MUNICIPAL CREDIT OUTLOOK 2017

Sector outlooks broadly stable with expectation for uptick in economic growth tempered by lingering challenges – Uncertainty prevalent under changing federal administration

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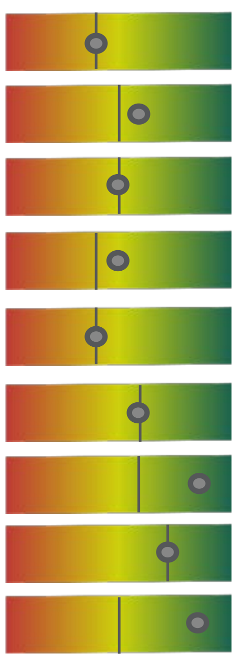
Sector outlooks reflect our base case expectation for additional growth in economic activity and GDP over the next 12-18 months. Outlooks are tempered by relatively modest expectations for revenue growth, elevated cost pressure, and significant policy uncertainty with respect to infrastructure spending, regulation, healthcare, education, and tax policy.

States, hospitals, and the higher education sectors lag in our outlook, as pension costs, healthcare costs, affordability concerns, and the future of Medicaid continue to weigh on near-term growth prospects.

Toll roads and power will continue to benefit from overall economic growth and relatively low commodity prices. We also see a more supportive environment for the state housing sector, largely tied to rising interest rates.

Essential utilities continue to be our most resilient sectors, while states and hospitals are seen as the most vulnerable to a downturn.



Sector	Outlook: Negative to Positive | Resiliency: Weak to Strong	Summary	Page
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See page 11 for definitions, including outlook and resiliency.

NORTHERN TRUST

STATES

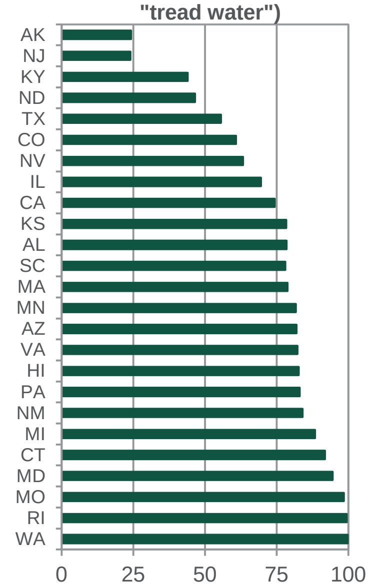
Wide divergence in state fiscal health – Overall, cost pressure will continue to outpace revenue growth

State fiscal performance most closely mirrors broad economic trends. While revenue growth should improve modestly over 2016, budget pressures still challenge the sector. As the states' largest budget item, Medicaid funding changes would be impactful.

Key Outlook Drivers

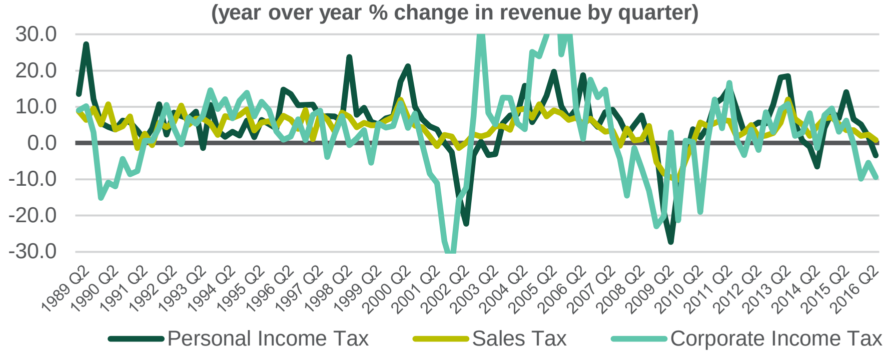
- **Medicaid costs** for 31 expansion states, under current policy, are projected to grow 5.9% in 2017, up from 1.9% in 2016[1]. The projected median increase for all states is 4.4%, materially outpacing projected GDP and revenue growth. The future of the Affordable Care Act (ACA) and Medicaid funding is uncertain; changes may force states to reassess programs.
- **Pensions continue to cannibalize budgets**. Moody's projects the unfunded liability will increase from under 7% of GDP (2016) to near 9% (2017) based on current pension valuations. Even as contributions from the states grow, stronger returns or greater contributions are needed to stem the rise of unfunded liabilities. States with the largest unfunded liabilities continue to be Illinois, New Jersey, Kentucky, Alaska, and Connecticut.
- **Infrastructure needs and labor costs** are rising.
- We expect an uptick in economic activity to support 2017 **income and sales tax** growth. Projections for total revenue growth are modest at 2-3%[2]; divergence across states will be significant.
  - Employment gains have been concentrated in lower income jobs, tempering the contribution to tax revenue. Wage growth is likely to remain modest in the near term.
  - The prospect of lower federal tax rates in the next year may incentivise pushing realization of income into the next fiscal year and accelerate losses for April returns.
  - **Low oil and gas prices** are not expected to materially rise in the near term. States are filling the gaps with reduced spending, use of reserves, or with new or increased revenue sources. States most impacted include Alaska, Colorado, Louisiana, New Mexico, Oklahoma, North Dakota, Wyoming, and Texas.

Half of States are Underfunding Pensions (Contribution as % of 2015 "tread water")



Source: Moody's Investors Service

2017 Revenues Expected to Grow from Weakened 2016, but Unlikely to Cure Sector Challenges (year over year % change in revenue by quarter)

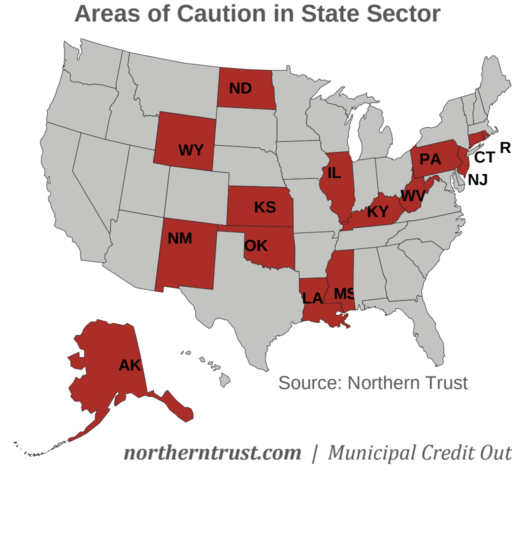


Source: Rockefeller Institute of Government

Resiliency is weakened

Given volatility of income and sales taxes and the increasingly fixed and countercyclical nature of expenses, the need for states to be fiscally prepared for downturn is paramount. Median reserves remain materially below pre-recession peaks[3]. As a result, we see resiliency as weakened.

Areas of Caution in State Sector



Source: Northern Trust

[1] Kaiser Family Foundation
[2] Rockefeller Institute & Moody's Investor's Service
[3] The Pew Charitable Trusts

LOCAL GOVERNMENT

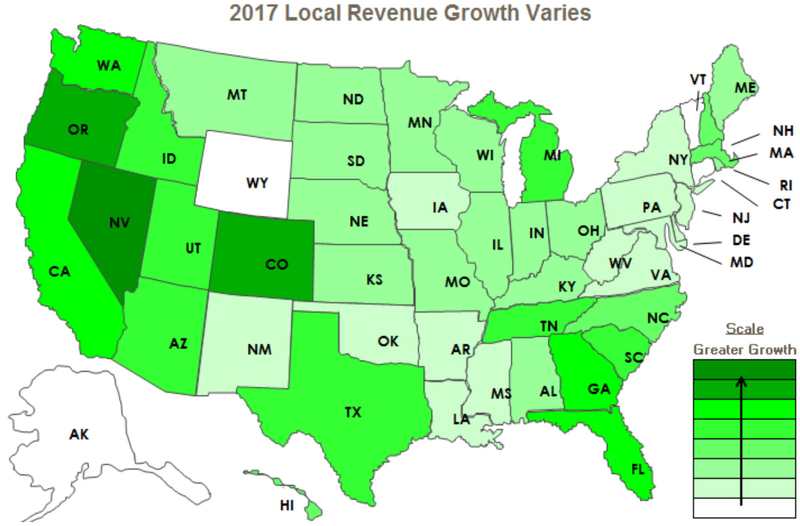
Healthy appreciation of home prices supports revenue growth - Infrastructure needs, labor costs, and legacy liabilities remain a hurdle

Growing assessed valuations will help stabilize pressures from increased wage and benefit costs. Conditions vary greatly across the nation, with stability at the median.

Key Outlook Drivers

- **Property tax, local sales tax, licenses and fees expected to increase** based on trailing employment, income and home price growth. West coast and southeast regions are expected to exhibit higher local government revenue growth. Cities that diversify property tax revenues with sales tax and income tax will benefit from positive 2016 income and employment growth fully realized in 2017. Expect stagnant or weakening revenue growth for locals in commodity states.
- We expect **expenditures to match or slightly exceed revenue growth**. Wages and benefits, public safety, and infrastructure costs are driving expenditure growth.
- National League of Cities reports that 81% of city finance officers stated that their **cities are better able to meet financial needs** in 2016 than in 2015. We expect similar results in 2017 given trends.

2017 Local Revenue Growth Varies



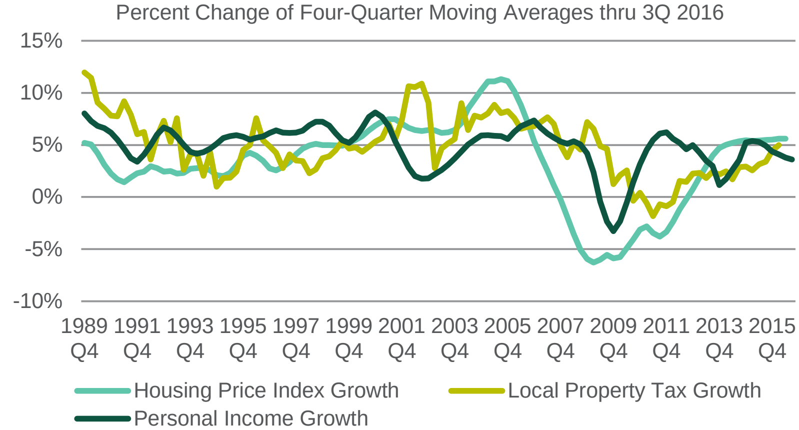
Source: Northern Trust

Resiliency is good

- **Low volatility**: Inelastic property tax revenue supports sector resiliency. This is exhibited in chart to the right, with local property tax declines less than home price declines.
- **Solid reserves:** Overall, local governments are in better position today than in 2008 to withstand a downturn. Although 2016 fund balances are expected to slightly decline as a percentage of expenditures, the levels will remain higher than in 2008. Larger locals face greater challenges due to elevated infrastructure needs, high legacy liabilities and weaker reserve levels. Larger locals saw greater relative impact from new pension accounting, as reflected in size of year-over-year change in net assets as percentage of expenditures. Counties display higher resiliency than cities, with higher reserves and lower liability burdens.

Valuation Growth Will Be Realized in 2017 Tax Revenue

Percent Change of Four-Quarter Moving Averages thru 3Q 2016



Sources: U.S. Census Bureau, Quarterly Summary of State & Local Government Tax Revenue (local property taxes) and Federal Housing Finance Agency, House Price Indexes data (all transactions).

AIRPORTS

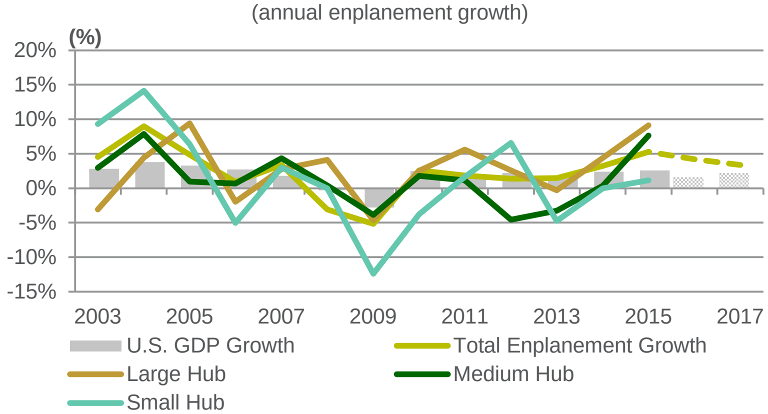
Larger hubs will benefit from good demand and economic growth – Smaller hubs and regionals will continue to lag

Our outlook for 2017 has moderated from 2016, but remains supportive for the sector.

Key Outlook Drivers

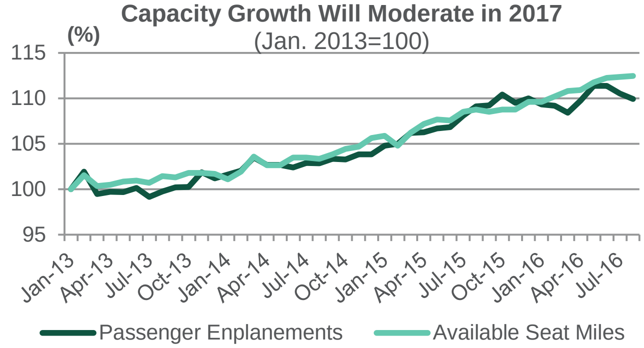
- **Demand** has moderated after reaching peak growth of 5.3% in 2015 to a still strong 3.7% for the first eight months of 2016. We expect demand to continue to moderate, closer to the 2.5% projected by the Federal Aviation Administration (FAA) for 2017. Domestic traffic, at an average growth rate of 4.25% in 2014 and 2015, should sustain positive momentum in line with economic growth and as carriers focus on growing the leisure segment. International traffic has grown at a consistently strong 5.5% since 2013. Weaker growth in key international markets such as Latin America and Europe, a stronger U.S. dollar, and security concerns could very well soften international travel going through U.S. international gateway airports in 2017.
- **Supply** growth will also moderate as carriers project to add capacity at a lower rate more in-line with GDP. Slowing capacity growth will also offset some of the margin erosion created by today's higher fuel prices relative to 2014.
- Over the last several years, the strong demand for travel, airline consolidation, and airline network realignments have strengthened **large hubs and international gateways** at the expense of smaller and regional airports, many of which will continue to lag. As a result, the majority of large hubs are expected to outperform relative to smaller airports that may struggle to stabilize traffic and reverse service contractions.
- Large airports have embarked on **large capital spending programs** designed to enhance traveler experience and address operating inefficiencies at their facilities. Several are in the midst of multi-billion dollar capital plans that continue to lever up enplanements and cash flow. Total debt is higher across the large hub sub-sector compared to 2009, but the recent solid growth in enplanements mutes the effect of this additional debt on a per enplanement basis. Balancing cost recovery and airport's cost attractiveness to carriers is key, as is the successful execution of these substantial programs.

Large Hubs Expected to Outperform in 2017
(annual enplanement growth)



Source: Northern Trust, Bloomberg, and Bureau of Transportation Statistics

U.S. Airport Enplanements and Airline Capacity Growth Will Moderate in 2017
(Jan. 2013=100)



Source: Bureau of Transportation Statistics

Resiliency is good

Airport enplanements are volatile and largely influenced by GDP, business conditions, airline behavior, and oil prices (to a lesser extent). Nevertheless, the sector derives its strength from its essentiality of service, high barriers to entry, long-term airline agreements that allow cost recovery, and cash reserves. We expect international gateways and pure origination/destination airports to be more resilient relative to medium and smaller airports in the event of an external shock.

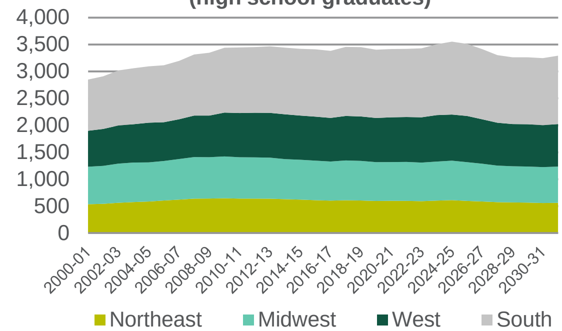
HIGHER EDUCATION

Sector headwinds will have greater impact on smaller, market-challenged privates and publics in budget-stressed states

Key Outlook Drivers

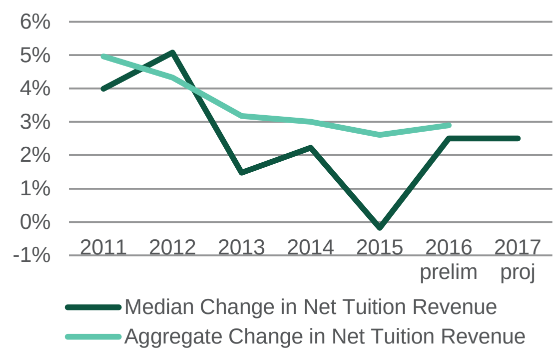
- **Increasing competition amidst tempered demand** due to demographic projections for overall flat growth in high school graduates through 2022[4]. Uncertainty exists about the level of continued demand growth from full-price international students amidst perceived or real anti-immigrant sentiment.
- **Tuition price sensitivity** remains a challenge for most of the sector. Moody's fall 2017 tuition survey indicates about 25% of private colleges and universities will see flat or declining net tuition revenue growth. Median growth for small schools is projected at 1.2%, with large comprehensive schools at a healthier 2.8%. The survey indicates 30% of public schools will see flat or negative net tuition revenue growth, with a significant portion of this due to state tuition freezes.
- **Public higher education funding** remains well below peak for nearly all states. Overall funding has declined dramatically, with a Moody's reported median cut of 20%. Over the same time, tuition growth has been a median 31%. Several states continue to cure their own budget shortfalls with cuts to higher education. The largest percentage declines in state funding since 2011 have been in Arizona, Illinois, Louisiana, New Hampshire, Oklahoma, and Kentucky.
- **Endowments** have seen flat to modest growth over the last two years, impacting 2017 contribution to revenue.
- **Pension liabilities** are growing for public universities, given low returns and inadequate funding. Moody's reports that adjusted pension liabilities for public universities now exceed total debt outstanding.
- **Healthcare challenges** will impact those with medical centers or hospitals.
- The **new administration** has not outlined clear policy regarding higher education. The challenges faced by higher education mirror those in healthcare, and appropriate policy action is highly debated given the often-conflicting goals of access, quality, and cost containment. Potential changes in tax-exempt status, research funding, student loans, healthcare, and Pell grant funding would be significant for the sector. Our outlook assumes no material near-term change.

Growth Projected in South, Stability in West, Modest Declines in Northeast and Midwest
(high school graduates)



Source: Western Interstate Commission for Higher Education

Private Median Net Tuition Revenue - Larger Schools Outperform

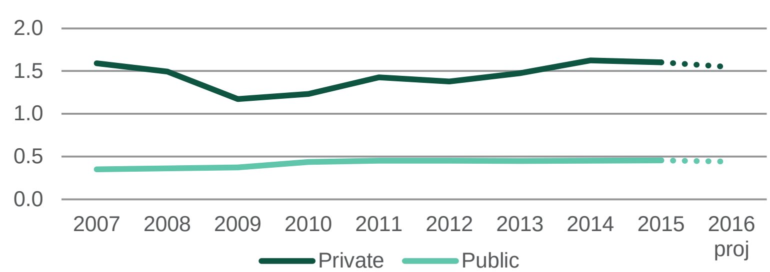


Sources: Merritt Research Services, Northern Trust, Moody's 2017 Tuition Survey

Resiliency is good

The median university is resilient, given the overall demand for education, moderate flexibility in budgets, generally manageable leverage, and endowments that remain supportive. Schools with greater diversity in revenue, urban locations, comprehensive offerings, and less saturated markets will be better insulated from revenue shocks or changes in market demand.

Balance Sheets Largely Stable for Publics, while Privates Recover to Pre-Recession Peaks
(median - cash and investments to total annual revenue)



Source: Merritt Research Services, Northern Trust

[4] Western Interstate Commission for Higher Education

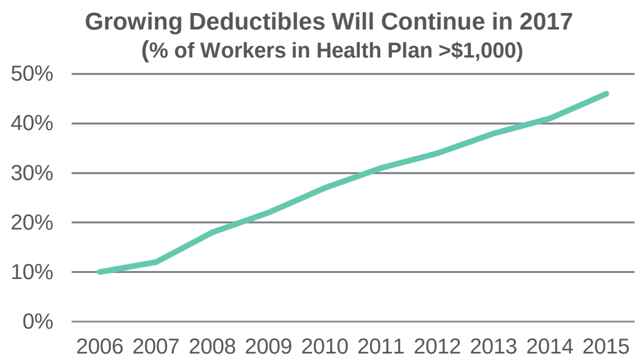
HOSPITALS

Industry pressures will grow in 2017

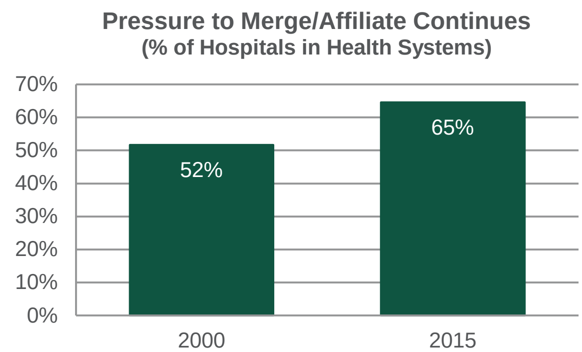
Growing share of government payors, more technology-driven outpatient services, urgent need to better manage industry cost pressures, and the unclear impact of a potential repeal/ replacement of the Affordable Care Act will challenge the sector.

Key Outlook Drivers

- Proposals to repeal and replace the **Affordable Care Act** (ACA) carry downside risks in the long run. Moving the Medicaid expansion to block grants risks lower coverage levels. Eliminating the individual mandate will limit pools and lower overall coverage levels. Fewer insured individuals will increase uncompensated emergency room visits.
- Center for **Medicare/Medicaid** services projects that Medicare and Medicaid participation will increase 5% and 5.2%, respectively, in 2017. An increasing share of government payors will pressure hospital profitability. Increased usage of outpatient facilities and non-affiliated organizations will continue to reduce revenues that have historically provided reliable sources of income.
- **Increased out-of-pocket costs** through higher premiums and high deductible health plans will force consumerism and financial limitations for health care services, while increasing bad debt for hospitals.
- There will be constant **pressure to affiliate/merge** to prepare for Value-Based reimbursement.



Source: Kaiser/HRET Survey of Employer Sponsored Health

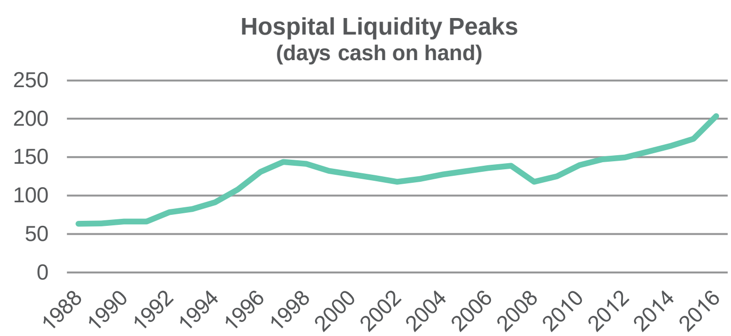


Source: Kaufman Hall

Resiliency is weakened

ACA-mandated coverage, Medicaid expansion and management uncertainty helped hospitals boost liquidity to peak levels and capitalize on cost-cutting and efficiencies. We expect liquidity weakening due to a floor in the level of uninsured, Medicaid hold-out persistence, and capital requirements for value-based strategies.

We expect hospitals to continue to have more volatile industry pressures than municipal peers due to frequently changing government policy, a shift in consumerism and delivery of care, and de-commitment from commercial payors to expanding coverage through the ACA health care exchanges.



Source: Merritt Research Services

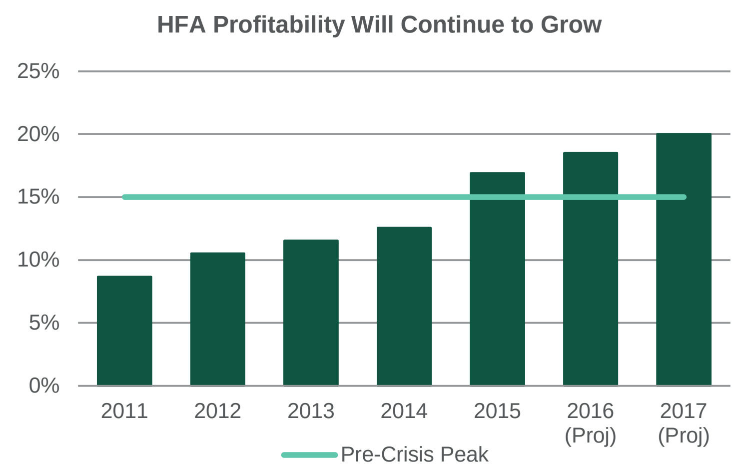
HOUSING

Sector poised for healthy growth though timing remains uncertain

Sector will be stable in near term; outperformance would accompany confluence of rising interest rates, stronger economic growth, and family formation.

Key Outlook Drivers

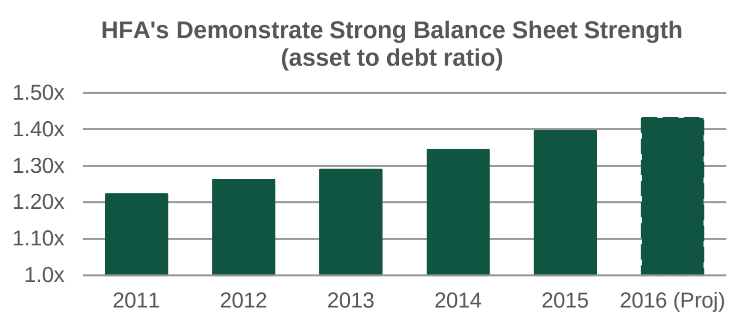
- **Rising interest rates** will benefit State Housing Finance Agencies (HFA) as short-term rates boost investment earnings. Rising long-term rates will translate to higher conventional mortgage rates, increasing the attractiveness of HFA loan origination and greater long-term profitability.
- HFA bond **refunding activity** from 2012 through 2016 has been robust. Refundings at low rates support profitability as originations continue at higher rates.
- There is **pent up demand** from first-time homebuyers. Realization of demand depends materially on general economic growth and growth in employments and income. Surveys by the National Association of Home Builders show that less than 20% of new construction in recent years has been for entry-level properties. Before the recession, that share typically hovered around 30% — indicating pent-up demand. General demand in most states is strong, while supply is weak in many — one of the several indicators of low inventory of existing homes. Inventory decreased 6.8% year-over-year in September 2016. Properties sold that month were typically on the market for 39 days, compared with 49 days in September 2015.
- **Rising multi-family rents** make the relative cost of homeownership more attractive.
- **Loan performance** improving with delinquencies near pre-recession low; supportive of profitability and balance sheet growth.



Source: Moody's Investors Service

Resiliency is strong

The sector is more resilient, as loan portfolios tend to be conservative with high levels of state and federal insurance. In addition, strong liquidity levels provide management with additional cushion should shocks occur in the near-term.



Source: Moody's Investors Service

POWER

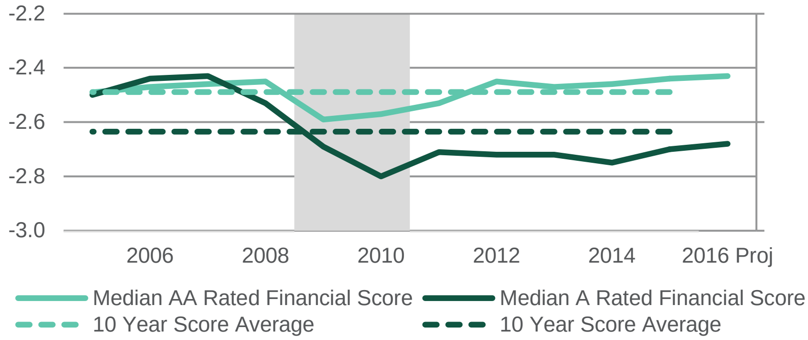
Inelastic demand and pricing power drive stability in the sector – Direction of federal regulation adds level of uncertainty

The electric utility sector has broadly recovered from recessionary stress and we expect 2017 to bring stable to modestly improving credit profiles.

Key Outlook Drivers

- **Financial profiles** will demonstrate flat to modest growth. Indications point to lower capital spending, rising liquidity, and stable leverage and debt service coverage. Overall, the higher rated retail systems have recovered pre-recession fiscal health while growth potential exists for A-rated entities.
- **Lower demand for electricity** is largely due to weaker manufacturing and industrial demand, and greater efficiency in appliances. Excess generating capacity reduces the need for additional investments in new units, which should support healthy fiscal metrics.
- **Continued economic growth** in the form of more jobs and greater wages is welcome news for utilities, as it provides systems with the added flexibility to adjust rates as necessary. Weaker cities with large industrial concentration and challenged demographics will continue to lack financial flexibility and operate with tight metrics as the economic growth lags.
- **Decarbonization** is under way in the U.S. with the Environmental Protection Agency's Clean Power Plan (CPP) being the catalyst for achieving lower carbon emissions; a 32% reduction of 2005 levels. Opposition to the CPP by various interest groups led to a stay in its implementation. Regardless of the outcome at the D.C Court of Appeals, opponents are likely to appeal the decision to the Supreme Court, where deliberations could further delay implementation. For the time being, the stay is a fiscal positive for utilities with a substantial coal footprint and those that have not taken steps to diversify their power supply since 2012. Many utilities have been replacing coal units for reasons unrelated to the CPP but more to do with market forces. Competitive pressures from the low cost of natural gas, the falling costs of renewable generation and tax policy encouraging the development of wind and solar have all contributed the shift towards cleaner energy.

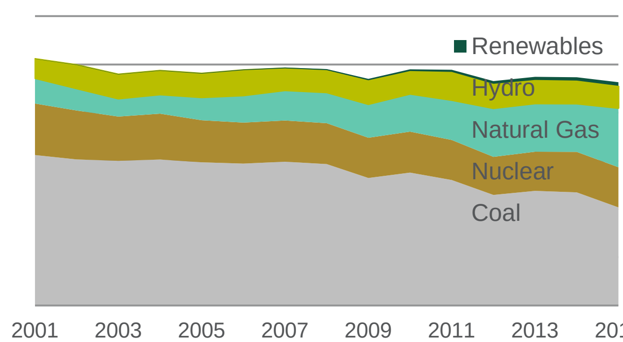
AA-Rated Demonstrate Consistent Stability; Financial Score Expected to Exceed Pre-recession Peak / A-Rated Have Greater Room for Improvement



Shaded area indicates US recession

Source: Northern Trust, Merritt Research Services

Coal Reliance Will Decline Despite Federal Policy Changes
(Aggregate totals 2.3 billion MWh in 2015)



Source: Energy Information Administration

Resiliency is strong

This sector derives its strength and stability from its essentiality, very low price elasticity of demand, the notion that municipal utilities benefit from a position of natural monopoly, the large degree of autonomy in setting rates sufficient to meet operating and capital expenses, and the relative predictability of cash flow generation.

TOLL ROADS

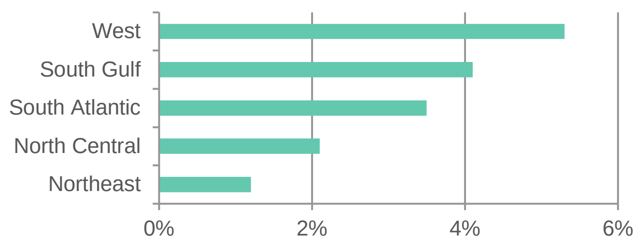
Sustained low gas prices and uptick in economic growth supportive of sector

Factors support positive outlook for toll roads; gas-tax supported debt will be stable

Key Outlook Drivers

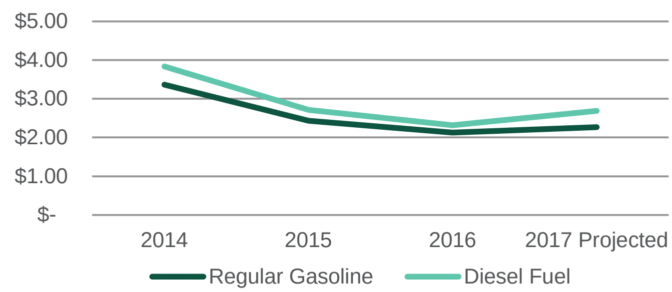
- **Traffic** has increased in recent years in line with GDP. We expect traffic growth to continue into 2017. The level of growth will vary across states, with the west and south projected to continue to outperform.
- **Gas prices** will rise in 2017, but are projected to remain low compared to previous years.
- Economic growth supports capacity for **rising toll rates**. Most toll roads posess independent rate setting authority with lack of government interferenence. Those exposed to to state interference should be examined with caution.
- Potential changes in **trade policy** could have a material impact on truck traffic.

Traffic Growth Will Continue to Align with Population Growth States
(YoY Change in Miles Driven - August 2016)



Source: U.S. Dept of Transportation, Federal Highway Admin.

Gas Prices Will Remain Supportive of Growth

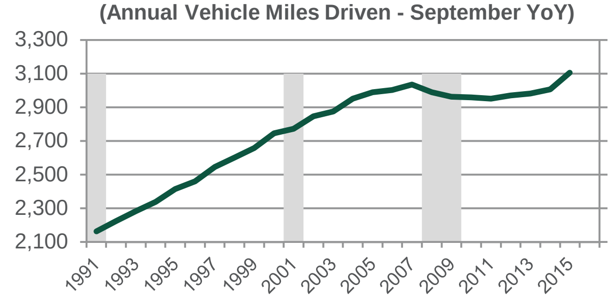


Source: Energy Information Admin.

Resiliency is good

Sector resiliency is supported by a healthy level of inelasticity of demand, demonstrated by relatively narrow declines during the recession. Strong liquidity provides cushion to withstand shocks; established tolls maintain over 2.5 years cash on hand, at the median.

Demand Resilient in Downturn
(Annual Vehicle Miles Driven - September YoY)



Shaded areas indicate US recessions
Source:U.S Dept of Transportation Federal Highway Administration

Bonds supported by **gas taxes and vehicle registration** will see stability. Growth in vehicle miles driven will be muted by greater vehicle efficiency. Gas tax increases in some states — including Pennsylvania, New Jersey, and Washington — will translate into varying degrees of greater collections and coverage, absent increased leverage.

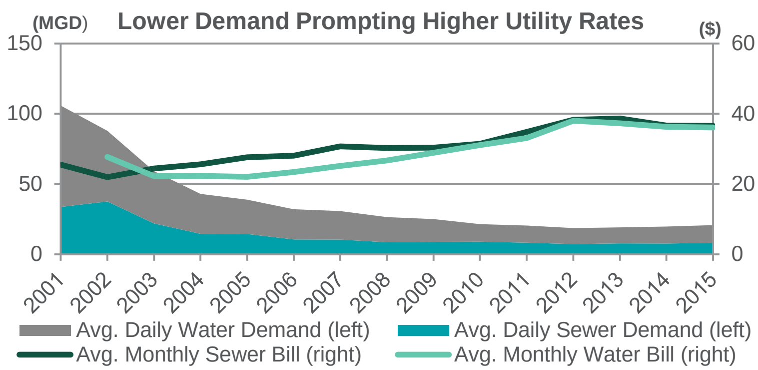
WATER & SEWER

Rates grow amid falling demand – Capital investment needed to address dated infrastructure

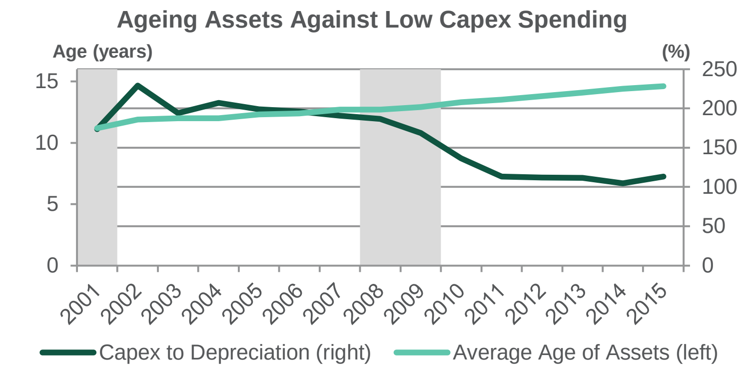
Essentiality, conservative fiscal profiles, and rate flexibility drive stable outlook.

Key Outlook Drivers

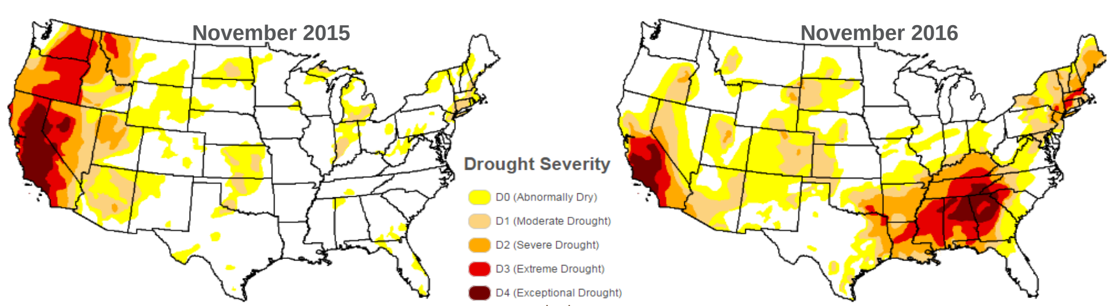
- **Essentiality** of water and sewer systems, largely conservative management, rate flexibility, and affordability (median cost at 1.54% of household income) results in a largely predictable and stable sector. Continued efficiencies and conservation efforts will keep demand low while rates grow to address needed infrastructure.
- We expect an **upcoming wave of capital** investment to address ageing infrastructure and EPA mandates, with continued growth in rates to support it. The current capital-spending trend is insufficient to meet the renewal and repair of assets, especially in the face of tightening EPA regulation around drinking water and discharge limits. Current capital spending is only 113% of asset depreciation, and average age of assets is 14.2 years, the highest since 2001.
- The U.S. National **Drought** Center shows a drought is spreading across the South and Southeast, as the California drought eases. Longer-term, the prime challenge for utilities is to address the mismatch between fixed costs and falling water consumption. Partial fixed-fee structures, good supply capacity, and the maintenance of healthy cash balances help mitigate this concern.



Source: Northern Trust, Merritt Research Services



Shaded areas indicate US recessions
Source: Northern Trust, Merritt Research Services



Source: National Drought Center

Resiliency is strong

The sector's strong fundamentals are underpinned by the essential service provided to users, monopolistic business nature with very high barriers to entry, low customer price sensitivity, relatively conservative fiscal profiles, and local independent ratemaking authority. Overregulation and persistent droughts could reduce financial flexibility.

DEFINITIONS

…

Affordable Care Act (ACA) Health reform legislation passed by the 111th Congress and signed into law by President Barack Obama in March 2010. Key provisions of the legislation are intended to extend coverage to millions of uninsured Americans, to implement measures that will lower health care costs and improve system efficiency, and to eliminate industry practices that include rescission and denial of coverage due to pre-existing conditions.

Available Seat Miles (ASM) A measure of an airline flight's passenger carrying capacity. It is equal to the number of seats available multiplied by the number of miles flown.

Clean Power Plan (CPP) A policy aimed at combating global warming. It was first proposed by the Environmental Protection Agency in June 2014, under the administration of US President Barack Obama. The final version of the plan was unveiled by President Obama on August 3, 2015.

Enplanements (Epax) A passenger boarding plane at a particular airport

Housing Finance Agency (HFA) State-chartered authorities established to help meet the affordable housing needs of the residents of their states. HFAs have provided affordable mortgages to many families to buy their first homes.

Net Tuition Revenue: Gross Revenue (full sticker price) less discounting and scholarships.

Origination and destination (O&D) Passengers boarding at the first or last points of a one-way itinerary, while connecting passengers board at intermediate points in a one-way itinerary.

Outlook: The outlook for each municipal sector reflects our opinion on whether key macroeconomic and sector-specific factors will be predominantly supportive or challenging for the sector’s fiscal health in the next 12-18 months.

Individual outlooks reflect our base case expectation - an uptick in general economic growth in the short-term - as well as unique sector-specific factors and trends.

The outlook does not reflect an issuer’s ability to navigate these macro factors, nor does it suggest credit trajectory or rating movement for any individual issuer.

The sector outlook considers all issuers in the sector, but is also weighted by market presence. As an example, the State of California (the largest issuer in the market) will impact the State outlook more than Nebraska (one of the smallest issuers in the market).

Resiliency: Resiliency reflects a sector’s relative ability to withstand a material economic downturn within the outlook timeframe. This view specifically considers historical and projected revenue volatility, elasticity of market demand, flexibility of operating costs, fixed cost burden, and current reserve position relative to projected need.

Value-based Programs Reward health care providers with incentive payments for the quality of care they give to people with Medicare. These programs are part of the sector’s strategy to reform how health care is delivered and paid for.