Managed Lanes: A Framework for Prudent Pricing

An Analysis of the Risks Posed by Price Caps and Free Access Policies

Special Report

The Concept: Managed lanes (MLs) were conceived to improve traffic throughput and to provide motorists, who are willing to pay a toll, with a reliable and congestion-free travel option in tolled lanes that exist alongside free general purpose lanes (GPLs). MLs deliver on their promise of reliable and efficient travel times by raising tolls when congestion worsens to whatever level is necessary to prevent travel speeds from falling below critical thresholds.

Recognizing the ML Trade-Off: MLs in congested areas can be extremely effective at delivering increased capacity, superior driving time and reliability, and revenue generation. However, these benefits come with a price that is inextricably linked to the free market. The downside is that toll rates may be very high, and the upside is that users have an option. Operators that are unwilling or unable to allow the market to dictate ML pricing should be prepared to forfeit the benefits that MLs were designed to deliver.

Three Essential Pricing Characteristics: Proper ML functioning requires toll rates be market-based (i.e. driven by congestion levels without artificial price constraints), vary with sufficient frequency to maximize user reliability, and minimize the adverse operational and financial impacts from pricing exceptions. These elements must co-exist to balance a fixed supply of roadway capacity with constantly changing driver demand. When one of these elements is missing, the MLs become either under or overutilized, and their promised benefits diminish or disappear entirely.

Politically Motivated Rate Policies: Anti-tolling sentiment can lead elected officials to enact permissive free access policies or hard toll rate caps in an effort to keep toll rates artificially low. Although politically attractive on their surface, such policies are antithetical to the congestion pricing mechanisms vital for the proper functioning of MLs, and their superficial benefits are more than offset by impairment to the benefits MLs were designed to deliver to direct users and the corridor as a whole.

Suboptimal Rate Policies Commonplace: The use of hard toll rate caps and permissive free-use policies is not uncommon. However, many state and local operators are beginning to understand the negative repercussions of these policies. As a result, some lifted or eliminated toll rate caps and are tightening free passage to high-occupancy vehicles with two or more passengers (HOV2+) and low emissions vehicles (LEVs) as a way of managing increasing congestion, and others are also considering doing so. A lesson learned is that placing a cap or providing free access is a lot easier than reversing that decision later.

Ride-Sharing a Growing Risk: Fitch views HOV2+ free policies as a critical credit negative in most markets as the prevalence of such carpools, particularly during peak hours, crowds out toll-paying vehicles needed to make MLs financially viable. Although HOV3+ usage is substantially lower, advancements in ride-sharing and autonomous vehicle technologies may significantly increase the prevalence of larger carpools over time, which could ultimately make HOV3+ free policies also problematic.

Related Research

Toll Roads — 10 Years in Infrastructure (June 2018)

Peer Review of U.S. Managed Lanes (Attribute, Assessments and Ratings) (April 2018)

U.S. Managed Lanes — 2018 Sector Briefing (March 2018)

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HOV Lanes Experience Persistent Utilization Issues

HOV3+ lanes are almost always underutilized because there is rarely a sufficient quantity of HOV3+ users to fill the lanes to their designed capacity, even during peak hours.

HOV2+ lanes, on the other hand, can fill to overcapacity during peak periods in regions where carpooling is prevalent, and then fall to undercapacity during shoulder or off-peak periods.

As shown in the chart on the right, rising traffic density leads to increased traffic throughput until an inflection point is reached when congestion causes throughput to fall. As a result, both lane underutilization (see Point A in chart) and overutilization (Point C) lead to traffic throughput impairment. Using a properly designed pricing mechanism, MLs can maintain the optimal density of vehicles (Point B) to optimize and maintain throughput and/or revenues under a variety of demand conditions.

Related Criteria

Rating Criteria for Infrastructure and Project Finance (July 2018)

Toll Roads, Bridges and Tunnels Rating Criteria (July 2018)

History of Managed Lanes

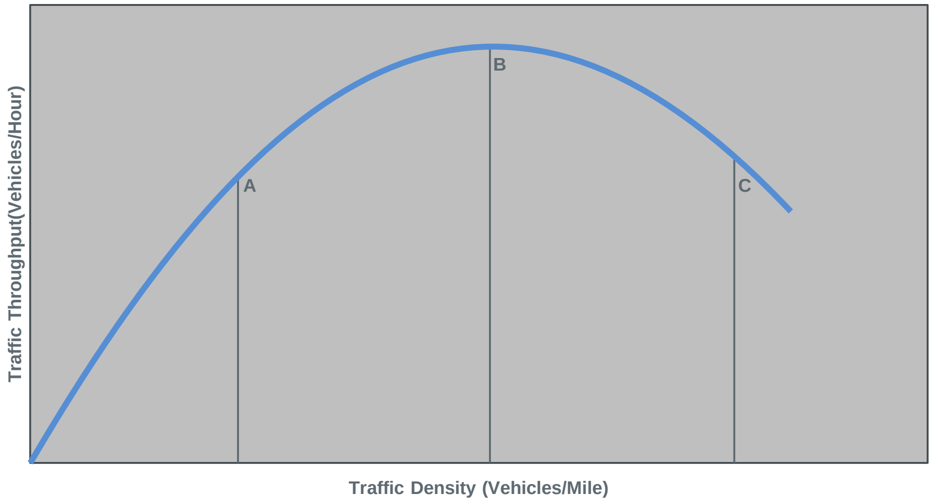
MLs exist alongside free GPLs and were conceived to provide motorists willing to pay a toll with a reliable and congestion-free travel option while alleviating congestion levels in the GPLs. Typically special classes of vehicles, such as buses and HOVs, travel on the MLs at a free or reduced price. MLs can deliver on their promise of maintaining free flowing speeds by means of raising tolls when congestion worsens to whatever level is necessary to prevent travel speeds from falling below specific thresholds.

The ML concept was in part a response to the shortcomings of HOV lanes. Although HOV lanes encourage the formation of carpools and can increase corridor throughput, they tend to operate in a perpetual state of over or undercapacity as noted in the panel on the left. MLs solve the capacity utilization problem through a two-step process.

First, any free-use policy must be sufficiently restrictive to ensure a significant level of capacity over and above what is used by vehicles that are granted free passage. For instance, if the ML is a conversion of an existing HOV lane then the operator may need to change its free HOV2+ policy to free HOV3+. Failure to do so could result in a situation where HOV vehicles completely crowd out toll-paying vehicles and the MLs cease to function as they are no longer able to control traffic with the tolling mechanism.

Second, the excess capacity is sold to single occupant vehicles (SOVs) via a market-based tolling mechanism with the aim of balancing fluctuating motorist demand with a fixed supply of roadway at levels that maximize throughput, revenues or both. In practice, this means that toll rates must rise when the MLs are overutilized and vice versa.

Managed Lanes Boost Traffic Throughput



A) Lane is operating under capacity. Throughput is reduced. Some vehicles in the congested general purpose lanes could be moved to this lane to enhance overall corridor throughput.

B) Lane is operating at maximum throughput capacity and should be maintained at this level.

C) Lane is operating over capacity. At this point throughput is reduced, congestion is present, and trip times and reliability are impaired.

Source: Fitch.

When MLs are properly executed they provide a number of benefits both to their users and to the corridor as a whole. These include:

- Improved Corridor Throughput: MLs can optimize usage of existing roadway capacity thus increasing total corridor throughput. For example, studies have shown that California's Orange County Transportation Authority's (SR-91 revenue bonds rated A/Positive Outlook) express lanes carry twice as many vehicles per lane as GPLs during peak periods. MLs can carry more traffic because during peak hours the GPLs are congested with low travel speeds while the MLs prevent high levels of congestion through their pricing mechanism, thus maintaining free flow speeds.
- Revenue Generation: Revenue generated by MLs in highly congested areas can enhance corridor capacity and be self-supporting, including paying for roadway maintenance and possibly other capital projects. Because MLs, like other user-fee based assets, have a dedicated revenue source, they may be less susceptible to deferred maintenance.
- Enhanced Travel Time and Reliability: Those willing to pay for MLs benefit from reduced travel times and greater reliability.
- Motorist Choice: Because MLs exist alongside GPLs, motorists are given the choice to use slower-moving GPLs for free or pay for a faster and more reliable travel experience, especially during occasional situations when their time is highly valued.
- Improved Public Transit: MLs can provide buses a fast and reliable path that enhances the experience for existing users and may entice new ones.
- Environmental Benefits: MLs enhance vehicular throughput, thus getting cars off the road faster and reducing carbon emissions.

Three Essential Pricing Characteristics and Why They Are Violated

Although MLs provide a litany of benefits, they cannot be fully realized without a properly designed tolling mechanism. Fitch believes tolls must be market-based, responsive to traffic conditions and applicable to most vehicles if they are to work. Market-based tolls reflect the intersection of actual roadway supply and motorist demand, subject to performance standards typically linked to measures of congestion, without artificial caps or floors. Rates that are responsive to traffic conditions are updated with sufficient frequency to respond to changes in demand, which for a majority of facilities means utilizing a variable or dynamic tolling algorithm with the ability to track traffic speeds and congestion as it occurs in both MLs and GPLs (see *Appendix A* for more information on dynamic and variable pricing).

Finally, if the operator is going to allow for free or reduced price vehicles to use the MLs, the policy must be sufficiently restrictive to ensure substantial roadway capacity is available for toll-paying vehicles over and above the capacity used by vehicles granted free passage.

Elected officials put themselves between a rock and a hard place when, in response to political pressure, they choose to mollify the public with unworkable policies that violate these principles, such as hard toll rate caps and free HOV2+ policies. When market-based pricing is restricted by policies that run counter to the very idea of an ML, the benefit from the lanes begins to dissipate rather quickly, particularly when peak-hour capacity is reached.

As a consequence of hard toll rate caps, revenue-generating capacity becomes impaired, traffic throughput falls, and the promise of reliable, efficient travel times evaporates. Permissive free-access policies, such as free HOV2+, serve to crowd out toll-paying motorists, which are needed to make the ML feasible in the first place. Toll rates that don't change with sufficient frequency become divorced from market rates and result in suboptimal capacity utilization with lower throughput levels.

The Three Essential Characteristics of ML Pricing

	Market-Based	Responsive	Limited Exceptions
What Does the Characteristic Mean?	Toll rates must be set by market forces, not political dictate, to effectively manage congestion.	Toll rates must change with sufficient frequency to balance shifting motorist demand conditions.	Tolls must apply to most vehicles that pass through the MLs. If some vehicles are granted free passage, they must be limited, thus providing ample capacity for toll-paying motorists.
How Is the Characteristic Most Frequently Violated?	Hard toll rate caps and floors.	Egregious violations are rare; some public agencies wait months between rate schedule changes, which is not ideal.	Free access for HOV2+ and LEVs.
What Happens if the Characteristic Is Violated?	Toll rate caps lower pricing to below the market rate causing over-capacity with toll-paying vehicles. Toll rate floors raise prices above market rates, resulting in demand below designed capacity.	Toll rates that are not changed at frequent intervals become stale, and, over time, may deviate from market rates, resulting in periods of over or undercapacity with toll-paying vehicles.	Overly permissive free access policies can fill MLs to beyond their capacity with toll-free vehicles, especially during peak hours, thus crowding out all toll-paying SOVs.
What Is the Most Effective Rate-Setting Policy?	Toll rates should reflect actual supply and demand characteristics via an automated algorithm that bypasses political decision-making and approval processes.	Real-time dynamic tolling and for a subset of facilities with highly predictable traffic patterns, variable pricing.	Elimination of any toll-free or reduced price policies. This may be politically impractical, in which case free HOV3+ is significantly more sustainable than HOV2+.

ML – Managed lane. HOV – High-occupancy vehicle. LEV – Low -emission vehicle. SOV – Single occupancy vehicle.
Source: Fitch.

In a nod to these dynamics, policymakers in California, Florida, Georgia, Utah and Washington are considering or already raised or eliminated their toll rate caps. ML operators in Southern California are reevaluating their vehicle exemption policies with a conversion to a more restrictive HOV3+ free-access policy from HOV2+ and switching to modest discounts for LEVs instead of free passage. California recently passed legislation that phases out special status for previously purchased LEVs and imposes a four-year sunset provision on all LEVs purchased after Jan. 1, 2019. Fitch views these moves as prudent and necessary as LEVs become increasingly common, given the already-high share of HOV2+ vehicles in the state's urban centers.

However, examples abound of facilities that employ suboptimal free access and toll rate policies. In Northern Virginia, the I-66 Inside the Beltway MLs have an HOV2+ free-access policy. The extremely high rate of HOV2+ users, reaching north of 60% at peak levels, is crowding out toll-paying motorists and led to toll rates that hit a high of $47.50. Rather than tighten the facility's HOV policy, the state had considered lowering the MLs' minimum travel speed thresholds. The facility's toll policy is scheduled to shift to HOV3+ when connecting MLs (I-66 Express Mobility Partners [Outside the Beltway], 'BBB'/Stable Outlook) open, which is scheduled for late 2022, and could lead to additional political pressures.

Where tolls are exorbitantly high, it is more a reflection of a desperate need for capacity expansion versus a need to cap toll rates. In severe congestion, instituting caps can backfire by shifting traffic from the GPLs to the MLs, causing ML speeds to drop below critical thresholds that can significantly lower traffic throughput. Revenue-maximizing toll rates also lead to suboptimal throughput, and Fitch views toll policies and concession arrangements that focus on throughout maximization as best aligned with the original objective of MLs to improve the broader travel experience (see *Appendix B* for more information on revenue and throughput maximization policies).

In some cases, facilities have permissive HOV2+ policies with toll shut-off mechanisms, such as California's I-110 in Los Angeles, which clocked 352 hours of HOV-only status in 2017. When those facilities become too crowded, typically during peak congestion hours, the pricing mechanism is disabled entirely and the ML is converted to HOV-only mode, which neither generates revenues nor promises a reliable or efficient travel experience.

Consequences of Weak Rate Policies

Type of Pricing Policy	Toll Rate Cap	Toll Rate Floor	Infrequent Rate Adjustments During High Congestion Periods	Infrequent Rate Adjustments During Low Congestion Periods	HOV2+ Free
ML Capacity Conditions	Over Capacity with Toll-Paying Vehicles	Under Capacity	Over Capacity with Toll-Paying Vehicles	Under Capacity	Over Capacity with Toll-Free Vehicles
Congestion Appears on MLs	X		X		X
Vehicle Throughput Reduced	X	X	X	X	X
Travel Speeds Reduced	X		X		X
Reliability Impaired	X		X		X
Revenues Reduced	X	X	X	X	
Revenues Severely Impaired/Eliminated					X

MLs – Managed lanes. HOV – High-occupancy vehicle.
Source: Fitch.

It is useful to note that none of the MLs rated by Fitch are exposed to risks associated with HOV2+ toll exemption, however, many do have exposure to free or discounted HOV3+ policies. These projects need to generate sufficient revenue to repay debt as well as cover O&M costs, making economic viability an important question. Currently, the risk of HOV3+ penetration is lower and manageable compared with HOV2+, but with the advancement of ride-sharing technology, the risks grow, and it may just be a matter of time before HOV3+ policies will prove problematic from both a revenue-generation and traffic-throughput standpoint, particularly in areas with rising congestion levels.

While it was constructive for states to incentivize ride-sharing to maximize the capacity of highways by providing free-HOV lane capacity years ago, in the age of MLs, the same policy is financially counter-productive. Shifting away from HOV-free policies will be politically difficult, yet carpooling incentives will not disappear as the shared cost of the toll is easily outweighed by the benefits of ride-sharing from avoided wear and tear, gasoline usage and stress. Eliminating free HOV policies will also reduce lost revenues and enforcement costs related to violators. For instance, officials in Los Angeles found that 25%–30% of morning drivers on its I-110 express lanes were declaring themselves as HOV2+ by means of widely-used switchable transponders when in fact they were SOVs.

Appendix A: Dynamic and Variable Pricing

Dynamic pricing mechanisms adjust toll rates in response to real-time traffic conditions, sometimes minute by minute. By comparison, variable pricing mechanisms typically have a fixed schedule of tolls that vary by day of week and time of day. Variable toll schedules may only be updated a few times per year.

Because variable pricing models use fixed toll rate schedules, when actual traffic patterns deviate from predicted traffic, toll rates may be fixed in positions that are too high or low, thus resulting in lower traffic throughput and revenue generation. However, variable tolling provides motorists with a degree of toll predictability that could encourage some otherwise reluctant motorists to use the MLs, thus mitigating periods where toll rates are out of sync with actual traffic conditions. Variable pricing is best suited to corridors where traffic patterns tend to be highly predictable such that analysis of historical traffic patterns can predict future conditions with a good degree of reliability. With variable pricing policies Fitch would positively view the ability to deviate from fixed toll schedules under unusually severe congestion conditions to ensure that toll-paying motorists can count on a certain level of lane performance.

Dynamic pricing enhances toll rates to fit almost any traffic condition as it occurs, thus throughput and revenues are constantly being optimized. However, the lack of pricing predictability could discourage some users who otherwise would have used the MLs. Compared with variable pricing, dynamic pricing is well-suited for corridors that have traffic levels that are more erratic and challenging to predict.

While many operators temporarily use variable pricing structures to acclimate motorists to new MLs, the majority use dynamic pricing. The handful of facilities that use variable pricing, including the SR-91 express lanes operated by Orange County Transportation Authority and Riverside County Transportation Commission in California, tend to be publicly operated and may be more attuned to the overall user experience than revenue or throughput maximization in isolation.

Appendix B: Should MLs Maximize Revenues or Throughput?

Most ML price policies are designed to either maximize revenues or traffic throughput. Although revenue maximization is the most financially advantageous policy, throughput maximization benefits the greatest number of stakeholders. In practice private concessionaires tend to choose revenue-maximizing policies when allowed per the concession agreement whereas public owners are more apt to choose throughput maximization or a blend of the two approaches.

From an operational perspective, throughput maximization results in lower toll rates, higher ML capacity utilization and lower overall corridor congestion with higher traffic throughput. From a financial perspective, throughput maximization generally results in a revenue decline that is mitigated by the existence of a cushion to raise rates if needed. The level of cushion is unclear and varies from facility to facility. Revenue-maximizing policies, by definition, have no rate-based revenue-raising capability above and beyond the rate already being charged. At high congestion levels, there is generally not a substantial revenue variation between the two methodologies and thus neither methodology is precluded from a stronger price risk assessment.

Nonetheless, Fitch views the broad-based benefits of a throughput maximizing policy as most consistent with the founding objectives of MLs to improve the broader travel experience. Because the benefits are distributed widely, facilities that maximize throughput may be less likely to encounter political resistance.

Appendix C: Managed Lanes Ratings and Attributes

Project	Senior Lien Rating	Subordinate Lien Rating	Outlook	Completion Risk	Revenue Risk: Volume	Revenue Risk: Price	Infrastructure Development/Renewal	Debt Structure
95 Express Lanes LLC (I-95/I-395 Express Lanes Project, VA)	BBB	BBB	Stable	N.A.	Midrange	Stronger	Stronger	Midrange[a]/Weaker[b]
BlueRidge Transportation Group (SH-288 MLs, TX)	BBB–	BBB–	Stable	Midrange	Midrange	Midrange	Stronger	Midrange
Colorado High Performance Transportation Enterprise (HPTE, C-470 Express Lanes Project, CO)	BBB	BBB	Stable	Midrange	Midrange	Midrange	Stronger	Midrange
I-66 Express Mobility Partners LLC (VA)	BBB	BBB	Stable	Midrange	Midrange	Stronger	Stronger	Midrange
I-77 Mobility Partners LLC (NC)	BBB–	BBB–	Stable	Midrange	Weaker	Midrange	Stronger	Midrange
LBJ Infrastructure Group LLC (TX)	BBB–	BBB–	Stable	N.A.	Midrange	Midrange	Stronger	Midrange
North Tarrant Express Mobility Partners (NTE 1 & 2,TX)	BBB–	BBB–	Stable	N.A.	Midrange	Midrange	Stronger	Midrange
North Tarrant Expressway (Segments 3 A & B,TX)	BBB–	BBB–	Stable	Midrange	Midrange	Midrange	Midrange	Midrange
Orange County Transportation Authority (SR-91, CA)	A+	N.A.	Stable	N.A.	Midrange	Stronger	Stronger	Stronger
Plenary Roads Denver, LLC (US 36 MLs Phases I & 2 and I-25 Managed Lanes, CO)	BBB–	BBB–	Stable	N.A.	Weaker	Midrange	Stronger	Midrange
Riverside County Transportation Commission (I-15, CA)	BBB–[c]	N.A.	Stable	Midrange	Weaker	Stronger	Stronger	Stronger
Riverside County Transportation Commission (SR-91, CA)	BBB–	BBB–	Stable	N.A.	Midrange	Stronger	Stronger	Midrange
Texas Department of Transportation (IH-35 Managed Lanes, TX)	N.A.	BBB	Stable	N.A.	Midrange	Midrange	Stronger	Midrange

[a]Midrange debt assessment for senior private activity bonds and subordinate Transportation Infrastructure Finance and Innovation Act (TIFIA) loan. [b]Weaker debt assessment for junior Virginia Transportation Infrastructure Bank (VTIB) debt only. [c]Senior TIFIA loan rating. N.A. – Not applicable.
Source: Fitch.

Appendix D: Operating Managed Lane Facilities

(As of April 11, 2018)

	Orange County Transp. Authority (SR 91, CA)	95 Express Lanes LLC (VA)	North Tarrant Express Mobility Partners (Segments 1 and 2, TX)	LBJ Infrastructure Group LLC (TX)	Plenary Roads Denver, LLC (US 36 MLs Phases I & 2 and I-25 Managed Lanes, CO)	Riverside County Transp. Commission (SR 91, CA)	Texas Department of Transportation (IH-35E Managed Lanes, TX)
Owner/Operator	Orange County Transportation Authority (OCTA)	Transurban	Cintra/Meridiam/ Dallas Police and Fire Pension System	Cintra/Meridiam/ APG/Dallas Police and Fire Pension System	Plenary Group (Canada), Ltd. (Plenary Group)	Riverside County Transportation Commission (RCTC)	Texas Department of Transportation
Opening Date	December 1995	I-95: December 2014	October 2014	September 2015	March 2016	March 2017	May 2017
Configuration	2 ML/5 GPL in Each Direction	2–3 ML (Reversible)/ 4 GPL in Each Direction	NTE 1: 2 ML/2 GPL 2 Frontage NTE 2: 2 ML/3 GPL, 2 Frontage in Each Direction	2–3 ML/4 GPL/2–3 Frontage in Each Direction	1ML/2GPL in Each Direction on US36. 2ML (Reversible)/ 3GPL I-25	2 ML/5 GPL in Each Direction	2 MLs (Reversible)/ 3–4 GPLs in Each Direction
Length (Miles)	10	28	13.3	13.3	US 36 Phase 1:10; US 36 Phase 2: 5 I-25: 7.7	8 on SR 91; 2 on I-15	18
Lane Miles (Miles)	40	70	53.2	60	45.4	32	36
Access	Single	Multiple	Multiple but Pay by Segment	Multiple but Pay by Segment	Multiple	Single	Multiple
Pricing	Variable Time of Day	Dynamic	Dynamic Pricing with a Soft Cap on Toll Rates of $0.75 (2009 $) Per Mile	Dynamic Pricing with a Soft Cap on Toll Rates of $0.75 (2009 $) Per Mile	Variable. Requirement that Peak-Period Toll Rates Are No Less than the RTD Express Bus Fare	Variable Time of Day	Dynamic Pricing with a Soft Cap on Toll Rates of $0.75 (2012 $) per Mile
Policy	50% Discount for HOV 3+ (and Zero Emission) in Peak, HOV 3+ Free During Off-Peak	HOV 3+ Free	50% Peak Period Discount for HOV2+ until 2025, Discount is Fully Subsidized by TxDOT; Trucks Pay Higher Toll, Based on Shape	50% Peak Period Discount for HOV2+ until 2025 , Discount is Fully Subsidized by TxDOT; Trucks Pay Higher Toll, Based on Shape	HOV 3+ free (Converted from HOV2 in Jan. 2017)	50% Discount for HOV 3+ in Peak Hours, HOV 3+ Free During Off-Peak	50% Discount for HOV 2+ in Peak Until 2018
Total Debt Outstanding (Excl. Accruals) ($ Mil.)	103.6	841.0[a]	1,050.0	1,615	141.6	598.0	285.0
2017 Total Revenues (Estimated) ($ Mil.)	57.8 (Fiscal 2017)	89	92	100	14	10[c]	8.7[d]
FRC FRUY Total Revenues ($ Mil.)	N.A.	115.0 (2021)[b]	92 (2017)	92 (2018)	17.6 (2019)	29.5(2021)	14.8 (2021)

[a]Total debt outstanding includes senior and subordinate debt for the I-395 extension. [b]FRC FRUY total revenues for 95 Express includes full ramp up for combined system on fiscal-year basis. [c]Based on partial fiscal year ending June 30. [d]Revenues reflect first half of fiscal 2018 only, from June 1 to Nov. 30 of 2017. FRC – Fitch's rating case. FRUY – Fully ramped up year (listed in parentheses). ML – Managed lane. GPL – General purpose lane. HOV – High-occupancy vehicle. N.A. – Not applicable. TxDOT – Texas Department of Transportation. RTD – Regional transportation district. Note: Orange County Transportation Authority's 2017 revenue figures are reported on fiscal-year basis, ending June 30. Unless otherwise noted, total revenues for other projects are presented on calendar-year basis.
Source: Obligors, Fitch.

Appendix E: Managed Lane Facilities Under Construction

As of April 11, 2018)

	I-77 Mobility Partners LLC (NC)	BlueRidge Transportation Group (SH-288 Managed Lanes, TX)	High Performance Transportation Enterprise (HPTE, C-470 Express Lanes Project, CO)	I-66 Express Mobility Partners LLC (VA)	Riverside County Transportation Commission (I-15, CA)	North Tarrant Expressway (Segments 3 A & B; TX)[a]
Owner/Operator	Cintra Infraestructuras, S.A. and Aberdeen Global Infrastructure II LLP	ACS ID, Shikun & Binui USA, InfraRed, Northleaf, Clal Insurance Group, Star America	Colorado High Performance Transportation Enterprise	Cintra, Meridiam, APG, John Laing	Riverside County Transportation Commission (RCTC)	North Tarrant Mobility Partners Segment 3 LLC (NY)
Opening Date	December 2018	December 2019	July 2019	November 2022	July 2020	September 2018 (3A). Segment 3B in Operation Since Late July 2017.
Configuration	1–2 ML/2–4 GPL in Each Direction	2 ML/3–4 GPL in Each Direction	EB: 1 ML/2 GPL; WB: 2 ML/2 GPL	2 MLs/3 GPLs	1 or 2 MLs/3 GPLs	2 MLs each direction/ 2–4 GPLs Depending on Segment and Location/ 2 Discontinuous Frontage Lanes
Length (Miles)	26	10.3	11	22	14.5	10.2
Lane Miles (Miles)	94.4	41.2	31.1	88	29	40
Access	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple
Pricing	Dynamic After First Six Months of Operations	Fixed Time of Day Schedule Up to Soft Toll Cap of $0.75 (2012 $) per Mile ($1.50 per Mile on Direct Connectors)	Variable Time of Day	Dynamic Tolling	Hybrid: Variable Time of Day and Dynamic	Initially Fixed Price for 180 Days, Fully Dynamic Thereafter with Soft Cap of $0.75/mile ($2010 Prices), Indexed to Inflation
Policy	HOV3+ free	No HOV Discount or Exemption from Tolls	No HOV Discount or Exemption from Tolls	HOV3+ Free	HOV3+ at 50% Discount	HOV2+ 50% Discount During Peak Hours, Reimbursed by TxDOT to Operator. Discount Expires in 2025.
Total Debt Outstanding (Excl. Accruals)	$289 Mil.	$630 Mil.	$269 Mil.	$1.9 Bil.	$152 Mil.	$805 Mil.
FRC FRUY Total Revenues ($ Mil.)	24.9 (2023)	30.9 (2025)	13.4(2022)	135.8 (2025)	13.4 (2023)	46.8 (2021)

[a]Only segment 3A is still under construction. Segment 3B was completed in July 2017. FRC – Fitch's rating case. FRUY – Fully ramped up year (listed in parentheses). ML – Managed lane. GPL – General purpose lane. HOV – High-occupancy vehicle. EB – East bound. WB – West bound. Note: Total revenues are presented on fiscal year basis for each facility.
Source: Obligors, Fitch.