Introduction
Presentation Focus

1. Economic Setting.
2. Virus Impacts on the Economic Outlook.
5. US Macroeconomic Summary
7. New Infrastructure.
8. Cement Outlook Summary
As residential strength has begun to erode, the total growth rates for cement consumption have edged down.
Economic Setting
Economic Performance

RGDP Growth
\% Y-O-Y

Net Job Creation
Thousand Jobs

The 2nd Quarter saw Real GDP decline 31%.

2020 GDP Growth: -3.5

Largest decline in GDP Growth since 1946 when economy was transitioning from a war time economy.

Jobs loss – so quickly is unparalleled in US history.

More than 20.6 million jobs were lost in one MONTH.

This scarring was amplified with the prospects of business bankruptcies, loan defaults & mortgage defaults.
Federal Government Reaction

Covid-19 Relief Spending

Covid relief aimed at limiting economic "scarring" - keeping the most vulnerable in the game so that when the virus subsided, the economy had the ability to recover.

- $1.9 Trillion
- $900 Billion
- $483 Billion
- $1.7 Trillion (Cares)

Household Debt Service % of Disposable Income

It worked.

- Consumers income well supported, debt declined.
- Business support limited foreclosures/bankruptcies
- Banks stress limited and remain strong.
The Three Horsemen (Consumer, Business, Banks) weathered the downturn well. With high vaccination levels – consumer confidence returned. Now a willing & able Consumer. Accounting for 2/3rd of GDP.
Delta Virus Impacts on Economic Activity
Confirmed & Projected COVID Deaths
U.S. Coronavirus Deaths; 7-day moving average; IHME Projections

Delta Concerns
- US full vaccination rate 49.7%.
  - Age 75+ = 82.3%
  - Age 65+ = 76.6%
- Beneficial disconnect between infections and deaths
- Death rate on third bump plateau near 720 dpd.
  - Much lower than past peaks: roughly 2,100 (4/20) & 3,400 (1/2021)
- Inoculated control risk. Unvaccinated may be risk takers.
- Impact on economic activity much less than previous peaks

Concern Over Virus

<table>
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<th>April-20</th>
<th>Jan-21</th>
<th>Now</th>
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<tr>
<td>Gen Z</td>
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<td>51%</td>
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Wide Spread Shutdowns are Unlikely

Be careful of semantics.

This assessment applies only to shutdowns. And does not include expanded mask mandates and other initiatives aimed at slowing the viral spread.

Shut downs can have a large adverse impact on economic activity.

The other policy initiatives have a minimal adverse impact on economic activity.
Delta may slow the improvement in consumer comfort – but probably not reverse gains.
Delta Impacts – Minimal Impacts

• GDP Slightly Slower
  • Slows the full release of pent-up demand
  • Delays the recovery
  • Slower Global activity

• Could marginally Slow the Expansion of Labor Force
  • Extends labor shortages

• Temporary Elevated Inflation Could Run longer
  • Longer these temporary factors remain in play, the higher the potential inflation becomes embedded.

• Fed May Prolong Accommodating Monetary Policy
  • Slower retreat in unemployment vs higher inflation – Fed errs on side of unemployment
Supply Side Constraints
The Economy Struggles to Reawaken

Shortages and supply chain issues characterize the nation’s ability to meet strengthening demand, impacting everything from computer chips to lumber to restaurant services. The reasons are typically:

- Strong demand
- Production cutbacks and delayed maintenance during Covid,
- Weather conditions that led to a disruption of production,
- Underbuild of inventories
- Logistic hinderances on the roads, waterways and rails
- Labor force constraints & Worker shortages.
Labor Force Growth Restraints
Household Survey, Willing & Able to Work

Other Supply-Side Growth Restraints
- Delayed maintenance during Covid has hindered production ramp-up
- Logistics
  - Trucking/Shipping
- Timing: Both expected to ease from current levels, yet not go away.

Labor Force Recovery Hinderances
- Health concerns due to Covid
- Child care
- Heightened unemployment & Covid relief benefits

Labor Shortages Relief
- Covid fear subsides/vaccinations increase.
- Schools reopen
- Unemployment & covid relief benefits disappear.

Timing of Relief
- Improvement expected to materialize in 4Q.
- Transitory inflation and production disruptions ease and largely disappear 2Q 2022.

January-April 2020: -7,977 workers (-4.9%) Shutdowns
April 2020 – July 2021: +4,608 workers (+2.9%)
Net: -3,269 workers (-2%)
Inventories Remain Lean
Inventory-to-Sales Ratio

IS Ratio, Total:
Current: 1.26
-11.3% Compared to Pre-Covid
-5.8% Compared to 2000-2019 Average

• It will take awhile to rebuild inventories.
  • Implies selection limited
• Price pressures remain in place – for now.
• A fear is a longer than expected supply-side recovery could add to structural inflation.
Cement is Not Immune to these Economy Wide Supply-Side Hinderances

- 28 states have reported market tightness.
  - Other states are teetering

- Underbuild of inventory is the crux of the problem
  - Strong demand
  - Covid-related production disruptions

- Logistic hinderances have slowed the flow of product to market
  - Trucking & waterborne

- Tightness is a unique period and temporary
  - Common amongst many industries reawakening from Covid
  - Expected to persist through 4Q
Inflation Assessment & Federal Reserve Assumptions
**Inflation Expectations**

- Annual Percent Change

**Near Term (One Year) Increased:**

- 200 BP measured from the depth of 2020 recession.
- 40 BP from 2018-2020 Average
- 6BP above Low-End Fed Target Rate
Inflation Expectations

- Annual Percent Change

Longer Term

The BP increases are much Smaller.

Implies Structural Inflation remains subdued (Policy)

Remains well below Low-End of Fed Target Rate of 2%
Monetary Policy

M2 Money Supply
Cash, Demand Deposits, Savings, Money Market, Mutual Funds, MBS, Time Deposits

M2 Money Supply % Change
Annual Percent Change
Inflation Rate Scenario, %

Stage I
- Covid supply disruptions, increased demand create product specific shortages.
- Transitory not Structural

Stage II
- Covid supply disruptions ease somewhat.
- Slackness that characterizes productive side of economy slowly recedes.
- Inflation plateaus/eases.

Stage III
- Economy regains footing. Slackness disappears. Unemployment drifts below 5%.
- Inflation increases beyond Fed target Rate.

Stage IV
- Fed Target Rate achieved 2024 & beyond.
Monetary Policy

Fed Funds Rate

**Dual Mandate**: Stable labor markets (low unemployment), stable prices (low inflation).

Likely error on side of employment – slow retreat from accommodative MP.

**Federal Reserve**: Begin orderly selling (“tapering”) its $8.3 trillion in Bonds 4Q 2021/1Q 2022.

**Federal Funds Rate**: Fed begins rate hikes mid-Q4 2022. Consistent with recently released Fed Survey (October 2022)

Rate increases are small. Assume 25 basis point increases.

Rate hikes: 1 = 2022, 4=2023, 4=2024, 2=2025
Economic Activity Summary
With continued progress in vaccinations, growing consumer confidence, and sustained strength in job gains….return to pre-Covid “normal” is expected soon.
Economic Performance

Net Monthly Job Gains
Net Thousands

Net Job Creation
Thousand Jobs

Net New Jobs:
- 2021: 5.3 million (4.5 Spring)
- 2022: 4.0 million (3.5 Spring)

Unemployment Rate approaches 3.5% by end of 2022

Net New Jobs:
- Gradually eases during remainder of 2021.
- Averages 345K Monthly
Construction Sector Assessments
Residential Cement Consumption

Mortgage Interest Rates
Conventional, 30 Year, %

Average SF Monthly Payment

Monthly Payment  Average Annual Increases %

2005-2019:  1.9%
2020-2022 Q2:  2.3%
2022 Q3-2024:  11.6%

Favorable Demographics Should Temper the Adverse Reaction to Harsh Affordability Conditions
Ending Foreclosure & Eviction Moratoriums:
PCA’s analysis suggests due to tight housing supplies, little adverse impact will be suffered by either single and multifamily construction.
Nonresidential Projection
Nonresidential Recovery Process

Working Capital Factor:
The longer below "normal" economic conditions persist – the more pressure occurs on working capital and ability to stay open.

Structural Factors Contribute to Vacancy Rates:
• Work-At-Home
• E-Retail
• Virtual Meeting
• E-Learning
• Urban Trend Slows
1.5-2.5 MMT annual reduction

Nonresidential Construction
Real PIP, Y-O-Y Change

Bank Lending Officer Survey:
More Banks Tightening Lending Standards Since 2008

Banks Tighten Lending Standards
Vacancy Rates Increase
Scarring & Bankruptcies
Nonresidential Construction Decline

NOI Declines
Sq Feet Vented onto Market

2020
2021
Public Projection
State Funding – FY2021

Percent Declines in General Fund Tax Revenues from Pre-COVID Levels

Source: Center on Budget and Policy Priorities

Covid Relief:
The latest Federal Covid Relief program included $350 Billion to support fiscal duress encountered by states, countries, cities, and tribes.
## Estimated Aid Sent to States

### $Billions

<table>
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<tr>
<th>State</th>
<th>$Billions</th>
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<td>Kansas</td>
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<tr>
<td>Nevada</td>
<td>2.56</td>
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### State Funding Picture for Construction Impaired by Reduced VMT & Gas Tax Revenues.

- May represent a longer term drag if work from home practices & EV usage become embedded.

### Top 6 Cement Consuming States = $80 billion

- Alaska
- Alabama
- Arkansas
- Arizona
- California
- Colorado

Source: BLS, PCA

The legislation says the funds are to be distributed based on each states’ share of total unemployed Americans.
Infrastructure Assumption
Infrastructure Investment $ Estimates

Infrastructure Scenario: Spending

- Roads & Bridges, 112.0
- Buildings, 4.7
- Miscellaneous, 91.0
- Conservation, 42.9
- Water, $87.8
- Utilities, $130.3

$579 Billion New Spending
Infrastructure Cement Consumption

Key Points to Consider

• After Congressional Passage: There Will Be a Wait for Pouring to Begin.

• Allocations vs Spending considerations may disappoint some.

• State spending offsets (Upside Risk)

• This analysis serves as a placeholder for an infrastructure program. Estimates must be refined.

• Upside Risk to these projections exist. That risk increases in 2024, and further in 2025.
Cement Outlook Summary
Summary

Total Cement Consumption
Metric Tons

Cement Consumption Growth
Y-O-Y % Change

Macroeconomic Summary does not take into consideration climate change initiative that could disrupt/alter economic growth

Cement Consumption Growth
Annual, %

- 2020: 2.0%
- 2021: 3.1%
- 2022: 2.2%
- 2023: 1.4%
- 2024: 2.3%
- 2025: 3.1%