

# Managed Lanes Driven to Strong Performance

Managed lanes persistently out-performed Fitch's forecasts. This was driven by solid economic growth, low gas prices, strong demographic trends, and our conservative approach to forecasting cash flows.

Scott Monroe, Director

## Strong Performance Continues Into FY 2019

Fitch Ratings notes revenue performance among Fitch-rated managed lanes (MLs) is strong with fiscal YTD 2019 total revenue rising by a median of 21%. Recent performance is in line with a longer trend of robust MLs performance. The lion's share of projects beat our base case cash flow projections in most years since at least 2015.

This outperformance is driven by a combination of a long period of accommodative economic conditions, relatively low gas prices and generally higher growth in regions with MLs. Fitch's conservative approach to cash flow projections also provided for positive outcomes.

## New Data Driving Projections

The MLs sector is young and growing quickly. There are twice as many Fitch-rated operational projects compared with four years ago. The proliferation of projects, operational and post-ramp up, provides a critical mass of data not available in recent years.

Fitch used this data, which is largely positive, to evolve our forecast assumptions as it relates to truck traffic, value of reliability, induced traffic and project extensions. Each project is unique and Fitch considers revisions to its assumptions when strongly justified.

## New Projects Coming Online

Over the next year Fitch-rated MLs projects are projected to finish construction in California, Colorado, North Carolina and Texas. Although most are running roughly on time some projected completion dates were pushed back. To date most issues were sufficiently mitigated by construction security packages and flexible debt structures, such that credit quality was not materially affected.

However, construction-related issues led to one credit being placed on Rating Watch Negative. Fitch will monitor each project regularly and take action if material delays degrade credit quality beyond what could be reasonably absorbed by respective construction security packages.

## Project Extensions Bode Well

In addition to new MLs projects going online, some existing facilities are looking to expand. The experience from the opening of Riverside County Transportation Commission's (RCTC) SR-91 MLs bodes well for other MLs extensions.

The extension led to a material and positive effect on revenue for Orange County Transportation Authority's (OCTA) existing and connecting facility immediately after RCTC's opening, with the effects persisting since opening in FY 2017.

## Untested Recessionary Performance

Although MLs performed extremely well under the U.S.'s prolonged economic expansion, only OCTA's SR-91 MLs were open during the Great Recession of 2007-2009.

A lack of robust historical recessionary performance data results in limited visibility as to how MLs will perform in the next recession. We continue to use conservative assumptions in our rating case cash flow projections as it relates to the effects of economic volatility.

## Related Research

[Peer Review of U.S. Managed Lanes \(Attribute Assessments and Ratings\) \(June 2019\)](#)

[Managed Lanes: A Framework for Prudent Pricing \(An Analysis of the Risks Posed by Price Caps and Free Access Policies\) \(October 2018\)](#)

[Toll Roads, Bridges and Tunnels Rating Criteria \(July 2018\)](#)

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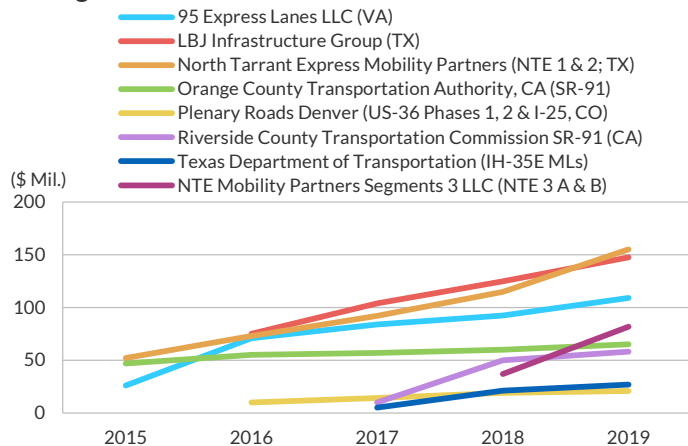
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## Prolonged Period of Strong Performance

MLs performed quite strongly so far through June 2019, with median yoy revenue growth of 21%. Growth was supported by continued economic expansion, low gas prices, and solid population and employment growth trends in regions with the most MLs. Dallas/Ft. Worth, TX; Denver, CO; Northern Virginia; and Southern California are areas with MLs benefiting from these factors.

Although Fitch-rated MLs growth slowed in each of the past three years, this is to be expected, as newer facilities exit the fast growth ramp-up phase. As four new facilities go online in 2019 and 2020, portfolio-wide revenue growth may rise as the proportion of facilities in ramp-up increases.

### Managed Lanes Historical Revenue Performance



Notes: Annualized FY 2019 revenue is actual for facilities with fiscal year-end dates of June 30 and are projected by Fitch for all others based on YTD performance with a haircut for the remainder of the fiscal year.

Source: Fitch Ratings.

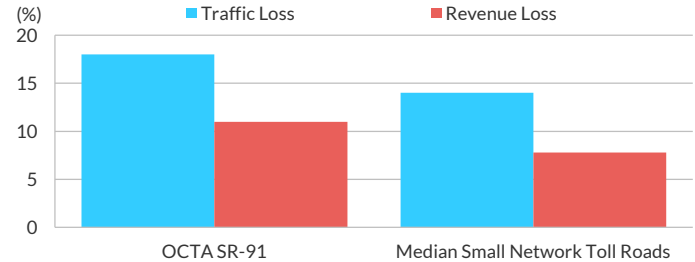
Fitch forecasts U.S. GDP growth will slow for calendar year 2019 to 2.3% from 2.9% in 2018, and will slow further to 1.7% in 2020. Slowing GDP growth during trade and geopolitical uncertainty call into question whether future conditions will be as supportive to growth as the past several years.

Unlike other infrastructure sectors, managed lanes have a limited data set from which to draw conclusions about performance through a typical recessionary environment. Of Fitch's 13 publicly-rated MLs, only OCTA's SR-91 Express Lanes were operating during the Great Recession, when the facility's traffic fell 18% and revenue fell by 11%.

In comparison to standard toll roads, OCTA's Express Lanes had 29% higher traffic losses and 41% higher revenue losses through the recession, respectively. The facility's recessionary performance likely would have been worse if it used a revenue-maximizing pricing policy. Instead, the facility is one of a handful blending throughput and revenue maximization. This results in a buffer to raise prices and revenues that do not exist for purely revenue-maximizing facilities.

OCTA was able to raise prices through the recession; thus, significantly mitigating traffic losses. Most Fitch-rated MLs use revenue-maximizing rate algorithms, especially privately operated concessions.

## Recessionary Performance Comparison: OCTA's SR-91 Versus Standard Toll Roads

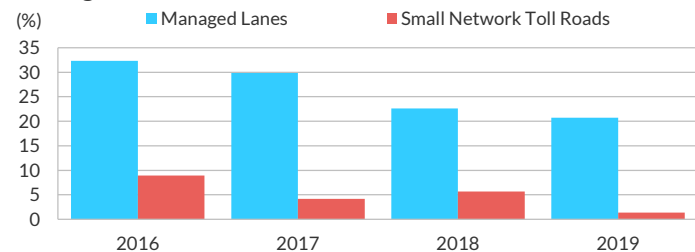


OCTA - Orange County Transportation Authority.

Source: Fitch Ratings, Orange County Transportation Authority.

The median MLs growth rate of 21% in fiscal YTD 2019 compares extremely well to small network toll roads, or standard toll roads, which grew just 1%. The high rate of MLs out-performance is not unusual, with MLs typically growing many times faster than standard toll roads. This is reflective of two factors.

### Managed Lanes in the Fast Lane



Notes: Annualized FY 2019 revenue is actual for facilities with fiscal year-end dates of June 30 and are projected by Fitch for all others based on YTD performance with a haircut for the remainder of the fiscal year.

Source: Fitch Ratings, Issuers.

First, the MLs portfolio consists of a higher proportion of facilities in a ramp-up phase, which tends to last two to three years and is often characterized by high growth rates in excess of 10% annually. Second, MLs grow much faster than the corridors they operate in and typically exist in corridors with free general purpose lanes (GPLs) at or near designed capacity.

As a result, a high proportion of marginal corridor traffic growth spills into the MLs instead of the already crowded GPLs, causing outsized MLs traffic growth. This same dynamic leaves MLs more vulnerable to corridor traffic declines, whether caused by recession, increased corridor capacity, new competing routes or other factors.

## New Data Driving Projections

Older Fitch cash flow projections were formed during a period in which the sector was new and there was limited historical data to support certain analytical judgements.

Given the circumstances, we sometimes applied a higher degree of conservatism to inputs used to derive our projections than is now necessary. This is in light of a more robust data set available across a broader spectrum of MLs projects.

As Fitch's original cash flow assumptions applied a high level of forecast conservatism, most MLs projects out-performed our base and rating case projections in most years, as shown in the table below.

## Comparison of Actual Performance to Fitch Cases

|  | 2015            |           |                   | 2016              |                 |                   | 2017            |                 |                 | 2018            |                 |                 | 2019  |                  |                  |
|--|-----------------|-----------|-------------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|------------------|------------------|
| (FY Total Revenue, \$ Mil.)                              | Actual          | Base Case | Rating Case       | Actual            | Base Case       | Rating Case       | Actual          | Base Case       | Rating Case     | Actual          | Base Case       | Rating Case     | Actual/<br>Fitch-<br>Projected <sup>a</sup> | Base Case        | Rating Case      |
| <b>Project</b>   |                 |           |                   |                   |                 |                   |                 |                 |                 |                 |                 |                 |   |                  |                  |
| 95 Express Lanes LLC (VA)                                | 26 <sup>b</sup> | 23        | 23                | 71                | 65              | 65                | 84              | 78 <sup>c</sup> | 78 <sup>c</sup> | 92              | 79              | 79              | 109   | 105 <sup>c</sup> | 105 <sup>c</sup> |
| LBJ Infrastructure Group (TX)                            | 22 <sup>b</sup> | N.A.      | N.A. <sup>d</sup> | 75                | N.A.            | N.A. <sup>d</sup> | 100             | 105             | 87              | 125             | 113             | 92              | 148   | 130              | 112              |
| North Tarrant Express Mobility Partners (NTE 1 & 2; TX)  | 52              | 48        | 42                | 73                | 72              | 64                | 92              | 92              | 81              | 115             | 119             | 89              | 155   | 132              | 96               |
| NTE Mobility Partners Segments 3 LLC (NTE 3 A & B)       | N.A.            | N.A.      | N.A.              | N.A.              | N.A.            | N.A.              | 3 <sup>b</sup>  | N.A.            | N.A.            | 37 <sup>b</sup> | 20              | 8               | 82  | 81 <sup>c</sup>  | 81 <sup>c</sup>  |
| Orange County Transportation Authority, CA (SR-91)       | 47              | 42        | 42                | 55                | 45 <sup>c</sup> | 45 <sup>c</sup>   | 57              | 51 <sup>c</sup> | 47 <sup>c</sup> | 60              | 52 <sup>c</sup> | 46 <sup>c</sup> | 65  | 56 <sup>c</sup>  | 50 <sup>c</sup>  |
| Plenary Roads Denver (US-36 Phases 1 and 2 and I-25, CO) | N.A.            | N.A.      | N.A.              | 10 <sup>b,e</sup> | 9               | 9                 | 14 <sup>e</sup> | 11              | 13 <sup>f</sup> | 19 <sup>e</sup> | 14              | 17 <sup>f</sup> | 21 <sup>e</sup>                             | 16               | 18 <sup>f</sup>  |
| Riverside County Transportation Commission SR-91 (CA)    | N.A.            | N.A.      | N.A.              | N.A.              | N.A.            | N.A.              | 10 <sup>b</sup> | 8               | 6               | 50              | 23              | 18              | 58 <sup>g</sup>                             | 66 <sup>c</sup>  | 66 <sup>c</sup>  |
| Texas Department of Transportation (IH-35E MLs)          | N.A.            | N.A.      | N.A.              | N.A.              | N.A.            | N.A.              | 5 <sup>b</sup>  | 4               | 4               | 21              | 8               | 8               | 27  | 23 <sup>c</sup>  | 19 <sup>c</sup>  |

<sup>a</sup>FY 2019 revenue is actual for facilities with fiscal year-end dates of June 30 or earlier and are projected by Fitch for all others based on YTD performance with a growth haircut and applied to the remainder of the fiscal year. <sup>b</sup>Reflects partial year of operations. <sup>c</sup>Reflects revised set of cash flow projections beginning in the noted year. <sup>d</sup>Additional Fitch stress case at time of financing assumed a one-year completion delay to 2017. <sup>e</sup>Excludes program management, maintenance service and construction-related revenue. <sup>f</sup>Rating case began at a higher starting point but grew at a lower rate than the base case. <sup>g</sup>Riverside County Transportation Commission out-performed its traffic and revenue consultant projections and Fitch's prior year cash flow forecasts for FY 2019. N.A. - Not applicable. Note: Green highlights indicate actual revenue performed at or above base and rating case projections. Yellow highlights indicate performance at or above rating case but below base case projections. Red highlights indicate actual revenue performed below base and rating case projections. Source: Fitch Ratings, Issuers.

## New Data Driving Projections

| Attribute                                      | Definition  | Historically Common Forecast Assumptions  | Revised Forecast Assumptions  |
|--|---|---|---|
| Arterial Traffic Diversion/<br>Induced Traffic | Quantification of how many vehicles do not currently use a corridor but will choose to do so after new lane capacity is added; thus, alleviating congestion and enticing motorists. | Typical arterial traffic diversion was substantially or entirely removed under the rating case, given a lack of data with knock-on concerns over the amount and timing of arterial traffic diversion.   | Significantly smaller reductions acknowledge actual ramp-up growth rates of new facilities.   |
| Truck Capture Rates                            | Share of trucks on the corridor that will pay to use the MLs.   | Truck capture rates/usage was substantially reduced given concerns about whether truckers would be willing to pay to use MLs.   | New data supports capture rates closer to truck corridor share; thus, supporting lower truck haircuts.  |
| Project Extensions                             | Extensions of MLs facilities already in operation, whether a functional connection of two separate facilities or an extension of existing facilities.                               | Fitch applied haircuts to facilities under going extensions given concerns about cannibalization of limited congestion dollars.   | We no longer assume extensions lead to losses as, in practice, the extension of existing facilities led to an immediate and significant rise in traffic and revenue along the existing facility, as evidenced by the SR-91 MLs.   |
| Value of Reliability                           | Measures the value drivers place on MLs due to assurance of a reliable road trip. This is generally affected by the variability of trip times as opposed to average time savings.   | Typical value of reliability was heavily discounted or even removed under Fitch's rating case. This approach reflected a lack of historical data to prove the value of reliability was a benefit that could, in practice, be monetized and, if so, at what level. | Our value of reliability discounts were reduced in light of data for certain facilities with very limited time savings that show motorists pay for ancillary benefits whether related to reliability, safety, comfort, or others. |

MLs - Managed lanes.  
Source: Fitch Ratings.

As we revise our cash flow projections for the future, projected revenue levels for certain projects may rise, as deemed appropriate on a case-by-case basis, causing the amount and degree of future project outperformance to decline.

## New Projects Coming Online

Fitch rates five MLs projects under construction, of which four are expected to open within 12 months, including the I-77 Express Lanes that opened recently in November 2019. Once opened, these will represent a significant expansion of Fitch-rated operating MLs, of which we currently rate eight publicly and one privately.

All projects under construction are currently rated in the 'BBB' category and will likely grow rapidly in the first two to three years during the ramp-up phase.

Only C-470's credit quality was adversely affected by construction-related issues, despite its advanced stage of construction, leading to a Rating Watch Negative in September 2019. The initial project completion date of Nov. 21, 2018 was extended on several occasions and a notice of default was issued by the Colorado Department of Transportation when the contractor missed the Aug. 1, 2019 deadline.

Continued delays call into question when revenue generation will begin and whether certain sources of project liquidity may have to be drawn to support debt service once capitalized interest ends in mid-2020. The project will also require a ramp-up period before revenue comes fully online, which adds further risk to construction delays.

## Construction Completion Dates

| Project  | Projected Opening Date  |
|--|-------------------------|
| I-77 Mobility Partners                                   | Completed November 2019 |
| Colorado High Performance Transportation Enterprise (CO) | Spring 2020             |
| BlueRidge Transportation Group LLC (TX)                  | June 2020               |
| Riverside County Transportation Commission (CA) (I-15)   | Second-Half 2020        |
| I-66 Express Mobility Partners LLC (VA)                  | January 2023            |

Note: Scheduled completion dates refer to completion of major construction works and service commencement.  
Source: Issuers.

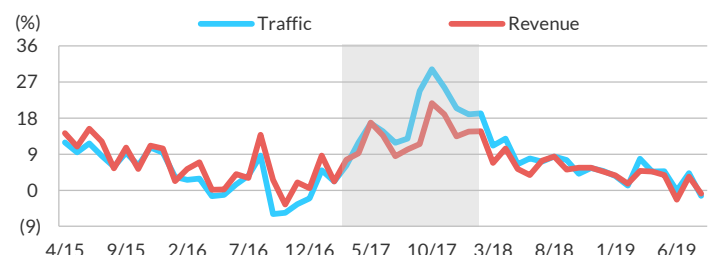
RCTC I-15 is a 15-mile north-south facility connecting to RCTC SR-91 MLs and will significantly expand the catchment area served by MLs in Western Riverside County, CA. These facilities will collectively provide vital links for Inland Empire commuters in Southern California to the large and diversified employment market of Orange County, CA and origins and destinations within Riverside County itself.

RCTC's SR-91 MLs may experience an immediate jump in revenue upon opening of the I-15 MLs as the new project will serve as a feeder to SR-91 for a portion of commuters heading to Orange County. The experience of other extensions shows users who begin trips on MLs often remain in them, despite potentially high cumulative costs, and concerns about cannibalization have not materialized to date.

When RCTC's SR-91 MLs opened, an immediate and sizeable jump in traffic and revenue occurred averaging 18% and 13% for the following 12 months, respectively. This compares with 4% and 6% for the 24 months preceding the opening, as seen in the OCTA SR-91 Traffic and Revenue Growth chart.

In Virginia, I-66 Outside the Beltway will provide a connection to the Capital Beltway, or Interstate 495 ringing Washington, D.C., and I-66 Inside the Beltway MLs projects. This will build out an important western link in the robust Washington D.C./Northern Virginia MLs network including the I-95 MLs.

## OCTA SR-91 Traffic and Revenue Growth



OCTA - Orange County Transportation Authority. Note: Connecting Riverside County Transportation Commission managed lanes opened in April 2017. Shaded area indicates an increase in growth following the opening of the connecting facility. Source: Orange County Transportation Authority.

Such networks formed, or are forming, across the U.S., including Denver, Southern California and Dallas/Ft. Worth. Networks are planned elsewhere, such as in the San Francisco Bay, CA area. Once complete, MLs networks should provide paying motorists more reliable and faster journey times across economically important regions that are large, densely populated, and suffer from sometimes severe congestion that can stymie mobility during peak hours.

To date there were no financings pooling MLs revenues from multiple projects in a MLs network. However, Fitch would view such financings as stronger than standalone facilities. This is due to pooled financings offering a larger service area, reducing event risk applicable to single assets, and offering advantages of diversification in the event any single facility underperforms.

## What's Next for Managed Lanes?

Growth of managed lanes is rapid and Fitch expects this trend to continue in the future for a handful of reasons.

### New Funding Stream

Although many regions are congested and growing, state and federal road funding is often insufficient to finance needed capacity improvements. MLs tackle congestion issues, while simultaneously producing revenue streams that can be used to pay for roadway maintenance and possibly other capital projects. MLs, similar to other user-fee based assets, have a dedicated revenue source, and may be less susceptible to deferred maintenance.

### ***Enhanced Capacity Utilization***

Many agencies are converting carpool lanes, which tend to operate in a perpetual state of over or under capacity, into MLs. Review our [\*Managed Lanes: A Framework for Prudent Pricing \(An Analysis of the Risks Posed by Price Caps and Free Access Policies\)\*](#) for more information. Doing so is an affordable and environmentally friendly alternative to building out new lane miles and increases the corridor's effective capacity.

### ***Political Considerations***

Unlike standard toll roads, MLs give drivers a choice to travel in tolled MLs for a quicker and more reliable trip or for free in GPLs. This choice makes MLs more palatable to communities than fully tolled corridors. For roadways already free, but in need of capacity enhancements, adding MLs can be feasible. The prospect of adding a toll to previously free lanes is frequently viewed as a non-starter.

## Appendix A

### Managed Lanes Ratings and Attributes

| Project   | Senior Lien Rating <sup>a</sup> | TIFIA Springing Lien <sup>b</sup> | Outlook        | Completion Risk | Revenue Risk: Volume | Revenue Risk: Price | Infrastructure Development and Renewal | Debt Structure                             |
|---|---------------------------------|-----------------------------------|----------------|-----------------|----------------------|---------------------|--|--|
| 95 Express Lanes LLC                                      | BBB                             | BBB                               | Stable         | N.A.            | Midrange             | Stronger            | Stronger                               | Midrange <sup>c</sup> /Weaker <sup>d</sup> |
| BlueRidge Transportation Group SH-288                     | BBB-                            | BBB-                              | Stable         | Midrange        | Midrange             | Midrange            | Stronger                               | Midrange                                   |
| Colorado High Performance Transportation Enterprise C-470 | BBB                             | BBB                               | Negative Watch | Midrange        | Midrange             | Midrange            | Stronger                               | Midrange                                   |
| I-66 Express Mobility Partners (VA)                       | BBB                             | BBB                               | Stable         | Midrange        | Midrange             | Stronger            | Stronger                               | Midrange                                   |
| I-77 Mobility Partners LLC                                | BBB-                            | BBB-                              | Stable         | Midrange        | Weaker               | Midrange            | Stronger                               | Midrange                                   |
| LBJ Infrastructure Group LLC                              | BBB-                            | BBB-                              | Stable         | N.A.            | Midrange             | Midrange            | Stronger                               | Midrange                                   |
| North Tarrant Express Mobility Partners (NTE 1 & 2)       | BBB                             | BBB                               | Stable         | N.A.            | Midrange             | Midrange            | Stronger                               | Midrange                                   |
| NTE Mobility Partners Segments 3 LLC (NTE 3 A & B)        | BBB-                            | BBB-                              | Stable         | N.A.            | Midrange             | Midrange            | Midrange                               | Midrange                                   |
| Orange County Transportation Authority (SR-91)            | A+                              | N.A.                              | Stable         | N.A.            | Midrange             | Stronger            | Stronger                               | Stronger                                   |
| Plenary Roads Denver, LLC                                 | BBB-                            | BBB-                              | Stable         | N.A.            | Weaker               | Midrange            | Stronger                               | Midrange                                   |
| Riverside County Transportation Commission (I-15)         | BBB- <sup>e</sup>               | N.A.                              | Stable         | Midrange        | Weaker               | Stronger            | Stronger                               | Stronger                                   |
| Riverside County Transportation Commission (SR-91)        | BBB                             | BBB                               | Stable         | N.A.            | Midrange             | Stronger            | Stronger                               | Midrange                                   |
| Texas Department of Transportation (IH-35E Project)       | N.A.                            | BBB                               | Stable         | N.A.            | Midrange             | Midrange            | Stronger                               | Midrange                                   |

<sup>a</sup>Excludes springing liens. <sup>b</sup>These TIFIA liens spring to senior under a bankruptcy scenario. <sup>c</sup>Midrange debt assessment for senior private activity bonds and subordinate TIFIA loan.

<sup>d</sup>Weaker debt assessment for deeply subordinated VTIB debt only. <sup>e</sup>Senior TIFIA loan rating. TIFIA – Transportation Infrastructure Finance and Innovation Act. VTIB – Virginia Transportation Infrastructure Bank. N.A. – Not applicable.

Source: Fitch Ratings.

### Revenue Risk – Volume Assessments

| Project   | Corridor Volume | Managed Lanes Characteristics | Revenue Risk: Volume |
|---|-----------------|-------------------------------|----------------------|
| 95 Express Lanes LLC                                      | Stronger        | Midrange                      | Midrange             |
| BlueRidge Transportation Group SH-288                     | Midrange        | Weaker                        | Midrange             |
| Colorado High Performance Transportation Enterprise C-470 | Stronger        | Weaker                        | Midrange             |
| I-66 Express Mobility Partners (VA)                       | Stronger        | Weaker                        | Midrange             |
| I-77 Mobility Partners LLC                                | Midrange        | Weaker                        | Weaker               |
| LBJ Infrastructure Group LLC                              | Stronger        | Midrange                      | Midrange             |
| North Tarrant Express Mobility Partners (NTE 1 & 2)       | Stronger        | Midrange                      | Midrange             |
| NTE Mobility Partners Segments 3 LLC (NTE 3 A & B)        | Stronger        | Weaker                        | Midrange             |
| Orange County Transportation Authority (SR-91)            | Stronger        | Midrange                      | Midrange             |
| Plenary Roads Denver, LLC                                 | Midrange        | Weaker                        | Weaker               |
| Riverside County Transportation Commission (I-15)         | Midrange        | Weaker                        | Weaker               |
| Riverside County Transportation Commission (SR-91)        | Stronger        | Midrange                      | Midrange             |
| Texas Department of Transportation (IH-35E Project)       | Midrange        | Weaker                        | Midrange             |

Source: Fitch Ratings.



## Appendix B

### Managed Lanes Configuration and Pricing Policies

| Facility   | Pricing Policy <sup>a</sup>                   | Pricing Frequency Policy <sup>b</sup>  | Free/Reduced Price Policy   |
|--|---|--|---|
| 95 Express Lanes LLC   | Revenue maximization.                         | Dynamic  | HOV 3+ free   |
| BlueRidge Transportation Group LLC (TX)                        | Revenue maximization.                         | Fixed time-of-day schedule up to soft toll cap of \$0.75/mile (\$1.50/mile on direct connectors), which can be exceeded to manage MLs speeds if they become slower than 45 mph or 15mph below the speed limit. A floor the greater of \$0.05/mile or \$0.35. | No discount or exemption.   |
| Colorado High Performance Transportation Enterprise (CO)       | Blend of throughput and revenue maximization. | Variable/time of day.  | No discount or exemption.   |
| I-66 Express Mobility Partners LLC (VA)                        | Revenue maximization.                         | Dynamic tolling, minimum toll of \$0.20/mile.  | HOV 3+ free.  |
| I-77 Mobility Partners   | Revenue maximization.                         | Dynamic after first six months of operations.  | HOV 3+ free.  |
| LBJ Infrastructure Group LLC                                   | Revenue maximization.                         | Dynamic pricing with a soft cap on toll rates of \$0.75 (2009 prices) per mile.  | 50% peak period discount for HOV 2+, discount fully subsidized by TxDOT.  |
| North Tarrant Express Mobility Partners (NY)                   | Revenue maximization.                         | Dynamic pricing with a soft cap on toll rates of \$0.75 (2009 prices) per mile.  | 50% peak period discount for HOV 2+ until 2025, discount fully subsidized by TxDOT. Trucks pay higher toll, based on shape. |
| NTE Mobility Partners Segment 3 LLC (NY)                       | Revenue maximization.                         | Dynamic with soft cap of \$0.75/mile (2010 prices), indexed to inflation.  | HOV 3+ 50% discount, reimbursed by TxDOT to operator. Discount expires in 2025.   |
| Orange County Transportation Authority (CA) (91 Express Lanes) | Blend of throughput and revenue maximization. | Variable/time of day   | 50% discount for HOV 3+ and zero emission in peak from 4 p.m. to 6 p.m. eastbound, HOV 3+ free during off-peak.             |
| Plenary Roads Denver   | Revenue maximization.                         | Variable. Requirement peak-period toll rates are no less than the RTD express bus fare.  | HOV 3+ free converted from HOV 2 in January 2017.   |
| Riverside County Transportation Commission (CA) (I-15)         | Blend of throughput and revenue maximization. | Dynamic pricing.   | HOV 3 at 50% discount.  |
| Riverside County Transportation Commission (CA) (SR-91)        | Blend of throughput and revenue maximization. | Variable/time of day with scheduled rate adjusted quarterly.   | 50% discount for HOV 3+ in peak hours, HOV 3+ free during off-peak.   |
| Texas Department of Transportation (TX) (IH-35E Project)       | Revenue maximization.                         | Dynamic after first six months of operations, with a soft cap of \$0.75/mile, which can be exceeded to manage MLs speeds if they fall below 50mph.   | 50% discount for HOV 2+ in peak through 2018.   |

<sup>a</sup>Revenue maximization, throughput maximization and hybrid. <sup>b</sup>Dynamic and variable. HOV +3 – High occupancy vehicles plus three persons. MLs – Managed lanes. TxDOT – Texas Department of Transportation. HOV 2+ – High occupancy vehicles plus two persons. *Continued on the next page.*  
Source: Issuers.

## Appendix B (Continued)

### Managed Lanes Configuration and Pricing Policies (Continued)

| Facility   | Heavy Vehicles Allowed? | Owner/Equity Sponsors   | Ownership Type | Location (Region)                         | Facility Distance (miles) | MLs Lane Miles Configuration   |
|--|-------------------------|---|----------------|---|---------------------------|--|
| 95 Express Lanes LLC   | No                      | Transurban  | P3             | Washington D.C./ Northern Virginia        | 31.0                      | 75.0 2-3 MLs reversible/ 4 GPLs in each direction.   |
| Blueridge Transportation Group LLC (TX)                        | Yes                     | ACS ID; Shikun & Binui USA; InfraRed; Northleaf; Clal Insurance Group; Star America | P3             | Houston, TX                               | 10.3                      | 41.2 2 MLs/3-4 GPLs in each direction.   |
| Colorado High Performance Transportation Enterprise (CO)       | Yes                     | Colorado High Performance Transportation Enterprise                                 | Governmental   | Denver, CO                                | 11.0                      | 31.1 EB: 1 ML/2GPLs. WB: 1-2MLs/2GPLs.   |
| I-66 Express Mobility Partners LLC (VA)                        | Yes                     | Cintra S.A.; Meridiam; APG; John Laing  | P3             | Washington D.C./ Northern Virginia        | 22.0                      | 88.0 2 MLs/3 GPLs.   |
| I-77 Mobility Partners   | Yes                     | Cintra S.A. and Aberdeen Global Infrastructure II LLP                               | P3             | North Carolina                            | 26.0                      | 94.4 1-2 MLs/2-4 GPLs in each direction.   |
| LBJ Infrastructure Group LLC                                   | Yes                     | Cintra S.A.; Meridiam; and APG  | P3             | Dallas/Ft. Worth, TX                      | 13.3                      | 60.0 2-3 ML/4 GPLs/ 2-3 frontage in each direction.  |
| North Tarrant Express Mobility Partners (NY)                   | Yes                     | Cintra, S.A.; Meridiam; and Dallas Police and Fire Pension System                   | P3             | Dallas/Ft. Worth, TX                      | 13.3                      | 53.2 NTE 1: 2 ML/ 2 GPL/ 2 frontage. NTE 2: 2 ML/3 GPL, 2 frontage in each direction.                    |
| NTE Mobility Partners Segment 3 LLC (NY)                       | Yes                     | Cintra S.A.; Meridiam; and APG  | P3             | Dallas/Ft. Worth, TX                      | 10.2                      | 40.8 2 MLs each direction. 2-4 GPLs depending on segment and location. Two discontinuous frontage lanes. |
| Orange County Transportation Authority (CA) (91 Express Lanes) | No                      | Orange County Transportation Authority  | Governmental   | Orange County, CA<br>Riverside County, CA | 10.0                      | 40.0 2 MLs/5 GPLs in each direction.   |
| Plenary Roads Denver   | Yes                     | Plenary Group (Canada), Ltd. (Plenary Group)  | P3             | Denver, CO                                | 22.7                      | 45.4 1 ML/2 GPLs in each direction on US36. 2 MLs reversible/ 3 GPLs I-25.                               |
| Riverside County Transportation Commission (CA) (I-15)         | No                      | Riverside County Transportation Commission  | Governmental   | Inland Empire, CA                         | 14.5                      | 48.2 1-2 MLs/3 GPLs.   |
| Riverside County Transportation Commission (CA) (SR-91)        | No                      | Riverside County Transportation Commission  | Governmental   | Orange County, CA<br>Riverside County, CA | 8.0                       | 36.3 2 MLs/5 GPLs in each direction.   |
| Texas Department of Transportation (TX) (IH-35E Project)       | Yes                     | Texas Department of Transportation  | Governmental   | Dallas/Ft. Worth, TX                      | 18.0                      | 36.0 2 MLs reversible/ 3-4 GPLs in each direction.   |

MLs – Managed lanes. GPLs – General purpose lanes. P3 – Public private partnership. EB – East bound. WB – West bound.  
Source: Issuers.



## Appendix C

### Selected Financial and Operating Data by Facility

|  | Senior Lien and<br>Springing TIFIA<br>Lien Rating <sup>a</sup> | Outlook           | Average Total<br>Scheduled<br>DSCR <sup>b,c</sup> | FRC:<br>Minimum<br>Mandatory<br>DSCR (x) | Opening<br>Date | FRUY<br>(FY) <sup>e</sup> | FRUY: Total<br>Revenue<br>(\$000; FY) <sup>d</sup> |
|--|--|-------------------|---|--|-----------------|---------------------------|--|
| 95 Express Lanes LLC   | BBB <sup>f</sup>   | Stable            | 2.1   | 1.9                                      | 12/14           | 2025                      | 164,951  |
| BlueRidge Transportation Group LLC (TX)                        | BBB-   | Stable            | 1.4   | 0.2                                      | 2/20            | 2025                      | 30,900   |
| Colorado High Performance Transportation Enterprise (CO)       | BBB  | Negative<br>Watch | 2.5   | 1.3                                      | 8/19            | 2022                      | 13,366   |
| I-66 Express Mobility Partners LLC (VA)                        | BBB  | Stable            | 2.2   | 1.5                                      | 11/22           | 2025                      | 135,700  |
| I-77 Mobility Partners   | BBB-   | Stable            | 1.9   | 1.0                                      | 10/19           | 2023                      | 25,672   |
| LBJ Infrastructure Group LLC                                   | BBB-   | Stable            | 1.4   | 1.1                                      | 9/15            | 2018                      | 124,689  |
| North Tarrant Express Mobility Partners (NY)                   | BBB  | Stable            | 2.7   | 1.9                                      | 10/14           | 2017                      | 91,925   |
| NTE Mobility Partners Segment 3 LLC (NY)                       | BBB-   | Stable            | 1.8   | 1.6                                      | 7/18            | 2021                      | 42,100   |
| Orange County Transportation Authority (CA) (91 Express Lanes) | A+ <sup>g</sup>  | Stable            | 3.6   | 3.0                                      | 12/95           | 1998                      | N.A.   |
| Plenary Roads Denver   | BBB-   | Stable            | 1.5   | 1.1                                      | 3/16            | 2019                      | 17,600   |
| Riverside County Transportation Commission (CA) (I-15)         | BBB- <sup>h</sup>  | Stable            | 1.5   | 1.0                                      | 7/20            | 2023                      | 13,360   |
| Riverside County Transportation Commission (CA) (SR-91)        | BBB  | Stable            | 1.8   | 1.5                                      | 3/17            | 2018                      | 50,447   |
| Texas Department of Transportation (TX) (IH-35E Project)       | BBB  | Stable            | 1.7   | 1.4                                      | 3/17            | 2018                      | 20,689   |

|  | FY 2018<br>Total<br>Revenue<br>(\$000) | FY 2018<br>Tolled<br>Traffic<br>(000) | Average Total<br>Revenue/<br>Transaction (\$) | FY 2018/<br>FRUY Revenue<br>per Lane Mile<br>(\$000) <sup>d</sup> | Total<br>Gross Debt<br>Outstanding <sup>e</sup> | Total Debt<br>per Lane<br>Mile<br>(\$000) <sup>e</sup> |
|--|--|---------------------------------------|---|---|---|--|
| 95 Express Lanes LLC   | 92,411                                 | N.A.                                  | N.A.  | 2,199   | 827,000   | 11,027   |
| BlueRidge Transportation Group LLC (TX)                        | N.A.                                   | N.A.                                  | N.A.  | 750   | 630,000   | 15,291   |
| Colorado High Performance Transportation Enterprise (CO)       | N.A.                                   | N.A.                                  | N.A.  | 430   | 268,800   | 8,643  |
| I-66 Express Mobility Partners LLC (VA)                        | N.A.                                   | N.A.                                  | N.A.  | 1,542   | 1,937,000                                       | 22,011   |
| I-77 Mobility Partners   | N.A.                                   | N.A.                                  | N.A.  | 272   | 289,000   | 3,061  |
| LBJ Infrastructure Group LLC                                   | 124,689                                | 44,110                                | 2.8   | 2,078   | 1,693,485                                       | 28,225   |
| North Tarrant Express Mobility Partners (NY)                   | 115,134                                | 29,536                                | 3.9   | 2,164   | 1,230,268                                       | 23,125   |
| NTE Mobility Partners Segment 3 LLC (NY)                       | 36,804                                 | 18,990                                | 1.9   | 1,032   | 846,030   | 20,736   |
| Orange County Transportation Authority (CA) (91 Express Lanes) | 59,836                                 | 16,719                                | 3.6   | 1,496   | 97,795  | 2,445  |
| Plenary Roads Denver   | 18,587                                 | 16,050                                | 1.2   | 409   | 169,000   | 3,722  |
| Riverside County Transportation Commission (CA) (I-15)         | N.A.                                   | N.A.                                  | N.A.  | 277   | 152,200   | 3,158  |
| Riverside County Transportation Commission (CA) (SR-91)        | 50,447                                 | 14,524                                | 3.5   | 1,389   | 660,900   | 18,197   |
| Texas Department of Transportation (TX) (IH-35E Project)       | 20,689                                 | 23,120                                | 0.9   | 575   | 298,091   | 8,280  |

<sup>a</sup>Includes ratings of TIFIA liens that spring to senior under a bankruptcy event, unless noted otherwise. <sup>b</sup>Excludes outliers. <sup>c</sup>Actual historical year if applicable, otherwise as projected by Fitch under the FRC. <sup>d</sup>2018 historical revenues shown if available; otherwise FRUY as projected by Fitch under the FRC. <sup>e</sup>Includes accruals. <sup>f</sup>Additionally includes deeply subordinated VTIB loan. <sup>g</sup>OCTA does not have a TIFIA loan associated with the SR-91 project. <sup>h</sup>RCTC's I-15 project has a senior TIFIA loan. TIFIA - Transportation Infrastructure Finance and Innovation Act. FRC - Fitch Rating Case. FRUY - First ramped up year. VTIB - Virginia Transportation Infrastructure Bank. OCTA - Orange County Transportation Authority. RCTC - Riverside County Transportation Commission. DSCR - Debt service coverage ratio. N.A. - Not applicable.  
Source: Fitch Ratings, Issuers.

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