MOODY'S INVESTORS SERVICE

CREDIT OPINION
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New Issue

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North Texas Tollway Authority TX

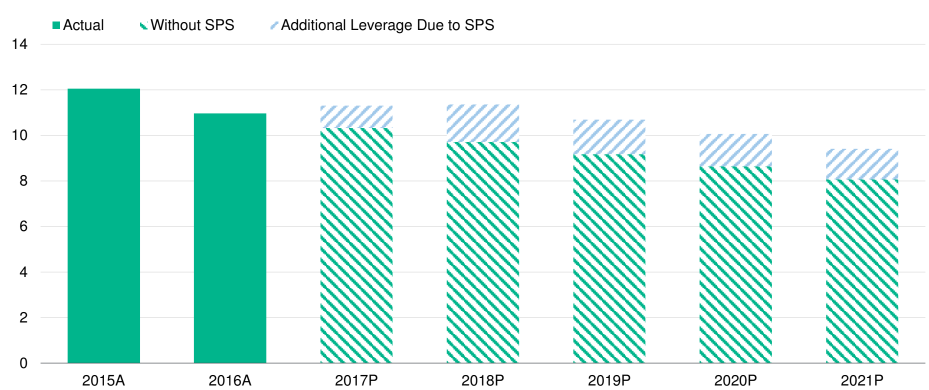
New Issue: Moody's assigns A1 to North Texas Tollway Authority first tier bonds; outlook is stable

Summary Rating Rationale

Moody's Investors Service has assigned A1 to the approximately $1.793 billion North Texas Tollway Authority (NTTA) System Revenue and Refunding Bonds First Tier Bonds, Series 2017A and A2 to the approximately $776.6 million Second Tier Bonds, Series 2017B. Concurrently, Moody's affirmed the A1 rating of the approximately $6.2 billion outstanding first tier bonds, A2 rating of the approximately $1.0 billion of outstanding second tier bonds, and the Baa2 of the $400 million outstanding subordinate lien revenue bonds. The series 2017 bonds are being issued to refund portions of the NTTA's first lien debt and retire the NTTA's Special Project System (SPS) bonds. The outlook is stable.

The ratings are based on NTTA's essential roadway network located in one of the fastest growing US service area that will produce strong revenue growth from continued traffic growth and automatic biennial toll increases. Debt service coverage ratios over the next five years will be consistent with its A1 rated peers, however leverage will remain elevated over the period. NTTA's ability to fund its five-year growth needs without additional debt and minimal reduction in liquidity additionally supports the rating. The affirmation of the ratings at a time of increased debt on the NTTA system is driven by the projected DSCR and leverage metrics that are consistent with levels Moody's considered at the time of the upgrade to A1. Revenue projections provided by NTTA are based on reasonable assumptions and should be achievable given outperformance of forecasts made since 2012.

Exhibit 1
Addition of SPS debt increases leverage modestly, but keeps levels with recent experience
Debt to operating revenue



Source: Moody's Investors Service

The A2 rating on the second tier obligations reflect payment of debt service made after first tier debt and a relatively weaker debt service reserve fund that is cash funded at half of average annual debt service requirements. The Baa2 rating of the subordinate bonds reflects the lack of a revenue pledge on the bonds that are paid from amounts on deposit in the capital fund. The capital fund will have sufficient capacity to make payments given revenue forecasts and capital needs.

Credit Strengths

» Population and employment growth is among the strongest in the nation and continues to generate traffic and revenue growth

» Traffic for FY2016 grew 3.9% compared to the previous year, while toll revenue increased 7.7% due to the biennial toll increase.

» Most facilities were completed within the last 20 years and assets are in good condition. Construction risk for system expansions is minimal and should not impact traffic performance beyond the current year

» Strong tolling policy establishes a set 2.75% annual rate increases every two years

» Post-recession revenues have consistently outperformed forecasts

» Annual engineering report states that system is in good condition with maintenance fully covered by annual deposits to Operating and Maintenance (O&M) and Reserve Maintenance funds (RMF)

Credit Challenges

» Annual debt service requirements escalate through 2024, however peak debt service is reduced by the current sale

» Authority's collection rate (41% in FY2016) on non-toll tag transactions remains well below previous targets (49% target by FY2017) and total leakage is among the highest in the rated portfolio

» Expanding service area could pressure NTTA to assume additional capital improvements, though the authority has opted out of several TxDOT projects and would likely initially fund projects only through a separate stand-alone system

» The bond indenture flow of funds is open and allows for transfers to support non-system projects after all operating and debt service obligations of the authority have been satisfied

» Second tier bonds have half the standard 12-month DSRF and subordinate lien bonds lack a DSRF

Rating Outlook

The stable outlook is based on Moody's expectation that sustained economic growth in the service area will support revenue projections and keeps total DSCR generally within the range of 1.45x and 1.55x through 2024, when annual debt service requirements level off. The stable outlook also reflects our expectation that the authority will be able to manage capital needs without issuing new debt or drawing liquidity balances below 600 days cash on hand.

Factors that Could Lead to an Upgrade

» Sustained and projected DSCR of first and second tier bonds above 2.0x

» Leverage, as measured by debt to operating revenue, below the 8.5x

Factors that Could Lead to a Downgrade

» Additional debt issuances or revenue declines that lead to sustained DSCR of first and second tier bonds below 1.3x

» Lower than expected video toll enforcement and collections

» Failure to implement planned toll increases necessary to produce projected debt service coverage levels

Key Indicators

Exhibit 2

NORTH TEXAS TOLLWAY AUTHORITY, TX	2012	2013	2014	2015	2016
Total Transactions Annual Growth (%)	13.9	4.3	5.5	5.1	3.9
Debt Outstanding ($'000)	7,556,400	7,588,629	7,648,188	7,840,320	7,767,128
Debt to Operating Revenues (x)	14.9	13.9	12.6	12.1	11.0
Days Cash on Hand ('000)	750	910	684	677	812
Senior Lien Debt Service Coverage By Net Revenues (x)	1.56	1.48	1.64	1.64	1.75
Total Debt Service Coverage By Net Revenues (x)	1.21	1.13	1.23	1.26	1.36

Source: Moody's Investors Service

Use of Proceeds

The Series 2017A and 2017B bonds will be used to refund existing NTTA system bonds Series 2005C, 2008A, 2008B and 2010, retire all of the SPS's outstanding bonds and TIFIA loan, fund debt service reserves, and pay issuance costs.

Recent Developments

Traffic growth for the NTTA system has been impaired by construction on the Dallas North Tollway, which in some cases has required complete closures for full weekends. Transactions are up 0.9% for the trailing twelve months ended June 2017, while revenue was down 0.4% over the same period. SPS transactions were up 8.7% and revenue up 11.0% during the same period.

Detailed Rating Considerations

Revenue Generating Base

With this sale, the revenue generating base of the NTTA system expands to add two facilities that were previously separately financed under the SPS, the President George Bush Turnpike Western Extension near Grand Prairie and the Chisholm Trail Parkway in Fort Worth. While these facilities represent a small portion of the combined system's revenue, they each are seeing greater growth than the legacy NTTA system facilities and will be revenue accretive.

The NTTA's primary legacy facilities, the Dallas North Tollway (DNT), President George Bush Tollway (PGBT), and Sam Rayburn Tollway (SRT), serve the fastest growing areas of the Dallas-Fort Worth “metroplex” and will remain at least 75% of revenue throughout the traffic consultant's forecast. Frisco, TX, the second fastest growing city in the US according the census bureau, provides one of the primary sources of employment and entertainment facility growth in the region. JP Morgan Chase & Co. (6,000 employees), Liberty Mutual (5,000 employees) and Toyota North America (4,000 employees) are all in the process of moving substantial operations to developments near the intersection of the DNT and SRT. Additionally, the Dallas Cowboys have created an entertainment district on the DNT just north of the SRT adjacent to Major League Soccer and minor league baseball facilities.

The DNT, which connects to downtown Dallas, is well positioned to capture growth from these new developments as many new arrivals to the area look to live in the more urbanized areas in the northern portions of the city. However, the facility is functionally constrained from expanding in its lower reaches within the city of Dallas. McKinney TX (5.9% population growth in 2016) is third fastest growing city in the US according to the census bureau and is served by the SRT. Moody's Analytics expects the Dallas-Plano-Irving area, which includes the three primary NTTA facilities, to have above average population growth to support above average economic growth, which will in turn support increased demand for the toll roads.

NTTA is a cashless tolling system and derives approximately 70% of revenues through electronic toll collection (ETC). NTTA continues to expand “interoperability” with other regional systems, including all other operators in Texas, Oklahoma, and Kansas. NTTA collects the remainder of revenues through AVI and ZipCash tolling, which are both post-mailed billing options. Leakage of revenues occurs from two key areas, inability to send an invoice and failure to collect on the invoice. While NTTA has increased its ability to identify users for invoices to 73% in FY2016 from 62% in FY2013, the portion of invoices that are collected remains below NTTA expectations. In FY2016, NTTA collected only 41% of revenue from invoices, well below the roughly 49% that NTTA expected by FY2017. Despite the underperformance, total revenue leakage has been stable around 20% for the last five years, and may be trending downward based on the 19% leakage experience in FY2016.

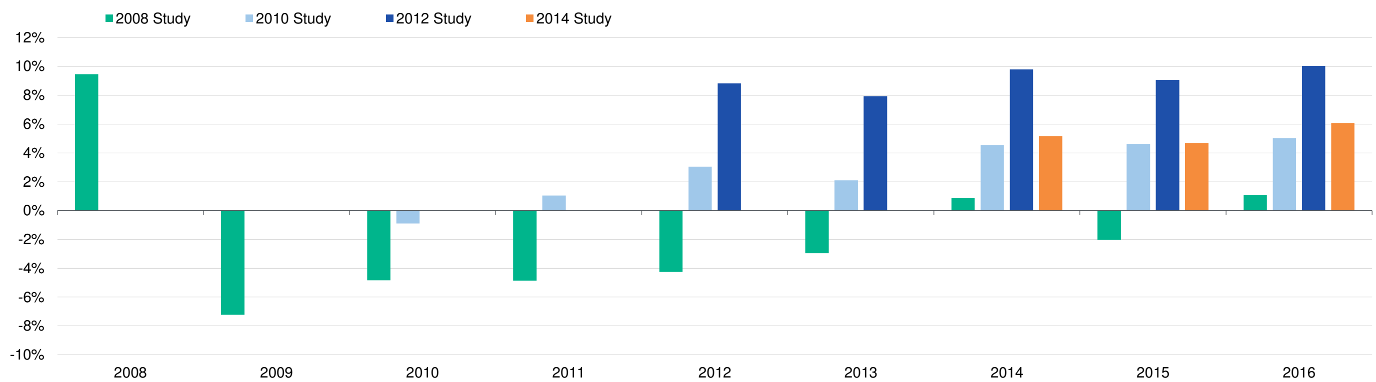
NTTA's toll-setting policy is strong. Rate hikes of 2.75% are implemented automatically every two years and the board would have to take a proactive measure to alter the schedule.

Operational and Financial Performance

Driven by large population and economic advances, and supported by lower gas prices, revenue performance on the legacy NTTA system has outperformed consultant's forecasts consistently since 2010. Exhibit 3 shows the percentage by which actual revenues have exceeded the forecasts completed since 2008. The ability to perform at pre-recession forecast is rare in our experience and distinguishes NTTA from many of its peers.

Exhibit 3

Revenues have well surpassed projections made after the recession

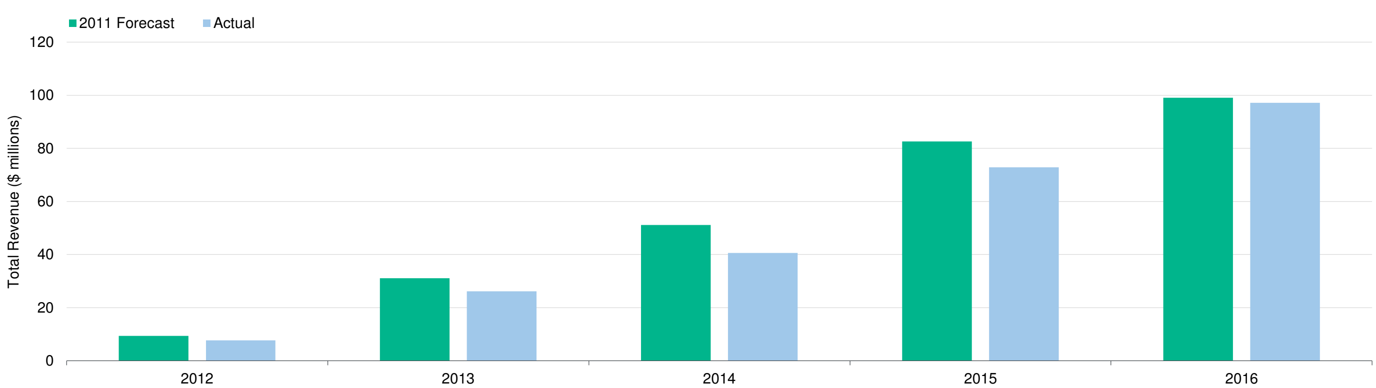


Source: NTTA Official Statements from 2008, 2010, 2012, and 2014

The SPS projects have not experienced the same level of outperformance as the NTTA system. Revenues have trailed the projections made in 2011, though revenue approached forecast levels in 2016 as seen in Exhibit 4. Toll revenues are expected to increase by about 5% through 2023. Based on the recent performance against projections, we think the consultant's forecast of revenue over the next five years provides a reasonable and achievable base case.

Exhibit 4

SPS revenues caught up to projections in 2016 after trailing during ramp-up



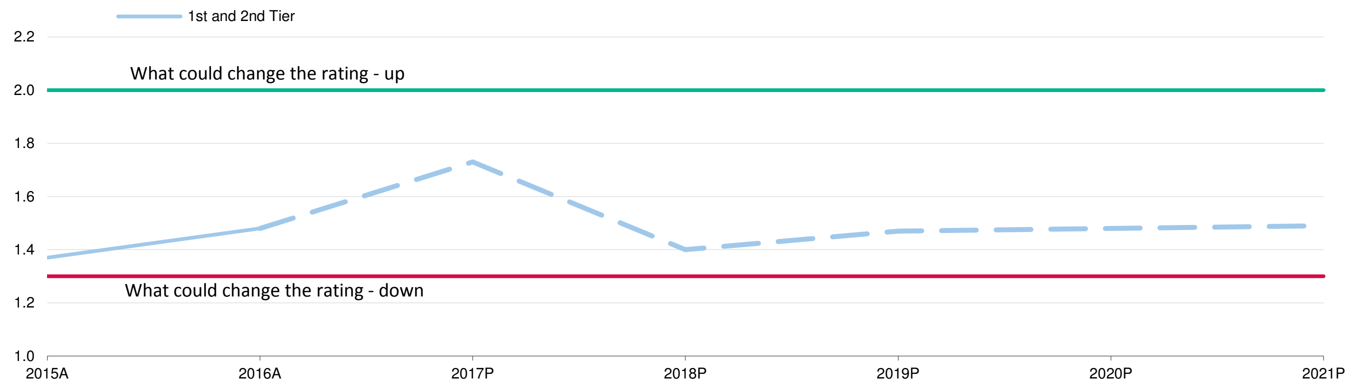
Source: 2011 Forecast - SPS Official Statement, Actual - NTTA

DSCR of first and second tier debt service will remain just below 1.5x between FY2018 and FY2021 if revenue and operating expenses meet forecasts. DSCR of all obligations, including the ISTEA loan and subordinate bonds, will remain just above 1.3x over the same period. the projected DSCR levels are similar to those reported for FY2016 and indicate the ability of the system to incorporate the SPS projects without significantly weakening the credit.

Exhibit 5

DSCRs will be stable as revenue increases are matched by escalating debt service requirements

Net revenue debt service coverage ratio



Source: Moody's Investors Service

LIQUIDITY

NTTA reported 812 days cash on hand (DCOH) at the end of FY2016, representing an increase from 677 DCOH. We expect that liquidity will decrease to approximately 640 DCOH in FY2019 and FY2020 before rebounding above 700 DCOH as NTTA funds its capital plan. Additional projects or construction cost overruns pose risk of further reductions in liquidity, however, we think that the potential for excess revenues equally balances this risk.

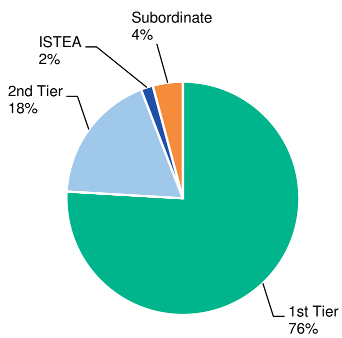
Debt and Other Liabilities

DEBT STRUCTURE

After this issuance, NTTA will have $7.3 billion of first tier debt, $1.7 billion of second tier debt, $129 million of unrated ISTEA loan, and $400 million of subordinate debt. Some series of NTTA's debt have putable features or variable rates, but at 7% of outstanding debt, the exposure is low. A failed conversion and remarketing does not constitute an event of default, and instead results in a stepped up coupon rate. There is no liquidity facility to cover such an event. We see the remarketing risk as manageable given the issuer's access to the market and the ability to afford the higher interest rate on these series if necessary.

Exhibit 6

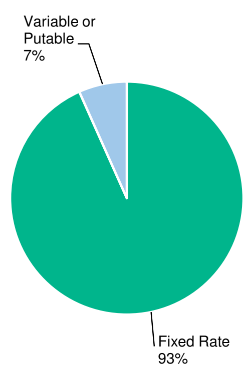
First tier debt represents the largest class of debt



Source: North Texas Tollway Authority

Exhibit 7

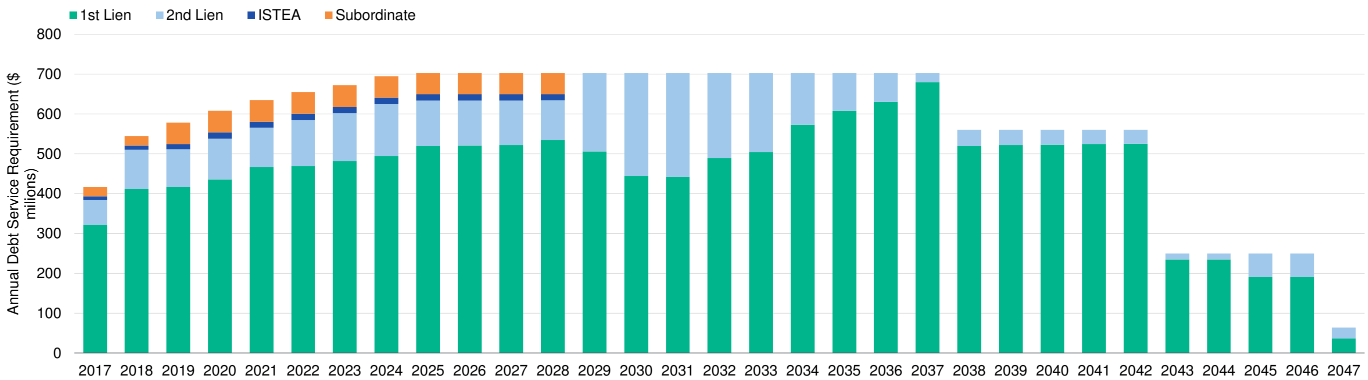
Exposure to puttable or variable rate debt is modest



Source: North Texas Tollway Authority

Annual debt service requirements will escalate through 2024, when requirements level off. Given no need for additional debt in the current capital plan and expected growth in revenue, the debt profile provides flexibility to address growth or maintenance capital needs after the next five to seven years. Absent new debt, NTTA will see greater DSCR and lower leverage and therefore a stronger credit profile after 2024.

Exhibit 8
Debt service requirements will flatten after 2024



Source: North Texas Tollway Authority

NTTA's current FY2017-2021 capital plan includes $1.1 billion of projects that will be funded from net cash flow. The capital plan will also utilize approximately $70 million of existing constructions funds held at for the NTTA system and approximately $50 million of funds released from the retirement of the SPS bonds. The largest projects in the plan include the addition of one lane in each direction on the SRT, PGBT, and northern portions of the DNT. NTTA expects the construction projects on the PGBT and the SRT to have minimal impact to traffic. Similarly, NTTA expects that remaining construction work on the DNT will have lesser impacts on traffic than that experienced over the last year.

DEBT-RELATED DERIVATIVES

The NTTA has two interest rate swaps outstanding with Citibank and JP Morgan Chase. The combined notional amount of the swaps is $178.2 million and the mark-to market as of September 14, 2017 was negative $20.8 million. Under the swap agreement with JP Morgan Chase NTTA could be obligated to post collateral if the rating on either FGIC and/or the authoritys First Tier Bonds is below A3 by either of the two agencies rating the bonds.

PENSIONS AND OPEB

NTTA participates in the Texas County and District Retirement System (TCDRS), a defined benefit pension plan. NTTA reported a net pension asset of $0.9 million in FY2016. On our adjusted net pension liability (ANLP) basis, NTTA had a $151 million liability in FY2016. We view this liability to be manageable in relation to NTTA's overall debt load and a minor negative pressure on the credit.

Management and Governance

The NTTA has a nine-member board of directors - two members from each of four counties served by the authority and one appointed by Governor of Texas from a county adjacent to the authority's service area. Eight of the nine members must vote affirmatively to add on another project to the system, or to proceed with a stand-alone/off system project.

Legal Security

The NTTA bonds are secured by net system revenues, with first tier having a priority claim, followed by the second tier and the CIF bonds that are secured only by balances in the CIF.

The rate covenant in the amended and restated trust agreement dated April 1, 2008 requires net revenues to provide at least 1.35 times coverage of first tier debt service requirements, 1.2 times coverage of outstanding first tier and second tier debt service, and 1.0 times coverage of all outstanding obligations. The first tier bonds are additionally secured by a DSRF equal to average annual debt service the and second tier DSRF equal to one-half of average annual debt service.

Obligor Profile

NTTA manages a well-established multi-asset tollway system in the Dallas-Fort Worth MSA. Assets include two bridges; one tunnel and four highways, approximately 150 miles in length and with 745 lane miles. Traffic is predominantly two axle passenger cars with only 2.4% multi-axle vehicles.

Other Considerations - Mapping to the Grid

The assigned rating of A1 on the first tier bonds is one notch below the grid indicated rating of Aa3. The current grid, based on FY2016 values, reflects one positive notch for liquidity. The assigned A1 rating acknowledges that liquidity will fall below current levels as NTTA funds its capital plan.

Note: The grid is a reference tool that can be used to approximate credit profiles in the airport sector in most cases. However, the grid is a summary that does not include every rating consideration. Please see the Government Owned Tollroads methodology report for more information about the limitations inherent to grids.

Exhibit 9

North Texas Tollway Authority TX

Factor	Subfactor	Score	Metric
1. Market Position	a) Asset Type	Aa	
	b) Operating History	Aa	
	c) Competition	Aa	
	d) Service Area Characteristics	Aaa	
2. Performance Trends	a) Annual Traffic Transactions	Aaa	
	b) Traffic Profile	Aaa	
	c) Five Year Traffic CAGR	Aaa	
	d) Ability and Willingness to Increase Toll Rates	Aa	
3. Financial Metrics	a) Debt Service Coverage Ratio	Baa	1.48x 1st & 2nd tier, 1.36x total
	b) Debt to Operating Revenue	Caa	10.96x
4. Capacity, Capital Plan and Leverage	a) Asset Condition/Capital Needs	Aa	
	b) Limitations to Growth/Operational Restrictions	A	
Notching Considerations		**Notch**	
	1 - Debt Service Reserve Fund level	0	
	2 - Open/Closed Flow of Funds	-0.5	
	3 - Days Cash on Hand	+1.0	812 DCOH
	4 - Other Financial, Operating and Debt Factors	0	
Scorecard Indicated Rating:		**Aa3**	

Source: Moody's Investors Service

Methodology

The principal methodology used in this rating was Government Owned Toll Roads published in November 2016. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 10

North Texas Tollway Authority, TX

Issue	Rating
System Revenue and Refunding Bonds First Tier Bonds, Series 2017A	A1
Rating Type	Underlying LT
Sale Amount	$1,792,905,000
Expected Sale Date	09/29/2017
Rating Description	Revenue: Government Enterprise
System Revenue and Refunding Bonds Second Tier Bonds, Series 2017B	A2
Rating Type	Underlying LT
Sale Amount	$776,590,000
Expected Sale Date	09/29/2017
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

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