COVID-19 and The Future of the Finishing Trades

Shift Happens!

for the Built Environment
LMCI contracted with FMI to study industry trends and the fundamental drivers that will shape the industry.

What fundamental trends and technologies will influence the built environment and finishing trades industry over the next five to ten years?

30+ in-depth interviews

400+ survey questionnaire responses from trade contractors, general contractors, design firms, owners and other industry influencers.

Factors driving change at an unparalleled pace in the built environment and finishing trades industry.

- Market structure
- Economic conditions
- Technology
- Labor shortages
- Energy efficiencies
- New procurement practices
- Consolidation

“Before anything else, preparation is the key to success.”
- Alexander Graham Bell
How have you managed your downturns in the past? What did they look like? What choices did you make? What did you get right? What did you get wrong? Or what actions did you fail to take soon enough? These are the types of questions that leaders should be asking themselves today.

– Chris Daum
CEO of FMI Corporation
December 2019: after a long-sustained period of growth, mixed signals that indicated a slowdown started to emerge

- Unemployment 3.6% (Oct) near 50-year low
- Personal consumption increased; forecast +2.5%

- Residential housing starts down, new home sales down, median home price down (YoY)
- Consumer confidence down 10% YoY

- Inflation below 2%; low energy prices
- Economy growing at ~2+%

- Consumer spending on durable goods slowing; auto sales flat and off-peak since 2015

- Business investment slowed
- Manufacturing index slipping; lowest sentiment in 10 years
- Residential housing starts down, new home sales down, median home price down (YoY)
And then...

Time traveler: What year is it?

Me: 2020

Time traveler:
### Key Takeaways

#### 2020 Segment Performance

#### 2020/2019 Comparison

<table>
<thead>
<tr>
<th>UP</th>
<th>STABLE</th>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5% or more</strong></td>
<td>0% to 4%</td>
<td>Under 0%</td>
</tr>
</tbody>
</table>

**Up**

**Stable**

**Down**

- Single-family
- Multifamily
- Improvements
- Lodging
- Office
- Commercial
- Health Care
- Educational
- Religious
- Public Safety
- Amusement and Recreation
- Transportation
- Communication
- Manufacturing
- Power
- Highway and Street
- Sewage and Waste Disposal
- Water Supply
- Conservation and Development
Economic Signals – Q3 2020

- unemployment 8.4%
- inflation below 0%; low energy prices
- business investment down 20% YoY
- manufacturing index improving; highest sentiment in 12 months
- personal consumption down 6% YoY
- consumer confidence is down 20% YoY
- economy declining at >5+% annual rate
- consumer spending on durable and nondurable goods up YoY
- residential housing starts are down, new home sales are up, median home price up YoY
### Key Takeaways

#### 2020 Segment Performance
2020/2019 Comparison

<table>
<thead>
<tr>
<th>UP</th>
<th>STABLE</th>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% or more</td>
<td>0% to 4%</td>
<td>Under 0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UP</th>
<th>STABLE</th>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% or more</td>
<td>0% to 4%</td>
<td>Under 0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UP</th>
<th>STABLE</th>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% or more</td>
<td>0% to 4%</td>
<td>Under 0%</td>
</tr>
</tbody>
</table>

#### Up
- Improvements
- Public Safety

#### Stable
- Single-family
- Multifamily
- Health Care
- Transportation
- Communication
- Power
- Highway and Street
- Sewage and Waste Disposal
- Water Supply
- Conservation and Development

#### Down
- Lodging
- Office
- Commercial
- Educational
- Religious
- Amusement and Recreation
- Manufacturing
Construction spending and economic cycles

Of the three primary segments that make up construction put in place (CPIP), residential is the only one that is considered predictive of an economic cycle or downturn.

Residential construction investment fell just before three of the past four recessions, and also in 2019.

Nonresidential construction typically follows the trend, but lags to some degree and falls once in a recession.

Nonbuilding investment improved in prior recessions, indicating federal/public efforts to assist widespread investment (ARRA) and economic growth.

* FMI Forecast Q3 2019
### U.S. GDP – An unprecedented velocity of change

Percentage change, annual rate  
Source: CBO

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>4.2</td>
<td>5.0</td>
<td>3.9</td>
<td>18.6</td>
<td>6.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Q2</td>
<td>3.5</td>
<td>7.1</td>
<td>4.7</td>
<td>8.3</td>
<td>6.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Q3</td>
<td>5.4</td>
<td>4.8</td>
<td>3.8</td>
<td>6.9</td>
<td>6.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Q4</td>
<td>6.4</td>
<td>2.9</td>
<td>3.5</td>
<td>4.5</td>
<td>4.5</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Q1f (5.0) Q2f (32.9)
The (virus, consumer, employer) will determine the recovery

Q2 2020, consumer spending made up ~67% of the U.S. economy:
- 60% is in service (e.g., housing and health care), down from 64%
- 24% is in nondurable goods (e.g., clothing and groceries), up from 22%
- 16% is in durables (e.g., autos and appliances), up from 14%

Today, consumer debt, including student loans, is about 32% of national income (23% credit and 9% student loans). 10 years ago consumer debt was just under 25% of national income (19% credit and 6% student loans) [28% increase]
Diverging economic indices

Homebuilder, services and manufacturing sentiment has improved rapidly

U.S. ISM Manufacturing Purchasing Managers Index
56.0 (Aug 2020)

U.S. ISM Non-Manufacturing Purchasing Managers Index
56.9 (Aug 2020)

NAHB/Wells Fargo Housing Market Index (HMI)
83.0 (Sept 2020)
Mixed residential activity by metro

Local housing data supports the theme of demographic shifts out of large, dense and expensive cities
(e.g., San Francisco vs. SLC / Dallas)
Outcomes of the Futures Study for the finishing trades
Outcomes of the Futures Study for the finishing trades

Identifies factors and potential scenarios that will define the finishing trades industry and the built environment over the course of the next 10 years.

Provides industry perspectives as to what the built environment and finishing trades will look like in 2029.

Projects the potential future state of the industry.
Cornerstone topics that will impact the future of the industry

- FMI has identified three cornerstone topics that will drive change in the industry into 2029: economic, technological, and workforce.

- These cornerstone topics are comprised of ten influencing factors which will exert the greatest degree of impact on the industry over the course of the next ten years, where degree of impact is based on the amount of change that will likely occur within the factor and the anticipated future significance of those changes.

Together, these factors will influence the direction of the industry over the future decade and are explored in greater detail.
New trends that will also impact the future of the industry

- In addition to the previously discussed trends, additional post-COVID trends can also be grouped into the economic, technological, and workforce topics.

- While all of the previous trends maintained their importance for the future of the union finishing trades, these additional trends reflect the new, post-pandemic shifts in how we procure, execute, and staff future construction projects.

FMI researchers believe these are the likely fallout from the US COVID-19 crisis, based on our analysis of recent trends and data.

Economic
- Urban flight (NYC, LA, SF, SEA, CHI)
- Return of manufacturing
- Stimulus Two – infrastructure push?

Technological
- Virtual professions, in-person trades
- Prefabrication for social distance and efficiency

Workforce
- Smaller crews, return to shifts
- No more “college experience”
- Service and retail sectors less attractive
Cornerstone Topic One:

Economic Headwinds and Deteriorating Infrastructure
The highly complex nature of the economic headwinds

- Election results → tax policy
- Debt levels (consumer vs. corporate vs. government)
- Cost of debt and debt ratings
- Future stimulus programs (infrastructure?)
- Inflation vs. deflation, strength of the dollar
- Asset prices (homes, equities, etc.)
- Ongoing waves of corporate layoffs/bankruptcies, jobless claims
- Return to mobility in cities
- COVID-19 / flu season / vaccinations
- Trade negotiations
- Ongoing social unrest
- Etc…
Deteriorating infrastructure presents work opportunity, but no plan is in place to fuel investment

The industry recognizes and continues to stress the importance of investment in the near term to help mitigate further decay as well as to reduce the amount of larger, full-replacement spending in the long-term that would be required if the deterioration can continue unchecked.

Severely aging and deteriorating infrastructure is overdue for investment, but currently no comprehensive plan is in place to overhaul it.
Proposed stimulus program extensions take diverging paths

**CARES Act – $2.2 trillion**
Includes mixed tax breaks and credits. Extends direct payments, unemployment benefits and loan forgiveness/forbearance programs to consumers. Also, loan and grant programs to businesses, institutions and state and local governments.

**HEROS Act – Democratic, $3.4 trillion**
Provides significant increased support across consumer, institutional and government channels (including $1 trillion for state and local aid). However, addresses minimal financial support for struggling businesses (including no PPP extensions). Trump advised that the bill was “dead on arrival.”

**HEALS Act – Republican, $1.2 trillion (-45%)**
Provides mixed ongoing support across consumer, business and institutional channels. Consumer and business relief is considerably lower than CARES while health care and education aid becomes more prominent. No significant support for strained state and local governments.

**Billions**

- $3,500
- $3,000
- $2,500
- $2,000
- $1,500
- $1,000
- $500
- $0

**CARES**
- Business Aid
- Consumer Aid
- Institutional / Government Aid
- Other Various Tax Breaks, etc.

- Health Care
- Education
- State and Local
- Unemployment Benefits
- Direct Payments
- PPP and Other Business Loans
- Various Tax Breaks, Grants, Credits and other Emergency Funding Sources

**HEROS**
- Health Care
- Education
- State and Local
- Unemployment Benefits
- Direct Payments
- Various Tax Breaks, Grants, Credits and other Emergency Funding Sources

**HEALS**
- Health Care
- Education
- Unemployment Benefits
- Direct Payments
- Business Loans
- Other Various Tax Breaks/Grants/Credits/etc....
Bottom Line – Is This Still Relevant?

- No one can deny the impact of the economic headwinds we have faced due to COVID-19
  - The recession was both more instantaneous and severe than anyone could have predicted
  - The recovery has been promising, but there is still significant softness, particularly for small businesses and in urban centers

- Infrastructure investment seemed like a no-brainer then…
  - It still seems to be a critical area of focus
  - The presumptively incoming Biden administration is looking beyond just transportation and looking to use some sort of alternative procurement to speed work to market…
  - …but divided government will require more collaboration than we have seen the parties able to do lately. In the post-Trump era, is compromise dead or just on life support?
Cornerstone Topic Two:
Technology Changes in Project Execution
The rapid change and evolution of tech

Over the last 20 years, the industry has seen an enormous increase in various construction technology solutions.

Industry stakeholders are traditionally slow to adapt to change, creating challenges for adoption.

Finishing industry stakeholders believe that rapid tech changes will transform the way the industry operates over the next ten years, and those that fail to adapt and adopt may be left behind.

Growth of:
- 3D Modeling/BIM
- Prefabrication in MEP trades
- Deliberate adoption of BAS
- Adoption of Fleet Telematics
- Invitation to Bid software is mainstream

Growth of:
- Collaborative platforms
- Advanced scheduling
- Advanced BAS/Energy Management adoption

2000s: Mainstream offsite construction as a viable project delivery method
- Consolidated supply chain, death of the distributor
- Industry data sharing to enable adequate data for AI
- Adoption of blockchain technology embedded in backend of tech solutions

2010s: Growth of collaborative platforms
- Advanced scheduling
- Advanced BAS/Energy Management adoption

2020s: Invitation to Bid software is mainstream
The need to embrace technology

Does your company have a tech strategy or tech roadmap?

65% say NO

As technology continues to progress, those without a roadmap to take advantage of the technological resources available to them will be significantly negatively impacted.

As technology continues to evolve, the ability for stakeholders to intercommunicate and quickly share information will also be of increasing importance.

Source: FMI Study
Prefabrication and modularization have also become increasingly more commonplace, capturing the attention of the industry.

Prefabrication and modularization have grown due to the controllable nature of component assembly, the reduced onsite manpower required for installation, and the resulting ability to reduce variability and risk (e.g., offsite, controlled fabrication).

“We need our contractors to put their toe in the water with the new way of doing things.”

“We can’t get the productivity, so we have to do prefab. This takes labor out of the job.”

“When you look at the labor shortage, robotics is a way to address that. These robots are only getting cheaper and more flexible, and people are getting more comfortable making that investment.”

Both prefabrication and modularization are improving efficiency on the jobsite and reducing the labor required to complete the project.

“With the revolution of the unitized building, we need less manpower to construct. For a building that would have taken 80 glaziers, we now only need 30. We have lost 50 jobs in the field because of technology.”
Bottom Line – Is This Still Relevant?

- Technology has been the big winner of the COVID era
  - Virtualization of everything has led to reduced in-person project management requirements
  - Prefabrication and modularization remain key topics, especially for the skilled trades
  - Technology that allows for smaller crew sizes is even more favored in a world of social distancing

- How does a virtual world impact construction demand?
  - Negative impacts in some sectors (office, commercial) that tend to NOT be strong national markets for the union finishing trades
  - New / changing demands in others (education, health care, government and public safety, transportation) that are may create extensive demand for renovations to ease cleaning / prevent pandemic spread (coatings and flooring especially)
Cornerstone Topic Three:

Shortages in Traditional Workforce
For more than 20 years, the skilled labor shortage has been a primary concern among stakeholders across the E&C industry.
Two-thirds of the remaining Baby Boomer construction workforce will exit the industry within the next 10 years, along with thirty-five percent of Generation X.

“Baby boomers are retiring at a rate of 10,000 a day, and the average age in our union is 42-43 years old. We need to replace that workforce.”
Unemployment rates signaled five of the past five recessions.

Logically, major events change the employment climate in one or more large industries at some point before we fall into recession.
Promoting the trades as a viable career path

Federal student loan debt
US; Millions of current dollars
Source: Census, Board of Governors of the Federal Reserve System

Given the ballooning federal student loan debt and the attention its “debt” receives from politics and the media. Current forces can continue to influence a shift towards a career in construction as opposed to a traditional four-year degree path.

Industry stakeholders widely agree that better promoting the finishing trades and overall construction industry to early education will help to solve labor force issues.

“Partnering with education has been successful for us. We are accrediting our training centers, forming articulation agreements with higher education and developing our outreach to school counselors.”

FMI Corporation | Copyright 2020
Union uncertainty

- Non-union firms are gaining market share from signatory contractors. According to the U.S. Bureau of Labor Statistics, construction industry union participation dropped to 12.8% in 2018, down from 14% the previous year.

- Non-union firms are narrowing the gap with training of their employees, eroding the current union skills advantage and making their pricing increasingly attractive to owners and decision makers. The danger of IRAPs is only temporarily in abeyance.

- Unions are struggling to grow their memberships, hurting pension plans and funding for important initiatives like training and organizing.

2017: 14.0%
-1.2%
2018: 12.8%
2029: ??

“If we can show the advantages of union membership, that is beneficial. We have communication issues between the older members and connecting with this young generation.”
Bottom Line – Is This Still Relevant?

- Construction, especially union construction, should be a much more attractive field
  - If you were working in retail or restaurants, an apprenticeship sounds excellent right now!
  - Work that can’t be virtualized away = less likelihood of job loss

- College is less attractive to the marginal student today
  - Paying $120k to take classes from your bedroom, no frat parties, no football games
  - Many more students considering “gap years” or trades education could be disruptive

- Immigration policy changes likely as well

- Plus, movement out of certain high-cost urban centers produces new demand and labor supply
Key Future Challenges and Opportunities
Four main “buckets,” ten challenges to address

- Multi-employer pension reform requires sacrifices
- Health care cost increases drive innovative approaches
- Short term recessionary impacts
- Change in megaproject demand and execution
- Megaproject “sugar rush” effects

Fringe Benefit Cost Challenges

- Multi-employer pension reform requires sacrifices
- Health care cost increases drive innovative approaches

Recession and Megaprojects Impacts

- Reduced union wage gap leads to a different value proposition
- Ongoing reduction in skills gap, and IRAP issues
- Impact of mass talent exodus requires innovative solutions
- Change in perception of skilled trades
- Attractiveness of unions to Generation Z

Union / Non-Union Gap Narrows

Generational Trends

- Reduced union wage gap leads to a different value proposition
- Ongoing reduction in skills gap, and IRAP issues

- Impact of mass talent exodus requires innovative solutions
- Change in perception of skilled trades
- Attractiveness of unions to Generation Z
Have the challenges changed post-COVID?

- Multi-employer pension reform requires sacrifices
- Health care cost increases drive innovative approaches

Fringe Benefit Cost Challenges

$  

- Short term recessionary impacts
- Change in megaproject demand and execution
- Megaproject “sugar rush” effects

Recession and Megaprojects Impacts

- Impact of mass talent exodus requires innovative solutions
- Change in perception of skilled trades
- Attractiveness of unions to Generation Z

Generational Trends

- Reduced union wage gap leads to a different value proposition
- Ongoing reduction in skills gap, and IRAP issues

Union / Non-Union Gap Narrows

- Multi-employer pension reform requires sacrifices
- Health care cost increases drive innovative approaches

Fringe Benefit Cost Challenges

$  

- Short term recessionary impacts
- Change in megaproject demand and execution
- Megaproject “sugar rush” effects

Recession and Megaprojects Impacts

- Impact of mass talent exodus requires innovative solutions
- Change in perception of skilled trades
- Attractiveness of unions to Generation Z

Generational Trends
In Summary...

- Some geographies and sectors will be strong and thriving; others (retail, office, blighted urban centers) will not recover for 5-10 years

- Strategic focus – segment diversification, geographic moves if needed (offensive); stay close to customers, provide consistent source of labor if not (defensive)

- Workforce focus – this is possibly the best time in fifty years for trades recruiting – get your message and messengers right

- Technology focus – use virtualization to minimize non-core, and enabling technology to maximize core functions of the business

- Economic focus – recessions come and go, and every recession or depression creates new winners and losers; focus on what you can control and don’t waste head space on what you cannot!
As a principal with FMI, Mike Clancy works with all manner of engineering and construction companies, with a focus on operational improvement and strategic thinking. Mike co-leads FMI’s strategy practice, and with a strong background in construction operations and a depth of strategy consulting experience, brings a unique viewpoint to corporate strategic discussions.

Mike has a varied portfolio of subject matter expertise, with deep consulting experience in estimating and work procurement, equipment fleet strategy, union and labor challenges, and megaprojects success. He has worked with clients in the U.S. and overseas on corporate strategy using a research and evidence-based approach. His clients have benefited with improved financial results and the development of internal leadership talent and organizational focus.

Prior to joining FMI, Mike held several key operational and management roles in general contracting and development firms throughout the southeastern United States. He also served in the U.S. Army Infantry as a non-commissioned officer.

Mike holds a Bachelor of Science in construction management from the Rinker School at the University of Florida. He also holds a Master of Business Administration with concentrations in finance and competitive strategy from the Hough Graduate School of Business at the University of Florida.
Who We Are

FMI is the leading consulting and investment banking firm dedicated exclusively to the built environment. We serve the industry as a trusted advisor. More than six decades of context, connections and insights lead to transformational outcomes for our clients and the industry.

FMI has more relationships in the industry than any other consulting firm. We leverage decades of focused experience and expertise to advise on strategy, leadership and organizational development, performance, technology and innovation.

PRACTICE AREAS

Strategy
- Market Research
- Market Strategy
- Business Development
- Strategic Planning

Leadership and Organizational Development
- Leadership & Talent Development
- Succession Management
- High Performing Teams
- Corporate Governance
- Executive Coaching

Performance
- Operations
- Risk Management
- Compensation
- Peer Groups

Technology and Innovation
- Tech Market Accelerator
- Tech Partner Program
- Tech Readiness Assessment
- Tech Sourcing & Adoption
- Integrated Business Intelligence

FMI Consulting

FMI has more relationships in the industry than any other consulting firm. We leverage decades of focused experience and expertise to advise on strategy, leadership and organizational development, performance, technology and innovation.

FMI Capital Advisors

We are the leading investment banking firm exclusive to the built environment. Our dedicated team of more than 35 experienced M&A finance professionals has completed hundreds of transactions in the industry. FMI offers the broadest and deepest M&A coverage of the Built Environment.

Sector Expertise
- Architecture, Engineering & Environmental
- Building Products
- Construction Materials
- Contractors
- Energy Service & Equipment
- Energy Solutions & Cleantech
- Utility Transmission & Distribution

Services
- M&A Advisory
- ESOP
- Valuations
- Ownership Transfer

Executive Education
- Acquisitions in the Construction Industry
- Ownership Transfer & Management Succession