MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY

10 February 2023

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Rating Methodology

Publicly Managed Airports and Related Issuers

This rating methodology replaces the *Publicly Managed Airports and Related Issuers* methodology published in March 2019. We have reordered and have made editorial updates to various sections of the methodology. These updates do not change our methodological approach.

Scope

This methodology applies to publicly managed airports globally. Issuers in this sector are primarily* engaged in the operation and maintenance of an airport, airport terminal or airport system, and they may also derive revenue from ancillary services. Publicly managed airports do not operate under a profit-maximization model; the primary purpose of these entities is to operate and maintain airport infrastructure at a reasonable cost to users.

Issuers rated using this methodology derive revenue from passenger activity such as parking, ground transportation and airport departure fees; from airline activity such as terminal rentals, landing fees and ancillary service fees; and from rents paid by food, beverage and retail concessions.

The airports rated using this methodology have the ability to raise rates in a timely manner to cover debt service and increases in airport costs, generally without approval from a regulatory body.[1] These airports also have restrictions on their use of airport revenue for non-aviation-related purposes.

This methodology also applies to ratings for debt instruments that are supported by specific fees or levies on airport-related activities, typically where the volume of transactions on which the fee applies is derived from demand for air travel at that airport. Examples include bonds backed solely by airport passenger fees, for which the airport does not have rate-setting ability, or bonds supported by fees on rental car transactions at airports.[2]

Airports that are privately owned or operated are rated using our methodology for privately managed airports. Any percentage of private ownership would cause an issuer to be rated as a privately managed airport. The publicly managed airport model is fundamentally different

*The determination of an issuer's primary business is generally based on the preponderance of the issuer's business risks, which are usually proportionate to the issuer's revenues, earnings and cash flows.

from the privately managed airport model because privately managed airports have at least some profit motive. In addition, some airports have projects that are financed through a public-private partnership, and those projects would be rated using our methodologies for public-private partnerships (P3/PPP/PFI).[3]

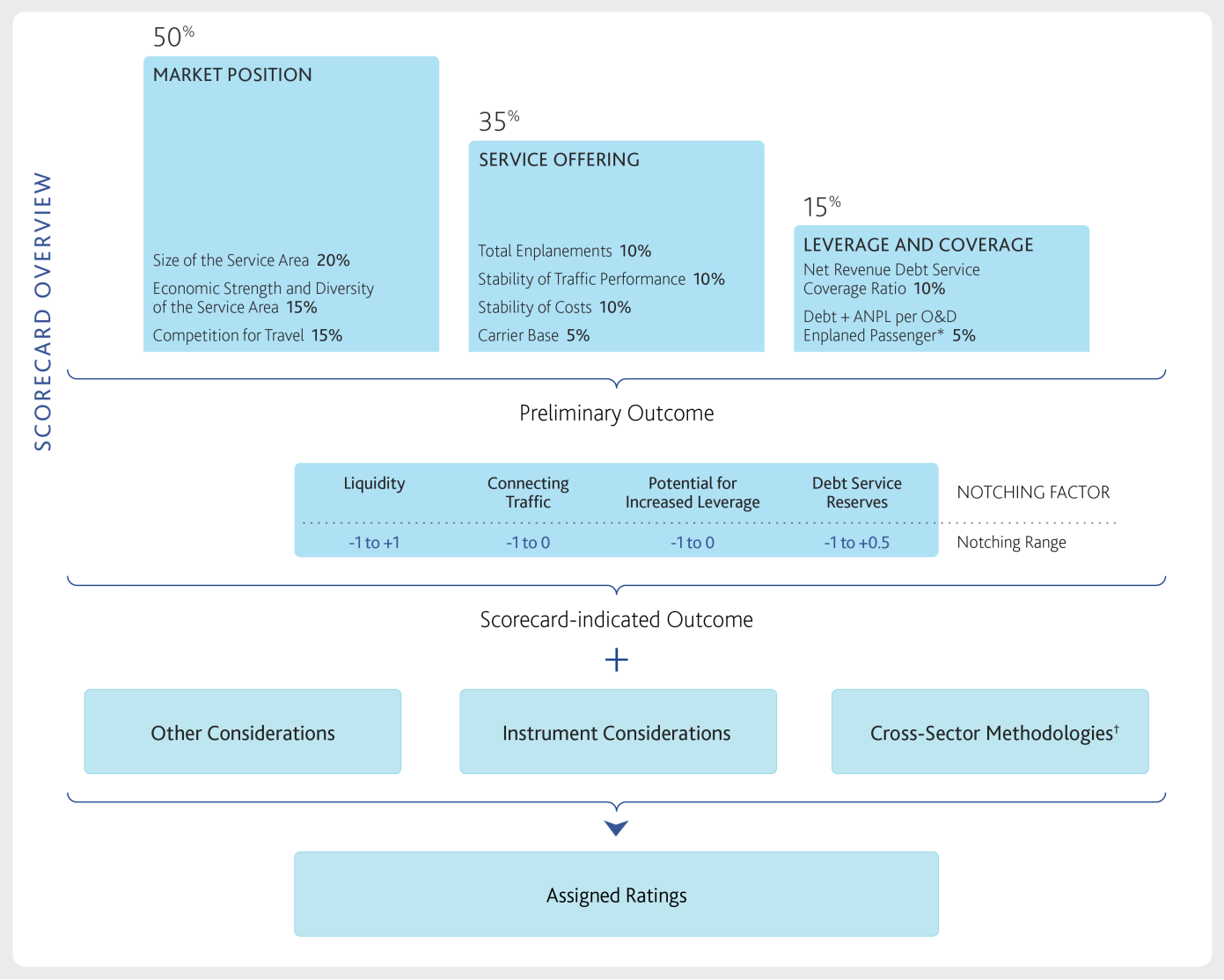
Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of publicly managed airports and related issuers globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

The following schematic illustrates our general framework for the analysis of issuers of publicly managed airports, which includes the use of a scorecard.[4] The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1

Illustration of the publicly managed airports methodology framework



* ANPL stands for adjusted net pension liability, and O&D stands for origination and destination.

† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Source: Moody's Investors Service

Publicly managed airports scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations " sections.

Exhibit 2

Publicly managed airports scorecard

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor: Market Position (50%)								
Size of the Service Area (millions)	20%	≥ 5	1.5 - 5	0.75 - 1.5	0.25 - 0.75	0.1 - 0.25	0.05 - 0.1	< 0.05
Economic Strength and Diversity of the Service Area	15%	Serves a large international gateway city with a highly diversified economy with solid historical and projected growth.	Serves a large city or region with a strong and well-diversified economic base with solid growth.	Serves a city or region with a developed and reasonably diversified economic base.	Serves a city or region with a developed and reasonably diversified economic base, but subject to some industry concentration.	Serves a city or region that is small or has an evolving economy that is currently underperforming relative to the country's average.	Serves a city or region with a deteriorating economic base and very little diversification.	Serves a city or region with a poor economic base with limited growth prospects and limited diversification.
Competition for Travel	15%	Has virtual monopoly with no reasonable alternatives for travel; or Faces competition for connecting traffic from other hub airports but has substantial cost advantages.	Has dominant position for providing O&D air travel in its geographical area; or Faces competition for connecting traffic from other hub airports but is price competitive.	Limited competition with similar or weaker airports across a broad service area; demand impacted by robust rail travel; or Faces competition for connecting traffic from other hub airports and is high cost or faces other limiting factors.	Substantial competition with similar airports nearby or stronger airports within reasonable driving distance; or Has a cost disadvantage to competing airports.	Has a minority of air travel in its service area and serves a particular niche.	Has a minority of air travel in its service area and does not occupy a substantial market niche.	Offers no substantial competitive air service.
Factor: Service Offering (35%)								
Total Enplanements (millions)	10%	≥ 10	5 - 10	3 - 5	1.25 - 3	0.4 - 1.25	< 0.4	No scheduled enplanements or no available historical data.
Stability of Traffic Performance	10%	Track record of strong enplanement growth with low volatility (typically with a standard deviation <4%); strong growth expected.	Track record of enplanement growth with moderate volatility (typically with a standard deviation <5%); expectation of moderate growth.	Stable to slightly positive enplanement performance with moderate volatility (typically with standard deviation <7%); expectation of moderate growth.	Stable to slightly declining enplanement track record with high volatility (typically with standard deviation >7%); expectation of stable traffic levels.	Track record of declining enplanements with high volatility (typically with standard deviation >7%), but traffic expected to stabilize.	Track record of declining enplanements with high volatility and expectation of continued declines.	No historical data or Start-up airport or Data of questionable quality.

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor: Service Offering (35%)								
Stability of Costs	10%	Costs to airlines are expected to fall; recent growth has been below CPI.	Costs to airlines are expected to remain flat or grow below CPI.	Costs to airlines are expected to grow at or very slightly above CPI.	Costs to airlines are expected to grow well above CPI, but cost levels will remain below peers.	Costs to airlines are expected to grow well above CPI, but cost levels will be competitive with peers.	Costs to airlines are expected to grow well above CPI, and cost levels will be above peers.	Costs have been significantly higher than peers and increases are extremely large and rapid.
Carrier Base (Primary Carrier as Percentage of Total Enplanements)	5%	< 20%	20% - 30%	30% - 45%	45% - 80%	80% - 95%	95% - 100%	100%
Factor: Leverage and Coverage (15%)								
Net Revenue Debt Service Coverage Ratio (Residual)	10%	≥ 2.5x	1.75x - 2.5x	1.1x - 1.75x	1x – 1.1x	0.9x – 1x	0.8x – 0.9x	< 0.8x
Net Revenue Debt Service Coverage Ratio (Compensatory)	10%	≥ 2.5x	1.75x - 2.5x	1.3x – 1.75x	1.1x – 1.3x	1x – 1.1x	0.8x – 1x	< 0.8x
Debt+ANPL (in USD) per O&D Enplaned Passenger (National)	5%	< $100	$100 - $200	$200 - $400	$400 - $700	$700 - $1,000	$1,000 - $1,500	≥ $1,500
Debt+ANPL (in USD) per O&D Enplaned Passenger (Regional)	5%	< $25	$25 - $50	$50 - $75	$75 - $100	$100 - $200	$200 - $400	≥ $400
Preliminary outcome								

Notching factor				
Liquidity				
	-1	**0**	**+1**	
Liquidity	Residual: DCOH* <200; Other: DCOH <300		DCOH >600	
Connecting Traffic				
	-1	**-0.5**	**0**	
Connecting Traffic	O&D traffic ≤ 30%	O&D traffic between 30% and 70%	O&D traffic ≥ 70%	
Potential for Increased Leverage				
	-1	**-0.5**	**0**	
Potential for Increased Leverage	Facilities are nearing functional obsolescence or construction of projects planned for the near-term or currently underway are beyond the scope of what the entity has recently managed and the entity is exposed to cost overruns.	Facilities may require moderate capital investment; current projects are procured under appropriate risk mitigation strategy or entity has recent experience in managing similarly sized capital projects.	Facilities are in good condition, any construction is maintenance in nature and to be funded by third-party sources or internal cash flow.	
Debt Service Reserves				
	-1	**-0.5**	**0**	**+0.5**
Debt Service Reserves	DSRF is less than six months, or more than 50% of reserve provided by surety rated lower than A.	DSRF is between six and 12 months, or is 12-months and more than 10% is funded by a surety rated lower than A.	12 month DSRF (or standard US 3-pronged test)	DSRF is greater than 18 months, inclusive of sureties with A rating or higher.
Scorecard-indicated outcome				

* DCOH is calculated or estimated as (Unrestricted Cash and Investments + Discretionary Reserves)*365 / (Total Annual Operating Expenses adjusted to remove non-cash pension expense – Depreciation and Amortization)
Source: Moody's Investors Service

Sector overview

The airports rated using this methodology range from those that operate all of the airports in a globally important economic region to issuers that operate a single, small airport in a primarily tourist destination. In most cases, publicly managed airports are considered essential assets within the economic areas they serve. Airports may be in competition with other airports or, to a lesser extent, other modes of transportation. The largest airports and systems that serve major economic areas and provide international travel have a strong element of monopoly power.

Most of the airports rated using this methodology are based in the US and are owned by a government entity, typically an enterprise fund of a local government, or a special purpose authority or district. In some cases, the entity that owns the airport must pay ground rent on the land underlying the airport to the local government. This rent is considered a recoverable expense, and the setting of the rent is subject to Federal Aviation Administration (FAA) regulations.

The credit profile of a US publicly managed airport is largely insulated from the financial profile of its parent government due to FAA limitations on the distribution of surplus airport revenue to the parent, with the exception of some grandfathered airports. Our analysis typically excludes an expectation of support from the parent government for the airport, which is expected to be financially self-sufficient. Additionally, the airport's service area typically extends beyond the immediate boundaries of the government, which further separates their credit profiles.

Canadian airports are managed by non-share capital corporations with boards intended to represent various levels of government and community or business associations, rather than shareholders. Canadian airport rates are set by their boards and these airports do not distribute funds to other government entities. Canadian airports pay a ground lease rent to the federal government and make payments to local governments in lieu of taxes.

Airport operators generally face meaningful operating and counterparty risks; however, on a global credit scale, business risk is low. The relatively low business risk is generally accompanied by high leverage associated with significant capital expenditures to accommodate passenger growth or to meet evolving security standards and airplane fleet mixes.

Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

Factor: Market Position (50% weight)

Why it matters

Market position is an important indicator of a publicly managed airport's competitive strength in attracting and maintaining passenger demand through economic cycles.

Two core aspects of an airport's market position are the size and economic strength of its service area. In general, publicly managed airports that serve large international cities with solid economic growth have better ability to increase revenues than airports that serve a single city or region with limited prospects for economic growth.

Competition from other airports and from other modes of transportation also provide important indications of an airport's market position and its ability to generate revenue to support debt requirements. High levels of passenger demand and cost advantages over competing airports are meaningful considerations.

How we assess it for the scorecard

Scoring for this factor is based on three sub-factors: Size of the Service Area; Economic Strength and Diversity of the Service Area; and Competition for Travel.

SIZE OF THE SERVICE AREA:

Scoring for this sub-factor considers the population of the airport's service area, typically based on government data. For large US airports, we typically use US Census Bureau population estimates for a combined statistical area to reflect the airport's ability to draw air travelers from the broader service area. For smaller US airports located in metropolitan areas that are distinctly different from those of larger competitors, we typically use population estimates for a metropolitan statistical area. For Canada-based airports, we

typically use population estimates for the census metropolitan area published by Statistics Canada. For airports in other jurisdictions, we typically use local or regional population data published by the corresponding government.

In some instances, the size of the service area may be different than is evident from the population size of the metropolitan area that the airport serves directly. For example, a gateway international airport could draw origination traffic from a large area. Conversely, the service areas of two regional airports may overlap. In these cases, we may estimate the size of the service area based on population and traffic data.

ECONOMIC STRENGTH AND DIVERSITY OF THE SERVICE AREA:

In scoring this sub-factor, we consider the size and growth rate of the service area economy.[5] We also consider the diversity of industries within the service area to assess the impact that weakness in a single industry could have on the service area economy and on the demand for air service.

Airports in large cities that serve as international gateways within countries with well-developed and well-diversified economies tend to have strong market positions, supported by the demand for travel to and from multiple international and domestic destinations. These airports typically receive higher scores for this sub-factor. Airports that serve relatively small economic regions dependent on a single industry typically receive lower scores than airports that also serve small regions but have more diversified economies. Airports that serve small, concentrated economic regions with lower or more volatile growth prospects also tend to have lower scores for this sub-factor.

COMPETITION FOR TRAVEL:

In assessing this sub-factor, we typically consider an airport's market share and its proximity to competing airports or other modes of transportation, such as roadways and railways. We also may assess the general costs for airlines to use an airport compared with competing airports and the degree to which connecting airline traffic can be diverted to other airports in an airline's route network.

For airports located in regions with multiple airports, we typically consider market share by passenger volume. Airports with very high market share, i.e., typically in excess of 70%, tend to receive higher scores for this sub-factor than airports that compete against similarly sized or larger airports and have a lower market share.

In many cases, publicly managed airports' service areas overlap. Two or more airports can serve one large metropolitan area viably, provided there is sufficient demand for service or each airport segments the market in some way. For example, one airport may be an international gateway and major connecting hub, while other, smaller airports may provide short-haul service for leisure travelers and greater convenience for passengers who live in proximity of the airport (known as origination and destination (O&D) passengers). However, airports that serve mainly O&D passengers but charge higher fees than other airports in the region may be at a competitive disadvantage (assuming the other airports can accommodate additional capacity) and may receive lower scores for this sub-factor.

Our assessment of competition from other modes of transportation is typically based on an airport's route network (i.e., long-haul versus short-haul) and the quality of local transportation alternatives. Airports are generally not competitive against road or rail traffic for short-distance travel (e.g., under about 200 miles), with the possible exception of countries with an underdeveloped or poorly maintained road and rail network. Conversely, other transportation modes typically are not strongly competitive against airports for long-distance travel (e.g., over 500 miles).

Drivers of an airport's competitive position include its capacity to handle air traffic, convenience for passengers, and costs to airlines. In assessing the cost for an airline to use an airport, we typically consider not only direct airline costs to airports, but also local fuel taxes, passenger departure fees, and local labor rules that might raise direct costs for airlines, if applicable.

Oversized facilities-capacity at an airport can lead to higher costs that diminish competitive position. For example, publicly managed airports that provide service for large volumes of connecting traffic face the risk that airlines may choose to route passengers through a lower-cost airport in the respective route network. The loss of connecting passengers may result in stranded capital costs for airports with oversized facilities, which in turn can increase unit costs for airlines looking to provide new service, and also result in lost concession revenue. Airports that demonstrate cost advantages over other competing airports typically receive higher scores for this sub-factor.

Factor: Service Offering (35% weight)

Why it matters

A publicly managed airport's service offering is important because airports derive revenue primarily from airline service. The stability and diversity of airline service are important drivers of an airport's revenue stability.

Publicly managed airports with significant passenger traffic likely play important roles in either the national economy or the national air transportation network. Large airports are also less likely to experience large decreases in passenger traffic given the low likelihood that smaller, competing airports can accommodate a large number of diverted passengers.

The stability of costs to airlines that use the airport is an indicator of management's capacity to control costs to provide sufficient net revenue to pay debt service. In addition, keeping costs steady influences the airport's ability to maintain the mix of airlines operating at the airport. Large increases in costs can reduce the profitability to the airlines of some routes and over time can result in a reduction of service from airlines. Decreasing costs may attract additional service and additional airlines, particularly if those airlines pursue a low-cost strategy.

A diverse carrier base is also important because it reduces an airport's dependence on a single airline for passenger traffic and gate fee revenue, and it reduces the risk of a sharp decrease in traffic resulting from an airline discontinuing service or going out of business. Additionally, a crowded marketplace prevents a single carrier from driving up airfares and possibly affecting demand for travel to that airport.

How we assess it for the scorecard

Scoring for this factor is based on four sub-factors: Total Enplanements; Stability of Traffic Performance; Stability of Costs; and Carrier Base.

TOTAL ENPLANEMENTS:

Scoring for this sub-factor is based on total enplanements, which is the number of passengers that on an annual basis depart from the airport. In assessing total enplanements, we use data provided by airports or government sources, such as the US Bureau of Transportation Statistics. For jurisdictions where enplanements are not reported, we estimate enplanements, typically by dividing the number of total annual passengers at an airport by two.

STABILITY OF TRAFFIC PERFORMANCE:

For this sub-factor, we typically use historical passenger traffic information to inform our assessment of likely future traffic performance. As part of our assessment, we may consider the historical standard deviation of year-over-year growth rates of passenger traffic over a number of consecutive years (typically 10 years or more) as well as the overall growth trend.

The forward-looking assessment of traffic performance also considers our growth expectations. For instance, a publicly managed airport that experiences significant volatility and declines in traffic after an airline withdraws connecting service may be expected to resume modest growth, if for example, other airlines pick up some of those connections. Conversely, an airport may experience a period of stable positive growth that is expected to plateau due to limited capacity. Publicly managed airports that demonstrate traffic growth with low volatility typically receive higher scores for this sub-factor, and airports with highly volatile and declining trends in passenger traffic, and with expectations of further declines, typically receive lower scores for this sub-factor.

In this forward-looking assessment, we typically consider a publicly managed airport's exposure to risks associated with the airlines that operate at the airport, including the diversity or concentration of carriers and their credit profiles.

STABILITY OF COSTS:

For US airports, we typically assess the stability of costs using airline costs per enplanement (CPE), which is typically reported by the airports. We may also consider other indicators for cost trends. For airports outside of the US, CPE may not be reported. In such cases, we typically assess the direct costs incurred by airlines and passengers for flight services, such as airport departure fees and taxes.

We may also consider costs relative to inflation, based on the consumer price index (CPI) or another similar indicator depending on the jurisdiction in which the airport is located. Airports whose costs are expected to increase at a rate that exceeds inflation but to remain

below the costs of peers typically receive higher scores for this sub-factor than airports whose costs are expected to increase at a rate that exceeds inflation and be higher than those of peers.

CARRIER BASE:

In assessing the carrier base, we measure or estimate the percentage share of enplanements served by the primary (largest) carrier at the airport.

The numerator of the ratio is the primary carrier's total enplanements, and the denominator is the airport's total enplanements.

Factor: Leverage and Coverage (15% weight)

Why it matters

Leverage and cash flow coverage measures provide important indications of an airport's financial flexibility and its long- term viability, including its capacity to assume additional debt to meet changing needs, such as new security requirements or passenger growth.

This factor comprises two quantitative sub-factors:

Net Revenue Debt Service Coverage Ratio

The net revenue debt service coverage ratio (DSCR) is an indicator of an issuer's annual cash flow, net of operating and maintenance expenses, that is available to pay annual debt service on all debt. The headroom provided by the DSCR provides an indication of an issuer's ability to pay debt service in the event of a downturn in revenue or an increase in operating costs.

Debt and ANPL per O&D Enplaned Passenger

The ratio of debt outstanding and adjusted net pension liabilities (ANPL) to origination and destination (O&D) enplanements is an important indicator of an airport's debt affordability relative to its ability to generate revenue. O&D enplanements are the most stable core source of revenue for an airport.

How we assess it for the scorecard

Scoring for this factor is based on two sub-factors: Net Revenue Debt Service Coverage Ratio; and Debt and ANPL per O&D Enplaned Passenger.

NET REVENUE DEBT SERVICE COVERAGE RATIO:

The inputs for the DSCR calculation vary slightly between US municipal airports and airports outside the US.

For US airports, the numerator is gross revenue minus operating expenses (excluding depreciation and amortization), and the denominator is the actual debt service on all general airport revenue debt paid in the period. The debt of most US airports has a fully amortizing profile, in aggregate. Operating expenses are adjusted for annual cash contributions to pensions and other post-employment benefit (OPEB) contributions.[6]

The bond documents contain provisions that specify the revenue that is available to pay each type of bond:

» For general aviation bonds, gross revenue is available to pay debt service.

» For bonds backed by general aviation revenue and Passenger Facility Charges (PFCs), gross revenue includes general aviation revenue and PFCs actually applied to debt service in the reporting period (including drawdowns from PFC reserves, regardless of the period in which the PFC revenue was collected). See Appendix A for rating considerations for bonds backed solely by airport passenger fees, such as PFCs.

» For consolidated rental car facility (ConRAC) bonds, gross revenue includes all revenue pledged to the ConRAC bonds. See Appendix B for rating considerations for bonds backed by a combination of airport rental car charges and space rentals paid by the rental car companies.

For the denominator, we use the actual debt service paid in a period, not taking into account any subsidy or other offset.

For airports outside the US with a fully amortizing debt profile, the numerator is funds from operations (FFO) plus interest, and the denominator is actual debt service paid in the period being considered, which is typically a 12-month fiscal year. We define FFO and interest expense as follows:

» Funds from Operations (FFO) is cash flow from operations before changes in working capital and changes in other short-term and long-term operating assets and liabilities. We calculate or estimate FFO net of the interest expense from the income statement, whether or not such interest expense translates fully into a cash payment, with adjustments made when non-cash interest (for instance, from capital appreciation bonds) is a material portion of income statement interest expense.

» Interest is gross interest expense per the income statement, incorporating our standard adjustments (for example, re-classifying the interest component of operating lease rental expense). When non-cash interest (for instance, from capital appreciation bonds) is a material portion of income statement interest expense, it is added back (i.e., deducted from interest expense).

For all airports with a partially amortizing debt profile or a bullet payment, the denominator of the DSCR ratio is the debt service annuity. We define debt service annuity as follows:

» Debt service annuity is the annuity-like payment of interest and principal required to pay debt outstanding over the remaining life of a concession or lease, or the implied perpetual concession in the cases of assets held in perpetuity. Debt service annuity is calculated using a standard formula that converts a present value (PV) into an annuity payment with no residual value at maturity. In other words, we assume that: (i) annual debt service is a constant figure; (ii) interest rates (the discount rate used in the formula) are constant. The discount rate used is typically either (a) the issuer's actual future cost of debt, if the issuer has largely fixed the interest payable on its debt over the whole life of its concession / lease, or (b) an estimation for the long-term average cost of debt for the issuer's rating category; and (iii) the full amount of debt outstanding in the year of calculation (i.e., the PV of future payments) is paid down to zero over the remaining life of the concession. Where an airport company holds its assets in perpetuity, we calculate the ratio based on a constant concession life of 100 years. Where the company holds a number of concessions with different maturities, we use a weighted-average remaining concession life. For airports that do not have a ground lease or concession, the remaining concession/lease life will be the remaining expected life of the relevant airport assets being financed.

Debt Service Annuity is calculated with the following formula:

$((\text{ST Debt} + \text{LT Debt, gross}) \times \text{Discount Rate})) / (1 – (1/(1 + \text{Discount Rate})^{\text{remaining concession/lease life}}))$

Scoring for this sub-factor reflects differences in rate-making frameworks. A residual rate-making framework includes a contractual obligation by the signatory airlines to cover the net costs and debt service of the entire airport in the event revenue from airport operations is insufficient. This mechanism reduces financial volatility, and airports that operate within this framework need smaller margins of excess debt service coverage. Airports that do not have these cost-based recovery mechanisms in their rates are generally considered to have a compensatory[7] rate-making framework. At a given rating level, airports under a compensatory rate-making framework typically have higher coverage levels to offset the risk of revenue declines or cost increases that cannot be immediately passed along to airlines.

The differences between the rate-making mechanisms result in different criteria for the A, Baa, Ba and B alpha categories for this sub-factor. The criteria converge in the Aaa and Aa rating categories because further increases in DSCR become less meaningful when coverage is already at a strong level, and at the Caa category for a similar reason when coverage is at the weakest points and below 1.0x.

DEBT AND ANPL PER O&D ENPLANED PASSENGER:

The numerator is total debt plus adjusted net pension liability (ANPL),[8] and the denominator is the total number of O&D enplaned passengers. Our calculation or estimate of ANPL is typically based on the issuer's pension disclosures. In cases where pension information is disclosed only at the level of the corresponding government, we typically attribute a proportionate amount of the government's ANPL to the airport based on its share of compensation expenses or the number of its employees as a percentage of the total. When there is not sufficient information to estimate the ANPL, typically when it is immaterial, we do not include it in the ratio and assess any pension-related credit risk outside of the scorecard.

Scoring for this sub-factor reflects differences in airports' strategic importance. We assess the strategic importance of the airports on a case-by-case basis using the scoring in the factor Market Position, with airports that score Aa or above for each of the sub-factors generally considered to be national airports, while those that score below are generally considered to be regional airports. We generally view large airports that are strategically important to national and international air transportation networks as able to accommodate higher levels of debt compared to airports that have a more regional or local focus.

Notching factors

Notching factors have the effect of adjusting, either upward or downward, the preliminary outcome that results from the Market Position, Service Offering, and Leverage and Coverage factors. Adjustments may be made in half-notch increments, based on Liquidity, Connecting Traffic, Potential for Increased Leverage, and Debt Service Reserves. In aggregate, the notching factors can result in a total of up to one and a half upward notches or up to four downward notches from the preliminary outcome to arrive at the scorecard-indicated outcome.

Liquidity

Why it matters

Liquidity is a fundamental consideration in our assessment given its importance in providing an airport with the ability to withstand periodic disruptions in the revenue. Cash and investments that are free from external restrictions or that can be readily liquidated are important considerations for assessing an issuer's near-term ability to meet unexpected expenses.

Publicly managed airports usually hold significant amounts of cash for liquidity purposes. These funds can help an airport manage operational disruptions, cover unexpected financing needs or limit costs for airlines undergoing financial stress. Discretionary reserves for most airports typically include three to six months of operating and maintenance (O&M) expenses, and reserves are often required under bond documents.

How we assess it for the scorecard

We use days of cash on hand (DCOH) as a proxy for estimating the amount of unrestricted cash available to issuers to manage unforeseen demand shocks or higher expenses. This notching factor may result in an upward or downward adjustment of up to one notch (see table).

For airports with 600 DCOH for operating expenses, we typically consider notching upward by one notch. For airports that operate under a compensatory rate-making mechanism and have less than 300 DCOH, we typically consider notching downward by one notch. For airports operating under a residual rate-making mechanism,[9] we typically consider notching downward by one notch if they hold less than 200 DCOH.

Exhibit 3

Notching factor: Liquidity

-1	0	+1
Residual: DCOH* < 200 Other: DCOH < 300		DCOH > 600

*DCOH is calculated or estimated as (Unrestricted Cash and Investments + Discretionary Reserves)*365 / (Total Annual Operating Expenses adjusted to remove non-cash pension expense – Depreciation and Amortization)

Source: Moody's Investors Service

Not included in this assessment are funds that are segregated for debt service or restricted for specific capital improvement projects. We also do not include bond proceeds held for planned construction projects or passenger facility charge (PFC) accumulations, because these are funds with a designated purpose. PFC application approvals have sometimes allowed airports to reimburse themselves for liquidity previously used for PFC-eligible projects. PFC balances that have been collected but not transferred to a general account may be included in discretionary reserves when we consider that they are available as general liquidity.

Canadian airports have typically had low levels of unrestricted cash on hand (except as a result of an early refinancing of maturing debt instruments or a pre-funding of future capital expenditures), but have maintained generally unused committed credit facilities as well as a three-month operating and maintenance reserve. For Canadian airports, the O&M reserve may be cash-funded; however, is

more typically funded through the allocation of a committed credit facility with at least 60 days remaining to maturity. For Canadian airports, airport improvement fees (AIF) reserves are excluded from our liquidity calculation.

We typically consider a Canadian airport authority with a material capital expenditure plan and maturing debt to have low liquidity if it does not exhibit all of the following characteristics:

» Six-month funded debt service reserve fund.

» Three-month funded operating and maintenance reserve fund.

» Sufficient committed credit facilities to cover approximately six months of expenses.

In these cases, we typically notch downward by one notch.

Connecting Traffic

Why it matters

Connecting traffic is an important consideration because it is subject to the operating decisions of airlines. Publicly managed airports that depend primarily on connecting traffic are at a greater risk of relatively rapid declines in passenger traffic. They also may experience lower concession revenue because connecting passengers do not use the services over which airports have the most autonomy to set rates, such as parking, ground transportation or airport access fees.

How we assess it for the scorecard

For this notching factor, we use O&D passenger traffic as a percentage of total annual traffic (the percentage of connecting traffic is 1 minus the percentage of O&D traffic). This notching factor may result in a downward adjustment of up to one notch where connecting traffic is 70% or more of total passenger traffic (see table). However, we may not apply any downward notching if there are substantial mitigating considerations, for example if the airport receives the vast majority of its passenger revenues in the form of airport departure fees and the airport's connecting traffic is well protected from competition.

Exhibit 4

Notching factor: Connecting Traffic

-1	-0.5	0
O&D traffic ≤ 30%	O&D traffic between 30% and 70%	O&D traffic ≥ 70%

Source: Moody's Investors Service

Potential for Increased Leverage

Why it matters

The potential for increased leverage from capital improvement projects greatly influences an airport's ability to meet its financial obligations over time. Airports require nearly continuous reinvestment to maintain and upgrade facilities and accommodate growth.

How we assess it for the scorecard

In assessing this notching factor, we consider a publicly managed airport's ability to manage capital improvement projects and the increased leverage that may accompany such projects. This notching factor may result in a downward adjustment of up to one notch (see table).

Where a publicly managed airport has a moderate-to-large capital plan but has a record of meeting cost and schedule targets for recent projects of similar scale and upcoming projects are expected to be procured under an appropriate risk mitigation strategy, we typically notch downward by one-half notch.

We may notch downward by one notch if the project is substantially larger than those undertaken by the airport's current management or the project is subject to cost escalation through contracting methods that do not provide price certainty. A one-notch negative adjustment may also be applied if existing airport facilities are near the end of their useful life, functionally obsolete or are approaching maximum capacity, and will thus require significant capital improvements.

Exhibit 5

Notching factor: Potential for Increased Leverage

-1	-0.5	0
Facilities are nearing functional obsolescence or construction of projects planned for the near-term or currently underway are beyond the scope of what the entity has recently managed and the entity is exposed to cost overruns.	Facilities may require moderate capital investment; current projects are procured under appropriate risk mitigation strategy, or entity has recent experience in managing similarly sized capital projects.	Facilities are in good condition, any construction is maintenance in nature and to be funded by third-party sources or internal cash flow.

Source: Moody's Investors Service

Debt Service Reserves

Why it matters

Financial reserves dedicated to the payment of debt service are a fundamental credit consideration because of their importance in providing an issuer with the ability to withstand periodic revenue disruptions or rapid increases in spending, given the historically volatile nature of the airline industry.

How we assess it for the scorecard

This notching factor may result in a downward adjustment of up to one notch or an upward adjustment of one-half notch (see table). In the US, the inclusion of a 12-month debt service reserve funded with dedicated cash or supported by a surety bond from a highly rated bank or surety provider (we consider these to be fully funded reserves), or a debt service reserve fund (DSRF) that meets the standard three-pronged test[10] is typically considered a standard feature.

We typically apply downward notching when debt service reserves have lower-than-standard requirements. We typically will also apply downward notching where the DSRF is not fully funded or is supported by a liquidity facility that is not provided by a highly rated financial institution. A DSRF that covers greater than 18 months of debt service and is funded with a combination of cash or surety bonds from a highly rated bank or surety provider may result in an upward adjustment of one-half notch.

Exhibit 6

Notching factor: Debt Service Reserves

-1	-0.5	0	+0.5
DSRF is less than six months, or more than 50% of reserve provided by surety rated lower than A.	DSRF is between six and 12 months, or is 12 months and more than 10% is funded by a surety rated lower than A.	12-month DSRF (or standard US three-pronged test).	DSRF is greater than 18 months, inclusive of sureties with A rating or higher.

Source: Moody's Investors Service

For Canadian airports, a six-month cash-funded debt service reserve is considered standard, given the airport authorities' rights to adjust rates and fees to cover expenses, including debt service, within very short periods. Typically, no notching adjustment is made except in a rare instance where a Canadian airport's debt service reserves have lower-than-standard requirements.

Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; legal structure; the quality and experience of management; assessments of governance as well as environmental and social considerations; exposure to uncertain licensing regimes; and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

Debt Structure

Many publicly managed airports have fixed interest-rate debt. Variable-rate debt that has full rate-recovery under the airport's airline use and lease agreement does not typically place negative pressure on credit quality. In the absence of full rate recovery, variable rate debt can weaken liquidity or require market access for refunding and typically places downward pressure on credit quality. The same is true for debt that contains provisions that allow debtholders to put the bonds back to the issuer. The adverse credit effects of variable-rate and puttable debt are assessed in the context of the overall credit profile and circumstances of each issuer.

In addition, a back-loaded or continually increasing debt-service profile may cause a rating to be lower than the scorecard-indicated outcome, because the airport would depend more on annual revenue growth than most of its peers.

Revenue Diversification

Having a diverse set of income streams that are not closely tied to the air passenger industry helps manage revenue pressure, particularly when passenger and airline-related revenue is under stress. Revenue diversification typically comes from a combined airport-port enterprise, ad valorem tax support, large air-cargo operations or some other non-aviation endeavor. We typically consider the additional level of protection that revenue diversification provides and reflect that support in our assessment.

Status of Airline Use Agreements

The duration of the airline use and lease agreements varies by airport. Agreements at large, connecting hub airports tend to have longer durations while agreements at smaller O&D airports tend to have shorter durations. The agreements typically address the capital needs of the airport and contain well-defined processes for approving future capital projects. Long-term agreements with primary airlines that have strong credit profiles provide the strongest level of support. In some instances, the failure to reach any airline use and lease agreement may indicate a fundamental disagreement between the airport's owner and the airlines with regard to planned capital improvement projects or other circumstances. In these cases, the risk to bondholders is that projects may be pursued on a speculative basis and the related costs cannot be recovered. A failure to reach an agreement in the face of a large capital improvement project may cause the rating to be lower than the scorecard-indicated outcome.

Maturity of the Air Service Market

Ratings of publicly managed airports that operate newly built facilities or are located in jurisdictions where air service is evolving may be lower than the scorecard-indicated outcome.

Transparency and Predictability of Government Policy

The scorecard is calibrated based on a sovereign environment where the government is very highly rated, and where the broad legal and judicial environment, as well as government policies relating to air travel, are extremely stable and predictable. Where the environment is less stable and predictable, ratings may be lower than the scorecard-indicated outcome.

Lack of Rate-Setting Ability

Airports rated under this methodology normally have unregulated rate-setting ability. Issuers rated under this methodology that enter into agreements that limit their rate-raising ability or those airports that operate under a framework that does not allow for unregulated rate adjustments to meet their obligations are likely to have ratings that are significantly below the scorecard-indicated outcome.

Additional Metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to issuers in this sector; however, we may use additional metrics to inform our analysis of specific airports. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

For example, in addition to scorecard metrics, our forward view of leverage and coverage may be informed by other indicators, such as the ratio of debt (including ANPL) to operating revenue, the ratio of debt (including ANPL) to net revenue, or the ratio of debt (including ANPL) to total enplanements.

Management Strategy

The quality of management is an important factor supporting an issuer's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and in evaluating management

performance relative to performance of competitors and our projections. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations.

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized operations and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

Regulatory Considerations

Issuers in the publicly managed airport sector are subject to varying degrees of regulatory oversight, including regulations related to safety, the use of airport funds and local ordinances that affect construction activity and traffic. Effects of these regulations may entail limitations on operations, higher costs, and higher potential for technology disruptions and demand substitution. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers. Our view of future regulations plays an important role in our expectations of future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flow relative to its debt burden over the medium and longer term. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift. For example, in the US, if the FAA were to relax the limitations on the distribution of surplus airport revenue to the parent, the negative impact on cash flow and liquidity of some airports might not be fully captured in the scorecard, and, more generally, the credit profile of the parent municipality would be a more important rating consideration.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of publicly managed airports. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[11]

The primary environmental risk for this sector is a reduction in passengers if more stringent air emission and carbon regulations on airlines significantly increase airfares. This would have the greatest impact on airports that have increased leverage to expand capacity. Governance issues may also affect airports, including interference into airport operations from governments.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from sudden regulatory changes to liabilities from an accident — can overwhelm even a stable, well-funded issuer. Some other types of event risks include geopolitical conflicts, pandemics, natural disasters or terrorism that causes a prolonged decrease in air travel as well as significant cyber-crime events.

Parental Support

Ownership can provide ratings lift for a particular issuers in the publicly managed airports and related industry sector[12] if it is owned by a highly rated owner(s) and is viewed to be of strategic importance to those owners. In our analysis of parental support, we consider whether the parent has the financial capacity and strategic incentives to provide support to the issuer in times of stress or financial need (e.g., a major capital investment or advantaged operating agreement), or has already done so in the past. Conversely, if the parent puts a high dividend burden on the issuer, which in turn reduces its flexibility, the ratings would reflect this risk.

Government-related issuers may receive ratings uplift due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying Baseline Credit Assessment.[13] For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

Using the scorecard to arrive at a scorecard-indicated outcome

1. Measurement or estimation of factors in the scorecard

In the "Discussion of the Scorecard Factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,[14] and we describe why they are meaningful as credit indicators.

The information used in assessing the sub-factors is generally found in or calculated from information provided by the airport, information in the bond financing documentation, the financial model, the issuer's financial statements or regulatory filings, and information derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of an issuer's performance as well as for peer comparisons. Financial metrics, unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

Financial metrics may incorporate analytical adjustments that are specific to a particular airport financing. These may include adjustments for restructurings, impairments and off-balance sheet accounts.

2. Mapping scorecard factors to a numeric score

After estimating or calculating each weighted factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa or Ca, also called alpha categories) and to a numeric score. The numeric value of each alpha score is based on the scale below.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is based on the scale below.

Exhibit 7

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

Source: Moody's Investors Service

3. Determining the overall scorecard-indicated outcome

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor), with the results then summed to produce an aggregate numeric score before notching factors (the preliminary outcome). We then consider whether the preliminary outcome that results from the three weighted factors should be notched upward or downward[15] in order to arrive at an aggregate numeric score after notching factors, based on Liquidity, Connecting Traffic, Potential for Increased Leverage, and Debt Service Reserves. In aggregate, the notching factors can result in a total of up to one and a half upward notches or up to four downward notches from the preliminary outcome to arrive at the scorecard-indicated outcome.

The aggregate numeric score before and after notching factors is mapped back to an alphanumeric. For example, an issuer with an aggregate numeric score before notching factors of 11.7 would have a Ba2 preliminary outcome, based on the ranges in the table below. If the combined notching factors totaled two upward notches, the aggregate numeric score after notching factors would be 9.7, which would map to a Baa3 scorecard-indicated outcome. In general, the scorecard-indicated outcome is oriented to the reference rating.

Exhibit 8
Scorecard-indicated outcome

Scorecard-indicated outcome	Aggregate numeric score
Aaa	x < 1.5
Aa1	1.5 ≤ x < 2.5
Aa2	2.5 ≤ x < 3.5
Aa3	3.5 ≤ x < 4.5
A1	4.5 ≤ x < 5.5
A2	5.5 ≤ x < 6.5
A3	6.5 ≤ x < 7.5
Baa1	7.5 ≤ x < 8.5
Baa2	8.5 ≤ x < 9.5
Baa3	9.5 ≤ x < 10.5
Ba1	10.5 ≤ x < 11.5
Ba2	11.5 ≤ x < 12.5
Ba3	12.5 ≤ x < 13.5
B1	13.5 ≤ x < 14.5
B2	14.5 ≤ x < 15.5
B3	15.5 ≤ x < 16.5
Caa1	16.5 ≤ x < 17.5
Caa2	17.5 ≤ x < 18.5
Caa3	18.5 ≤ x < 19.5
Ca	x ≥ 19.5

Source: Moody's Investors Service

Assigning issuer-level and instrument-level ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign a reference rating.

Individual debt instrument ratings may be notched up or down from the reference rating to reflect our assessment of differences in expected loss related to an instrument's seniority level. We may also assign an issuer rating. For issuers that benefit from rating uplift from government ownership, we may assign a Baseline Credit Assessment.[16]

Reference Rating

For US publicly managed airports, the capital structure may contain multiple liens with varied sources of revenue secured to each. In most cases, we consider the lien with the significant majority of debt to be the reference rating. Airports in Canada have typically issued senior secured debt.

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[17]

Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple reference tool that can be used in most cases to approximate credit profiles of issuers in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these issuers. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each factor and sub-factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual issuer's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section may be important for ratings, and their relative importance may also vary from issuer to issuer. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[18] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

General limitations of the methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Issuers in the sector may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

Appendix A: Rating considerations for bonds backed solely by airport passenger fees with no rate-setting ability

In this appendix, we discuss the key rating considerations for bonds backed solely by an airport passenger fee for which there is no independent rate-raising ability.

In the US, airports are able to apply for authorization to collect an airport departure fee, referred to as the Passenger Facility Charge (PFC), to fund capital improvement projects for the purpose of enhancing the national air transportation network or passenger safety. The maximum amount for such fees is set by the US Congress, and the actual amount to be charged to each passenger is determined in each application by the amount of benefit the project is expected to provide to the system.

PFC bonds are subject to the same demand drivers as general revenue bonds, but airports lack the rate-raising ability for PFCs that is associated with general revenue airport bonds. Thus, in the absence of strong PFC debt service coverage ratios on a forward-looking basis, we typically consider these bonds to have weaker credit characteristics than the general revenue bonds of the airport. To assess the revenue strength of PFC bonds, we typically use the composite of the airport's Market Position and Service Offering factor scores, which may be adjusted downward up to one notch based on the Connecting Traffic notching factor.

Where prospective PFC bond debt service coverage ratios are high, generally at least 2x or higher, and where the liquidity available to PFC bonds is strong, the assigned rating for the PFC bond is generally one notch below the composite Market Position and Service Offering score. Where prospective debt service coverage ratios are somewhat lower (below 2x), or where the liquidity available to PFC bonds is weak, the PFC bond rating is generally two or more notches below the composite Market Position and Service Offering score. In essentially all cases, PFC bond ratings are capped at the general aviation revenue bond rating, since the credit profile of general aviation revenue bonds typically benefit from revenue diversity as well as the ability to raise rates.

Appendix B: Rating considerations for bonds backed solely by airport rental car charges (ConRACs)

US airport operators fund the construction of consolidated rental car facilities, which are referred to as ConRACs. Typically, rental car companies operating at an airport move into a special facility that contains customer service counters, rental car parking and other services. The operator issues bonds to fund the construction of the facility, and the bonds are usually backed by some combination of fees that are charged per car for each rental day (called a customer facility charge, or CFC) and space rentals paid by the rental car companies.

ConRAC bonds are subject to the same demand drivers as an airport's general revenue bonds. Although local customers may use the facility, demand for rental cars at airport locations mainly reflects the demand for air travel to a city. In essentially all cases, ConRAC bond ratings are capped at the general aviation revenue bond rating. The credit quality of ConRACs is typically weaker than the credit quality of the general revenue bonds of the airport because the revenue for the ConRAC bonds is derived from a single user base and revenue stream and there is greater competition for the service from public transportation or other ground transportation services. The starting point for our analysis of the credit strength of the ConRAC is typically based on the composite of the corresponding airport's Market Position and Service Offering scores as well as the Connecting Traffic notching factor, and takes into consideration the following factors:

Level of CFC Charge

CFCs are paid by the rental car end-user and are collected and remitted to the airport by the rental car companies. While the CFC charge is typically only a small portion of a customer's total rental invoice, a low CFC typically allows the issuer greater flexibility to increase fee levels if needed. A low CFC is viewed to be a credit positive, while a high CFC can be a credit weakness.

Ability to Change CFC Levels

The ability to raise the CFC charge to maintain financial margins is a key consideration. ConRACs where airport management has the unilateral ability to raise the CFC with short notice typically have stronger credit profiles than peers which operate under state-regulated CFC regimes that limit rate-setting by management.

Ability to Charge Rental Car Companies for CFC Shortfalls

In some instances, the rental car companies have agreed to cover jointly any deficiencies in CFC collections needed to pay debt service through a pro-rata increase in the facility rents that the rental car companies pay to the airport. These provisions support the credit profile of the ConRAC, provided that the market share of the rental car companies is well-diversified and that their credit quality is generally at least high speculative grade.

Debt Service Coverage by Net Revenue

Debt service coverage by net revenue (without the use of balance sheet reserves) of ConRAC bonds that is above 2.0x is generally considered to be strong. Debt service coverage below 1.5x is generally considered to be weak.

Leverage

We typically estimate or calculate leverage on a debt-to-transaction day basis. Leverage that is above $60 per transaction day is considered to be weak, while leverage below $30 per transaction day is considered to be strong.

Reserves and Liquidity

ConRACs typically have a debt service reserve that is sized at the standard three-pronged test[19] for tax- exempt debt. Structures that provide other sources of required reserves are considered to be strong. We do not have a standard metric for liquidity. We typically consider the level of project cash balances against annual debt service requirements, project cash balances against debt outstanding and project operating expenses. In addition, we may consider the degree to which project revenue is protected from other airport uses.

Construction Risk

Construction risk in ConRAC projects has been generally low and does not typically place negative pressure on credit quality. Construction risk is additionally mitigated by airports' ability to collect the CFC before the facility is constructed, thus reducing the risk of revenue losses from delayed completion. However, certain project elements add to the risk of schedule and construction cost overruns. Some projects that have an integrated transit system or automated people mover system have experienced moderate project cost overruns, which have sometimes increased leverage above baseline forecasts. Additionally, projects in brownfield areas or that are being constructed in difficult geological conditions may also have significant cost escalation.

We typically consider the degree of price certainty provided in the issuer's construction contracting method. Among the strongest risk mitigants are fixed-price contracts with meaningful liquidated damages from a reputable contractor, supported by performance security in the form of performance bonds or letters of credit. If such features are present, we may not view construction risk as weighing negatively on the ConRAC rating. Contracting methods that exposes the project to cost overruns typically are credit weaknesses.

Moody's related publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which is available here.

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Endnotes

1 A requirement to obtain regulatory approval is more typically an attribute of a privately managed airport. Please also see the "Other considerations" section.

2 For clarity, these ancillary service fees/levies may be regulated by a third party. When regulated, these fees are typically set or capped by a sovereign or sub-sovereign government and are only rarely reduced.

3 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

4 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

5 Data sources include the Bureau of Labor Statistics, the Census Bureau, Moody's Analytics and other reliable sources.

6 For an explanation of our standard adjustments, please see our methodology that discusses adjusting reported pension data for public entities such as states and local governments.

7 The terms compensatory, hybrid, and ordinance have specific meanings and differences in the US. However, for the purposes of the methodology, any rate structure that relies primarily on demand risk and does not include a full cost-recovery mechanism on the majority of the airport's cost centers is considered compensatory.

8 For more information about our approach to assessing ANPL, please see our methodology that discusses adjusting reported pension data for public entities such as states and local governments. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

9 Please see the discussion of the Net Revenue Debt Service Coverage Ratio sub-factor for a description of compensatory and residual rate-setting.

10 The standard 3-pronged test for US issuers requires that debt service reserve funds be sized at the lesser of (i) maximum annual debt service; (ii) 125% of the average annual debt service over the course of the bonds; or (iii) 10% of the par issuance price. In most cases, the debt service reserve fund approximates 12 months of debt service.

11 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

12 Please see our cross-sector methodology that describes our approach to rating GRIs. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

13 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology that describes our approach for assessing government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

14 When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.

15 Numerically, a downward notch adds 1 to the score, and an upward notch subtracts 1 from the score.

16 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

17 A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

18 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

19 The standard 3-prong test for US issuers requires that debt service reserve funds be sized at the lesser of 1) maximum annual debt service, 2) 125% of the average annual debt service over the course of the bonds, or 3) 10% of par issuance price. In most cases, the debt service reserve fund approximates 12 months of debt service.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

REPORT NUMBER 1327607

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