Credit Opinion
6 February 2020

Update to credit analysis

Summary
The Delaware River Port Authority’s credit profile (“DRPA”, senior revenue bonds A1 stable) reflects the mature Philadelphia metro area which supports a stable traffic base but with limited prospects for strong traffic growth. Financial metrics are expected to remain solid even through periods of limited growth and the authority has maintained a tight grip on costs. Going forward, we project a bond debt service coverage ratio (DSCR) of around 2.0x (2.21 in fiscal year 2018), a Moody’s senior net revenue DSCR of around 1.75x (1.97x in fiscal year 2018) and a total DSCR of at least 1.5x (1.69x in fiscal year 2018).

Management has executed several initiatives to strengthen the authority’s resilience through investments in IT systems, training, maintenance and the elimination of its variable rate debt and swap exposure. As a result DRPA is better positioned now to handle an unexpected drop in traffic than during the last recession.

Constraining factors include the age of DRPA’s assets which may require substantial investments beyond the current capital plan. The 5-year capital plan for 2020-2024 ($810 million) is manageable and will be financed mostly with operating cash flow generation, bond project funds, and other liquidity reserves. This will result in a gradual depletion of liquidity resources. A toll rate increase or new debt issuance is not expected before 2022 or 2023.

Credit strengths
» Established, multi-asset regional bridge network in greater Philadelphia metropolitan area
» Mature traffic profile supports a stable traffic base but offers limited prospects for strong traffic growth
» Solid historical financial metrics
» No near term debt needs before 2022/2023 time frame

Credit challenges
» Good cost control required as a result of limited revenue growth and no planned toll increases
» Gradual depletion of liquidity reserves under 5-year capital plan
» Age of the assets and risk of high maintenance expenditures beyond the 5-year capital plan
» Political risk with potentially competing priorities of PA and NJ board members

» Bridge toll revenues subsidize PATCO transit system

Rating outlook
The stable outlook reflects Moody's expectation that DRPA will maintain a bond DSCR of around 2.0x, a Moody's senior net revenue DSCR of around 1.75x, a total DSCR of at least 1.5x, and days cash on hand above 500 days.

Factors that could lead to an upgrade
» Significant increases in traffic volumes and revenues that lead to Moody's senior net revenue DSCR above 2.5x and Moody's total DSCR above 2.0x for a sustained period of time

» Maintaining a stable liquidity profile while maintaining asset conditions and continuing with scheduled capital expenditure improvements

Factors that could lead to a downgrade
» Modestly declining traffic volumes and revenues or increased expenditure pressure that lead to Moody's senior net revenue DSCR below 1.6x and Moody's total DSCR below 1.4x for a sustained period of time

» Material deterioration in liquidity profile with cash on hand falling below 500 days

Key indicators

Exhibit 1
Delaware River Port Authority

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Transactions ('000)</td>
<td>47,880</td>
<td>47,832</td>
<td>49,205</td>
<td>51,805</td>
<td>52,904</td>
<td>53,270</td>
</tr>
<tr>
<td>Operating Revenue ($'000)</td>
<td>328,124</td>
<td>330,882</td>
<td>341,294</td>
<td>354,712</td>
<td>365,980</td>
<td>371,907</td>
</tr>
<tr>
<td>Debt Outstanding ($'000)</td>
<td>1,623,580</td>
<td>1,584,930</td>
<td>1,537,545</td>
<td>1,487,535</td>
<td>1,434,665</td>
<td>1,310,765</td>
</tr>
<tr>
<td>Debt to Operating Revenues (x)</td>
<td>4.95</td>
<td>4.79</td>
<td>4.51</td>
<td>4.19</td>
<td>3.92</td>
<td>3.52</td>
</tr>
<tr>
<td>Senior Lien Debt Service Coverage By Net Revenues (x)</td>
<td>2.45</td>
<td>1.76</td>
<td>1.82</td>
<td>1.79</td>
<td>1.96</td>
<td>1.97</td>
</tr>
<tr>
<td>Senior Lien Coverage (Bond Ordinance) (x)</td>
<td>2.64</td>
<td>1.94</td>
<td>2.01</td>
<td>1.97</td>
<td>2.09</td>
<td>2.21</td>
</tr>
<tr>
<td>Total Debt Service Coverage By Net Revenues (x)</td>
<td>1.98</td>
<td>1.50</td>
<td>1.55</td>
<td>1.54</td>
<td>1.68</td>
<td>1.69</td>
</tr>
<tr>
<td>Days Cash on Hand</td>
<td>1,133</td>
<td>1,215</td>
<td>1,306</td>
<td>1,308</td>
<td>1,444</td>
<td>576</td>
</tr>
</tbody>
</table>

All ratios and numbers are as defined and as adjusted by Moody's.
Source: DRPA audited financial statements; Moody's Investors Service

Profile
The Delaware River Port Authority (DRPA) was created in 1931 and began tolling in 1932. The authority owns and operates a small regional network of four bridges crossing the Delaware River in the greater Philadelphia metropolitan area: Benjamin Franklin Bridge, Commodore Barry Bridge, Walt Whitman Bridge, and Betsy Ross Bridge. Bridge tolls generate close to 90% of the authority's operating revenue. DRPA also owns a rapid transit line which runs between Philadelphia and Lindenwold, New Jersey through its wholly-owned subsidiary PATCO. In 2018, the authority generated operating revenues of $372 million.

Detailed credit considerations

Revenue Generating Base
Established, multi-asset regional bridge network in greater Philadelphia metropolitan area
The mature service area in the Philadelphia metro area supports a stable traffic base but with more limited potential for strong growth than for toll roads and bridges in other fast growing regions of the country such as Florida. Traffic growth has started to slow down.
in 2018 and 2019 following a few years of stronger growth. In 2018, total transactions reached 53.3 million, an increase of just 0.7% compared to 2017 volumes, and year-to-date September 2019 traffic volumes declined slightly by 0.6% from the same period last year. Traffic volumes on some of the outer bridges was impacted by construction activity and recent data shows a stabilization or slight growth in traffic volumes.

The authority generates around 90% of its operating revenue through bridge tolls. Commercial vehicle transactions accounted for about 6.3% of total traffic in 2018 but generate around 27% of tolled revenue.

Toll rate increase not expected before 2022 or 2023
DRPA is currently not anticipating the need to raise tolls before 2022 or 2023. Toll rates were last increased in 2011. Certain nearby crossings of other agencies have recently increased tolls in 2019, which provides some flexibility to implement future toll rate increases, if necessary.

The board approved automatic biennial CPI-based toll rate increases in January 2013, which have been delayed every other year since then.

Financial Operations and Position
Good cost control required to maintain solid DSCR
DRPA's ability to maintain solid DSCR and operating cash flow generation will largely depend on its ability to contain cost inflation in a stable revenue environment. Going forward, we expect that DRPA can maintain a bond DSCR of around 2.0x, a Moody's senior net revenue DSCR of around 1.75x and total DSCR of above 1.5x.

Financial metrics in 2018 benefited from modest toll revenue growth and good cost control, which supported solid coverage ratios including senior lien bond DSCR of 2.21x, net revenue senior lien DSCR of 1.97x, and total DSCR of 1.69x.

Leverage, measured by debt to operating revenue, will continue to gradually decline from 3.5x in 2018, benefiting from continued debt amortization and revenue growth. Debt to operating revenue including Moody's adjusted net pension liability was around 4.3x in 2018.

Manageable capital plan over the period 2020-24 but age of assets is a constraining factor
The authority's 2020-24 capital plan includes around $810 million in total capital expenditures and does not foresee the issuance of new debt. DRPA's credit profile is constrained by the age of its assets. In particular the Benjamin Franklin Bridge was opened in 1926 and the Walt Whitman Bridge in 1957. The Commodore Barry Bridge (1974) and the Betsy Ross Bridge (1976) are younger assets. DRPA is studying a potential replacement of the Commodore Barry bridges concrete deck, which could cost around $200 million. However, this project is not part of the current capital plan.

The next biennial inspection of the bridges will take place this year. The bridges were all in satisfactory to good condition according to the 2018 biennial inspection report.

Key spending priorities of the current 5-year capital plan include improvements to the PATCO system as well as investments for bridge projects. The largest projects in the capital plan include the ongoing suspension span rehabilitation for the Benjamin Franklin Bridge totaling $217 million, the I-79 corridor rehabilitation for the PA approach to the Walt Whitman Bridge totaling $74 million, Commodore Barry Bridge deck rehabilitation for $22 million, and resurfacing the NJ roadway approaching the Betsy Ross bridge for $27 million.

LIQUIDITY
Strong liquidity profile will gradually decline to support funding of capital expenditures
Days cash on hand in fiscal year 2018 declined to around 1,230 including the 2018 bond proceeds (576 days excluding the bond proceeds) from 1,444 days cash on hand in fiscal year 2017. The significant change in the days cash on hand was driven by the repayment of variable rate debt and termination of swaps from cash on hand. DRPA used $284 million in cash from the General Fund to defease the 2010 D revenue bonds. They subsequently issued an additional $290 million in bond project funds to fund the capital program.

The 2018 bond proceeds are now part of an internally restricted account used for funding capital expenditures, which is not included in Moody's days cash on hand calculation of 576 days.
We expect that cash will continue to deplete in the next 12-24 months as no new debt issuances or toll rate increases are planned in the near term and capex will be funded from operating cash flow generation, bond project funds, and other liquidity reserves. However, days cash on hand should remain well above 500 days in the next few years.

The debt service reserve fund is fully funded and stood at around $129 million as of September 30, 2019.

**Debt and Other Liabilities**

**DEBT STRUCTURE**

The authority has outstanding senior revenue bonds of around $1.12 billion. In addition, the authority has outstanding port district project (PDP) bonds of around $109.2 million.

Since the repayment of all outstanding variable rate debt and termination of swaps, the DRPA has no variable rate debt or swaps exposure. We expected that the authority will not materially increase its variable rate debt and will not enter into new swaps or PDP bonds in future. Annual debt service is around $130 million over the next few years until dropping off materially starting on January 1, 2027.

The senior lien revenue bonds are payable from a senior lien on net revenues. The bonds are backed by a debt service reserve fund (DSRF) sized at the lesser of maximum annual debt service (MADS) or 125% of average annual debt service. The 2018 Series C bond was fully repaid as planned on January 1, 2020.

The revenue bond rate covenant is equal to the greater of 1) 105% of the debt service requirement of all revenue bonds plus required DSRF deposits, Maintenance Reserve Fund deposits and PATCO subsidies for a given fiscal year and 2) 120% of the debt service requirement for all revenue bonds.

DRPA’s PDP bonds are general corporate obligations of the authority, payable from all legally available revenues after payments on the authority’s revenue bonds. They are backed by a cash-funded debt service reserve equal to the lesser of maximum annual debt service, 125% of average annual debt service, or 10% of the bond proceeds.

**Exhibit 2**

**Debt service profile**

Source: Delaware River Port Authority; Moody’s Investors Service

**DEBT-RELATED DERIVATIVES**

None.

**PENSIONS AND OPEB**

As of December 31, 2018, the authority reported a net pension liability of $144.4 million (around 11% relative to total outstanding debt) based on a discount rate of 7.25%. Moody’s calculates an adjusted net pension liability (ANPL) based on a lower discount rate and the ANPL amounted to $303.6 million as of December 31, 2018.
Management and Governance

Political risk with potential competing priorities of PA and NJ board members

DRPA has focused over the last few years on improving governance and management practices, focusing on core operations and successfully eliminating outstanding variable debt and swaps from its debt profile at the end of 2018. Some of the more recent management initiatives include the upgrade of SAP Enterprise Resource Planning (ERP) System to SAP HANA, the development of an asset management system and improved focus on maintenance, and the creation of a new department focused on strategic initiatives.

As a bi-state agency DRPA remains at risk of potential competing priorities of its board members. The authority is governed by a board of commissioners, which is comprised of eight New Jersey commissioners appointed by the Governor of New Jersey, six commissioners appointed by the Governor of Pennsylvania, and the Auditor General and the State Treasurer.
Rating methodology and scorecard factors
The grid is a reference tool that can be used to approximate credit profiles in the industry in most cases. However, the grid is a summary that does not include every rating consideration. Please see Government Owned Toll Roads methodology for information about the limitations inherent to the grid.

The indicated outcome from the scorecard for 2018 is A1, consistent with the assigned rating.

Notching factors included in the scorecard reflect the use of toll revenues to subsidize the PATCO system.

Exhibit 3
Publicly Managed Toll Roads and Parking Facilities Rating Methodology

<table>
<thead>
<tr>
<th>Rating Factors</th>
<th>FY 12/31/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware River Port Authority, PA</td>
<td>Factor 1 : Market Position (45%)</td>
</tr>
<tr>
<td>Publicly Managed Toll Road and Parking Facilities Industry [1][2]</td>
<td>a) Asset Type</td>
</tr>
<tr>
<td></td>
<td>b) Competitive Position and Environment</td>
</tr>
<tr>
<td></td>
<td>c) Economic Strength and Diversity of Service Area</td>
</tr>
<tr>
<td>Factor 2 : Performance Trends (35%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Annual Revenue (USD Million)</td>
</tr>
<tr>
<td></td>
<td>b) Operating Track Record and Revenue Stability</td>
</tr>
<tr>
<td></td>
<td>c) Ability and Willingness to Increase Rates</td>
</tr>
<tr>
<td>Factor 3 : Leverage and Coverage (20%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Debt Service Coverage Ratio</td>
</tr>
<tr>
<td></td>
<td>b) (Debt + ANPL) to Operating Revenue</td>
</tr>
</tbody>
</table>

Notching Adjustments:
- Debt Service Reserve Fund 0.0
- Open Flow of Funds -0.5
- Days Cash on Hand 0.0
- Asset Ownership and Financing Structure 0.0
- Leverage Outlook 0.0

Rating:
- Indicated Outcome before Notching Adjustments A1
- Notching Adjustments -0.5
- Actual Rating Assigned A1

[1] All quantitative credit metrics incorporate Moody’s standard adjustments.
Source: Moody's Investors Service
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Delaware River Port Authority, PA: Update to credit analysis

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