA we started by looking through the meeting minutes, specifically checking the year before major toll rate changes, and checking the financial budget to find where the toll revenues have gone. The minutes have limitations, as they may not go into too much detail about the discussions that led to certain financing decisions. We correlated the minutes with historic tolling data (CDM Smith). From there we looked into financial reports and budget reports from the same years. In the next phase we contacted members of the authority for interviews about the agency, its relationship with NCTCOG, its policies, and the board's motivations behind toll increases. The first interview with Anjelica Solano was started on the phone and finished via email at the interviewee's request. From our interview we learned that the primary motivation for toll increases was based on CPI and inflation adjustments. After this we interviewed James Hofmann, Kenneth Barr, Ron Natinsky, and Janice Davis about their experiences with the NTTA over different time periods.

Findings on Research Topics:

1) *The extent to which toll road governance strategies (e.g. public, private, P3) have impacted equity and transparency of revenue distribution decisions.*
    a. Hofmann described the NTTA as a "tool in the toolbox" of the NCTCOG and the Regional Transportation Council. There were times where the RTC mandates the NTTA to create roads, starting construction and requiring bond measures to finance it. The toll rate is recommended by staff, but the NTTA Board of Directors have the final say on how the rate is to be raised. The way the rate was raised was changed to periodic biannual increases of 2.7% annually compounded on the second year when the increase happens. This occurs to make the increases regular and consistent, while also adding predictability to the process.
    b. As a Toll Road Authority, NTTA also did not raise tolls to support public transit.

2) *How different toll road governance strategies impacted decisions over use of funds towards maintenance versus roadway expansion versus diversion to other transportation modes (e.g. corridor express buses, vanpools, etc.).*
    a. The NTTA is both self-sustaining and places the revenues back into itself. All revenues are used to repay its bonded debt and to operate the roads they own. They do not have a say on making new roads, and they do not lobby for new ones as well. None of the funds go to public transit or anywhere outside of the NTTA organization itself, as all revenues are for the operations, maintenance, and debt servicing of the NTTA roads. When the NTTA is mandated to construct roads by the RTC or the Board of Directors they issue bond measures to get capital funding with the interest to be paid for with toll revenues. The rate increases ensured that the revenue bonds are covered with spare revenues used for operations and maintenance.

3) *How toll road authorizing legislation impacted transparency and equitability of revenue distribution decisions.*
    a. The recent toll rate increase schedule adds transparency to the process and predictability for the customers who use the toll roads. The NCTCOG, through the RTC and the NTTA Board of Directors, makes key decisions for NTTA.
    b. The RTC has to consult the NTTA for any new toll roads, and NTTA has primacy in the region, with first right of refusal before the road can be developed by someone else (including TxDOT or any private provider).

4) *Any connection (or lack thereof) to traditional MPO decision making process when allocating surplus toll road revenues.*
    a. Discussions with members and former members of the toll road agency indicate that all excess revenues are to be used within the NTTA system, and cannot be used for projects outside the system. As mentioned before, the system is designed to be self-sustaining and self-governing, keeping revenues for use on roads within the region. This also incentivizes the use of revenues to fuel further road construction.
    b. The RTC is the body that can conceive of and approve new roads. That is, RTC decides that it needs a new roadway and then consults NTTA on the feasibility of developing it. If NTTA agrees, it takes out bonds using the current toll roads as leverage to build new ones.
    c. With the RTC's integral role in NTTA decision making, it is not surprising that the most recent Metropolitan Transportation Plan identifies $9.7 billion of its financially constrained 10 year plan is identified as toll revenue, though the plan does not specify whether this money is from NTTA (though there are no non-NTTA toll roads in the region) (NCTCOG, 2018).

Toll Road Authority Case Study: Transportation Corridor Agencies (California)

The Transportation Corridor Agencies (TCA) operates both the Foothill/Eastern Toll Road and the San Joaquin Hills Toll Roads. We classify this as a *Toll Road Authority*, as they only operate toll roads (no other transportation modes). Also, unlike NTTA, they were created to operate specific roads (not all roads in the region). TCA operates two roads through two separate boards of directors, one governing each road. These boards are manned by members selected by the cities and counties that are serviced, filled with elected officials from cities along the path of each toll road.

We interviewed Kit Cole, the Interim Chief External Affairs Officer for the Transportation Corridor Agencies, who provided information on how and why TCA increased its tolls. According to Cole, the typical reason has been to to better service debt and for regular inflation adjustments to ensure the agency maintains its ability to finance new construction. Previous larger increases were for similar reasons, but they were more political at the time and did large increases at irregular time intervals as opposed to the incremental increases as they do now. A presentation to their June and their May Board of Directors and Committees indicates some of the reasons for their rate changes, and the connection to the Consumer Price Index (CPI) (Transportation Corridor Agencies, 2019).

CPI adjustments are meant to keep pace with inflation, while avoiding public controversy over the increases. Cole stated that the previous method of irregular rate increases was more controversial and political, often difficult from a public relations perspective. The Commissioners didn't raise tolls because of political fear, or desire to keep tolls low, though the agency needed the money to maintain the roads. Thus, it appears that the board's selection process, made up of elected governing officials of neighboring local governments with a vested interest in keeping tolls low incentivized TCA's board to avoid necessary increases, but also forced them to tie increases to the CPI as a solution.

The June 13, 2019 meeting agenda described the process for the two boards to approve of a new budget for the toll roads. The reasons for the inflationary toll increases were part of a refinancing deal in 2013 to put the Agency in a better financial position and to build cash reserves for its capital improvement plan (Transportation Corridor Agencies, p. 3, 2019). The net toll revenue is required to be at least 115% of that year's debt payments and 130% of the senior lien debt payments (Transportation Corridor Agencies, p. 6, 2019)

TCA roads have become an integral source of revenue for the region's transportation program. The Regional Transportation Plan from the Southern California Association of Governments identifies TCA funds as providing $11.2 billion for its most recent transportation plan, with proposals to expand to a regional managed lanes program as well, though no funding estimate or scope was provided (Southern California Association of Governments, 2012). Cole noted that neither the MPO nor its RTP have influenced TCA, nor does TCA have any say in developing the RTP (Cole, 2019).

We interviewed Kit Cole about the Transportation Corridor Agencies, with a focus on Foothill Toll Road. Her information applied to the general financial state of the Agency. However, she stated that other staff members would be unavailable for further interviews. Much of the information about the organization comes from their documents as well as the interview.

Findings on Research Topics:

1) *The extent to which toll road governance strategies (e.g. public, private, P3) have impacted equity and transparency of revenue distribution decisions.*
    a. The TCA's status as a Toll Road Authority impacted its decisions over increasing the toll rate, particularly the politics based on the boards' makeup of elected officials. This led to sporadic, large toll increases at irregular intervals, which was difficult from a public relations and financing perspective. This changed with the introduction of incremental adjustments linked to the CPI, leading to more transparency and equity for the local governments and the stakeholders.
    b. As a Toll Road Authority, TCA also did not raise tolls to support public transit.

2) *How different toll road governance strategies impacted decisions over use of funds towards maintenance versus roadway expansion versus diversion to other transportation modes (e.g. corridor express buses, vanpools, etc.).*
    a. The revenues do not go into maintenance directly, as the state DOT, Caltrans, does this. Rather, toll increases in recent years have been implemented to keep pace with inflation, tied to the CPI, as well as to support debt servicing. Excess revenues are used as an emergency fund and Cole states that there are talks to use the excess revenues in creating arterial expansions to the toll roads.

3) *How toll road authorizing legislation impacted transparency and equitability of revenue distribution decisions.*
   a. The enabling act supporting TCA was written to provide authorization for a number of separate toll road agencies across California. The TCA is not allowed to use the funds outside its own jurisdictions, meaning they cannot cross-subsidize toll roads, or use funds as leverage to build new toll roads (though they can use funds to support expansion or extension of existing facilities, including the extension of the Foothill Toll Road, which TCA has been trying unsuccessfully to approve for many years).[160] Cole says she does not think TCA can use its revenues for public transportation, and their use is restricted to just the toll roads and capital improvements on the roads. They also use revenues for debt service and to pay Caltrans, and Stantec Consulting Services for maintenance and other services.

4) *Any connection (or lack thereof) to traditional MPO decision making process when allocating surplus toll road revenues.*
   a. The most recent Regional Transportation Plan for the region, by the Southern California Association of Governments cites an estimated $11.2 billion in toll revenue over 20 years, that they expect to come from TCA toll road facilities. This is identified as a Local Revenue source for the long range plan (Southern California Association of Governments, 2012).

Los Angeles County Metropolitan Transportation Authority (California)

The Los Angeles Metropolitan Transportation Authority (LA Metro or Metro) is a *Transportation Authority* operating within Los Angeles County. It was classified as such due to its management of multiple modes of transportation, including both public transit and highways. In recent years, they have experimented with converting HOV (High Occupancy Vehicle) lanes to High Occupancy Toll (HOT) facilities, charging a toll for single occupancy vehicles (SOVs) to use the lanes. In 2007, the LA Metro proposed the creation of ExpressLanes and voted to create them; they were completed in 2013 and 2014 (on Interstate 10 and Interstate 110, respectively) for a one-year trial. The roads passed the trial period and were approved for use in February 2014. The original purpose of this initiative was to reduce the congestion along I-110 and I-10. The public transportation options can utilize the roads without having to pay the toll.

We analyzed LA Metro's ExpressLanes program because it is an example of a toll road managed by a Transportation Authority that has long provided a range of transit options, offering the opportunity to see whether they were incentivized to use some of the revenue to support their other programs. Indeed, they did this, while also using the toll lanes to provide reduced congestion rights of way for transit. Additionally, as a public agency, with many elected officials on its board, and in accordance with state legislation, Metro made equity an integral part of the program.

Transit and vanpools were granted free travel in the lanes in 2018, with introduction of a new pilot proposal by LA Metro Board member John Fasana. The pilot defined carpools as registered vanpools, with all other vehicles (other than passenger buses) subject to fees through a

[160] https://www.latimes.com/local/lanow/la-me-ln-tollway-lawsuits-20161109-story.html

"Pay-as-You-Use" model. Zero Emission Vehicles using the corridor would be eligible for discounts in effect at the time the pilot commences (Metro, 2019). An interview with Fasana provided further details. He reaffirms that the primary reason for the toll rate to be changed was to better manage the congestion. (Fasana, 2019). The "Pay-as-You-Use" model provided easier use for infrequent users and visitors to the area. This model is a shift to electronic tolling initiatives, while also enabling collection of revenues from vehicles without toll transponders. The report for the model does state that there will be revenue leakage due to increased usage of the lanes, however this would be offset by both the increased volume of users and an additional fee for the use of the road without a transponder. Shahrzad Amiri, Executive Officer of Congestion Reduction for LA Metro says that the reason for the creation and continued use for the ExpressLanes has been congestion, with rates being raised and lowered based on a variable basis with traffic volume.

However Metro has also made equity a key focus of its program. Toll roads frequently face questions over how low income (or middle income) drivers will be able to afford the program, making equity questions a key barrier to further expansion of tolling as a funding source. For LA Metro, a public Transportation Authority, with many public transit services, it was considered important to use toll revenues to mitigate equity questions, both by providing reduced rates to low income drivers, and by subsidizing public transportation—helping answer citizen questions about converting formerly free lanes into toll lanes. Accordingly, a rate maximum was proposed, setting a ceiling on otherwise variable rates. Amiri also noted that equity has been a key priority for both the Board of Directors and the CEO, and Metro has provided reduced rates for low income users. She thinks some reasons equity has been so important to Metro are both the county's population demographics for the county and the area's politics (Amiri, 2019).

The LA Metro has used bond measures to finance their bus, rail, and highway capital requirements, but is not using the ExpressLanes to repay those debts at this point in time, and also has a countywide transportation sales tax funding those programs. However toll revenues are listed as a revenue source in Metro's budget, with both reinvestment and debt servicing listed as expenses (LA Metro, p. 30-35). Amiri specified that the ExpressLanes net revenue is used to fund grants. These grants are for local governments within three miles of the corridors that have congestion relief projects (Amiri, 2019)—another way Metro has attempted to mitigate opposition to the ExpressLanes program by returning some of the revenue to the areas closest to the lines.

The revenues gained from the ExpressLanes are used to supplement other LA Metro projects as well. These projects include transit, vanpooling and ridesharing, road maintenance. (Fasana, 2019). The ExpressLanes were judged in the January 2019 meeting to be self-funded, requiring only toll revenues for their operation. Staff predicted outcomes from the ExpressLanes: 4% increase in persons using the freeway, an increase in travel time using the lanes by 51 seconds, and improved travel times overall on the general-purpose lanes (LA Metro, 2018; 2019).

The process from which the Metro altered its roads is based on their original purpose—congestion management. The ExpressLanes' toll revenues included $62.8 million in discretionary funding to be used for the operation, maintenance, and improvement of the I-10 and I-110 ExpressLanes corridors. And both corridors have long operated as freeway express

BRT lines, with stations, providing synergy between congestion management and transit subsidy. Indeed, revenues have been used to enhance bus services for Gardena Transit, Foothill Transit, Torrance Transit, and Metro (Los Angeles County Metropolitan Transportation Authority, p. 17, 2016). However Amiri stressed that the priority of the ExpressLanes has been congestion management, rather than revenues for Metro's other programs, though net revenues are used for public transit and competitive grants (Amiri, 2019).

According to the Southern California Association of Governments' Long Range Transportation Plan, the toll roads were partially funded with federal funds to implement congestion pricing. This was done to improve mobility in I-10 and I-110. State Improvement Plan funds were allocated to Metro for their projects. The State Transportation Improvement Plan has also funded phase two of the I-10 express lanes. (California Transportation Commission; page 49).

Findings on Research Topics:

1) *The extent to which toll road governance strategies (e.g. public, private, P3) have impacted equity and transparency of revenue distribution decisions.*
    a. LA Metro's status as a Transportation Agency allows for the organization to disperse its revenues to other projects within its jurisdiction. This is because its main goal is not the revenues themselves but congestion relief. They use the revenues for congestion relief grants and public transportation subsidies. Metro also has subsidies and discounts available for low income users and carpoolers. Amiri stated that equity in particularly is a main goal of the Metro, especially from the board of directors and the state legislature.

2) *How different toll road governance strategies impacted decisions over use of funds towards maintenance versus roadway expansion versus diversion to other transportation modes (e.g. corridor express buses, vanpools, etc.).*
    a. The LA Metro uses its funds for maintenance, capital improvements as well as competitive grants and public transportation.

3) *How toll road authorizing legislation impacted transparency and equitability of revenue distribution decisions.*
    a. LA Metro's enabling statute require them to distribute the funds and revenues from the ExpressLanes for equity purposes.

4) *Any connection (or lack thereof) to traditional MPO decision making process when allocating surplus toll road revenues.*
    a. A follow-up email with Amiri states that the MPO does not play a role in determining toll increases as tolls are increased through board approved policy. There is state and federal funding for the ExpressLanes. However the most recent Regional Transportation Plan for the region, by the Southern California Association of Governments, does not identify the ExpressLanes, the 1-10 or the 1-110 as funding sources for the financially constrained plan. However they do

refer to a vision of developing a regional managed lane network, and do cite toll revenue from TCA as local revenue sources in their plan. It is possible the ExpressLanes were simply too new for inclusion in the latest plan, but will be viewed as an integral funding source at a later date (Southern California Association of Governments, 2012).

Dulles Greenway (Virginia)[161]

Dulles Greenway was selected as a case study as one of the few privately owned toll roads in the United States (accordingly we classify it as *Private*, and include it in the P3 category for quantitative analysis). Additionally, the Dulles Greenway connects to the Dulles Toll Road, a publicly owned toll road. Therefore, individuals in the same region witness the unique differences and/or similarities between a publicly owned and privately-owned toll road along the same route. The Dulles Greenway is a privately owned and operated toll road, west of the District of Columbia. Built pursuant of the Virginia Highway Corporation Act of 1988 (§ 56-542), the direct owner is known as Toll Road Investors Partnership II, L.P., or TRIP II. This company is now financially owned by Macquarie, an investment group out of Australia. The original Highway Corporation Act of 1988 limited the increase of tolls to instances where it (1) is reasonable to the user in relation to benefit, (2) will not materially discourage use, and (3) allows only a reasonable return as determined by the SCC. Instances where an increase to the toll rate is proposed must be approved by the State Corporation Commission (SCC) (§ 56-542).

Under the Highway Corporation Act of 1988, TRIP II increased the tolls twice, once in 2007 and once in 2009. In the filings with the SCC, the toll increases were set as maximums in which the TRIP II operators could then set a new rate (State Corporation Commission, 2003). In Case No. PUE-2003-00230, the SCC approved the maximum ceiling raise of $3.00 effective July 1st 2007 (State Corporation Commission, 2003). Even though the maximum ceiling was raised, TRIP II did not have to set the rate at the highest possible value, yet they did. In 2006, a similar event, Case No. PUE-2006-00081 filed with Virginia's SCC was approved that would raise the maximum ceiling to $3.40 as a base fare effective January 1, 2009 (State Corporation Commission, 2006). Once again, TRIP II chose to raise the rate to the maximum allowed. Each time a toll rate was requested, TRIP II cited that request was for the continued maintenance and operation saying that they have "lost money every year it has been in existence" (State Corporation Commission, 2006). Even with a public disapproval to the toll increase, the SCC

[161] The research team began information collection by reviewing the website of the toll road. From there, searching SCC case records for "Toll Road Investors Partnership" and applying special attention to the results for years 2006-2017. Once a few case instances were found, the process became simpler to follow. Additionally, general web searches for keywords like "Dulles Greenway" and "Toll Road Investors Partnership," as well as the Virginia State Code were used to compile information.

Interviews began with Eric Randall as a planner with the Metropolitan Washington Council of Governments. They were identified by Andrew Austin (also at MWCOG) who was initially contacted due to their work on the regional transportation plan. Eric Randall identified Robert "Bob" Brown, a transportation planner at Loudoun County, VA, where the Dulles Greenway resides. Joe T. May and Mark Herring were identified through their connect to HB 1140 and SB 778 respectively for the limitations on toll rate increases.

allowed for the toll increase because legislation was not strict enough and the three conditions were met (Kravitz, 2009).

In 2008, Virginia State Congressmen Mark Herring and Joe T. May of District 33, the district where the Dulles Greenway resides, introduced a bill in their respective chambers to modify the Virginia Highway Corporation Act of 1988 (HB 1140 / SB 778 2008 Session). The bill passed after revisions and set the toll increase limitations during the years 2013 to 2020 such that is (1) equal to the increase in the CPI plus 1, (2) equal to the increase in the real GDP, or (3) 2.8 percent (§ 56-542). Furthermore, the operator can request, in addition, the percentage amount by which its local property taxes increased in the directly previous year (§ 56-542). For each year during the limited increase in toll rates of the study period, being 2013 until 2017, TRIP II has increased the rate the maximum allotted by legislation. As seen in Case Nos. PUE-2012-00136, PUE-2013-00139, PUE-2014-00129, and PUE-2015-00137, this has approximately been 3% each year and each time attributed to the maintenance and operation costs.

Eric Randall at the Metropolitan Washington Council of Government provided information about the Dulles Greenway from the regional perspective. He was aware of the Dulles Greenway, but as a private entity, NWCIG no authority of the decisions for the toll road. "There is no interaction, they are a fully private enterprise" (Randall, personal interview, 2019). Indeed, while the MWCOG included $350.88 million in revenue from "Private" sources in its 2019-2024 financial summary for Northern Virginia in its latest LRTP, it did not specify whether this money was coming from the Dulles Greenway (Metropolitan Washington Council of Governments, 2018: pg. 20). From an outside perspective, Randall can suggest that the rates are "quite high," given that users are paying a "high very direct rate," meaning a direct cost of a privately funded road without government low interest funding (Randall, personal interview, 2019). As for the intentions of the Dulles Greenway, Randall does not believe the rates are unjustified, stating they "are trying to cover their rate of capital," and "they are not allowed to be extortionate" (Randall, personal interview, 2019).

SECTION 11: LIMITATIONS OF THE DATA

As mentioned earlier, data was limited by low response levels from *Private* and *P3* agencies, as well as local government (partly because there were only five of them, with one providing insufficient information to include in the quantitative analysis). We also had difficulty receiving responses from smaller public road agencies. Meeting minutes were one of our most important sources, but these varied in degrees of quality and completeness. Though we focused on minutes from 2007 and later, smaller organizations had not yet digitized earlier minutes. In these cases, we requested the minutes, which sometimes required further triangulation of data with other sources like emails and comprehensive annual financial reports.

It was not always immediately apparent why the organization raised tolls. Certain categories, such as Maintenance & Operations and Bond Repayments, were not always mentioned in the meeting minutes or the toll rate policy as a reason for the agency to raise rates, though these could often be gleaned from context. It is possible that there is a systematic underreporting of these motivations in meeting minutes and other documents, if agencies view these reasons as too routine to note as a justification. On the other hand, P3 roadways like the Dulles Greenway and Pocahantas Parkway may have overreported their interest in using the toll increase to fund maintenance and operations, and debt service, due to requirements in their

Concession Agreement that toll increases be used for these purposes before raising tolls. Availability of internal financial records would reveal important information.

Certain categories had special challenges. *State DOTs* and *State-Owned Entities* can be hard to gather information about motivation for an increase when meeting minutes cover too large an area to provide sufficient detail about a single road. In these cases, we emailed the agency, though the staff working at the time of the increase had already left the agency (we tracked them down when possible).

Also, as mentioned before, *Private* and *P3* organizations were difficult to gather information from, especially in cases where they were not bound by the Freedom of Information Act. We accounted for this in our calculations in Figure 1 and Table 44 by not including the facilities that did not provide information. However for projects that had gone bankrupt, this information was available, providing a window into their decisions. We faced analogous challenges for one agency in the Local Government category (Fort Bend County Toll Road Authority), which did not respond to multiple requests for information. We also did not include the road for which we had no information in our calculations.

SECTION 12: CONCLUSIONS

As we focus on how to make toll roads a more viable policy option, this study identifies challenges that could be overcome by better governance institutions and more transparent decision making processes over when to increase tolls and how to spend them.

The results identify clear differences across categories, for example finding that Toll Road Authorities, Local Governments, State-Owned Entities, and State DOTs were most incentivized to spend on capital projects more than other governance types. We find that only the public governance types spent on public transit. We also find that profit was a motive only for P3s. And state mandates were a motivation primarily for the State DOTs and State-Owned Entities, but also to a lesser extent for P3s and Toll Road Authorities. Indeed, we did not find a strong variation between the two state categories in most categories, except transit, which was a motivation for State-Owned Entities, but not for State DOTs. Among the three sub-state government categories (Local Government, Toll Road Authority and Transportation Authority), we find significant variation, with Local Governments being most motivated by transit of the three governance groups. On the other hand, Toll Road Authorities were most motivated by Capital expenses, Automatic Incremental Adjustments, Bond Repayments, and State Mandates, but least motivated by "Other" expenditures like veteran's discounts among the three groups. Strangely, Transportation Authorities were the least motivated by Transit of the three sub-state governance types, though their relative prevalence was very close to that for Toll Road Authorities. Probably the more important finding for the Transit toll increase motivation was its lack of any prevalence with State DOTs and P3s. The transit motivation also points to a difference between motivations for State DOTs and State-Owned Entities, with the latter having a broader scope of functions, including bus services and subsidies for other state government transportation goals (sometimes mandated by the state, as in Pennsylvania).

Our analysis of the meeting minutes, comprehensive annual financial reports (CAFRs) and other primary source data indicates motivations for these decisions to increase/decrease tolls,

which varied by governance type for many categories. For example, public transit agencies that also owned toll roads were incentivized to use the proceeds from an increase on bond repayments, maintenance, and to subsidize public transit. Sometimes they also voted to decrease tolls for low income drivers, veterans, or other specific groups (especially when the board was populated by elected officials). Toll road authorities were incentivized to spend proceeds on capital improvements and bond repayments, but less so on public transit or profit, and often could not subsidize tolls due to heavy reliance on private bonds to pay the upfront capital costs of construction. We also found other important considerations that could lead to future research, such as the process for selecting board members (e.g. elected, appointed, chosen privately), which may lead to decisions on whether to increase tolls, and for what use. For example, our research indicates an incentive for boards in a political environment to adopt automatic incremental toll adjustments, to avoid difficult annual public decisions to raise tolls. For example, toll indexing was more prevalent among Toll Road Authorities, Transportation Authorities and P3s—for the first two, because of political concerns, while for P3s, often because their concession agreement permitted them to increase tolls up to a specified annual amount.

Agency scope was another important factor in these decisions; for example, a State-Owned Entity like the Pennsylvania Turnpike spent its proceeds across the state, even though the road only covers a small portion of the state, because as a state agency, their view of an equitable use of the money meant distributing to all taxpayers, not just road users. This also meant greater distribution to rural areas that would not see proceeds from a single-road agency like TCA, or from a multi-road regional Toll Road Authority like BATA or NTTA—or a sub-regional, single county agency like Los Angeles County Metropolitan Transportation Authority, which distributes revenue just to transit users within Los Angeles County (and even then, much of it earmarked for distribution to communities close to the road). Additional research could use spatial analysis through GIS to examine the connection between spending of the revenue and geographical scope of the agency.

Additionally, we found that state legal or regulatory requirements were most important for State-Owned Entities and State DOTs, but not as much so for sub-state or P3 entities (and not at all for Local Governments and Toll Road Authorities), indicating a great deal of autonomy in how other agencies set their toll rates, while maintenance/operations and bond repayments were important for all ownership types.

SECTION 13: POLICY RECOMMENDATIONS:

- Transparency was a concern that arose from this research, with many public organizations lacking meeting minutes readily available to the public, even for tolling decisions representing billions of dollars. This included meeting minutes, justifications for toll increases, or for key administrative actions, making the decision over whether to raise tolls appear opaque to the public. In the end, this has the potential to erode the justification for tolls as a funding source, in cases where the public cannot grasp why tolls are necessary, why they must be raised, and how they will benefit.
- Opaque management was particularly a problem for P3s and Private toll roads. Even in cases where they were partnered with a public entity, minutes and financial records were almost impossible to obtain, except when the road had gone bankrupt.

Bankruptcy, in itself, was quite common for Private and P3 roads. This could be attributed to how we selected the subjects for our research. We picked roads and agencies that have toll increases above 15% and decreases above 5% so any P3 and Private organization we researched were those that were rapidly increasing toll rates—often the case after bankruptcy. (Though we did not identify any cases of insolvency for public roads increasing tolls at this rate). This rapid increase can antagonize any potential customers and alienate the public.

P3s appear to have a high risk or dissolution or bankruptcy, often with the state and local government having to pick up the pieces. P3s may provide a short-term windfall, but diversions of revenue to profit, high toll increases, and lack of use on capital expenses, new construction, or other public purposes like transit subsidies or veteran's discounts made the Private and P3 roads we examined quite unpopular with the local community after a few years (especially after bankruptcy and rapid toll increases). In several cases, the local toll road authority, or state and local governments felt the need to buy out the private investors in order to reduce tolls and open the facility to public use.

- The potential benefit of P3 is to gain access to a private organization's resources, whether that is funding, financing, personnel, property, etc. However state governments and local toll road authorities need to recognize the real risk before signing on, and needs to do careful research into the pitfalls. If the Federal Department of Transportation wants to encourage use of P3s and Private roads, they need to advise state and local governments of the risks, and offer training that could head off an unpopular situation years into the future. For example, if a government entity does enter into a P3, it should carefully control the usage fees, construction, and administration of the road through strong regulation. Perhaps private management styles are a poor fit for public infrastructure assets in cases when the public—rightly or not—sees them as facilities intended to serve a public purpose. To make them work, state and local governments need to know what they are getting into.

- Make sure that the P3 is open and transparent. Research into these was made difficult by the lack of information available to the public. It would be difficult for citizens to learn how their local toll road is funded, or why tolls are being raised, and in several cases, this lack of transparency also led to opposition to private toll road ownership.

- Most toll roads and turnpikes are financed with bond measures or other forms of debt. It is in the interest of an agency to maintain a good rating, to ensure low interest rates and ensure access to the bond market in case emergency finding is required. Many agencies worked to be well above their required debt service ratio. Provided that an agency can maintain an appropriate debt coverage ratio, and doesn't expand too rapidly, agencies using bond measures to help create new infrastructure can use them as a relatively safe financing means. However debt covenants can also limit their flexibility to make

decisions that are popular with the public, like discounts for veterans groups, low income drivers, transit users or senior citizens, among others. This may not be as great a concern for state organizations, which have access to much stronger bond ratings, often being backed by the state.

- Many toll road agencies have moved from sporadic large changes to an incremental approach to toll increases. The sporadic large increases in the toll rates are usually a product of the political nature of toll road agency's governing body. Most boards are made up of either political appointees or elected officials. These directors tend to try and avoid raising the tolls, and the political risks that come with this. In recent years, however, many agencies have been adopting an incrementalist policy for toll increases, tying increases to an index like the CPI, ensuring enough money to support maintenance and operations over the road's lifespan. The downside of this incremental approach is that there is little stopping the toll road agency from constantly increasing the tolls, and could still result in political opposition to the increases, though the board would have greater justification to point to for raising them, and increases are small and more evenly spaced, so less noticeable to the driving public.
- State mandates like those faced by roads in Pennsylvania and Maryland can be an important reason for raising tolls, and often come with substantial politics, essentially acting as an unfunded mandate, which the toll road agency must pay for by raising tolls.
- Our case studies indicate cases where toll roads did not remove tolls even after the road had been paid off. The regional toll road model of the North Texas Tollway Authority in particular incentivized the maintenance of tolls on paid for highways in order to maintain collateral for debt financing further capital expansion of the system. This authority's independent financing, as well as its ability to develop new roads in the region, incentivized them to use NTTA as a tool for further expansion, rather than a way to simply build and pay off a fixed number of roads. This can create a logic of self perpetuation—if the agency doesn't build more roads (and raise tolls to pay for them) voters could ask them to reduce the tolls, and contract or dissolve the agency.

Final Thoughts

Also, we note that if enough P3s and Private roads gain an image of volatility, predatory tolling, profit seeking motivation, and poor maintenance/safety violations (though safety was outside the scope of this particular project), the entire category runs the risk of losing its popularity. Conversely, if more toll roads can be managed with strong mitigations supporting low income drivers and other groups that feel left behind by toll road facilities, tolling may become a more popular funding method—however P3s and Private roads are unlikely to be the best way to do this.

Policy Recommendations

1) Adopt a regional or statewide approach to infrastructural financing, using the revenues from a toll road in one location to be leveraged into new construction elsewhere.

2) Avoid using public-private partnerships when creating toll roads. When using P3 governance, use as a way to improve financing or funding, not as a way to administer, manage, operate, or construct the road.
3) Utilize bonded debt and maintain a responsible debt service ratio, maintaining access to the bond market; however it is important to recognize the risks of restrictive bond covenants, and make sure they do not prevent the agency from making decisions (like discounts for veterans groups) that they may want to make at a later date.
4) Mitigate opposition to toll increases (and tolls in general) through subsidies of free roads, transit and discounts for specific groups, and ensure bond covenants permit this use of revenues.
5) Maintain an open dialogue and communicate to the public why tolls must be increased and what they will be used for.
6) Have an incremental toll rate change as opposed to large rate changes at sporadic time periods.
7) Require P3s and organizations who own assets that are normally part of the public infrastructure to have policies on transparency. This includes open financial reports, budgets, meetings, major decisions, and other organizational information, particularly in cases where taxpayer-funded agencies are a party to the agreement.
8) Maintain strong regulation of P3 tolling levels, and acceptable reasons for toll increases, and ensure specific language as well as audits to ensure that the P3 actually needs to raise tolls for the purpose stated.

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