



Georgia Construction Aggregate Association

February 20, 2019

Atlanta

Concrete and civilization have their start



- 10,000 BC
- Gobekli Temple
- Modern day Turkey
- World's first Temple
- Hundreds of workers

China, 3000 BC



- Cement used in boats and Great Wall
- 33 feet avg.

Rome, 400 bc – 300 ad - Pantheon



Mayans, 250 ad – mortar and stucco



American tabby, 1840



The Stoney-Baynard Plantation House Hilton Head Island

The concrete home, 1873 – Rye Brook, NY



- Ward House – oldest surviving concrete building in U.S.
- 17 rooms
- Roof is solid concrete
- Ward's Folly now Ward's Castle

Concrete streets 1891



- Court Street in Bellefontaine, Ohio.
- Still exists

Ready-mix, 1913



Kuhlman Company –
Baltimore MD



It is all about us

Our customers, wherever they are.

Strategic Partners
Wherever you are.




We are The Concrete Specialists




For us people and environment are crucial



We offer

Our products and services





USA: Thomas Concrete Inc, 70 concrete plants

Sweden: Thomas Betong AB, 38 concrete plants, 3 precast plants

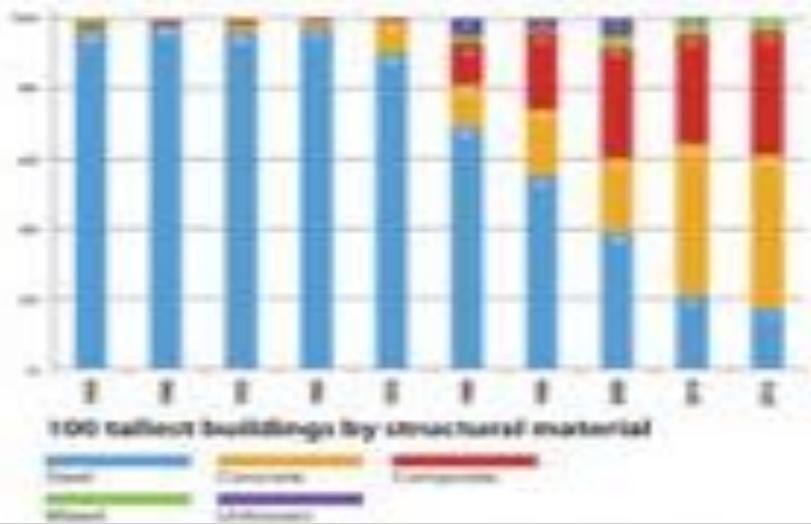
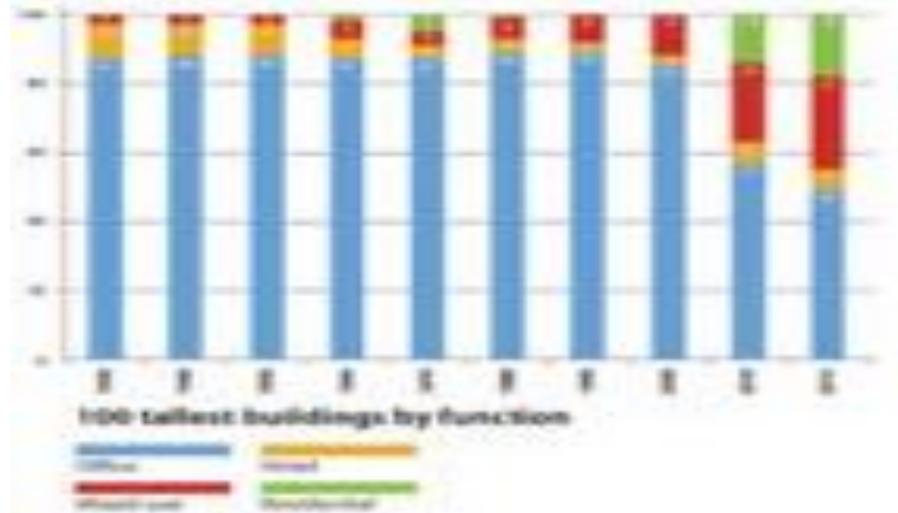
Germany: Thomas Beton GmbH, 25 concrete plants

Poland: Thomas Beton Sp.z.o.o, 19 concrete plants

Concrete, rather than steel, has increasingly been employed in recent supertall building structures.

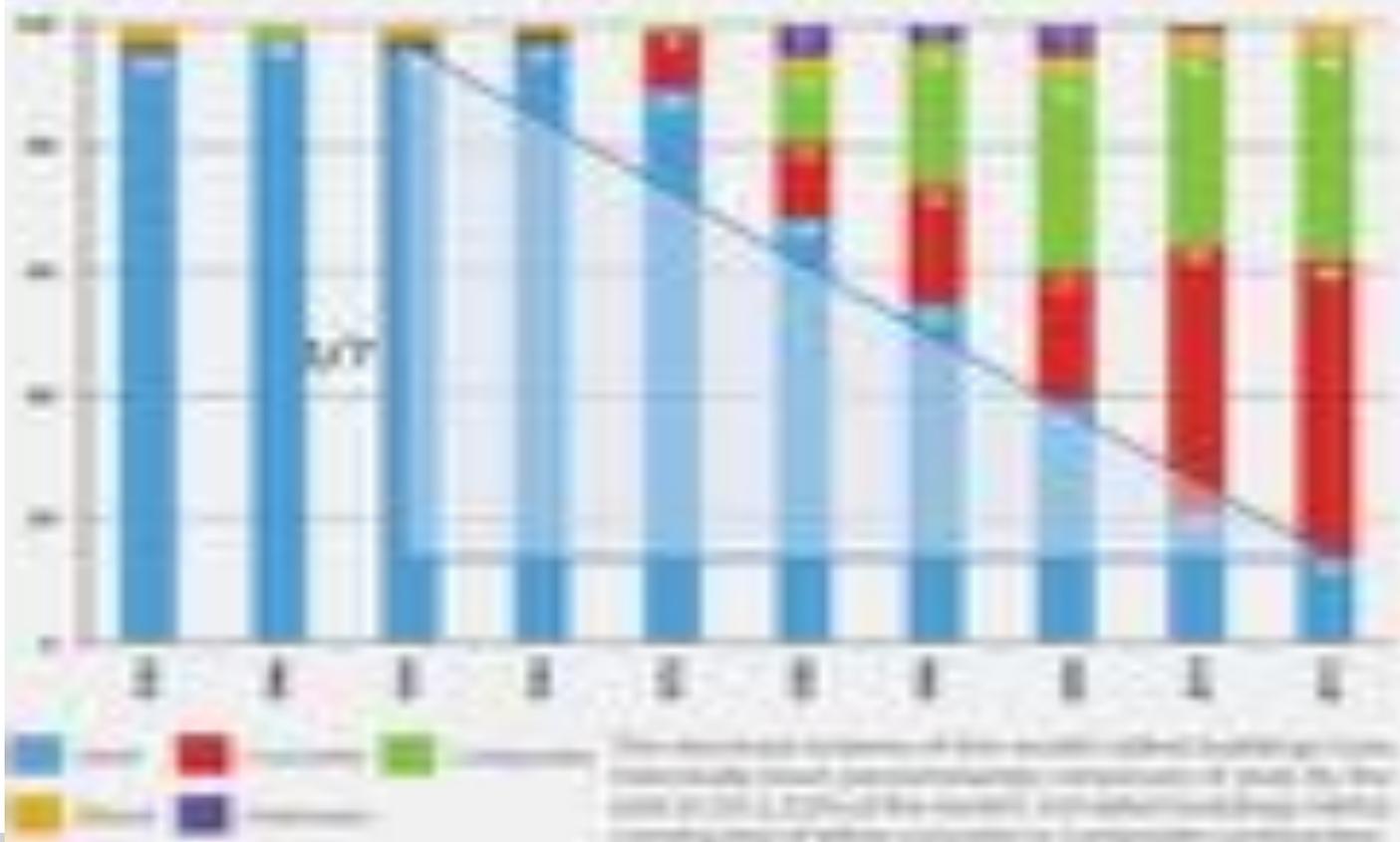
High strength concrete provides:

- strength and stiffness
- economically,
- provides greater inherent damping
- simplifies construction by being placed at self-climbing forms at greater heights using ground based pumps.

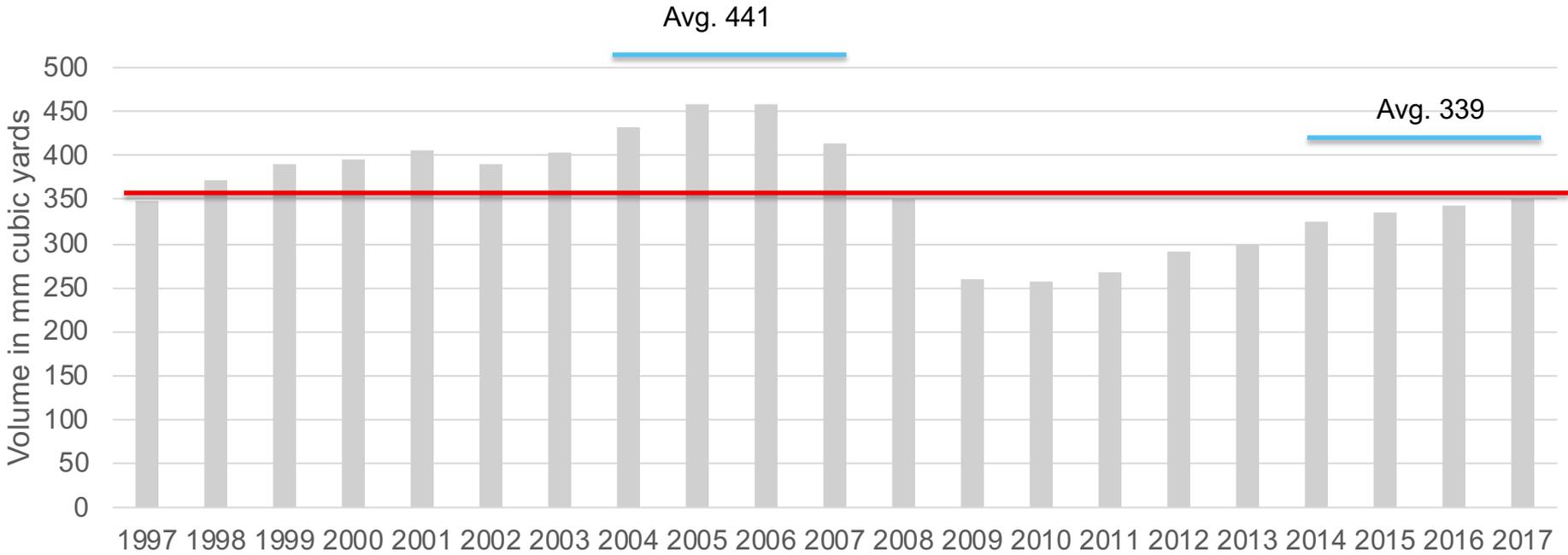


Material of the 100 tallest buildings, per decade

(assumes 100% concrete)



Overall growth opportunity with cycle far from peak



U.S. Population

- 1997 – 273 mm
- 2017 – 326 mm

■ NRMCA Demand estimate

U.S. GDP

- 1997 – \$11 trillion
- 2017 – \$18 trillion



Latest forecast from PCA continues to anticipate economic tailwinds for the southeast driven by demographics and residential construction

Cement Market Fundamentals

Based on PCA Sector Composite Rankings



Composite Rankings

- 1 Nevada
- 2 Georgia

Non Residential

- 1 Arizona
- 2 Nevada
- 3 Washington
- 4 Texas
- 5 Utah
- 6 New Mexico
- 7 Florida
- 8 Wyoming
- 9 North Dakota
- 10 Georgia

Residential fundamentals

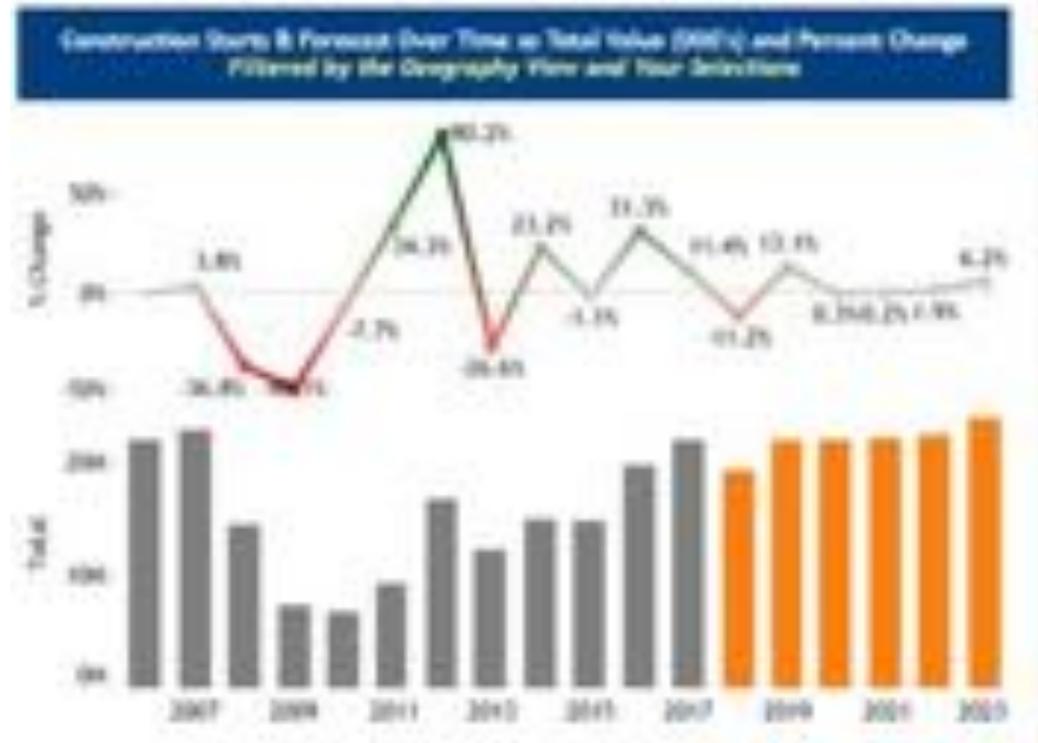
- 1 Nevada
- 2 Rhode Island
- 3 Georgia

Public

- 1 Nevada
- 2 Texas
- 3 Utah
- 4 Georgia

Clearly key GA areas are in a high growth corridor. The outlook for construction starts in these MSAs* remain solid.

- Favorable fundamentals in GA, outperforming US Average.
 - MSA's 7.3 mm people – 2.2% and 3.3 mm jobs – 2.3%
 - Next five years projected 7% and 3% of growth respectively
 - Population growth projected at .7 mm over five years
- Growth rates slowing but remain solid
- Strong single-family home growth
- Public sector higher spending
- Growth in Health care, Education and Hospitality
- Multi-family remains a driver

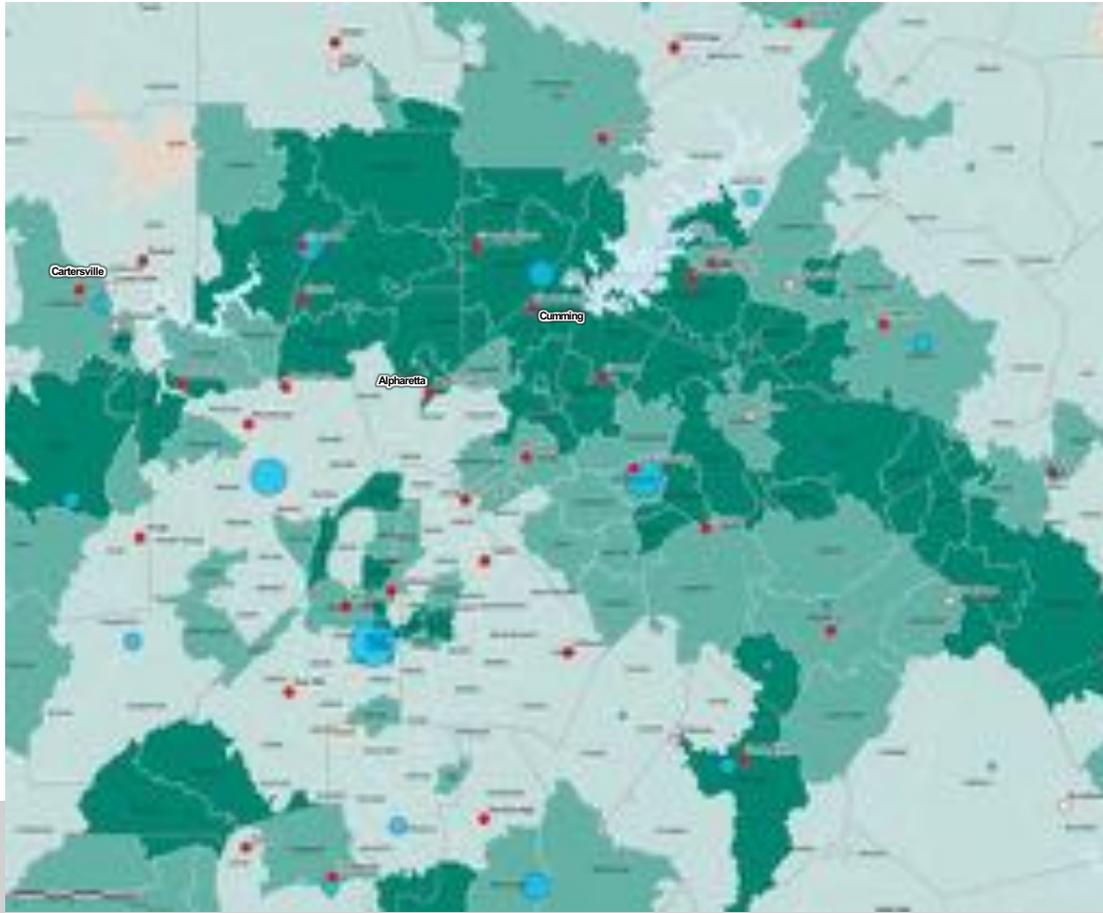


*Atlanta-Sandy Springs-Marietta, Athens, Gainesville, Savannah, Augusta-Richmond,

Dodge forecasts for next 5 years indicates growth across most end use segments.

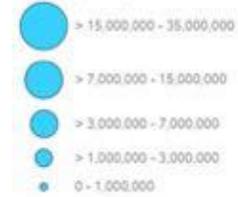
Sector	2018	2019	2020	2021	2022	2023	19-23 Avg / 18
Civil	\$ 552,801	\$ 714,343	\$ 1,245,315	\$ 1,487,431	\$ 1,403,902	\$ 1,386,681	126%
DOT	\$ 1,038,356	\$ 1,425,295	\$ 1,505,441	\$ 1,267,320	\$ 1,263,506	\$ 1,285,343	30%
Education	\$ 1,346,800	\$ 1,898,155	\$ 1,827,774	\$ 1,754,156	\$ 1,754,815	\$ 1,783,829	34%
Healthcare	\$ 743,225	\$ 922,199	\$ 1,011,555	\$ 998,720	\$ 940,265	\$ 956,730	30%
Hospitality	\$ 875,983	\$ 1,303,206	\$ 1,069,655	\$ 1,030,467	\$ 1,041,429	\$ 1,138,261	27%
Industrial	\$ 1,482,227	\$ 1,480,719	\$ 1,372,946	\$ 1,307,327	\$ 1,315,728	\$ 1,435,324	-7%
Multi-Family	\$ 2,464,648	\$ 2,807,037	\$ 2,678,270	\$ 2,763,350	\$ 2,771,555	\$ 3,019,371	34%
Non-Building	\$ 519,858	\$ 423,719	\$ 480,837	\$ 659,229	\$ 548,654	\$ 537,529	2%
Non-Profit/Gov't.	\$ 319,383	\$ 284,194	\$ 262,870	\$ 293,883	\$ 280,768	\$ 273,563	-11%
Office	\$ 1,132,511	\$ 1,224,331	\$ 1,289,712	\$ 1,238,477	\$ 1,328,434	\$ 1,492,285	16%
Parking	\$ 458,380	\$ 395,574	\$ 409,029	\$ 400,515	\$ 418,939	\$ 458,367	-9%
Residential	\$ 8,037,300	\$ 8,571,984	\$ 8,342,895	\$ 8,352,995	\$ 8,905,346	\$ 9,552,941	9%
Retail	\$ 444,955	\$ 493,762	\$ 478,092	\$ 525,106	\$ 569,067	\$ 663,643	23%
Grand Total	\$ 19,416,427	\$ 21,944,518	\$ 22,004,391	\$ 22,078,976	\$ 22,542,008	\$ 23,984,357	16%

Atlanta



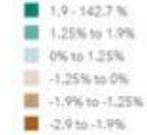
Dodge Forecast by County 2018-2023

2018-2023 (\$000s)



2016-2023 USA Population Growth

ZIP Code

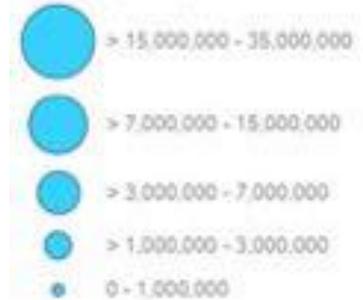


Savannah



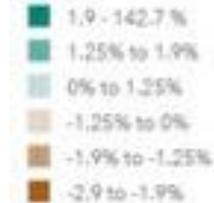
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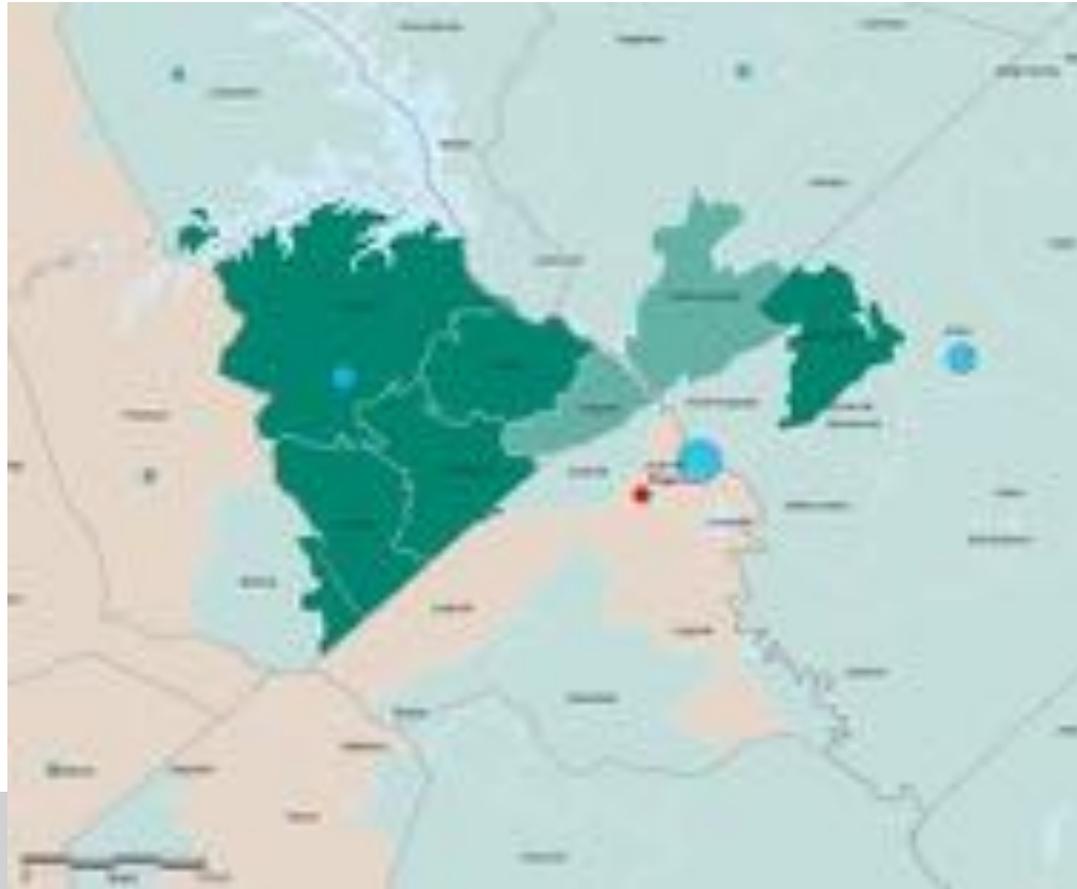


2016-2023 USA Population Growth

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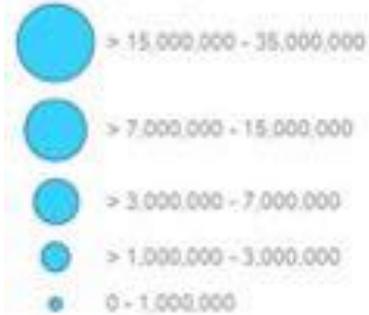


Augusta



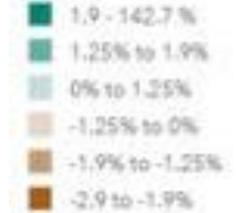
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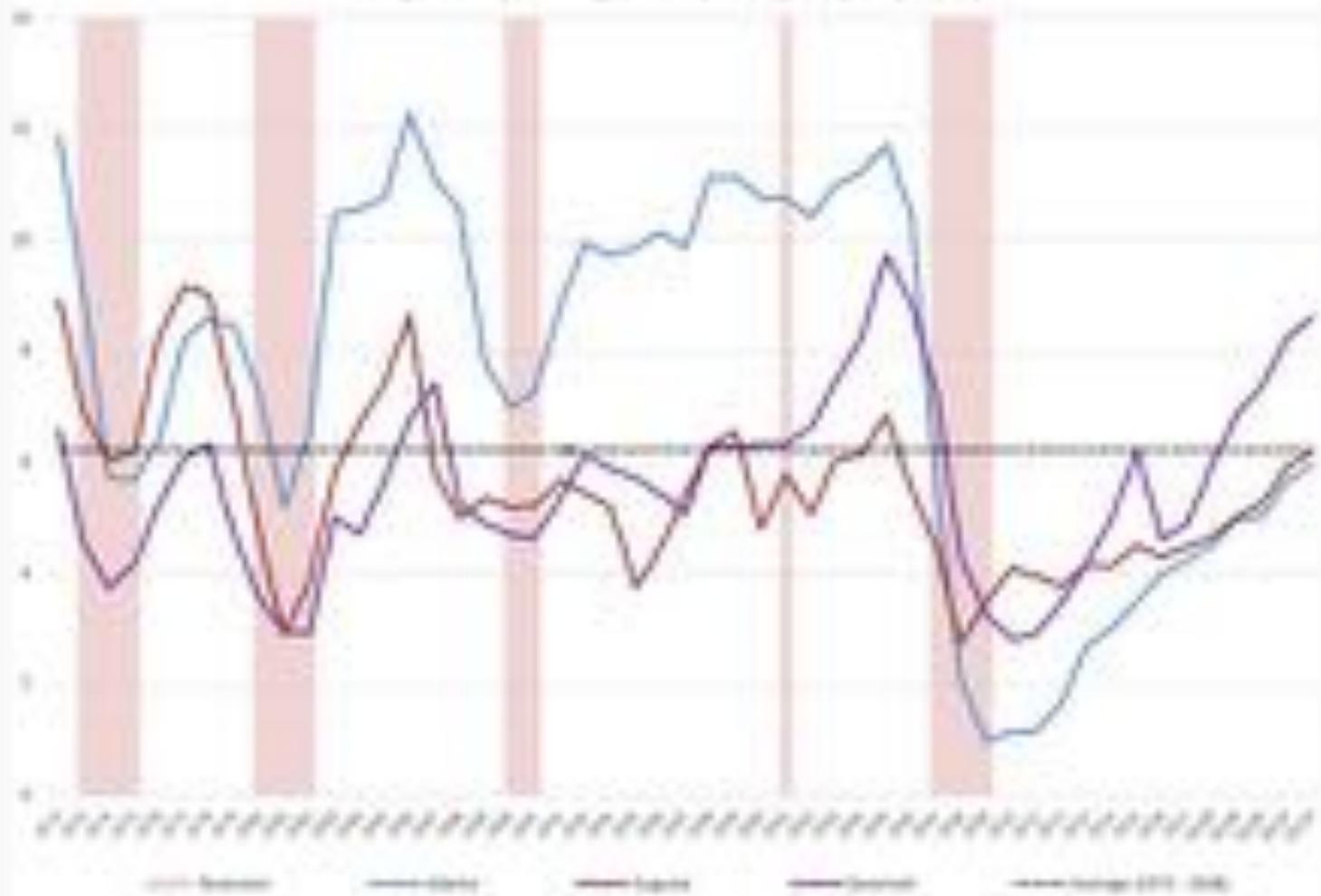


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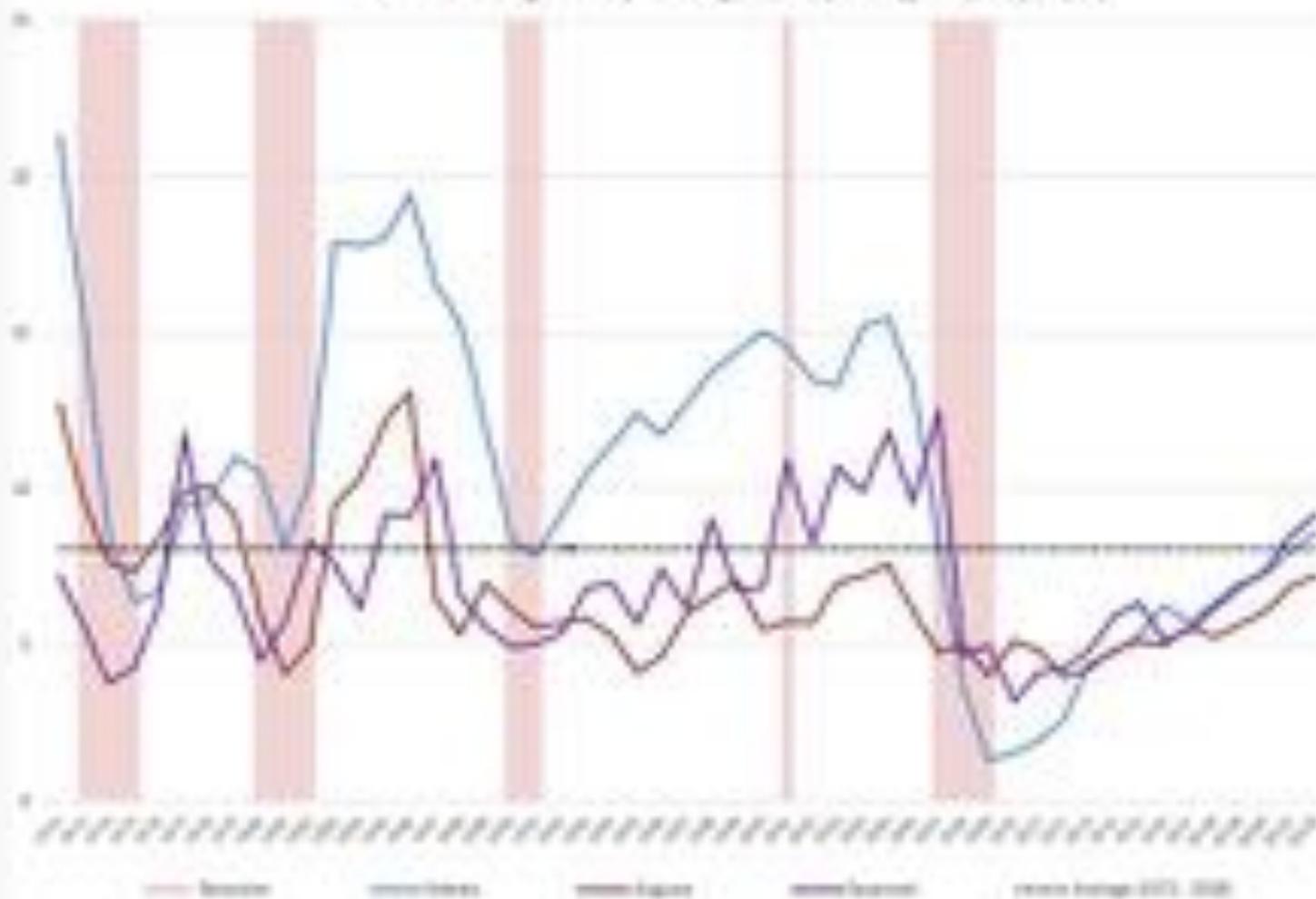
ZIP Code



Single Family Housing Starts by MSA (per 1,000 people)



Multi- and Single-Family Housing Starts by MSA (per 1,000 people)



Current key trends / challenges throughout the RMC industry

- Tight labor markets
- Promotional efforts from wood
- Scheduling inconsistencies
- Digitalization and analytics
- Labor efficiencies
- Returned concrete
- Testing protocols
- Front line supervisory training
- On site production
- Home builder demographics

One of the keys to making quality concrete is consistent / reliable aggregates

- Moisture contents – hard to adjust for correctly
- Dirty aggregates – water demand up - paste
- High mica content – increases surface area – water demand
- Gap graded – increases paste and water demand
- Particle size distribution – consistency and reduced gap grading
- Specific gravity – early communication
- Segregation – proper stockpiling and loading
- Particle shape – flat and elongated tougher to finish and increase water and paste
- Loadout flexibility and efficiency



Comments, thoughts and questions