Overview

- **Ratings Outlook**: The sector outlook is broadly stable, supported by an improving macroeconomic environment, low interest rates, and positive inflation, but currency exchange volatility remains a risk.

- **Risks And Opportunities**: While healthy financial performance continues, the transportation industry is facing a number of pressures that are re-shaping the sector. Technology and mobility disruption bring both risks and opportunities to activities related to roads, car parks, airports, and ports. Sound operating and financial performance will continue in 2018 for all ports, roads, and airports, but in the medium term, operational profitability will increasingly depend on how companies effectively face these challenges. We see transportation companies having to place some strategic bets in the next couple of years.

- **Forecasts**: We expect strong cash flow generation and stable balance sheets, driven by higher earnings, higher distributions, and capital expenditure. Government downgrades and M&A activity in 2017 are the two drivers of negative rating pressure in our transportation infrastructure portfolio. On average, we do not see significant financial rating headroom at current rating levels.

- **Acquisitions**: M&A activity is likely to be the main reason for rating actions. We first expect a continuation of the portfolio reshaping or asset rotation initiatives initiated for a large part in 2016. In addition, we cannot rule out business consolidation to better face sector challenges or accelerate transformation. What's more, attractive financing conditions may accelerate investment decisions – even though, as mentioned above, financial flexibility remains limited at current rating levels.
Cross-sector outlook

Better outlook for the greenfield transportation pipeline

We expect a small improvement in the privately financed pipeline in 2018, after a dry 2017. While policy paralysis will broadly continue increasing the infrastructure funding gap, we believe the recent agreement on the European Fund for Strategic Investments (EFSI 2.0) in Europe and Australia’s asset recycling program will continue to have an impact for the development of new private-public partnerships (P3s). Transportation remains the focus of P3s in the U.S. In North America, we anticipate several multi-billion P3 deals (for example, the Regional Rail Express program in Ontario), despite uncertainty of the federal infrastructure plan. However, we expect issues will remain unresolved and U.S. transportation pipeline will lag behind in 2018 again. In China, P3s are gaining more attention because of rising government debt and as a way to diversify funding for infrastructure.

M&A activity to continue

Interest rates and growing pension liabilities continue to drive up demand for and valuation of infrastructure assets, including transportation. Abundant liquidity, the decline of greenfield opportunities in the infrastructure market, and the attractiveness of certain operators’ credit characteristics will continue to stimulate the M&A deal flow across all transportation sectors.

Continued positive macroeconomic outlook for transportation infrastructure

Low economic growth, relatively low oil prices, and the stimulus of new technologies and business model disruption will continue to stimulate growth for airports, roads, car parks, and ports during 2018. Currency risk remains a global uncertainty, linked to monetary policies. In EMEA the consequences of Brexit remain uncertain, impacting airlines and airports the most. Credit conditions in Latin America (Latam) should remain on a favorable path in 2018, thanks to improvement in the largest economies in the region, which is positive for transportation revenues. In the U.S., transportation infrastructure will likely benefit from the $1.5 trillion tax cut package and raised economic growth prospects, counterbalanced by weaker trade (the renegotiations of NAFTA) and the expected higher interest rate raises.

Acceleration of investment

Tightening emissions regulations and changes in consumer behavior and technology will accelerate the electrification infrastructure trend. The success of automakers and energy utilities to produce and power profitable, affordable, electric vehicle markets will be influenced by the extent of government funding and reduction in battery costs. In 2018, road and car park operators will continue plans to adapt their business models to a high tech industry and new mobility services. Insurers, regulators, and consumers will determine the models that will make it to market in the next decade.
Ratings trends and outlook

Airports

Chart 1 – Ratings distribution

Chart 2 – Ratings outlooks

Chart 3 – Ratings outlook net bias

Source: S&P Global Ratings. Ratings data measured quarterly with last shown quarter ending December 31, 2017
**Industry credit metrics**

**Airports**

**Chart 4 – Debt / EBITDA (median, adjusted)**

**Chart 5 – FFO / debt (median, adjusted)**

**Chart 6 – Cash flow and primary uses**

**Chart 7 – Return on capital employed**

Source: S&P Global Ratings. All figures are converted into U.S. dollars using historical exchange rates. Forecasts are converted at the last financial year-end spot rate.

Solid air traffic growth globally and high operating margins continue to support our stable high rated portfolio of airports across all regions. Negative outlooks are driven by country-specific rating actions (downgrades).

Shareholders are continuing to invest in capacity and retail expansions at the same time as maintaining – in some cases increasing - dividend distributions. We expect transaction activity in 2018 to continue at low levels, compared to other transportation assets.

Airports continue to offer the highest returns on capital of the transportation sector. However, we notice the trend of diminishing revenues per passenger and, despite growth in volumes, our airports portfolio globally had flat revenues in 2017.
## Key assumptions

### Airports

<table>
<thead>
<tr>
<th>Traffic demand</th>
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<tbody>
<tr>
<td>Airport passenger volumes will continue to profit from worldwide wealth and population growth, increased traffic from low-cost carriers, and most recently, from a boom in international tourism and low fuel prices, doubling average projected global economic growth. Despite recessions and downturns, we expect the aviation industry in 2018 to continue to evolve and break into new markets and flight segments and keep growing. Cities will continue to outpace countries in terms of economic recovery and “city airports” will continue to outpace their peers in volumes and diversity growth. We expect most Latam and Asian markets to show at least a 2x elasticity to GDP growth. India, for example, will continue to register 15%-20% domestic passenger growth and 8%-12% international passenger growth. In the Pacific, international growth will continue to surpass domestic. In mature regions such as Europe, the U.S., and Australia, we expect traffic to remain solid in 2018, reflecting improved macroeconomic conditions, increased airline capacity, and airline competition, mainly low cost carriers, with traffic growing in the range of 4%-6%. That said, we expect modest growth in some countries (for example, the U.K.), in line with economic growth.</td>
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<table>
<thead>
<tr>
<th>Revenue mix</th>
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<tr>
<td>While the growth of revenue per passenger has stalled, we expect the mix of aeronautical and non-aeronautical activities to remain stable in 2018, with some exceptions, as some airports complete new retail projects. However, the split between aeronautical and non-aeronautical revenues, according to Airports Council International, remained stable at an average 60%/40% aeronautical/commercial, implying the decrease in revenue growth is happening on average for both commercial and aviation businesses. Aeronautical revenues still generally represent the lion’s share of total airport revenues in most regions, with no significant difference between dual- or single-toll frameworks. In EMEA, we expect the split between aeronautical and non-aeronautical revenues to remain stable at about 55%/45%.</td>
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<tr>
<th>Revenue per passenger growth</th>
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<tr>
<td>Projected growth in revenue per passenger in 2018 will be on an airport by airport basis and in general no longer linked to inflation or any other macroeconomic assumption. Global airport revenue per passenger has flattened due to increased competition for the aeronautical and commercial businesses. In 2017, it averaged U.S.$20, down from U.S.$21.22 in 2014, according to Airports Council International (ACI), which represents more than 800 airports and over 70% of the world’s passenger traffic. Aeronautical and/or commercial growth on a per passenger basis will range from negative (some EMEA and Latam airports) to positive (most airports in U.S., Canada, Australia and New Zealand) depending on the regulation and the negotiating balance between airlines and airports. Regulatory delays and disputes significantly impact aeronautical revenue growth for Indian airports; for example Delhi Airport will derive the majority of income from non-aeronautical revenues, due to over recoveries in the last tariff control period.</td>
</tr>
</tbody>
</table>
Key opportunities

Airports

1. **Connectivity**
   
   Airports are increasingly developing distinct connectivity strategies leveraging their competitive positions. Whether hub or origin and destination (O&D), it’s airports with diverse airline groups or that host airline alliances that are more likely to see the yearly introduction of new services, adding to their competitive advantage.

   Well-managed airports will strengthen their sources of competitive position, including their catchment area and geographical location, runway capacity, ground transport connectivity, and any regulatory, environmental or operational restrictions (or lack of) which might impact airlines choice and pricing. The evolution of the low cost carrier business model into more regions and the long haul market will create opportunities for some airports and risks for others; in particular, hub airports could see a loss or substitution effect of some of their transfer traffic to the low cost carrier segment.

   In EMEA, the changes in the airline landscape (collapses and new entrants) and Brexit will shape the responses of airports to new opportunities. In Latam the LATAM Airlines Group will continue to dominate expansion. In the U.S. the balance of large U.S. networks is expected to be stable. In the medium term, hub airports in India may see slower passenger growth with the government push for developing smaller airports across the country including subsidizing some seats and capping fares.

2. **Capex investments**
   
   Intensified growth and competition is driving expansion at a number of international airports in all regions. Returns on aeronautical and commercial new assets will be a function of the regulatory framework, expected volumes growth, and future ability of the airport operator to sustain aero and commercial yields per passenger.

   All Brisbane, Melbourne, Perth, and Sydney airport systems are planning to increase runway capacity in the next decade. Sydney’s single runway second airport is being built by the national government and in competition with Sydney’s first airport. In EMEA, Heathrow’s new runway project is expected to be operational between 2025 and 2030. Meanwhile, construction of Dublin Airport’s second runway is due to commence in 2018.

   In Asia, Hong Kong airport’s third runway is currently under construction and expected to be in commission from 2024. India’s civil aviation market is set to become the world’s third-largest by 2020 and many Indian airports have reached their estimated capacity three or four years ahead of plans, with significant airport development still two to three years away. In Latam, most of the region’s airports carried out expansion plans between 2007 and 2012. The Mexican government is constructing a new international airport for Mexico City, which will boost current capacity by four times, to 57 million passengers by 2020.
M&A

The French government has announced its intention to further privatize Aeroports de Paris, which operates Charles de Gaulle and Orly airports, located outside the capital. We expect to see great appetite from European and overseas equity investors. Meanwhile, the Danish state refused the tender offer to sell 39% of Copenhagen Airports by Ontario Teachers’ Pension Plan and Arbejdsmarkedets Tillægpension in December 2017.

We have seen a trend of minority stake sales in order to partially fund investments. In early 2018, Fraport Greece, which operates 14 regional airports in Greece, completed the sale of a 10% stake to the independent infrastructure fund, Marguerite Fund. Similarly, Auckland International Airport announced the sale of its 24.6% share in North Queensland Airports and will use the proceeds to fund its aeronautical investment at Auckland Airport in the next five years. In Europe, Macquarie and Ferrovial are planning to refinance the $988 million acquisition loans of AGS Airports (Aberdeen, Glasgow, and Southampton). Gatwick might come to the market at some point in 2018.
**Key risks**

**Airports**

1. **Geopolitical events**
   In the future, continued incidents of terrorism and their knock-on effects regarding attitudes toward travel, as well as big geopolitical events such as Brexit, or security-driven travel restrictions, could mangle traffic patterns. Ryanair has reduced growth in the U.K. as a result of Brexit uncertainty, which likely means slower growth for Stansted. EasyJet has announced a new subsidiary, easyJet Europe, to ensure intra-EU traffic rights post-Brexit. Spain, on the other hand, has benefitted from shifts in travel patterns to destinations in Turkey or Egypt, with an additional 16 million air seats added over the past two years.

2. **Retail and mobility disruption**
   Changes in consumer preferences and online competition mean air travel duty free and travel sales have been flat for two years in a row. Airports are adapting to the pockets of consumer spending where growth is still holding up well, such as eating out or recreational services. Airports are leveraging their understanding of customer behavior and focusing on providing high quality design and place making for their commercial areas. These structural challenges will unlikely be resolved soon and other factors are responsible for the lack of growth, such as currency depreciation in certain countries reducing traveler’s ability to spend (for example Russian passengers), restrictions on duty-free allowances imposed by the Chinese government, and higher penetration of low-cost carriers.
   The airport car-parking segment has been going through new challenges in recent periods, facing off-airport car parking competition, car/ride sharing, and public transport competition, in addition to digital disruption. The effect of car/ride sharing on both airport parking and access has the potential to significantly change airport ground access revenues.

3. **Regulatory stability**
   In response to new competitive opportunities and threats, notably a more diverse airline landscape, new aircraft technology and a wider range of aviation policies (such as environmental or capacity constraints), airports have intensified competition to attract airlines and passengers, which has led to less need for tariff regulation in some markets.
   Airlines have been competing with lower costs and airfares, and airports have been competing by offering discounts to airlines for volumes and new routes. When the market cycle changes and volumes slow down, regulators’ roles will be a more significant differentiator of aeronautical profitability.
   Regulatory risk remains elevated though reducing for Indian airports due to constant delays in regulatory resets and disputes on tariffs. Expected resolution of some of these disputes should provide greater cash flow visibility, which in turn is necessary to support large capex due to strong passenger growth.
Ratings trends and outlook

Ports

Chart 8 – Ratings distribution

Chart 9 – Ratings outlooks

Chart 10 – Ratings outlook net bias

Source: S&P Global Ratings. Ratings data measured quarterly with last shown quarter ending December 31, 2017
Industry credit metrics

Ports

Chart 11 – Debt / EBITDA (median, adjusted)

Chart 12 – FFO / debt (median, adjusted)

Chart 13 – Cash flow and primary uses

Chart 14 – Return on capital employed

Source: S&P Global Ratings. All figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate.

Port infrastructure continues to deliver growth in volumes. With its high barriers to entry and limited local competition in each port market, the sector has delivered healthy profit margins and returns on investment. However, the global container port industry may be entering a new phase of its development and the high growth in ship size is raising terminal operating expenditure and capex. At the same time, the bargaining power of shipping lines and alliances has increased significantly and so has the international competition for acquiring port assets, which is adding pressure to returns on investment. Our forecasts maintain strong credit metrics, which support a stable outlook across the portfolio. However, we expect acquisitions to continue, which might put pressure on the ratings.
### Key assumptions

<table>
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<th>Ports</th>
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<td><strong>Demand</strong></td>
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| Operating margins | Chinese container operators will continue to dominate the league table of global ports in 2018, driven by a stable Chinese economy and recovering global trade. Container operators are being challenged by the necessity to accommodate ever-bigger ships and the growing bargaining power of the shipping lines, as the industry consolidates. As a result, significant investments are to be made that may not result in significantly better profitability, as all the rewards from increased operating efficiencies will flow to the shipping lines. Shanghai Port will see a reduction of operating profitability driven by a regulatory decision, which has reduced tariffs. Its revenue grew significantly in 2017 and was mainly attributable to its robust volume increase from about 37.1 million TEU in 2016 to about 40 million TEU in 2017. However we expect flat growth in 2018 mainly because of moderate growth in volume after a strong base in 2017 but more importantly the tariff cuts since 2018. Indian private ports have a strong competitive position due to significantly better operating efficiency than over-congested government-owned ports and healthy economic growth. Indonesian ports enjoy exclusivity, given a regulatory environment that requires licensing. Port of Singapore continues to enjoy benefits of geographic location, scale, and advanced technologies, but faces increasing challenge from port capacity expansions in Malacca Strait. Others, like the Container Port of Singapore (SPA Corporation), will stay at current levels of around 48%-49% EBITDA margin for the next two to three years. |

| Capex investment | With average container ship size growing globally at an average compound annual growth rate of 15.3% over 2010-2014, terminal operators need to invest in upgrading their infrastructure to be able to handle big ships and do it efficiently, to preserve margins. In China, fully or partially automated terminals and digitalization (“intelligent ports”) would support asset utilization and growth. At the same time, as technology further penetrates the industry, cybersecurity will become increasingly important. We expect modest levels of investment by commodity ports due to ample capacity present, although with some exceptions. For example, Lianyungang Port in China is investing in a multibillion-capex expansion program, with 80% bulk throughput, to diversify away from bulk. |

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Note: TEU stands for twenty-foot equivalent unit, which can be used to measure a ship’s cargo carrying capacity. Source: Drewry Spotlight Briefing 2016.
### Key opportunities

#### Ports

<table>
<thead>
<tr>
<th>1</th>
<th>Increased connectivity</th>
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<tr>
<td>Foster competition among ports is increasing trade connectivity. Interport competition is not limited to national seaports, but also to ports of neighboring countries. Improved maritime connectivity thus also depends on effective port hinterland access through inland and multimodal transport connections. Efficient regional trucking markets, inland waterways, rail and road infrastructure, as well as transit regimes are all important instruments to enhance inter-port competition.</td>
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<td>Inland terminal development, in association with industry users/rail operators, will improve access to hinterland. Combining modes of transport improves access to ports and reduces distribution timing.</td>
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<td>Indian private ports enjoy significant opportunities to benefit from the growing economy and increase the proportion of higher margin container business (though on a smaller base). Indonesia still has a lot of opportunities to promote inland sea transport, to drive demand and utilization.</td>
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<th>2</th>
<th>M&amp;A</th>
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<tbody>
<tr>
<td>The expanding size of containerships is positive for hub ports, which have a competitive edge to handle mega ships. Smaller neighboring terminals or those with capacity limitations may cooperate in order to meet the demands of shipping alliances and withstand their bargaining power. Such cooperation may happen through partnerships or M&amp;A activity.</td>
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<tr>
<td>We see grounds for the privatization of more assets, led by strong interest by superfunds/pension funds and other long-term asset owners. Partnership with shipping lines for dedicated berths and joint ventures remains a centerpiece for Brazilian, Indian, and Indonesian ports, driving capex and providing stability to earnings. More pure port operators are likely to make strategic investment into liners to secure volumes, especially in light of the formation of shipping alliances.</td>
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<tr>
<td>We expect to see a spree of port acquisitions by Chinese operators under the “Belt and Road” initiatives. China Merchants made a string of acquisitions in 2017, in addition to paying special dividends, which resulted in a downgrade. We expect its weighted average ratio of FFO to debt to be 12%-15% in 2017-2019, compared with 21.8% in 2016. Acquisitions will remain in focus for Indian ports, with private players taking over existing ports and improving efficiencies.</td>
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<th>3</th>
<th>Supply chain expansion</th>
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<tr>
<td>Port operators have natural advantages in port-related fast-growing logistics businesses. Chinese port groups are exploring the opportunities of establishing free trade ports (such as cross-border e-commerce and assembling of semi-finished goods from overseas). In return, cross-border e-commerce trade is becoming an important growth driver for port throughput and logistics businesses.</td>
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<tr>
<td>Large land bank development by some port operators has allowed them to monetize the significant land value appreciation. We will see continued land bank development in ports, particularly those in urban areas. This is likely to include new real estate and commercial developments in regions like China, in addition to the traditional industrial ones.</td>
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</table>
Key risks

Ports

1 Exposure to commodities
Commodities-driven ports are exposed to volatile demand for coal and other minerals such as nickel, lithium, and gold, which has been pressuring prices and pushing down the credit quality of miners in recent years. This hampers the financial flexibility of coal port operators, for example the Wiggins Island Coal Export Terminal (WICET) in Queensland, which is currently in preliminary negotiations to restructure its debt and ownership. Indian ports’ exposure to commodities like coal has been reducing amid rising domestic coal production. Indonesian ports have been affected in part due to lower commodity prices impacting exports.

2 Congestion
Some Chinese ports are suffering a capacity glut and competitive pressure because of their overlapped hinterlands and overspending. The trend of government-led port integration aims to achieve cost-savings and reduce competition.
Indonesian ports, despite catering to O&D traffic, are affected by changing demand and supply patterns within the country (east and west) which can decouple performance from economic growth.

3 Regulatory risk
Rising protectionism and the mixed impact of tax reform by the Trump administration might have a positive short-term impact, as tax cuts may encourage consumption and investment. But it may be negative to global trade and global port operators in the mid-to-long term if more manufacturers move back production lines to the U.S.
Unexpected negative government intervention for political and economic means will remain a risk. In China, the cuts of container handling fees by major ports under the regulator’s “anti-monopoly” claim are dampening these ports’ profitability. In Indonesia, the government has disallowed investments from some international companies in joint ventures with major port operators after being in operation for many years. This has created uncertainties on cash repayment as well as future capex.
Ratings trends and outlook

Roads

Chart 15 – Ratings distribution

- Road

Chart 16 – Ratings outlooks

- Positive 8%
- Negative 9%
- Stable 83%

Chart 17 – Ratings outlook net bias

- Net Outlook Bias (%)

Source: S&P Global Ratings. Ratings data measured quarterly with last shown quarter ending December 31, 2017

Out of the 105 Roads rated globally, 87 are exposed to volume of tolling and 18 to availability payments.
Industry credit metrics

Roads

Chart 18 – Debt / EBITDA (median, adjusted)

Chart 19 – FFO / debt (median, adjusted)

Chart 20 – Cash flow and primary uses

Chart 21 – Return on capital employed

Source: S&P Global Ratings. All figures are converted into U.S. Dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate.

The stable outlook across our global roads portfolio reflects our view of stable earnings generation performance, mostly linked to GDP growth. The negative outlook trend in 2017 was linked to our negative outlook on Latam countries, such as Mexico, Brazil, Colombia, and Chile. The sovereign ratings are important in this sector because of the high influence of regulation in the business. This negative trend was counterbalanced by stronger performance of U.S.-based toll roads, with eight upgrades in our rated portfolio in 2017.

The low return on capital and high debt-to-EBITDA ratios are a reflection of a mature, high yield sector, mostly in developed countries, with low capex requirements.

Currently the negative credit outlooks are driven by acquisition activity. However, a deterioration of the credit metrics (for example, debt to EBITDA close to 4.0x), could result in a change of financial risk profile for some credits to significant from intermediate.
Key assumptions

Roads and Car Parks

Traffic demand
Economic and inflation growth will boost volumes and revenues across all regions, but we will continue to see roads where traffic growth is delinking from economic factors.

The strong cyclical rebound in the eurozone will increase domestic demand and investment, and benefit traffic growth and inflation-linked toll road revenues in 2018. In Asia, Indonesia expects to see strong growth following the recent completion of large capacity projects. Traffic growth in China may see at least high-single-digit growth, assisted by economic growth, expanding networks, increasing car ownership, and more leisure travel. In Latam, toll roads continue to outperform GDP with 2x average elasticity, and we expect recovery in traffic volumes in Brazil following the end of recession cycle. In Australia, a supportive concession environment and completion of projects will support strong growth.

We expect traffic demand to rise between 2% and 4% across world regions, depending on road maturity and other factors. A proposed change in NAFTA may affect heavy vehicle traffic growth in the medium to long term in Mexico, while we still saw double-digit growth in 2017, driven by still solid industrial relations between the U.S. and Mexico.

For car parks, we expect competition will drive modest growth in volumes and revenues.

Operational efficiencies
Operational efficiencies will continue to drive operating margin growth. Higher automation of road and car park operations will continue to enhance profit margins and create additional revenue opportunities.

In Europe we will see a trend toward higher EBITDA margins (already at 70% for French toll roads). In other regions such as Indonesia, however, e-tolling benefits will accrue only to large network operators, due to workforce inflexibility. In Australia, we expect a small negative deviation from the trend line to be temporary and driven by capital works and other work force changes. In North America, we expect most toll road operators to continue to generate a stable EBITDA margin, close to prior years, with some operators likely to see improvement in the margin with the use of big data and continued expansion and implementation of electronic toll collection (ETC) technology.

Capex investments
In 2018, we expect to see large capital expenditure (capex) investments in most regions, driven by road congestion, economic stimulus programs, or disruptive technologies (electrification or car-sharing park facilities). We expect these works to be compensated either through tariff increases or extension of concession terms, therefore benefitting the contract duration of single asset and portfolio asset operators.

In Europe, we will see the "Plan de Relance Autoroutier" in France and the EFSI-funded Spanish road program. In Asia, Indonesia is nearly doubling its existing toll road network in next five years; China will see significant new road investment shifted from east to middle and west regions, with banks still dominating as funding sources. In Latam, large investments opportunities continue to be linked to the advance of the 4G Toll Roads program in Colombia, the largest in the region with around $18 billion of investments in over 30 greenfield and brownfield roads.
Key opportunities

Roads and Car Parks

1. **Tolling technology and systems**
   Investment in digitalization, GPS, tracking devices, and big data will further shape tolling mechanisms, allowing distance-based tolls and demand management pricing. The new tolling systems will need new policies and contractual arrangements. Longer term, new operating models will increase efficiencies in the operation and management of roads.
   We expect to see operators in mature markets like Transurban leading the development in the U.S. and Australia. In Europe, trunk network operators are investing and partnering with technology companies locally and abroad. E-toll adoption is significantly shifting workforce requirement and in the medium term will support margins in Indonesia.

2. **Automated driving**
   Automated driver-assistance systems can increase asset utilization and service levels. These systems are becoming mainstream quickly, mandated by governments gradually. Over the longer term, automated vehicles (AV) are likely to make it to market. The growth of AVs will be fragmented, advancing at different paces according to the type of vehicle and location, depending on the corridor demographics, congestion issues, development of regulations, policies, and AV infrastructure.
   While the regions with significant technology concentration (U.S. and some European countries) have an early lead, we expect countries such as China, with massive market demand to catch up and seize the leadership in developing self-driving cars and implementing relevant infrastructure projects. In China, the combination of government policy support, technological innovation (as seen in China’s advanced research in artificial intelligence), and massive market demand provide it an edge in developing AVs and implementing relevant infrastructure projects.

3. **M&A**
   Cash flow stability and sound margins generated by some of Europe's largest road and car park operators make this asset class appealing for investors, who have been lured by the opportunity to increase companies' leverage and extract returns. A resurgence of M&A activity could affect ratings. Depending on the nature and structure of such transactions, M&A may affect issuers’ credit metrics, which are relatively weak in the sector.
   In Europe, we expect to see the outcome of the Italy-based Atlantia and German construction company Hochtief offers for Abertis. In North America, we expect limited M&A opportunities due to limited inventory of privately owned transportation assets and uncertainty over the asset recycling. Currently, the M&A pipeline consists of American Roads in U.S. and A-25 in Canada. In Latam, we expect the conclusion of Mubadala’s offer to acquire a controlling stake in Brazilian Invepar to mark the entrance of Abu Dhabi in the region. We also expect opportunistic M&A activity of assets related to sponsors emerging from financial distress in Mexico, Brazil, Peru, and Colombia.
### Key risks

#### Roads and Car Parks

<table>
<thead>
<tr>
<th>1</th>
<th>Hampered deleveraging</th>
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<tr>
<td>Higher levels of shareholders distributions, and rigid dividend policies, together with M&amp;A transactions, will put a brake on deleveraging.</td>
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<td>In China, the state-owned provincial highway groups are mandated by governments to foray into the financing and investment of local railways or further extend the road network to achieve an aggressive mileage target by 2020. Since the returns of these investments tend to be low, this could further lever up their balance sheets.</td>
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<td>In developing markets, the quick ramp-up of traffic, driven by growing economies, population, and car ownership, and the increasing mix of financing sources, including 3Ps and local bond markets, will be important to sustain metrics.</td>
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<thead>
<tr>
<th>2</th>
<th>Operators' business models are being challenged</th>
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<tr>
<td>Roads and car parks business models will need to evolve to adapt to a high tech industry, electric vehicles, and new mobility services (such as ride and car sharing). The increasing use of ride-hailing services such as Uber and car sharing, could reduce individual car ownership over the medium term. Such changes in mobility patterns may reduce the number of cars on the road looking for car parking services, with potentially credit negative implications for some car park operators, but also creating opportunities in the sector.</td>
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<th>3</th>
<th>Regulatory instability</th>
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<tbody>
<tr>
<td>With reduced lower full excises revenue projections and other budget constraints, governments are increasing looking at new policy mechanisms (user pay models) to fund roads investment. In EMEA and Australia, various models of vehicle-miles traveled (VMT’s) charging and technology systems are being considered by governments and private operators alike.</td>
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<tr>
<td>Some country specific regulatory issues, such as the unexpected delay in biennial inflation linked tariff adjustments in Indonesia has the potential to impact credit stability for some roads.</td>
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Note: Car-sharing is a car rental model where people rent cars for short periods of time, often by the hour. It attracts customers who only occasionally use a vehicle, as well as others who would like occasional access to a different type of vehicle than they typically use. Ride-sharing refers to a similar service to taxis where transportation network companies dispatch commercial operators using privately owned cars and drivers.

Under S&P Global Ratings’ policies, only a Rating Committee can determine a Credit Rating Action (including a Credit Rating change, affirmation or withdrawal, Rating Outlook change, or CreditWatch action). This commentary and its subject matter have not been the subject of Rating Committee action and should not be interpreted as a change to, or affirmation of, a Credit Rating or Rating Outlook.

### Related research

- [Are Airports Ready For Airline, Retail, And Mobility Disruption?](https://www.spglobal.com/ratings/en/research/181206-are-airports-ready-for-airline-retail-and-mobility-disruption), Dec. 6, 2017
- [The Serial Rise in Infrastructure Spending Shows that Australia’s Strategy is Working](https://www.spglobal.com/ratings/en/research/181129-s Serial-rise-in-infrastructure-spending-shows- that-australias-strategy-is-working), Nov. 29, 2017