S&P Global Ratings

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# U.S. Transportation Infrastructure Toll Sector Update And Medians: Rebounding Traffic And Toll Increases Are Key Ingredients For Credit Strength And Stability

**November 17, 2022**

## Key Takeaways

- We expect U.S. not-for-profit toll road ratings, which were among the most resilient of the transportation infrastructure asset classes, with no downgrades throughout the COVID-19 pandemic, will be stable given the almost complete rebound in traffic during 2022 supported by continued commercial vehicle traffic and toll rate increases implemented by many operators.
- The recovery in traffic and revenues is expected to be accompanied by increased operations and maintenance expenses and a return to capital program spending to expand capacity and continue the conversion to all-electronic toll collection, which accelerated in 2020-2021.
- Toll increases implemented since January 2020 buoyed the credit quality of toll road and bridge operators. Of the 15 largest U.S. toll-backed issuers as measured by debt outstanding, 12 raised toll rates, which in some instances compensated for weaker passenger vehicle traffic. Across the rated universe, the median decline in 2020 operating revenues was approximately 5% less than the decline in transactions.
- A weakening economic outlook could cool the impacts of construction cost inflation and supply chain pressures on capital projects, although the massive federal investment in infrastructure could keep input and labor prices elevated in many markets over the medium term.
- Our analysis of S&P Global Ratings' universe of rated toll road and bridge fiscal 2021 financial metrics--including debt service coverage, debt to EBIDA, and liquidity--shows relatively stable performance with median revenues and toll transaction growth of about 6%, resulting in median debt service coverage of 1.6x in 2021 compared with 1.7x in 2020 and 1.9x in 2019.


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## Resilient Demand Trends And Toll Increases Support Stable Credit Quality

S&P Global Ratings saw continued resilience and stability across the 55 not-for-profit toll road operators that it rates, with no downgrades since the start of the pandemic in 2020. We maintain a stable view for the asset class overall and anticipate the rebound observed in overall baseline traffic, as measured by vehicle miles traveled (VMTs), and a return of metro region congestion will continue to spur transactions and revenue growth on tolled facilities and managed lanes. Furthermore, we expect continued pent-up consumer travel demand or travel-mode substitution (driving rather than flying or taking mass transit), and consumer spending, even if dampened somewhat to more moderate levels by macroeconomic headwinds, will translate into stability for toll road operators.

In addition, we believe several ongoing trends will likely shape the financial profiles of toll operators over the next year. Those issuers with toll rates or toll-setting policies linked to the Consumer Price Index (CPI) or other inflation-linked measures may produce higher revenue growth in 2023, although some operators could defer allowable rate increases for fear of public opposition, to maintain toll affordability, or because of previously implemented toll increases in 2021-2022. In addition, we expect improved tolling technology and the continued shift toward all-electronic or open road tolling to allow for easier implementation of toll increases and congestion pricing revenue models.

Many issuers will likely see a step-up in capital spending and a return of large infrastructure projects to maintain or expand networks, along with a growing network of managed lanes with variable-demand pricing models, adding debt and leverage to balance sheets. This capital spending arrives as well over $1.5 trillion in federal investment from the Inflation Reduction Act, the Infrastructure Investment and Jobs Act, and some portions of the American Rescue Plan passed into law since 2020 is targeted for toll road operators over the next four years. Also, toll operators are not immune to the highest construction cost inflation seen in decades in the National Highway Construction Cost Index and other measures of price inflation, along with supply chain delays and labor costs negatively affecting project budgets and timelines. Finally, the trend toward remote work has introduced more variability into traffic patterns, based on day-of-week (Tuesday versus Friday) and congestion at different times of the day, with lower peaks during typical commuting times and more off-peak trips.

### What We're Watching - Toll Road Sector

**Capital programs**

Capital spending returns against a backdrop of significant increases in federal infrastructure funding. Continued expansion of managed lanes with variable toll structures based on time of day or current demand.

**Economic landscape and construction cost inflation**

Impact of economic contraction and rising unemployment on toll road traffic and revenues. Very high construction cost inflation could cool with a weakening economy or remain elevated due to historic federal investment.

**Toll rate increases**

Will operators implement toll increases as planned, particularly those with CPI or other inflation-linked rate-setting policies?

**Remote work trends**

The shift to more remote or hybrid work structures and associated effects on passenger traffic volumes and toll road utilization patterns.

**Transition to all-electronic or open road tolling**

Expedited by the pandemic, the ongoing conversion to all-electronic and open road tolling facilitates the ability to adjust toll rates and improve operations.

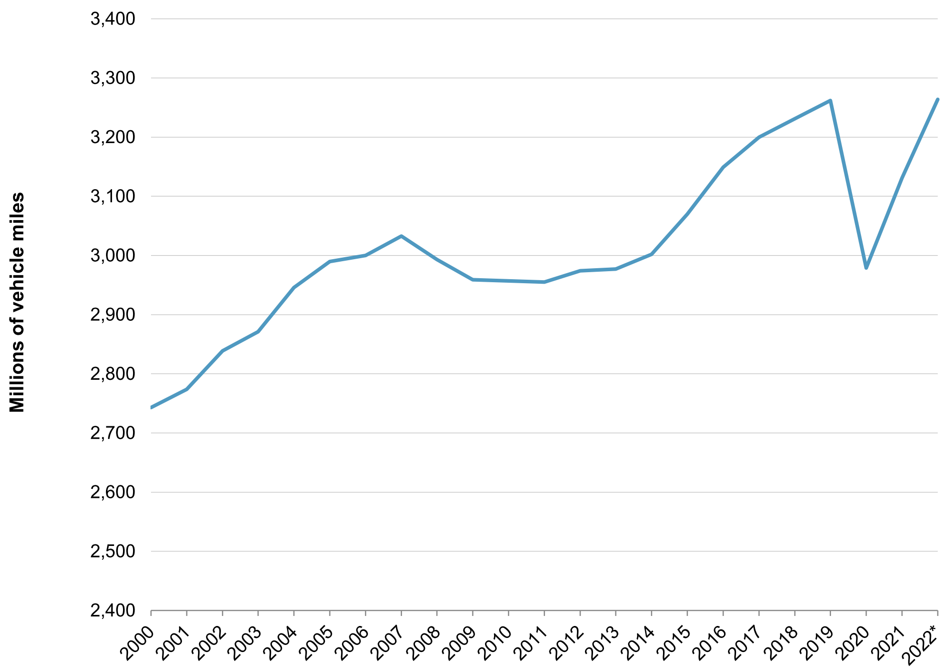
## Traffic Across Most Regions Has Rebounded Comparatively Rapidly

At the onset of the pandemic, traffic declined sharply due to mobility and health and safety restrictions implemented to ease the spread of COVID-19. However, material declines observed after March 2020 were temporary, and by June 2021, national VMT had fully recovered to the pre-pandemic seasonally adjusted average for 2019 (charts 1 and 2).

Most not-for-profit toll operators are now at about 95% to 100% or higher of 2019 activity levels based on transaction volumes, with many supporting strong financial profiles by prudently raising tolls and fees, restructuring near-term debt or debt service obligations, reducing operating expenses, and cutting back capital expenditures. These actions were taken to offset what were anticipated to be sharper and longer-lasting declines in toll road activity than those actually experienced. Unlike other transportation issuers, the toll road sector was not allocated any direct federal stimulus aid to mitigate revenue losses. Nevertheless, proactive management actions combined with the traffic rebound resulted in stable and, in some cases, improved credit quality. (See "U.S. And Canadian Municipal Toll Road Ratings And Outlooks: Current List And Recent Rating Actions," Nov. 18, 2022.)

Historically, financial results for not-for-profit toll road operators--which have a broad geographic footprint in the U.S.--have mirrored the nation's overall economic trends. Toll operators have benefited from Americans' propensity for driving, with total VMT increasing 19% from 2000 to 2022, according to the Federal Highway Administration. This has resulted in metro region congestion and spurred transactions and revenues on tolled alternatives. S&P Global Ratings' current baseline activity estimates for most toll traffic among the issuers it rates (not VMT) was anticipated to recover to pre-pandemic levels in 2022 and that is largely what has happened. See "Updated U.S. Transportation Infrastructure Activity Estimates Show Air Travel Normalizing And It’s A Long Road Back For Transit Operators, July 27, 2022.

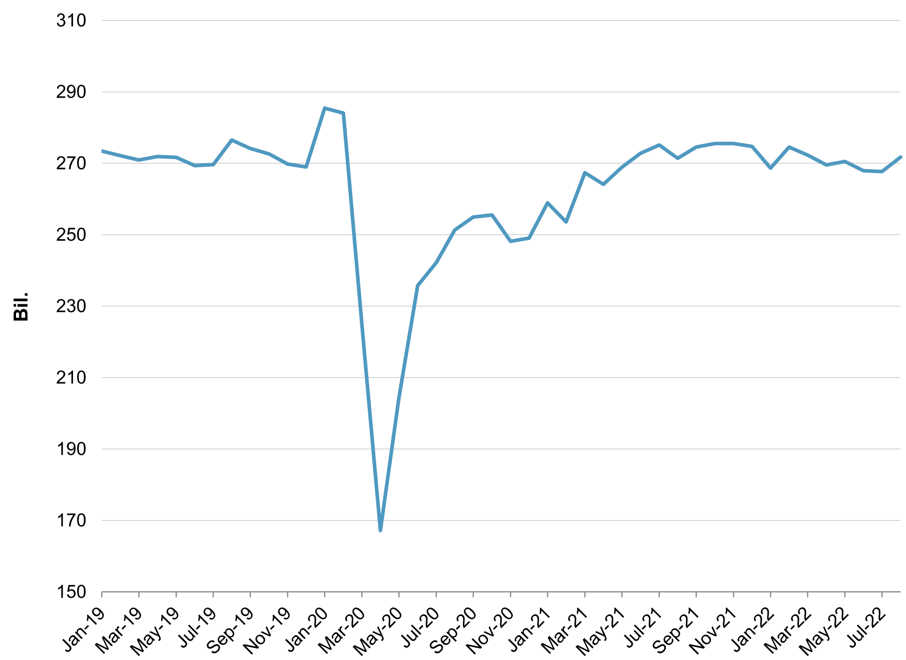
Chart 1




*Year-to-date through August; estimated. Source: U.S. Department of Transportation, and Federal Highway Administration.

Chart 2

**U.S. Monthly Vehicle Miles Traveled, Seasonally Adjusted (January 2019-August 2022)**




Source: U.S. Department of Transportation, Federal Highway Administration.



## We Expect Growth For Operators Serving Fast-Growing Regional Economies

Chart 3 breaks out the median transaction growth in fiscal years 2019-2021 for the 55 not-for-profit toll road and bridge operators rated by S&P Global Ratings, as well as the annual growth for June, September, and December fiscal year-ends. Chart 4 examines the decline and rebound in transactions since 2020 by different states and regions. Overall, toll transactions increased in 2019, followed by the pandemic-induced decline in 2020 and subsequent rebound in 2021. Key takeaways related to demand trends include the following:

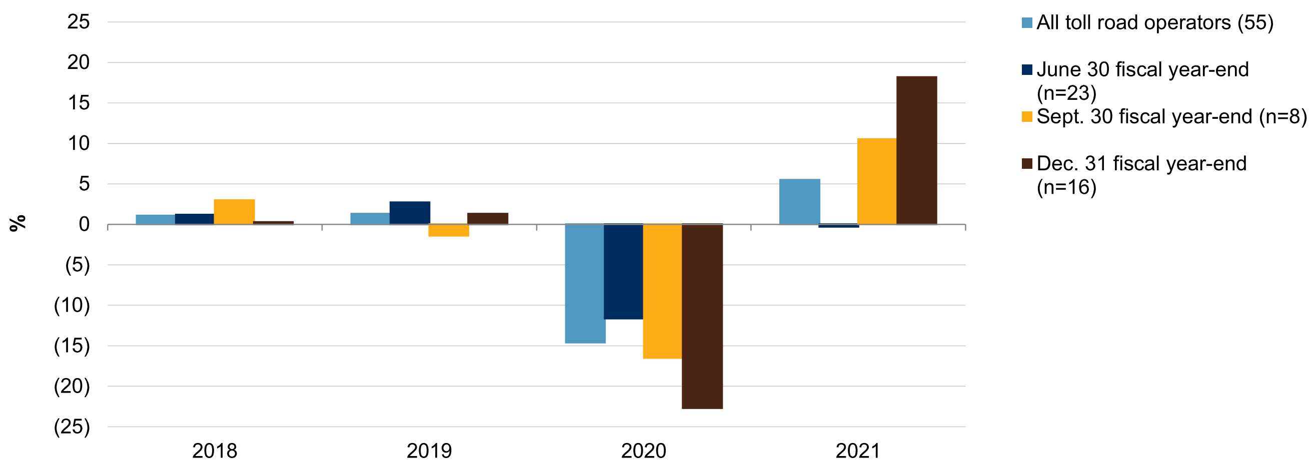
- Because of the timing of the pandemic-induced decline beginning in March 2020, operators with Dec. 31 fiscal year-ends saw the largest swings in transactions, with increases in 2021 of 18.2%, a full 12.7% above the median decline for all toll roads (chart 3). At the same time, those toll operators with June 30 fiscal year-ends experienced less of a rebound in toll transactions in their fiscal 2021 (slight decline of 0.3%), given that the fiscal year covered July 1, 2020-June 30, 2021, a period that was significantly affected by the pandemic and related mobility restrictions. S&P Global Ratings estimates toll traffic will improve to pre-pandemic levels in 2022, and remain mostly stable, with low growth in 2023 and 2024, similar to that seen in 2018 and 2019.
- We observed regional disparities in the toll road activity recovery, with entities in the Northeast

seeing the strongest growth in 2021 transaction volumes, at 10.1%, followed by Texas and Florida toll road issuers with 2021 transaction growth of 6.0% and 4.8%, respectively (chart 4). California toll road issuers have lagged the recovery somewhat, with a 2.6% average decline in 2021, likely due to the state having some of the strictest and longest-lasting COVID-19 restrictions in the country. A high proportion of technology sector workers who can work and have been working remotely plus a history of longer commutes for drivers have also suppressed a rebound in traffic in the state.

- Overall, most toll road operators have recovered to pre-pandemic activity in 2022, and we expect the recovery will be sustained at or above 2022 levels in 2023 and 2024, supported by pent-up consumer travel demand and stable-to-growing commercial vehicle traffic across the sector. We will continue to monitor whether softening economic trends or elevated fuel prices will have an adverse effect on demand; however, through August 2022, demand as measured by VMT has proven to be relatively inelastic (chart 6).

Chart 3

**Median Annual Toll Transaction Percentage Growth (2018-2021)**




Does not include start-up toll roads in ramp-up or not yet open.

Chart 4

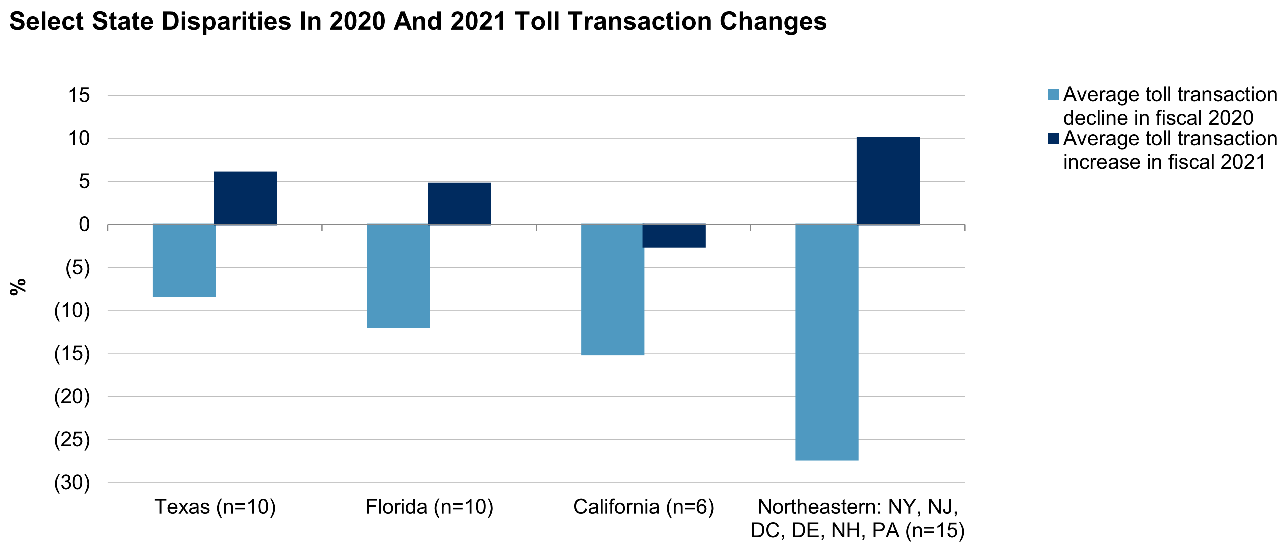


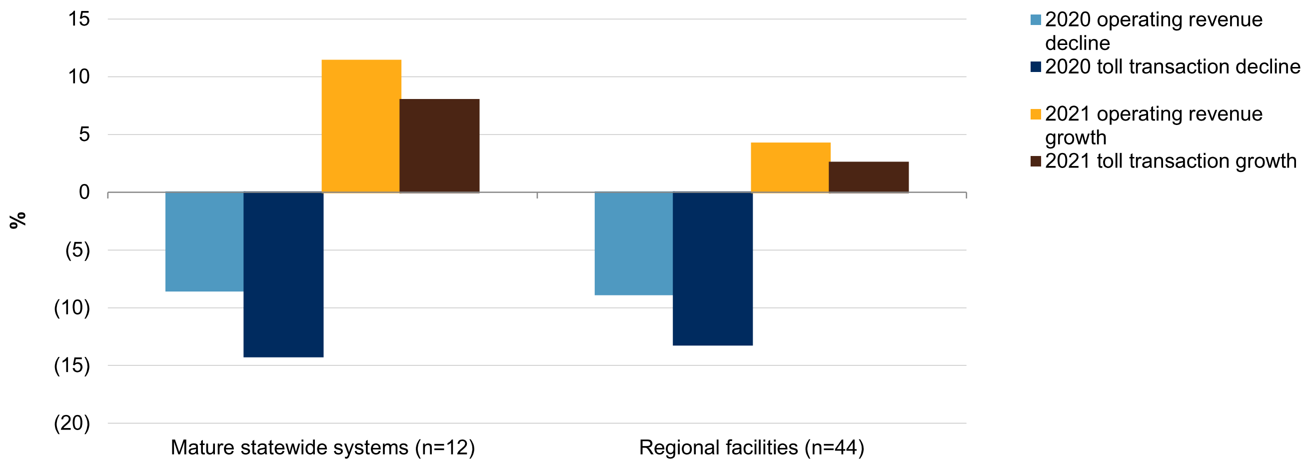



Chart 5 breaks down revenue and transaction performance for 2021 by tolled asset class categories: mature statewide systems versus regional. Over the past 20 years, passenger vehicle traffic has averaged 65% of total VMT in the U.S. and commercial traffic 35%. At the beginning of the recovery, traffic volume increases were largely spurred by robust commercial traffic tied to increased demand for goods. This allowed toll road issuers to achieve higher revenues derived from this vehicle class to mitigate losses from significantly lower passenger vehicle volumes, supporting financial metrics through the pandemic. For example, many statewide facilities, such as Ohio Turnpike, Pennsylvania Turnpike, and Illinois State Toll Highway Authority, get a higher percentage of their toll revenues from commercial traffic, which partially offset 2020 transaction declines.

We have seen a shift in the recovery for regional versus mature statewide systems as passenger traffic recovered in 2021 and so far in 2022. Mature statewide toll systems experienced an 11.4% median increase in toll revenues and an 8% increase in toll transactions in 2021. Regional system traffic continued to increase as well, although at a slower 4.2% and 2.6% year-over-year increase in operating revenues and toll transactions, respectively. The shift in 2021 toward a faster traffic recovery for mature statewide systems is largely due to the initial lag in intra-state passenger traffic recovery compared with commercial vehicle traffic, which had already reversed course by the last quarter of 2020 (chart 5).

Chart 5

**Median Operating Revenue And Transaction Growth For Statewide And Regional Toll Facilities, 2020 And 2021**




Regional facilities do not include start-up toll roads in ramp-up or not yet open.

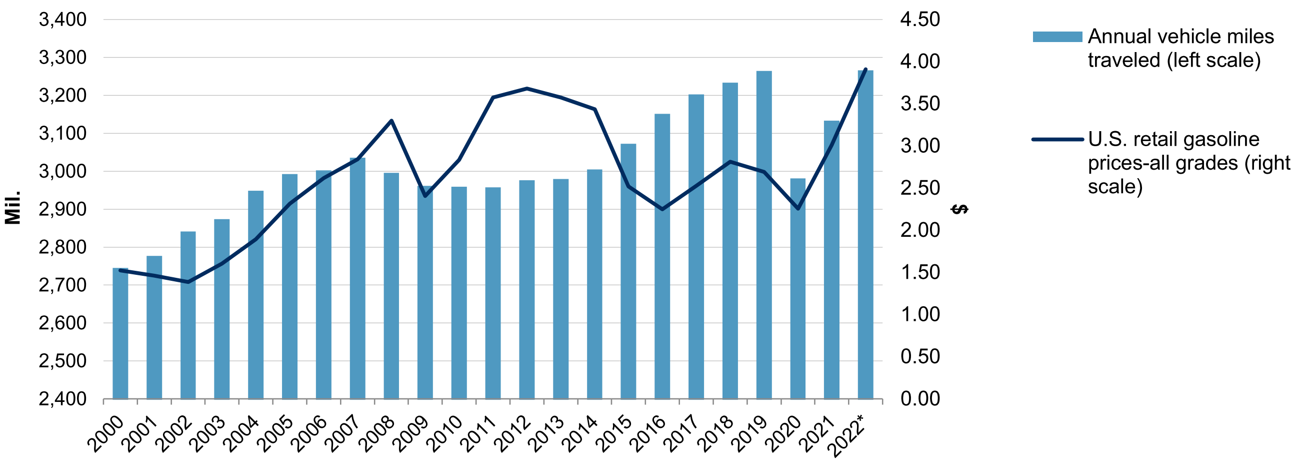


## Elevated Fuel Prices Have Minimal Impact On Vehicle Miles Traveled

The prices of gasoline and diesel fuel affect the transportation and toll road sector in many ways. Intuitively, we would expect that rising fuel prices would reduce VMT, and, conversely, declining fuel prices would increase them. Nevertheless, U.S. consumer and commercial vehicle traffic has not historically been directly correlated with fluctuations in fuel prices (chart 6). For example, although fuel prices increased annually from 2002-2007 and 2016-2018, VMT also rose during these periods. However, other factors, such as personal income levels, more fuel-efficient or electric vehicles, and population density, could also affect travel behavior. Overall, although U.S. average fuel prices increased materially to $4.09 per gallon in August 2022, or 25.4% (U.S. Energy Information Administration--U.S. Retail Gas--All Grades) from $3.26 in August 2021, we do not expect rising fuel prices will materially alter driving patterns, similar to what we have seen historically, and note that despite increasing fuel prices in 2021 and so far in 2022, VMT travel has recovered as noted above.

Chart 6

U.S. Annual Vehicle Miles Traveled Versus U.S. Retail Gasoline Prices (All Grades)




*Estimated; U.S. retail gas average price through October. Source: U.S. Department of Transportation, Federal Highway Administration, and U.S. Energy Information Administration.

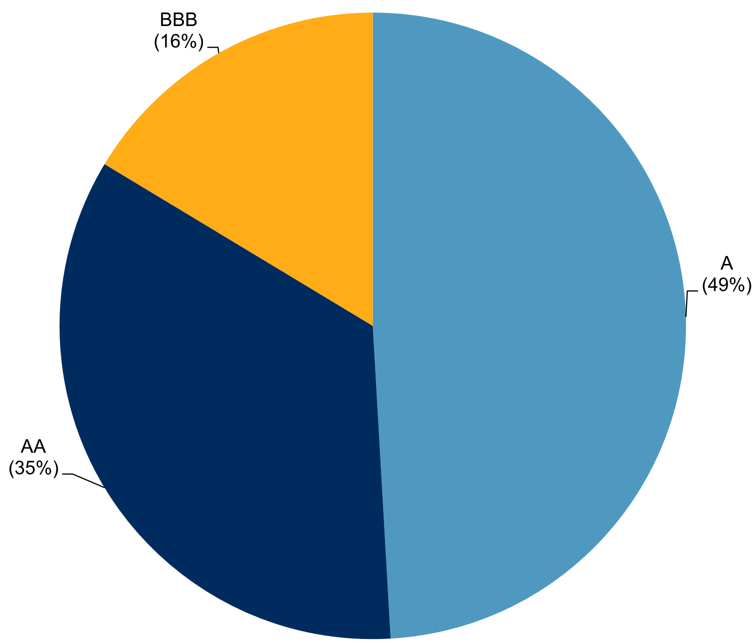


## Steady Financial Results Supported By Favorable Market Positions Are Key To Toll Operators' Credit Quality

Mature, not-for-profit toll road operators have historically been at the stable end of the infrastructure asset spectrum. Traffic volumes and financial results have been resilient over the years through different industry and economic conditions, with most toll roads typically supported by comparatively good rate-setting flexibility including regular toll rate increases, sometimes indexed to inflation. As a result, all not-for-profit toll road issuers rated by S&P Global Ratings are investment grade, with 49% in the 'A' category, 35% in the 'AA' category, and 16% in the 'BBB' category (chart 7), resulting in a median senior-lien rating of 'A'.

Chart 7

**Toll Road Senior Bond Rating Distribution, November 2022**






The credit profiles of most of the largest 15 toll road and bridge operators as measured by debt outstanding were supported by toll-rate increases implemented since January 2020. Indeed, 12 of the 15 implemented toll-rate increases of varying sizes during the past two years across both passenger and commercial vehicle classes (table 1). Some have rate-setting policies set to increase with CPI and elected to raise tolls (New Jersey Turnpike and Illinois State Toll Highway Authority) while others opted to postpone toll increases in the face of still-recovering traffic levels (Foothill Eastern and San Joaquin Hills Transportation Corridor agencies), already high toll rates, high inflation, or a combination of these factors. Of the top 15 largest issuers, the median 2021 toll revenues and toll transactions were 94% and 92%, respectively, of 2019 levels.

Table 1

## Top 15 U.S. Toll Operators--Toll Rate Increases

| Issuer (fiscal year-end) | State | System description | Rating/Outlook | Debt outstanding FYE 2021 (mil. $) | 2021 toll revenue as % of 2019 | 2021 toll transactions as % of 2019 | Toll rate increase | Last/next toll rate increase | Magnitude of increase | Operating revenue impact |
|---|---|---|---|---|---|---|---|---|---|---|
| Pennsylvania Turnpike Commission (May 31) | PA | Mature statewide | A+/Stable | 14.5 | 92% | 79% | Yes | 1/1/2020, 1/1/2021, 1/1/2022, 1/1/2023 | 6%, 6%, 5%, 5% | Net toll revenues 10% above FY2019 in FY2022 despite transactions remaining 6% below FY2019 levels |
| New Jersey Turnpike Authority (Dec. 31) | NJ | Mature statewide | AA-/Stable | 12.0 | 125% | 91% | Yes | 9/14/2020, 1/1/2022, 1/1/2023 | New Jersey Turnpike 36%, Garden State Parkway 27%; 3% on both 1/1/2022, 1/1/2023 | Toll revenue year to date is 31.2% above the same period in FY2019 (through Aug) |
| North Texas Tollway Authority (Dec. 31) | TX | Large regional | AA-/Stable | 9.6 | 96% | 96% | Yes | 7/1/2021 | 5.5% on July 1 of odd-numbered years | Transactions above 2019 levels since June 2021, so revenues are at peak levels year to date; 5.5% biennial toll rate increases allow the authority to achieve revenue growth independent of toll transaction volume growth |
| Triborough Bridge & Tunnel Authority (Dec. 31) | NY | Toll bridge | AA-/Stable | 9.2 | 105% | 93% | Yes | 4/11/2021 | 7% average across bridges and tunnels | 2021 toll revenues 5% above 2019 despite transactions remaining 7% below 2019 levels |

Table 1

## Top 15 U.S. Toll Operators--Toll Rate Increases (cont.)

| Issuer (fiscal year-end) | State | System description | Rating/Outlook | Debt outstanding FYE 2021 (mil. $) | 2021 toll revenue as % of 2019 | 2021 toll transactions as % of 2019 | Toll rate increase | Last/next toll rate increase | Magnitude of increase | Operating revenue impact |
|---|---|---|---|---|---|---|---|---|---|---|
| Bay Area Toll Authority (June 30) | CA | Toll bridge | AA/Stable | 9.1 | 78% | 74% | Yes | 1/1/2022 | $1 for seven bridges in the Bay Area for all vehicle classes | Subject to litigation; therefore, effect on revenues not yet evident |
| Illinois State Toll Highway Authority (Dec. 31) | IL | Large regional | AA-/Stable | 8.0 | 98% | 92% | Yes | 1/1/2021, 1/1/2022 | CPI-based commercial toll rate increase each year | CPI-based annual commercial toll rate increases allow authority to achieve revenue growth independent of transaction volume growth |
| New York State Thruway Authority (Dec. 31) | NY | Mature statewide | A/Stable | 6.2 | 102% | 135% | Yes | 1/1/2021, 1/1/2022 | $0.50 for passenger vehicles on Mario Cuomo Bridge on 1/1/2021 & 1/1/2022; 31% and 30% for commercial rates | FY2021 operating revenues exceeded FY2019, pointing to both demand stability and effective rate increases |

Table 1

## Top 15 U.S. Toll Operators--Toll Rate Increases (cont.)

| Issuer (fiscal year-end) | State | System description | Rating/Outlook | Debt outstanding FYE 2021 (mil. $) | 2021 toll revenue as % of 2019 | 2021 toll transactions as % of 2019 | Toll rate increase | Last/next toll rate increase | Magnitude of increase | Operating revenue impact |
|---|---|---|---|---|---|---|---|---|---|---|
| Grand Parkway Transportation Corp. (Aug. 31) | TX | Large regional | BBB+/Positive | 4.8 | 94% | 105% | Yes | 1/1/2021, 1/1/2022 | 2% or state's CPI; 2% increase in 2021; 6% in 2022; 9.76% CPI-based increase for 2023 has been paused | Annual increases at the greater of 2% or state CPI smooth revenues during periods of demand volatility and allows for revenue growth independent of demand trends; demand growth and utilization of system have far outpaced toll rate increases over past decade, making it unclear as to the net effect of the rate increases on their own. |
| Metropolitan Washington Airport Authority (Dec. 31) | DC | Single toll bridge/road | A/Stable | 3.5 | 74% | 72% | No | Last 1/1/2019; Next 1/1/2023 | Raising total toll rate to $6.00 from $4.75, which includes entry and exit from the Dulles Toll Road | 2021 toll revenues more than 25% below 2019 levels, as are transaction volumes; no toll rate increases since 2019 magnified the effects of reduced demand since pandemic began |

Table 1

## Top 15 U.S. Toll Operators--Toll Rate Increases (cont.)

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|---|---|---|---|---|---|---|---|---|---|---|
| Central Florida Expressway Authority (June 30) | FL | Citywide | A+/Stable | 3.1 | 107% | 94% | Yes | Annually | Adopted a policy in 2017 to raise toll rates at the higher of CPI-U in the South or 1.5% | Annual increases at the greater of 1.5% or regional CPI-U smooths toll revenues during periods of demand volatility and allows for revenue growth independent of demand trends; demand growth and utilization of system has far outpaced toll rate increases over past decade, making it unclear as to the net effect of the rate increases on their own. |
| Central Texas Turnpike System (Aug. 31) | TX | Citywide | A/Stable | 2.9 | 72% | 85% | Yes | 1/1/2021, 1/1/2022 | 1.3% in 2021, 5.3% in 2022, 2023 toll rate increase has been paused; adopted a policy in 2012 to annually escalate toll rates based on CPI | FY2021 operating revenues declined 28% vs. FY2019; effects of large FY2022 rate increase may be evident in FY2022 audited results |

Table 1

## Top 15 U.S. Toll Operators--Toll Rate Increases (cont.)

| Issuer (fiscal year-end) | State | System description | Rating/Outlook | Debt outstanding FYE 2021 (mil. $) | 2021 toll revenue as % of 2019 | 2021 toll transactions as % of 2019 | Toll rate increase | Last/next toll rate increase | Magnitude of increase | Operating revenue impact |
|---|---|---|---|---|---|---|---|---|---|---|
| Central Texas Regional Mobility Authority (June 30) | TX | Citywide | A-/Positive | 2.7 | 107% | 111% | Yes | 1/1/2022, 1/1/2023 | 5.4% in 2022, 8.2% for 2023 Tolls are annually adjusted to the CPI | FY2022 operating revenues increased 51.5% vs. FY2021, a 60% increase compared with FY 2019; increased utilization and large rate increases have played a role in operating revenue growth |
| Foothill/Eastern Transportation Corridor Agency (June 30) | CA | Single toll bridge/road | A/Stable | 2.7 | 83% | 73% | No | Annual, except in 2021 | Adopted policy of automatic 2% annual increases subject to board approval (board retains right to adjust toll rates); due to pandemic, chose not to adjust rates by the normal 2% in 2020; adjustment can be reinstated | FY2021 operating revenue declined 11% from FY2020, a 18.4% decline compared with FY2019; largely due to authority's fiscal 2021 coinciding with the July 1, 2020-June 30, 2021 period, which was adversely affected by greater exposure to commuter traffic |

Table 1

### Top 15 U.S. Toll Operators--Toll Rate Increases (cont.)

| Issuer (fiscal year-end) | State | System description | Rating/Outlook | Debt outstanding FYE 2021 (mil. $) | 2021 toll revenue as % of 2019 | 2021 toll transactions as % of 2019 | Toll rate increase | Last/next toll rate increase | Magnitude of increase | Operating revenue impact |
|---|---|---|---|---|---|---|---|---|---|---|
| Florida Turnpike Enterprise (June 30) | FL | Mature statewide | AA/Stable | 2.7 | 94% | 92% | No | 10/1/2017 | Last toll increase in Oct. 2017 was 3.4%; increases are statutorily required to match CPI and cannot be done more than once a year and no less than once every five years | FY2022 operating revenues increased 13.7% from FY2021, a 4.8% increase compared with FY2019 |
| San Joaquin Hills Transportation Corridor Agency (June 30) | CA | Single toll bridge/road | A/Stable | 2.5 | 61% | 62% | Yes | Annual | 2% increase in 2021; adopted policy of automatic 2% annual increases subject to board approval (board retains right to adjust toll rates); due to pandemic, chose not to adjust rates by the normal 2% in 2020 | FY2021 operating revenues declined 23.5% from FY2020 and 38.6% compared with FY2019; largely due to authority's fiscal 2021 coinciding with July 1, 2020-June 30, 2021 period, which was adversely affected by greater exposure to commuter traffic |

FYE--Fiscal year-end.

## Financial Metrics Improved In 2021 As Activity Rebounded Near 2019 Pre-Pandemic Levels

We analyze three primary factors to determine our financial profile risk assessment scores based on our criteria: financial performance (55% of the score), debt and liabilities (35%), and liquidity and financial flexibility (10%) across ranges from extremely strong to highly vulnerable (table 2).

Table 2

## S&P Global Ratings Transportation Infrastructure Enterprise Criteria--Financial Metric Ranges

| | Extremely strong | Very strong | Strong | Adequate | Vulnerable | Highly vulnerable |
|---|---|---|---|---|---|---|
| Financial performance/debt service coverage (x) | >4.75 | 4.75-3 | 3-1.25 | 1.25-1.1 | 1.1-1 | <1 |
| Debt to net revenue (x) | <5 | 5-10 | 10-15 | 15-20 | 20-30 | >30 |
| Unrestricted days' cash on hand | >800 | 800-400 | 400-250 | 250-120 | 120-60 | <60 |
| Unrestricted reserves to debt (%) | >85 | 85-50 | 50-20 | 20-7.5 | 7.5-3.0 | <3.0 |

For the highly rated 'AA' category toll road issuers, we anticipate debt service coverage (DSC; financial performance) will be maintained at levels we consider strong, and debt capacity (debt and liabilities) at extremely strong or very strong, respectively. We attribute this, in part, to the larger size, transaction volumes, and financial margins of 'AA' category toll roads as compared to those in the 'A' and 'BBB' rating categories. The majority of not-for-profit toll roads in the 'AA' category are mature statewide systems, accompanied by major toll bridge or citywide systems and congestion relievers. The 'BBB' rated issuers primarily include start-up, or greenfield toll roads, with limited operating histories; or operators with single-asset exposure such as a bridge or land-bridge.

Fiscal 2021 financial metrics, including DSC, debt to EBIDA, and liquidity and financial flexibility, improved to near historical levels, as overall activity substantially recovered. In fiscal 2020, some financial metrics weakened but overall remained comparable with historical levels despite lower revenues due to pandemic-induced activity declines (tables 3 and 4). Many of the toll road operators have a June 30 fiscal year-end, so COVID-19 affected those issuers acutely in fiscal 2021, rather than in fiscal 2020, which only saw 3.5 months of COVID-19 impact on activity levels (March-June 2020).

Key takeaways from our means and medians analysis include the following:

**DSC was maintained near historical levels due to increased operating revenues, bolstered somewhat by toll rate increases designed to offset the possibility of continued transaction volume declines, with median coverage for all toll road issuers across all ratings categories above 1.25x in fiscal 2021** Although operating revenues declined because of weaker activity in 2020, both mean and median DSC remained strong (1.25x-3.00x) across all rating categories due to less-affected commercial traffic and management actions such as increasing toll rates, reducing operating expenses, restructuring debt or postponing debt-financed capital projects, and implementing hiring freezes. The median decline in 2020 operating revenues was approximately 5% less than the decline in transactions given these various management actions (table 4).

**Toll road operators' debt capacity as measured by debt to EBIDA also improved in 2021 and remained very strong overall (5%-10%), except for 'BBB' category toll roads.** Before the pandemic, the median debt capacity for 'BBB' category toll roads fluctuated between levels we consider adequate and strong (10%-20%). It then fell to levels we consider vulnerable (20%-30%) due to weaker financial margins going into the pandemic and increased leverage in fiscal years 2020 and 2021, although there was material improvement for issuers in the 'BBB' category with a median improvement from fiscal 2020 to fiscal 2021 of about 2%.

**Overall debt levels have increased.** Both mean and median absolute debt levels have increased since 2019 as debt associated with capital projects was issued. The increase in mean and median debt outstanding since 2019 is driven by several toll road operators individually issuing more than $500 million in additional debt since the pandemic began. For example, Pennsylvania Turnpike Commission has issued over $2 billion in new money debt since June 2020. Central Texas Regional Mobility Authority has issued over $1 billion in several revenue bonds and notes issuances since the last quarter of 2020. Maryland Transportation Authority issued approximately $750 million in transportation facilities projects revenue bonds in March 2021. Illinois State Toll Highway Authority issued approximately $1.2 billion in two toll highway senior revenue bond issuances, one in December 2020 and the other in December 2021. Lastly, South Jersey Transportation Authority issued approximately $600 million in two bond issuances, one in October 2020 and the other in September 2022.

**Management teams have generally increased liquidity positions as a proactive approach to mitigate future potential stresses.** Liquidity positions across the 'AA', 'A', and 'BBB' rating categories (table 5): Median unrestricted cash and investments were above 2019 levels across all rating categories as management teams lowered operating expenses to mitigate the possibility of continued demand weakness in the sector. The rapid recovery in transactions and operating revenues allowed issuers to build cash reserves as revenues exceeded budgeted amounts significantly in fiscal 2021. Overall, unrestricted days' cash on hand (UDCOH) generally remained within the very strong (400-800) to the extremely strong (more than 800) range, comparable with or above pre-pandemic levels. For some toll roads, operating expense reductions outweighed draws on cash, resulting in improved UDCOH in 2021 compared with 2019, as demonstrated by the median UDCOH for the 'AA' and 'BBB' categories.

Sectorwide liquidity positions (table 4): Sectorwide means and medians for UDCOH and liquidity increased materially, which we believe was spurred by management actions to reduce operations and maintenance expenses and generally build up and maintain cash reserves to mitigate the risk of future stress across the sector.

Table 3

## Select Toll Road Median And Means

| | --Toll Roads (n= 55) -- | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| **Total operating revenues ($000)** | | | |
| Median | 122,071 | 118,692 | 125,582 |
| Mean | 299,808 | 264,403 | 300,540 |
| **Total operating revenues annual % change** | | | |
| Median | 6.00 | (9.14) | 2.77 |
| Mean | 8.83 | 6.16 | 4.10 |
| **Operating expenses ($000)** | | | |
| Median | 34,521 | 37,241 | 37,366 |
| Mean | 99,815 | 98,710 | 100,229 |
| **Total operating expense annual % change** | | | |
| Median | (2.42) | (3.18) | 6.99 |

Table 3

## Select Toll Road Median And Means (cont.)

| | --Toll Roads (n= 55) -- | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| Mean | 11.45 | 1.35 | 10.32 |
| **Coverage (x)** | | | |
| Median | 1.59 | 1.65 | 1.88 |
| Mean | 1.92 | 1.98 | 2.47 |
| **Debt to net revenue (x)** | | | |
| Median | 7.70 | 10.00 | 7.20 |
| Mean | 14.37 | 11.35 | 15.55 |
| **Debt to EBIDA(x)** | | | |
| Median | 7.75 | 11.60 | 7.95 |
| Mean | 15.24 | 13.77 | 12.87 |
| **Debt ($000)** | | | |
| Median | 657,225 | 653,700 | 467,843 |
| Mean | 2,126,819 | 2,033,990 | 1,970,353 |
| **Unrestricted days' cash on hand** | | | |
| Median | 1,050 | 1,031 | 824 |
| Mean | 1,490 | 1,835 | 1,417 |
| **Unrestricted reserves to debt (%)** | | | |
| Median | 15.55 | 13.45 | 14.15 |
| Mean | 35.79 | 35.65 | 33.59 |
| **Unrestricted Cash and investments ($000)** | | | |
| Median | 137,091 | 116,681 | 124,405 |
| Mean | 257,937 | 248,749 | 247,580 |

Table 4

## Select Toll Road Medians Calculated By Rating Category

| | AA (n=19) | | | A (n=26) | | | BBB (n=10) | | |
|---|---|---|---|---|---|---|---|---|---|
| | --Fiscal year-- | | | | | | | | |
| | 2021 | 2020 | 2019 | 2021 | 2020 | 2019 | 2021 | 2020 | 2019 |
| Total operating revenues ($000) | 360,163 | 303,541 | 329,854 | 101,669 | 102,416 | 95,223 | 29,569 | 24,392 | 26,374 |
| Total operating revenues annual % change | 4.8 | (10.0) | 1.4 | 1.6 | (9.1) | 2.3 | 10.5 | (4.7) | 4.3 |
| Operating expenses ($000) | 118,289 | 123,595 | 172,623 | 18,749 | 20,866 | 24,589 | 10,552 | 9,476 | 9,939 |

Table 4

## Select Toll Road Medians Calculated By Rating Category (cont.)

| | AA (n=19) | | | A (n=26) | | | BBB (n=10) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | --Fiscal year-- | | | | | |
| | 2021 | 2020 | 2019 | 2021 | 2020 | 2019 | 2021 | 2020 | 2019 |
| Total operating expense annual % change | (1.9) | (3.4) | 3.1 | (4.5) | (2.8) | 3.4 | 5.2 | (1.4) | 17.2 |
| Coverage (x) | 2.02 | 1.95 | 2.17 | 1.51 | 1.66 | 1.93 | 1.50 | 1.32 | 1.36 |
| Debt to net revenue (x) | 6.80 | 7.40 | 5.60 | 7.70 | 9.30 | 6.80 | 18.50 | 20.70 | 15.75 |
| Debt ($000) | 1,760,235 | 1,771,165 | 1,825,940 | 657,225 | 653,700 | 688,072 | 308,199 | 309,855 | 281,903 |
| Debt to EBIDA (x) | 7.2 | 7.4 | 5.6 | 7.8 | 9.9 | 7.6 | 21.2 | 23.4 | 17.2 |
| Unrestricted days' cash on hand | 1,162 | 815 | 860 | 932 | 1,011 | 705 | 1,401 | 1,164 | 1,089 |
| Unrestricted reserves to debt (%) | 21.0 | 15.0 | 20.6 | 17.7 | 16.8 | 15.4 | 9.2 | 7.2 | 7.8 |
| Unrestricted Cash and investments ($000) | 260,097 | 205,920 | 191,925 | 83,078 | 83,143 | 90,932 | 27,765 | 43,205 | 45,721 |
| Total transactions annual % change | 2.3 | (13.4) | 1.2 | 0.5 | (15.9) | 1.7 | 11.5 | (8.4) | 1.8 |

## Related Research

- Industry Report Card: Global Toll Road Industry, Oct. 11, 2022
- U.S. And Canadian Municipal Toll Road Ratings And Outlooks: Current List And Recent Rating Actions, Nov. 18, 2022

This report does not constitute a rating action.