

# MOODY'S

## INVESTORS SERVICE

### SECTOR IN-DEPTH

3 February 2021

 Rate this Research

#### Contacts

**Emile El Nems** +1.212.553.6849  
VP-Senior Analyst  
emile.elnems@moodys.com

**Dean Diaz** +1.212.553.4332  
Associate Managing Director  
dean.diaz@moodys.com

**Matt Taxis** +1.212.553.9485  
Associate Analyst  
matt.taxis@moodys.com

**Julia Wilson** +1.212.553.2160  
Associate Analyst  
julia.wilson@moodys.com

**John Medina** +1.212.553.3604  
VP-Sr Credit Officer  
john.medina@moodys.com

**Michael Corelli, CFA** +1.212.553.1654  
Senior Vice President  
michael.corelli@moodys.com

**Ed Sustar** +1.416.214.3628  
Senior Vice President  
ed.sustar@moodys.com

#### CLIENT SERVICES

Americas 1-212-553-1653

Asia Pacific 852-3551-3077

Japan 81-3-5408-4100

EMEA 44-20-7772-5454

## Building Materials – US

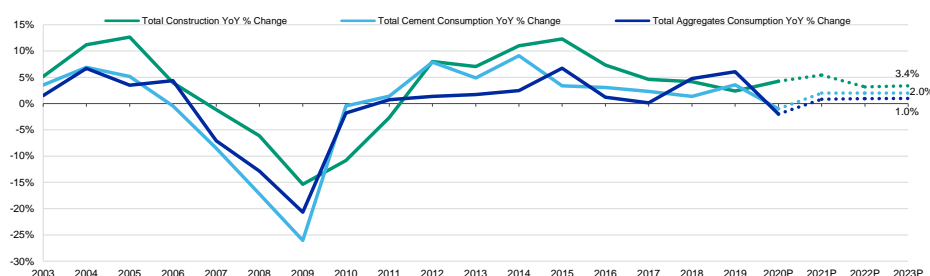
# An infrastructure bill would substantially boost aggregates, cement companies

### » Trends in construction spending position building materials for years of growth.

Robust demand for single family homes, low housing inventory, steady infrastructure spending, and record low interest rates are all factors that will support strength in construction activity. For 2021 and 2022, we project US construction spending to grow at 3.2% and 3.4%, respectively, primarily driven by stable residential and public construction activity and a recovery in nonresidential spending.

Exhibit 1

### Robust construction spending will drive cement and aggregates consumption higher



Source: U.S. Census Bureau, Moody's Projections

» **Passage of a multiyear federal infrastructure investment bill will have a profound effect on building materials and US construction activity.** Whether it is President Joseph Biden's "Build Back Better" plan, or another proposal, we believe a multiyear federal infrastructure investment bill will boost US construction spending growth (see Exhibit 2) by about 200 basis points 9-12 months after being passed. Assuming a bill is passed by Q3-2021, we project total US construction spending (\$1.5 trillion) to grow 5.0% in 2022 and 5.5% 2023.

» **Aggregates companies would benefit substantially from passage of a multiyear federal infrastructure investment spending bill.** Half of aggregates demand is for public infrastructure, with the rest equally split between residential and nonresidential construction. Years of industry consolidation and repositioning, [continued economic](#) and construction industry strength, along with solid repair and remodeling activity, are all reasons the aggregates industry is operating at equilibrium (supply meeting demand). Under these conditions, we project price and volume to increase by 3% a year. However, if a scalable federal infrastructure investment bill passes, we see price and volume increasing an additional 2%, enhancing profitability for aggregates suppliers. These companies already

benefit from no import threats and high barriers to entry, leaving them well positioned to reap the benefits from incremental demand. Since 1998, aggregates pricing have only declined twice (once in 1998 and once in 2010, each time by about 2%).

» **Cement and concrete ready-mix producers will also benefit.** Cement and concrete ready-mix producers will also do well should a multiyear federal infrastructure investment bill pass. US cement producers are operating at more than 83% capacity utilization, limiting their ability to increase supply. That offers manufacturers sustainable pricing power. In recent years, industry consolidation and environmental regulations limited expansion or new competitors, forcing reliance on imports. Imports currently account for 15% of total consumption in the US. Importing cement is not ideal, however, because transport costs can quickly outstrip profit if customers are more than 100 miles from a port.

» **Lumber will be affected least, steel and copper will fare slightly better.** Passage of a federal infrastructure investment bill will have little effect on lumber pricing in our view. Lumber's largest demand driver is residential construction, along with repair and remodeling activity, which would not be affected by such a bill. We expect [steel](#) and [copper](#) to fare better than lumber, because the Biden Administration's plan includes green initiatives that are highly reliant on the metals. The new administration's "Made In All of America" initiative commits to procuring steel (as well as cement, concrete, and other building products) from within the US. Furthermore, Biden's initiatives call for new electric vehicle charging stations and zero emission school buses, which would require about 200,000 tons of copper (Reuters).

## Infrastructure investment plan would build on already strong industry fundamentals

A multiyear federal infrastructure investment bill would boost construction spending growth as much as 2% and drive prices and volumes materially higher for cement and aggregates.

Exhibit 2

### Impact of potential multiyear federal Infrastructure investment bill on US construction spending

	Construction spending at 11/30/20 in \$mm	Segment Breakdown	2019 YoY % change	Jan. to Nov. 2020	2020P YoY % change	2021P YoY % change	2022P YoY % change w/o Bill	2023P YoY % change w/o Bill	2022P YoY % change w/ Bill	2023P YoY % change w/ Bill
Total Construction Spending	\$1,459,440	100.0%	2.3%	4.3%	4.3%	5.4%	3.2%	3.4%	5.0%	5.5%
Total Residential	\$666,990	45.7%	-2.5%	10.0%	10.6%	9.2%	3.0%	3.0%	3.8%	3.0%
Total Non Residential	\$792,450	54.3%	5.8%	0.4%	0.0%	2.6%	3.3%	3.7%	4.8%	6.9%
Total Public Spending	\$347,600	23.8%	8.0%	5.1%	4.9%	2.8%	2.9%	3.5%	7.6%	8.1%
Public Residential	\$8,904	0.6%	2.1%	31.7%	31.0%	20.0%	5.0%	3.0%	10.0%	8.0%
Public Non Residential	\$338,697	23.2%	8.1%	4.5%	4.4%	2.4%	2.9%	3.6%	7.5%	8.1%
Office	\$10,788	0.7%	10.9%	3.1%	2.4%	2.4%	-1.0%	-3.0%	1.0%	1.0%
Commercial	\$3,644	0.2%	11.8%	-3.0%	-2.3%	1.0%	1.0%	1.0%	2.0%	2.0%
Healthcare	\$9,808	0.7%	0.0%	0.0%	1.3%	2.5%	3.0%	5.0%	4.8%	9.0%
Education	\$86,733	5.9%	0.0%	0.0%	2.8%	3.5%	3.5%	3.5%	4.3%	10.0%
Public Safety	\$15,318	1.0%	12.0%	46.2%	44.7%	50.0%	0.0%	-5.0%	0.0%	3.0%
Amusement & Recreation	\$13,942	1.0%	10.7%	5.6%	4.9%	-1.0%	-1.0%	-1.0%	3.0%	3.0%
Transportation	\$41,798	2.9%	13.4%	4.0%	3.7%	5.0%	1.5%	5.0%	6.0%	9.0%
Power	\$6,745	0.5%	29.3%	4.1%	2.5%	2.5%	2.5%	2.5%	5.0%	7.0%
Highway & Street	\$97,545	6.7%	7.2%	2.1%	2.6%	2.6%	3.5%	5.0%	5.5%	8.5%
Sewage & Waste Disposal	\$25,795	1.8%	7.1%	3.2%	3.0%	3.0%	3.5%	3.5%	5.0%	6.0%
Water Supply	\$17,468	1.2%	2.3%	16.7%	15.2%	15.2%	7.5%	10.0%	9.0%	15.0%
Conservation & Development	\$7,649	0.5%	10.6%	-6.9%	-7.4%	1.0%	2.0%	3.0%	3.0%	3.0%

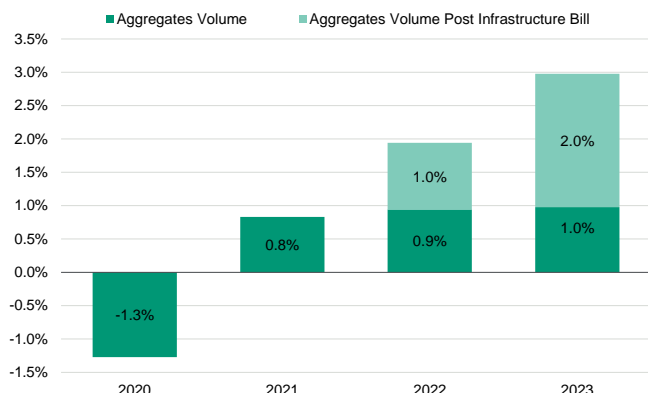
Source: U.S. Census Bureau, Moody's Projections

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moodys.com](http://www.moodys.com) for the most updated credit rating action information and rating history.

We believe additional demand stemming from US public infrastructure projects (roads, transit, transportation, healthcare and educational facilities, power, electrification, etc.) will materially impact supply and demand (see Exhibits 3 - 6) providing support for further price increases and higher volumes. Since the great recession many of the larger suppliers of aggregates have consolidated their operations and rationalized their footprint to enhance their scale and limit the risk of irrational pricing behaviour.

Exhibit 3

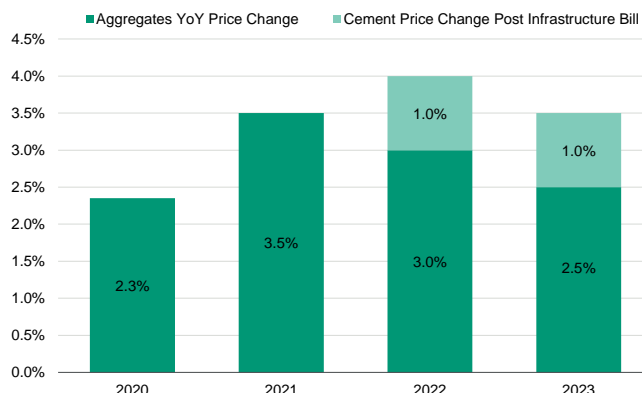
### Aggregates volume demand would grow only modestly without an infrastructure bill



Source: Moody's Projections

Exhibit 4

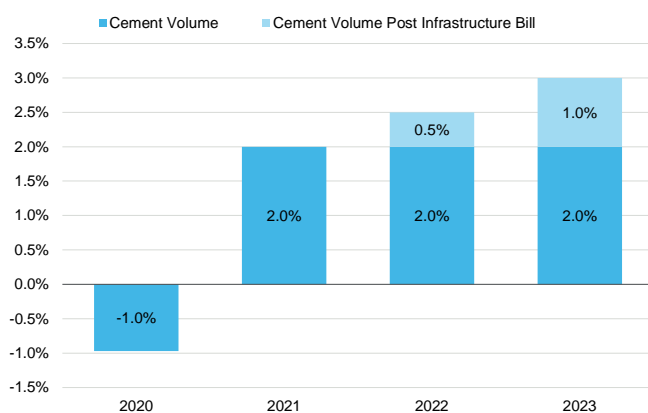
### Aggregates prices would climb much faster with an infrastructure plan



Source: Moody's Projections

Exhibit 5

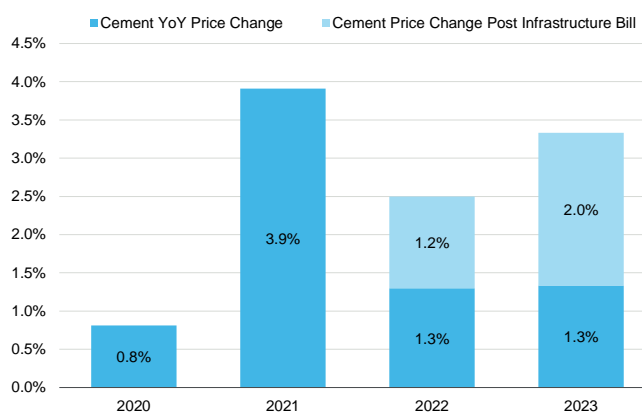
### Cement volumes would jump with an infrastructure bill



Source: Moody's Projections

Exhibit 6

### Cement prices, already on the rise, would also benefit with supply constrained



Source: Moody's Projections

The two largest suppliers of aggregates in the nation are [Martin Marietta Materials, Inc.](#) (Baa2 Stable) and [Vulcan Materials Company](#) (Baa2 Stable). Martin Marietta has a presence in 27 states while Vulcan Materials has a presence in 20 states. Additionally, they each serve clients at over 300 locations. Due to transportation costs, the aggregates industry is primarily a local business. Given the issuers' extensive networks of quarries, scale, and limited competition, if a multiyear infrastructure bill is passed by Congress and signed by President Biden, these companies will be well positioned to reap the benefits of higher sales, larger profits and could reduce leverage at a faster pace than otherwise expected (see Exhibits 7 & 8) if debt levels remain static (assuming no material share repurchases or dividend distribution, acquisitions or any other strategic transactions).

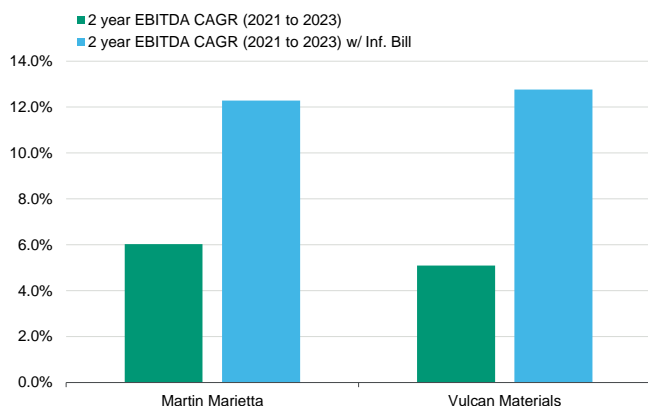
These companies benefit from:

- » The cost-to-weight ratio creates local markets which prevents additional competitors

» Difficult permitting processes and environmental regulations limit new entrants

Exhibit 7

### A multiyear infrastructure bill will result in material growth for aggregates suppliers

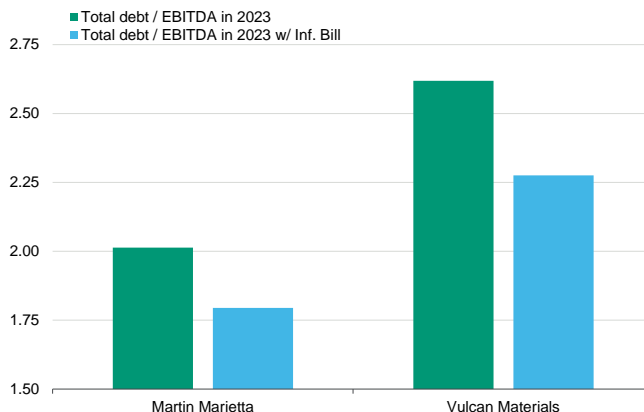


Note: Projections are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Total debt is based on calculated total debt as of last reported financial statements

Source: Moody's Projections

Exhibit 8

### A multiyear infrastructure bill is credit positive



Note: Projections are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Total debt is based on calculated total debt as of last reported financial statements

Source: Moody's Projections

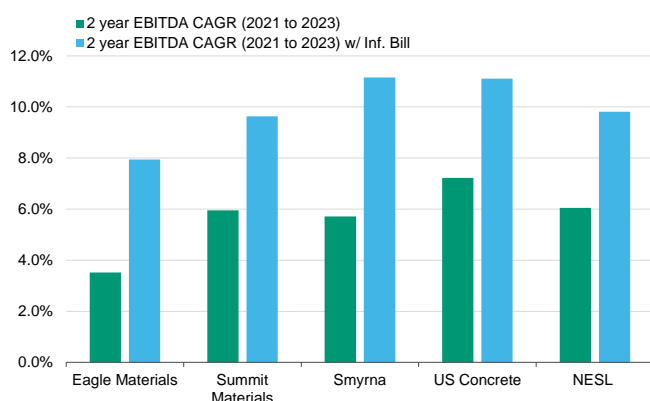
Cement producers also went through a wave of consolidation in recent years. The top five cement manufacturers (in terms of revenue) account for over 75% of total domestic production. The top eight manufacture over 90% of domestically produced cement. We project cement and ready-mix concrete players to benefit the most among building materials issuers through long-term sustainable pricing power (see Exhibits 9 & 10).

These companies benefit from:

- » No product substitution,
- » Limited ability to expand production facilities as a result of very restrictive environmental and zoning laws,
- » Current production operating at near full capacity utilization (>82%) and,
- » Transport costs generally make imported cement prohibitively expensive outside a 100 mile radius from a port

Exhibit 9

### A multiyear infrastructure bill will add 300+ bps to revenue growth for domestic cement producers

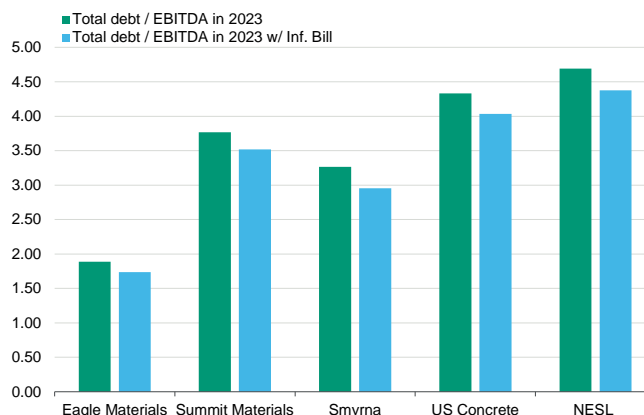


Note: Projections are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Total debt is based on calculated total debt as of last reported financial statements

Source: Moody's Financial Metrics™, Moody's Projections

Exhibit 10

### A multiyear infrastructure bill is credit positive to cement issuers



Note: Projections are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Total debt is based on calculated total debt as of last reported financial statements

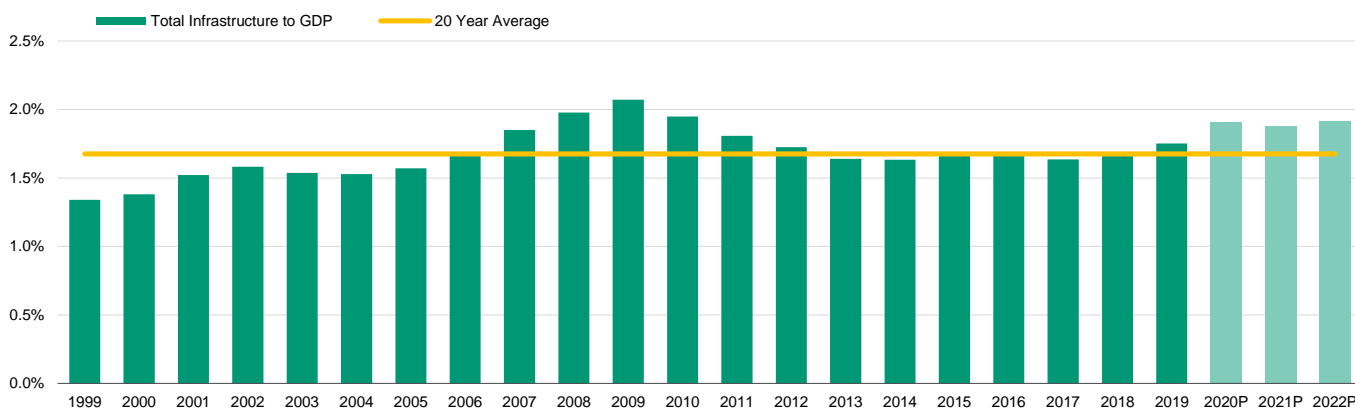
Source: Moody's Financial Metrics™, Moody's Projections

## Steady spending on public infrastructure

Annual US public infrastructure spending, per the census bureau, has remained steady for many years (see Exhibit 11). A multiyear infrastructure investment bill that is additive to this total spending would inject material growth into already growing construction activity. Due to the fact that two-thirds of infrastructure spending is funded by state and local governments that are facing deficit pressures, any increased federal investment in infrastructure would need to be additive or there is the risk that the increased funding could just replace normal construction activity. The need to increase infrastructure investment in the US is widely acknowledged as the American Society of Civil Engineers' [Infrastructure Report Card](#) continues to grade US infrastructure at a "D+", confirming the need for significant new infrastructure investment from all levels of government for several years.

Exhibit 11

### Infrastructure spending to GDP has remained stagnant over a 20 year period



Source: U.S. Census Bureau, Moody's Projections

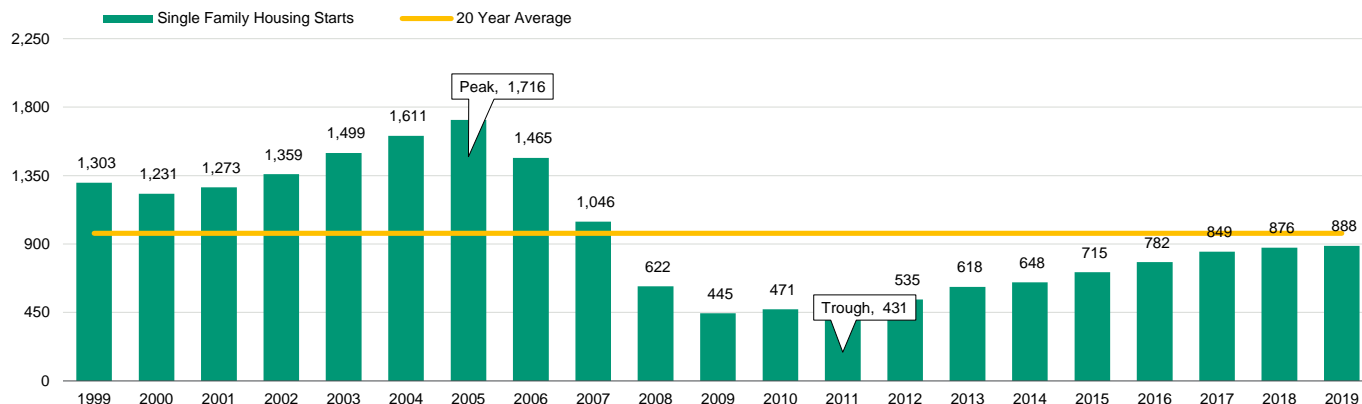
## Lack of housing supply as housing starts remain below the 20 year average

For 2021, we expect the demand for [residential construction](#) to remain solid. Since the 2008-2009 recession, annual housing starts for single family homes have remained below the 20-year average (see Exhibit 12), creating an environment of little supply to meet the recent surge in demand. The pandemic, stay-at-home orders, and remote work prompted families and young adults to leave urban

centers in search of single-family homes. This phenomenon created an imbalance between home supply and demand for housing, which we believe will offset a softer economy and higher unemployment levels.

Exhibit 12

### Below average single-family housing starts has restricted supply of homes for sale



Source: U.S. Census Bureau

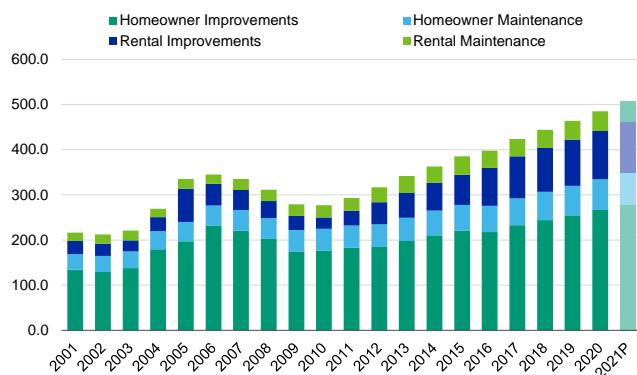
### Solid momentum for repair and remodel activity

For 2021, we expect repair and remodeling activity to grow another 5%, supported by consumers shifting spending from transportation to housing, and the rest from projects related to updating aging housing stock (80% of homes in the US were built before 2000), and an aging-in-place population.

In the US, transportation costs (including commuting), amount to 17% of household budgets, while housing is 33%. With so many employees continuing to work remotely, we assume money saved on commuting during 2021 will be spent on repair and remodeling projects to enhance the homes where people are spending so much time (see Exhibits 13 & 14).

Exhibit 13

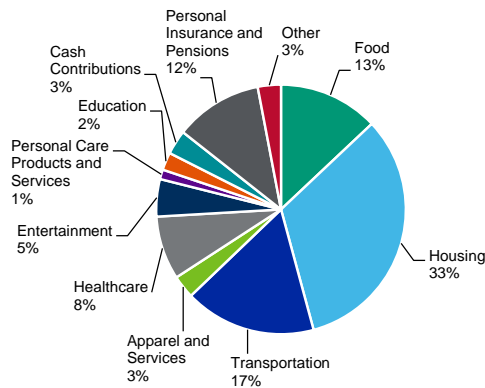
### During 2021, consumer budgets are projected to shift from transportation toward housing



Source: Bureau of Labor Statistics, Moody's Projections, Harvard Joint Center for Housing Studies

Exhibit 14

### Transportation and housing represented the two largest parts of US consumers' 2019 budgets



Source: Bureau of Labor Statistics

## Appendix

Exhibit 15

### Aggregates are well positioned for long term growth and for credit improvements

Summary	Credit Rating	Outlook	Overall Strength	Scale Based on Revenue	Growth	EBITDA Margins	Resilient Revenue(s)	Competitive Strength	Attractive Footprint	Debt Leverage
Eagle Materials, Inc.	Baa2	Stable								
Martin Marietta Materials, Inc.	Baa2	Stable								
Vulcan Materials Company	Baa2	Stable								
Smyrna Ready Mix, LLC	B1	Stable								
Summit Materials, LLC	B1	Stable								
New Enterprise Stone & Lime Co., Inc.	B2	Stable								
US Concrete, Inc.	B2	Stable								

Credit positive relative to peer group

Credit negative relative to peer group

Note: Overall Strength is based on the summation of all metrics shown in the table above, Growth is based on revenue and ebitda growth, Resilient Revenue(s) takes into consideration price and demand volatility during economic downturns, and Debt Leverage is based on total adjusted debt-to-ebitda based on most recent financial statements (inclusive of Moody's adjustments).

Source: Moody's Projections, Company Filings

Exhibit 16

### Revenue Exposure

Revenue Exposure	Credit Rating	Aggregates	Cement	Ready Mix	Other
Eagle Materials, Inc.	Baa2	12%	43%	-	45%
Martin Marietta Materials, Inc.	Baa2	64%	10%	20%	6%
Vulcan Materials Company	Baa2	76%	-	-	24%
Smyrna Ready Mix, LLC	B1	3%	-	97%	-
Summit Materials, LLC	B1	27%	12%	27%	34%
New Enterprise Stone & Lime Co., Inc.	B2	29%	-	10%	61%
US Concrete, Inc.	B2	14%	-	85%	1%

Source: Company Filings, Company Presentations

Exhibit 17

### End Markets

End Markets	Credit Rating	Residential	Non-Residential	Public
Eagle Materials, Inc.	Baa2	25%	25%	50%
Martin Marietta Materials, LLC [1]	Baa2	22%	36%	35%
Vulcan Materials Company	Baa2		56%	44%
Smyrna Ready Mix, LLC	B1	57%	39%	4%
Summit Materials, LLC	B1	31%	31%	38%
New Enterprise Stone & Lime Co., Inc.	B2	4%-5%	26%-35%	60%-70%
US Concrete, Inc.	B2	25%	57%	18%

[1] Martin Marietta Materials, Inc.'s end markets consists of Residential: 22%, Non-residential 36%, Infrastructure: 35%, and Chem Rock/Rail: 7%

Source: Company Filings, Company Presentations

Exhibit 18

**Geographic Concentration**

Company	Credit Rating	Top Revenue Exposure by Geography			
Eagle Materials, Inc.	Baa2	Texas	Colorado	Illinois	Ohio
Martin Marietta Materials, Inc.	Baa2	Texas	Colorado	North Carolina	Iowa
Vulcan Materials Company	Baa2	California	Texas	Virginia	Tennessee
Smyrna Ready Mix, LLC	B1	Tennessee	Georgia	Florida	Michigan
Summit Materials, LLC	B1	Texas	Kansas	Utah	Missouri
New Enterprise Stone & Lime Co., Inc.	B2	Pennsylvania	Western New York	-	-
US Concrete, Inc.	B2	Texas	California	New York	New Jersey

Source: Company Filings, Company Presentations

© 2021 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information. NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1258495

## Contacts

Emile El Nems +1.212.553.6849  
VP-Senior Analyst  
emile.elnems@moody's.com

## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454