Cement Outlook Briefing
Podcast #1. January 2021
Ed Sullivan, SVP & Chief Economist
Presentation Focus

1. 2020 Cement Consumption Performance
2. Macroeconomic Data & Covid-19 Relief Impacts
3. IHME Covid-19 Projections
4. The Vaccine Scenario & Achieving Herd Immunity
5. Winter 2020-2021 Projections
6. The Biden Agenda: Infrastructure Implications
7. Longer Term Considerations

Note: PCA’s regional forecasts are scheduled for release next week.
2020 US Cement Consumption Performance
Regional Cement Trends

December year-to-date

Source: USGS/PCA

West North Central: 7.0%
West South Central: -2.2%
New England: 4.4%
East North Central: 0.7%
Middle Atlantic: -3.9%
South Atlantic: 0.6%
East South Central: 6.3%
Pacific: 0.4%
Mountain: 10.2%
United States: 1.6%
Macroeconomic Data
Unemployment Claims
New, Weekly

- Current 7 Day Moving Average: 3,183 Deaths

**Note:** IHME expects daily death rate will remain near current levels through mid-February.

This is followed by a 1,000 decline in the rate each subsequent month through April.

This suggests Covid-19 remains an elevated drag on economic recovery.
Note:
With high sustained Covid-19 death rates expected through April, consumers will remain cautious.

Consumer spending accounts for 2/3 of every $ generated in US GDP.

Slow growth and disappointing rates of improvement will characterize the economy. At least through the first half of 2021.
Back to Normal Index
Moody’s-CNN Survey 100=March 1st

Key Point.
Covid Relief programs prevent the economy from slipping into further decay. They enable a recovery. By themselves, they are not expected to generate growth.

37 monthly & high frequency variables included in the index from home prices, rail traffic, business confidence, seated diners, etc.
State Revenues: 2020

State Revenues: 2021

Key Point.
The current Covid Relief programs excludes funds for States.

Lacking another program that addresses this…results in an economic drag and a significant drag on the public sector’s cement consumption outlook for 2021.

From an economic perspective, there is more to be done regarding near term Federal Covid relief.

Given our Macroeconomic Projection

- Estimate Income by State
- Consumer Spending by State
- VMT By State
- Real Estate Values

We Calculate State Revenues

- Individual & Corporate Income Taxes
- Sales Taxes
- Fuel Taxes
- Property & All Other
- Add CARES
- Assume drawdown of rainy day fund
Covid Data & Projections
IHME Daily Death Rate Projections
7 Day Moving Average

IHME Estimates are Relatively accurate. During the most recent 7 day period – the IHME model underestimated actual daily death rates by 6.2% (3,234 Estimated vs 3,437 Actual)

Currently, IHME projects that the daily death rate will not decline to past peak (Mid-April 2020) levels until early March.
The Vaccine Scenario
Vaccine Impact on the Economy

Once the Vaccine is Mass Distributed….and herd immunity levels reached…..

It will:

• Result in a dramatic surge in consumer confidence.

• Encourage a return to many, but not all, Pre-Covid activities • Dining, movies, shopping, face-to-face interactions.

• Business will reopen, new businesses will emerge to fill voids created by the virus.

• Investment uncertainty will decline.

• Economy will expand rapidly.

• Jobs growth will be strong.

This is largely based on consumers returning to pre-Covid patterns.

Given the severity and duration of the disruption…restoration of consumer patterns may occur over several quarters to materialize…

The process begins with consumers sense of safety and the achievement of herd immunity.

**Key Point.** Without reaching herd immunity levels….the “White Knight” never shows up.
Reaching Herd Immunity

US Population: 328,240,000
Percent Required to Achieve Herd Immunity: 75%
Herd Immunity Population Target: 246,180,000

Assumed US Population with Anti-Bodies: 10%
Population Already With Antibodies: 32,824,000

Total Vaccinated January 25, 2021: 23,500,000

Population needing to be Vaccinated: 189,856,000
Doses Required Per Person: 2
Total Doses Required: 379,712,000
# Delivery Deadlines for US Covid-19 Vaccine Orders

<table>
<thead>
<tr>
<th>Company</th>
<th>Doses</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer-BioNTech</td>
<td>25 million</td>
<td>Dec. 31, 2020</td>
</tr>
<tr>
<td>Moderna</td>
<td>20 million</td>
<td>Dec. 31, 2020</td>
</tr>
<tr>
<td>Pfizer-BioNTech</td>
<td>75 million</td>
<td>Mar. 31, 2021</td>
</tr>
<tr>
<td>Pfizer-BioNTech</td>
<td>70 million</td>
<td>Jun. 30, 2021</td>
</tr>
<tr>
<td>Moderna</td>
<td>180 million</td>
<td>Jun. 30, 2021</td>
</tr>
<tr>
<td>Pfizer-BioNTech</td>
<td>30 million</td>
<td>Jul. 31, 2021</td>
</tr>
</tbody>
</table>

**Total doses Ordered**: 400 million
US Vaccine Supply

Notes:
Q 4 Performance: Production-to-Contract: 67%, Doses Delivered-to-Vaccination: 33%
Forward Assumptions: Production-to-Contract: 85%, Doses Delivered-to-Vaccination: 85%
Daily Rate of Vaccinations

Million Vaccination Doses Daily

Q 4 2020: 0.0
Q1 2021: 0.5
Q2 2021: 1.0
Q3 2021: 1.5

Notes:
2 Doses are required to reach the herd immunity level.
Key Point.

The period of strong growth, reflecting herd immunity and a resumption of Pre-Covid consumer spending patterns.... may occur 4 months later than previously assumed.

Slowing GDP growth for 2021.
Winter Projection
Cement Consumption

Cement Consumption Growth

Residential Strength Continues.
Nonresidential weakness.
Public reflects State fiscal exposure

2022-2023 Growth Acceleration reflects a Biden Infrastructure “Placeholder” of $260 Billion Ten Year Program.
The Biden Agenda: Infrastructure
Biden Plan & Moving Forward Act

"Hybrid" Baseline Level of Detail: $2 Trillion over 4 Years

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways</td>
<td>$494.0</td>
</tr>
<tr>
<td>Low Carbon Technology &amp; Research</td>
<td>$400.0</td>
</tr>
<tr>
<td>Road &amp; Bridge Repair</td>
<td>$300.0</td>
</tr>
<tr>
<td>School Building Repair &amp; Modern</td>
<td></td>
</tr>
<tr>
<td>Rail Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Affordable Housing</td>
<td></td>
</tr>
<tr>
<td>Broadband Internet</td>
<td></td>
</tr>
<tr>
<td>Renewable Energy</td>
<td></td>
</tr>
<tr>
<td>Misc. Green Projects</td>
<td>$70.0</td>
</tr>
<tr>
<td>Water Infrastructure</td>
<td>$58.0</td>
</tr>
<tr>
<td>Transformation Projects Fund</td>
<td>$40.0</td>
</tr>
<tr>
<td>Hospital Upgrades &amp; Expansion</td>
<td>$30.0</td>
</tr>
<tr>
<td>Urban Revitalization Projects</td>
<td>$18.0</td>
</tr>
<tr>
<td>Airport Direct Funding</td>
<td>$14.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,954.0</strong></td>
</tr>
</tbody>
</table>

Key Point. The proposed program, as we see it, is more massive than any previous infrastructure program.

The “Face Value” plan is more than 8 times the size of PCA's “placeholder of $235 billion over 10 years.

PCA combines information from the Biden infrastructure plan and the Moving Forward Act passed by the House to garner potential details. From there, cement intensities are assigned.

Very rough estimates suggest massive - UNPRECEDENTED increases in annual cement consumption beginning in 2023.
Federal Deficit

That $3.5 trillion deficit would have a noticeable effect on the total national debt.

Estimates Prior to the recent Covid relief and excluding further relief efforts.

A $3.5 trillion increase in the debt would push it to levels not seen since World War II.

Key Point.
Large Federal Debt levels, as well as other competing spending initiatives may significantly reduce Biden infrastructure plans.
Federal Debt May Hinder Policy Actions
(Billion $, 2021-2025)

Key Point

Federal Debt has risen to such high levels that it requires policy attention.

As a result…. The intentions of Biden’s “Face Value” spending/investment programs may be compromised down to less ambitious programs.

And…. Suggests that the actual stimulatory impact on the economy and cement consumption may be much less than the implied “Face Value” levels.