Our cover photo for the winter edition of Beck’s Cost Report shows the floor of Factory Blue’s offsite manufacturing facility in Fort Worth Texas. At this facility, Factory Blue’s capabilities include, but are not limited to design, fabrication, procurement, and installation of:

- Bathroom pods
- Medical head/foot walls
- Exterior wall panels
- Central plants
- Modular elevators
- Operating room ceiling systems
- MEP ceilings racks

Interested in more of Factory Blue’s work? Check out additional projects on page 12.
MARKET SUMMARY

The Beck Group Cost Report is a biannual report produced by our estimating teams to address market sector and AEC industry trends in the markets and offices that we serve. To provide insight on trends and costs specific to the selected market, each edition is themed around a particular sector. In this edition, we are focusing on prefabrication.

Every six months, we poll our team to get an overview of what they are experiencing in the industry at that moment, and where they see movement happening in the future. Some of the continuing trends we see across the country are:

PREFabricated SOLUTIONs
Modular construction is continuing to see a rise in popularity as builders seek to reduce schedules, increase safety, minimize waste and improve quality on their projects. According to a recent analysis by McKinsey & Company, the market value for modular construction could reach $130 billion in the US and Europe in the next ten years.

CONTINUED LABOR CHALLENGES
The construction industry has been steadily adding to its workforce and has reached its highest levels since 2008. Despite this growth, employers have struggled for several years to meet the demand for skilled workers. This demand has created challenges for companies as they look to attract and retain the talent needed to meet the demand from projects.

INCREASED USE OF TECHNOLOGY
From project management software, robotics, BIM, virtual/augmented reality, the internet of things, and net-zero sustainability practices, the use of technology throughout the life cycle of a project is increasing. These types of technology are helping to improve the accuracy of build, productivity, the safety of sites, reduce cost and waste, and increase the quality of the final project.
MARKET SUMMARY

ATLANTA
The construction market has remained largely unchanged in 2019 compared to the last two years. We currently see plenty of work in metro Atlanta across a variety of market sectors, but news of a slowdown of available work in 2020 continues. Subcontractors have small to midsize slots in their 2020 schedules that they are looking to fill.

Despite signs the overall market may weaken, the construction labor market is at or near all-time low unemployment and continues to look strong into next year. The AGC/Autodesk 2019 Georgia Workforce Survey says that 75 percent of firms expect to hire hourly craft personnel for additional capacity, and nearly half will expand their salaried staff as well. Sixty to 70 percent of firms hiring in 2019 said that filling open positions was harder this year than last. From firms reporting staffing challenges, 50 percent have increased their pricing, 46 percent said costs have been higher than anticipated, and 46 percent also said that projects had taken longer than anticipated. Because of this, even with a slowdown of 10-15 percent, we will likely still be at full employment. The ongoing strain on labor will continue to increase labor costs on projects. Several drywall subcontractors we spoke to anticipate a 5-10 percent pay scale increase next year and a union subcontractor is paying 2-4 percent over scale for his crews.

The labor crunch is hitting project schedules as well, making it more likely for subcontractors to fall behind and that other follow-on trades don’t have the additional people to make up the time. We manage our projects through these challenges and do not see schedule slippage due to subcontractor manpower.

Regarding material escalation, we saw prices jump significantly in 2018, but have seen decreases or flattening this far in 2019. This includes steel, drywall, aluminum, lumber, and fuel. Looking forward, drywall suppliers have provided their customers notice of 15-20 percent increases coming at the beginning of 2020. In past years, we have seen the suppliers back off of these large percentages by Q2. Overall, we’ve seen a 3-3.5 percent escalation price increase in 2019 and project the same for 2020.

AUSTIN
The Austin market continues to be robust, and the outlook into 2020 is strong. We continue to be active in the commercial property market with both design and construction projects in downtown, East Austin, and The Domain on the Northside of Austin. We remain active in the healthcare market with a major expansion of Dell Medical Center Austin and Ascension Seton Bastrop. Our design group is providing services for a major expansion to the Austin Ridge Bible Church campus. We also have two major construction projects at the University of Texas and a major hospitality training center.

Our major challenge continues to be the labor market. It is tough to find and retain quality individuals, and trade partners remain selective in their job pursuits, as most have good backlogs into late 2020. In Austin, we see an increase in concrete material and equipment pricing, while steel has remained fairly flat.

Across all of our services and market sectors in Austin, we continue to see opportunities, and we are grateful for the relationships that keep us busy.
MARKET SUMMARY

CHARLOTTE
The list of companies expanding in or moving to Charlotte is not showing signs of slowing down. Banking continues to be a major market for growth, both in terms of headquarters facilities and retail banking. We see this in the new 26-story tower that will house new Ally Bank offices, JP Morgan Chase is expanding retail banking into the Charlotte market, and Truist Bank will open its new headquarters here. The expansion of the light rail is driving mixed-use development along South Boulevard and north into NoDa. Technology is the other market sector attracting jobs into Charlotte. Lowe’s is building its Global Technology Center in Uptown to help attract top talent that would not otherwise work at the Mooresville headquarters.

Charlotte is putting a lot of energy and focus on transportation expansion. The $2 billion expansion and renovation of the Charlotte Douglas International Airport is underway. Charlotte is investing in the expansion of the light rail and streetcar system in town. The plan is that by 2030, there will be three additional transit lines. Interstate and tollway expansions are underway to address the growing traffic volume from suburbs like Fort Mill to the south and Mooresville to the north.

Healthcare remains a strong market for sustained growth. As the Charlotte area continues its growth outward, healthcare systems are fighting to be the first in the emerging markets with urgent clinics, medical office buildings, and small hospitals. In the established areas, these health systems are continually updating to keep pace with technology and the competition.

Skilled labor and workforce development continue to challenge the market. The construction labor force is aging out, and it is not replenishing. Owners express an increased desire to utilize design-assist and off-site manufacturing to provide schedule and budget assurances. We see the early signs of local subcontractors tooling up to increase off-site production. There are efforts at the local and state levels to promote careers in construction to high school and college students and to change the perspective on our industry.

DALLAS/FORT WORTH
The Dallas/Fort Worth market remains active in the latter half of 2019. We see new projects throughout the region including Uptown/Downtown Dallas and along the North Dallas Tollway in areas like Plano, Frisco and beyond. The projects in Uptown/Downtown include a mix of new construction and renovations. In North Dallas, new project starts continue as Fortune 500 companies move to or expand in the region as well as speculative office buildings and hotels. Fort Worth construction activity remains strong as well, with many projects planned or in construction within the downtown core and the surrounding areas.

Our trade partners are actively looking for work that will start in the second and third quarters of 2020 to secure their backlogs for the upcoming months. Many GCs are also more active in looking for work at this point of time compared to previous years, but opportunities remain.

Expansions with JP Morgan Chase, Charles Schwab and the announcement of Uber and PGA moving to Dallas keep developers busy. With DFW Airport announcing a $3.5 billion terminal expansion and the PGA Resort and Office coming to Frisco, the market remains bullish in the region. We continue to see a steady amount of healthcare projects as the different systems expand into the suburbs.
MARKET SUMMARY

DENVER
The Colorado economy has seen its lowest level of unemployment in 50 years, dropping to 2.8 percent. Economists project that growth will continue, albeit at a slower rate through early 2020.

“State economists are trimming their forecast for economic growth and tax revenues after business spending and exports declined more than expected over the summer.” State sales tax collections increased 4 percent from the previous year but at slightly less than half the growth of the previous year of 7 percent.

Based on subcontractor community feedback, the backlog of construction jobs remains steady. Shared commodity pricing indexes and material pricing guidance indicates stagnant pricing, not declining prices. There are not any major indications of material price increases on the horizon, even amidst continued global trade negotiations. Trade labor rates continue to rise but at a stable 2 – 3 percent. Trade partners still pursue projects selectively, and due to a continued shortage of skilled labor, relationships with strategic partners is of continued importance.

With project costs continuing to escalate slowly, our teams are implementing strategies to lock-in costs earlier and increase the speed of construction. One successful method to help mitigate fluctuations has been to partner with major design-build trades early in the process. Prefabrication continues to be an area of focus across all markets. Modular wall panels have been used on high rise construction, and prefabricated cold-formed framing systems have been used on mid-rise construction, both with great success. Implementing these strategies on upcoming work helps manage budget and schedule. Prefabrication is a trend that will continue to have greater utilization across multiple market segments and project types.

MEXICO
The Mexican economy saw an overall decrease in its growth rate in 2019; however, preliminary data shows and analysts expect that growth for the upcoming year will be about 2 percent. The current deflation has been a consequence of the reduction of public construction projects, even though the private building sector saw growth. Analysts are optimistic for the upcoming months due to the recently published “Federal Budget 2020.”

Construction costs have shown a decrease compared to the same period from last year. These decreases were on materials such as reinforced steel. The industry is expected to see moderate growth in construction material costs by the first quarter of 2021.

We see moderate growth in mixed-use, retail, residential, hospitality, and industrial projects. Sectors like healthcare and higher education see investment potential as a demographic change that contributes to higher demand. Private healthcare building grew significantly, primarily with an increase in the construction of large-scale hospitals and a reduction of smaller ones. Mexico City, Monterrey, Guadalajara and Querétaro have the highest construction developments across the country. Foreign direct investment has been increasing annually throughout the country and is leading to more complex projects. Developers have shown uncertainty amongst the new construction regulation; however, the indicators show a strong year in the private construction sector.
MARKET SUMMARY

TAMPA
The Tampa Bay and Florida markets continue to outpace the nation in population and employment growth. Only Texas grew by more people than Florida last year and Tampa was one of the fastest growing cities in Florida. Florida’s unemployment rate has fallen from a post-great recession high of 11.3 percent to just 3.2 percent as of October of 2019 and Tampa’s unemployment rate is just 2.9 percent (as of September). The area continues to rank first in the state in demand for high-skill, high-wage STEM occupations and a hot spot for startups.

While the state has seen positive economic growth, there are a number of ongoing challenges. Similar to our other regions, we see pressure on the construction labor force with the increased amount of work in our area. Tampa’s trade partners are stretched thin, causing the construction and design community stress.

Trade partners can be strategic on the projects they pursue and are starting to ask about a project’s delivery and procurement method. Players in our industry recognize the importance of procuring labor and retaining talent. We expect to see labor and material increases throughout 2020, making it imperative to account for these escalations early in the process.

In 2020, we anticipate affordable housing, infrastructure and transportation planning to be challenges across the state, including Tampa Bay. Homebuilding should remain strong, particularly in areas attractive to retirees; commercial building also has strong momentum. Several national high-profile projects, an airport that pushes the envelope on customer experience, and a strong local economy, it is an exciting time to be part of Tampa Bay’s thriving future.
COST COMMENTARY

EMPLOYMENT AND EMPLOYMENT GROWTH
National employment growth is expected to have added 2.25 million jobs in 2019. This growth slows in 2020 with predictions of 1.44 million added jobs. National unemployment has continued its nine‐year decline in 2019. It is expected to reach 3.7 percent by the end of that year before reversing and up to 4.0 percent and 4.1 percent in 2020 and 2021, respectively.

The construction industry maintained a net positive increase in jobs throughout 2019. Based on the most recent data, in the past 12 months, the industry has added 148,000 net new jobs, which is an increase of 2 percent. Construction unemployment rose slightly since our last report, but remains low at 4 percent.

For architecture, unemployment remains low at 1.2 percent in recent BLS reports. In 2019, architecture employment has grown at a steady pace with average monthly gains reported at nearly 600 per month. This is up from an average of 500 per month in 2018.

MONTHLY UNEMPLOYMENT PERCENTAGE 2019

<table>
<thead>
<tr>
<th></th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEPT</th>
<th>OCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION</td>
<td>6.4</td>
<td>4.0</td>
<td>3.8</td>
<td>4.7</td>
<td>3.6</td>
<td>3.6</td>
<td>4.0</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
</tr>
<tr>
<td>NATIONAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: abc.org | uli.org | aia.org | bls.gov
INPUT PRICES AND CONSTRUCTION SPENDING

Construction input prices fell 2.2 percent year-over-year in the latter half of 2019. This decline is due to falling energy prices such as crude petroleum (-29.8 percent), natural gas (-31.8 percent) and unprocessed energy materials (-26.3 percent). Nonresidential construction spending rose 0.5 percent since the last reporting, but is down 0.99 percent on a year-over-year analysis. Private nonresidential spending decreased by 0.3 percent since last reporting and is down 5.7 percent compared to time last year. Public nonresidential construction spending has increased 1.5 percent for the month and is up 6.6 percent for the year and shows opportunities for continued growth.

PRODUCER PRICE INDEX

<table>
<thead>
<tr>
<th></th>
<th>1-MONTH CHANGE</th>
<th>12-MONTH CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs to Construction</td>
<td>0.0%</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Inputs to Nonresidential Construction</td>
<td>-0.1%</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Plumbing Fixtures and Fittings</td>
<td>0.1%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Fabricated Structural Metal Products</td>
<td>-0.2%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Iron and Steel</td>
<td>-4.7%</td>
<td>-16.1%</td>
</tr>
<tr>
<td>Steel Mill Products</td>
<td>3.0%</td>
<td>-13.1%</td>
</tr>
<tr>
<td>Nonferrous Wire and Cable</td>
<td>-0.1%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Softwood Lumber</td>
<td>0.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Concrete Products</td>
<td>0.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Prepared Asphalt, Tar Roofing, Siding Products</td>
<td>-0.2%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Crude Petroleum</td>
<td>-9.3%</td>
<td>-29.8%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>7.7%</td>
<td>-31.8%</td>
</tr>
<tr>
<td>Unprocessed Energy Materials</td>
<td>-3.0%</td>
<td>-26.3%</td>
</tr>
</tbody>
</table>

CONSTRUCTION SPENDING (IN MILLIONS OF DOLLARS)

<table>
<thead>
<tr>
<th></th>
<th>SEPT ’19</th>
<th>AUG ’19</th>
<th>JUL ’19</th>
<th>JUN ’19</th>
<th>MAY ’19</th>
<th>SEPT ’18</th>
<th>CHANGE SEPT ’19 FROM -</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AUG ’19</td>
</tr>
<tr>
<td>Total Construction</td>
<td>1,293,614</td>
<td>1,287,054</td>
<td>1,291,250</td>
<td>1,285,299</td>
<td>1,297,464</td>
<td>1,319,675</td>
<td>0.5%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>775,637</td>
<td>772,000</td>
<td>780,491</td>
<td>779,466</td>
<td>787,831</td>
<td>782,946</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total Private Construction</td>
<td>961,670</td>
<td>959,859</td>
<td>962,690</td>
<td>959,160</td>
<td>962,668</td>
<td>1,008,142</td>
<td>0.2%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>450,251</td>
<td>451,410</td>
<td>458,054</td>
<td>459,550</td>
<td>459,111</td>
<td>477,680</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Total Public Construction</td>
<td>331,944</td>
<td>327,195</td>
<td>328,560</td>
<td>326,139</td>
<td>334,775</td>
<td>311,534</td>
<td>1.5%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>325,386</td>
<td>320,591</td>
<td>322,437</td>
<td>319,916</td>
<td>328,721</td>
<td>305,267</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Sources: abc.org | bls.gov | census.gov
COST COMMENTARY

MARKET CONFIDENCE
The ENR Construction Industry Confidence Index survey (CICI) measures executive sentiment about the current market and where it will be in the next three to six months and over a 12- to 18-month period. A reading above 50 indicates a growing market. The most recent release of the results from the survey have placed ENR's CIC at 51; down seven points from the last reporting. This is in response to an increase in opinions that the industry will begin to see a slowdown in 2020.

YEARNLY CONFIDENCE INDEX

<table>
<thead>
<tr>
<th></th>
<th>Q3 2018</th>
<th>Q4 2018</th>
<th>Q1 2019</th>
<th>Q2 2019</th>
<th>Q3 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly Confidence Index</td>
<td>70</td>
<td>59</td>
<td>59</td>
<td>58</td>
<td>51</td>
</tr>
</tbody>
</table>

PROSPECTS IN INDIVIDUAL SECTORS

<table>
<thead>
<tr>
<th>Industry</th>
<th>Firms</th>
<th>Current (%)</th>
<th>3-6 Months (%)</th>
<th>12-18 Months (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Offices</td>
<td>155</td>
<td>6</td>
<td>78</td>
<td>15</td>
</tr>
<tr>
<td>Distribution, Warehouse</td>
<td>89</td>
<td>4</td>
<td>56</td>
<td>39</td>
</tr>
<tr>
<td>Education K-12</td>
<td>105</td>
<td>2</td>
<td>72</td>
<td>26</td>
</tr>
<tr>
<td>Entertainment, Theme Parks, Cultural</td>
<td>69</td>
<td>13</td>
<td>67</td>
<td>20</td>
</tr>
<tr>
<td>Hospitals, Healthcare</td>
<td>131</td>
<td>4</td>
<td>51</td>
<td>45</td>
</tr>
<tr>
<td>Higher Education</td>
<td>128</td>
<td>7</td>
<td>70</td>
<td>23</td>
</tr>
<tr>
<td>Hotels, Hospitality</td>
<td>119</td>
<td>3</td>
<td>70</td>
<td>27</td>
</tr>
<tr>
<td>Multi-Unit Residential</td>
<td>97</td>
<td>12</td>
<td>64</td>
<td>24</td>
</tr>
<tr>
<td>Retail</td>
<td>101</td>
<td>32</td>
<td>58</td>
<td>10</td>
</tr>
<tr>
<td>Industrial, Manufacturing</td>
<td>106</td>
<td>10</td>
<td>69</td>
<td>21</td>
</tr>
<tr>
<td>Transportation</td>
<td>78</td>
<td>8</td>
<td>59</td>
<td>33</td>
</tr>
<tr>
<td>Water, Sewer and Waste</td>
<td>64</td>
<td>0</td>
<td>71</td>
<td>29</td>
</tr>
<tr>
<td>Power</td>
<td>47</td>
<td>11</td>
<td>49</td>
<td>40</td>
</tr>
<tr>
<td>Petroleum, Petrochemical</td>
<td>36</td>
<td>6</td>
<td>75</td>
<td>19</td>
</tr>
<tr>
<td>Environmental, Hazardous Waste</td>
<td>17</td>
<td>12</td>
<td>82</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: enr.com
INDUSTRY INSIGHTS: FACTORY BLUE

PREFABRICATION TRENDS: A Q&A WITH TIM MCNEW

Prefabrication has been growing in popularity as project teams look to eliminate waste, improve project schedules, and solve the labor shortage issue facing the industry.

In this edition of our industry spotlight, we sat down with Tim McNew, Director of Offsite Manufacturing at Factory Blue, for a Q&A session to learn from his insight on trends in prefabrication.

Factory Blue is an integrated off-site manufacturing company that pushes the limits on prefabrication and helps clients create faster, smarter, and safer projects. Factory Blue adds value by supporting pre-construction, design, and ultimately filling the gaps on the project site.

Q. When did your experience in prefabrication and manufacturing begin? What is it about this industry that drew you in and eventually led you to join Factory Blue?

My previous employer was a large mechanical contractor. They were prefabricating mechanical systems in the early ’90s when I joined them. When I left 23 years later, they were much better at what they prefabricated, but it was essentially the same items.

Getting over the hump of multi-trade prefabrication is difficult for any single-trade contractor to accomplish because it is challenging for them to have control over all of the other trades that are involved. A general contractor can coordinate multiple trades to complete the project.

Solving that challenge is what drew me into becoming a part of Factory Blue. The Beck Group and Factory Blue can coordinate, provide technical knowledge, facilities, and expertise to drive multi-trade prefabrication.

Q. What excites you most about prefabrication projects today?

More people are saying yes to modular components, and more contractors are trying their hand at it. It’s also exciting to see an improvement in the modeling technology that allows for improved prefabrication processes.

We know it is essential to model projects in BIM for the same reasons you model a typical project, and the software itself is better. Design and fabrication software has become more integrated which allows the process to flow better.

Q. Based on your experience renovating and building new facilities, tell us about some of the best practices you’ve learned over the last twenty years.

If you want to fabricate off-site, it’s essential to start the design that way. By designing your building to incorporate restroom pods, for example, procurement is much smoother. More and more, developers engage with us to implement prefabrication earlier on in their process.

Including manufacturers also allows for them to play a design-assist role. We can help design teams find opportunities to prefabricate elements of a project that they may not consider otherwise. Doing this can help a building owner focus resources and dollars on components of the building that add value.
INDUSTRY INSIGHTS: FACTORY BLUE

Q. What will prefabrication projects be like in 10-15 years?
Prefabrication will help the industry create even better and more advanced buildings. Standardization and prefabrication is one path that removes waste on projects for things that people don’t see or don’t add value - out of sequence work, overproduction, customization of non-critical items, and rework. When we work that waste out, we can put a portion of those dollars back into architectural and technological features for our buildings.

Prefabrication also allows more individuals to enter the industry who would not typically work in construction. People who never dreamed of being in this industry will view prefabrication as a viable option because the work is safer and more environmentally controlled than a traditional jobsite, and it provides a static workplace and consistent hours.

Q. How does prefabrication affect shifts in the construction industry such as labor shortage, speed to market, and quality improvement?
Prefabrication can be an answer to all three of these, either collectively or individually. An example of this solution is our elevator offering. Traditionally, elevator installation can take months, and it can be a painful process. Working with our strategic partner Triton Consolidated, we take over the construction of a critical component of a building and turn months of field labor into days, while also improving the quality of assembly.

We accomplish this because prefabrication allows us to take work offsite and fabricate the assembly concurrently, while other work is still happening on the jobsite.

Q. What are you doing to manage the rising cost of materials and labor shortages?
We have some of the same exposure to rising material costs and labor shortages that we see across the construction industry. However, the nature of our work can help mitigate that exposure.

From a contractor’s perspective, your most significant exposure for materials exists between the time you are awarded the project until you purchase materials. By completing the manufacturing of those items earlier in the job, you mitigate the exposure by taking advantage of current pricing rather than having to account for any escalation of materials.

Ultimately the manufacturing environment will create jobs that draw non-traditional construction workers, building capacity in the market, and mitigating the labor shortage.

Factory Blue has also emphasized a focus on Lean processes to reduce waste throughout the manufacturing pipeline, which can ultimately aid in making a project more cost-efficient. We have honed in on a consistent workflow so we can focus on the value stream, Kaizen, 5S, and the other tools that have been perfected and championed by Lean Manufacturing.
INDUSTRY INSIGHTS: FACTORY BLUE

Q. Tell us about Factory Blue’s approach to prefabrication. What are you doing to enhance the needs of clients and the end-user?

Our goal is to help project teams standardize components so that we keep the unique aspects of a building and not value engineer out elements unnecessarily. We also have a high design fabrication group that can work with a variety of materials on custom one-off items for our designers and owners.

We have a diverse leadership team that allows us to look at projects in new way. Our plant manager Robert Haggerty has a 20-year manufacturing background with Cooper Tire. Our production manager, Haven Hardage, has a degree in architecture and multiple years of experience as a superintendent for one of our most significant clients. Our fabrication manager, Andrew Zalaket, has experience in supply chain management and is an artist in every sense of the word. Our lead project manager, Trenton Williams, brings Beck’s culture and corporate knowledge in addition to being an accomplished PM on multiple Beck projects. Together our team works to blend the best of all worlds, manufacturing, construction, and fabrication to add value.

We are the only prefabrication manufacturer to offer the breadth of services that we do. Our size allows us to provide the benefits of a large scale company for the production of items such as pods and headwalls, but we also have the flexibility for one-off custom projects.

Q. Talk about the trends championed by Factory Blue.

We want every design and construction team to feel comfortable and empowered to implement prefabricated items into their projects, to that end we will do anything we can do (from design to procurement to manufacturing to installation) for the team to achieve their goals. We also believe we can create an environment to introduce the construction industry to non-traditional and HUB firms.

At Factory Blue, we want to be a training ground for these individuals to create a diverse workforce and help solve some of the labor shortages we will continue to see in the construction industry.

Tim McNew’s career in the construction industry is unique. His resume boasts roles from a carpenter’s helper to Senior Vice President. He joined The Beck Group in 2018 to develop a corporate strategy for offsite manufacturing, which ultimately led to the creation of Factory Blue. Today, he leads Factory Blue, the only multi-trade prefabrication facility in North Texas.

Born and raised in Southwest Texas, Tim is a proud graduate of Texas A&M University and spent 23 years with TDIndustries prior to joining Factory Blue.

Contact Tim at timmcnew@factoryblue.com or 817.401.9556.
PROJECT SPOTLIGHT

Southern Methodist University Prefabricated Elevator
Dallas, Texas

Factory Blue provided offsite manufacturing and installation services for the elevator that will service the Southern Methodist University (SMU) Gerald J. Ford Hall for Research and Innovation, a new four level building that will be home to SMU’s graduate level software development program. Prefabrication allowed the elevator to be completed faster than traditional build methods.

Click below for a video of the elevator installation.

At the Gerald J. Ford Hall for Research and Innovation building at SMU,
INDUSTRY INSIGHTS: FACTORY BLUE

PROJECT SPOTLIGHT

Texas Health Hospital Mansfield
Mansfield, Texas

This project is an integrated effort with The Beck Group to design and construct their new hospital in Mansfield. The hospital is being built on a 24-acre developed tract of land along U.S. Highway 287 and Lone Star Road. The 195,000 SF acute care hospital will have the capacity for 83 patient beds and will offer the following services: women’s, surgical, imaging and emergency that will be supported by the following departments: dietary, pharmacy, laboratories and sterile processing. Factory Blue provided prefabrication and installation services of headwalls, bathroom pods, and skin panels.

The images below show a bathroom pod drawing and the mock-up created before production began.
MARKET SPOTLIGHT: PREFABRICATION

We polled Factory Blue about the costs and benefits to prefabrication. The results of this research is below. Please note: these prices are average estimates. Prices on individual projects may vary depending on a project’s scope. The experts on page 18 can provide an accurate estimate on your project.

<table>
<thead>
<tr>
<th>PREFABRICATED</th>
<th>FIELD BUILT</th>
<th>SIZE OF PROJECT</th>
<th>PREFABRICATION HARD COST SAVINGS</th>
<th>PREFABRICATION SOFT COST SAVINGS</th>
<th>TOTAL COST SAVINGS</th>
<th>SCHEDULE IMPROVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL BATHROOM POD (3 Plumbing Fixtures)</td>
<td>$16,300-$19,900/each</td>
<td>$16,800-$20,500/each</td>
<td>Approx. 600 pods</td>
<td>$321,000</td>
<td>$1,160,000</td>
<td>$1,481,000</td>
</tr>
<tr>
<td>FULL BATHROOM POD (3 Plumbing Fixtures)</td>
<td>$28,400-$34,700/each</td>
<td>$25,600-$31,300/each</td>
<td>Approx. 60 pods</td>
<td>$(160,000)</td>
<td>$200,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>HALF BATHROOM POD (2 Plumbing Fixtures)</td>
<td>$13,000-$16,000/each</td>
<td>$11,700-$14,250/each</td>
<td>Approx. 50 pods</td>
<td>$(76,240)</td>
<td>$120,000</td>
<td>$263,760</td>
</tr>
<tr>
<td>HEADWALL</td>
<td>$2,300-$2,800/each</td>
<td>$2,400-$3,000/each</td>
<td>Approx. 125 headwalls</td>
<td>$26,000</td>
<td>$185,000</td>
<td>$211,000</td>
</tr>
<tr>
<td>ELEVATORS</td>
<td>$46,350-$56,650/stop</td>
<td>$42,250-$51,500/stop</td>
<td>2 Units - 4 stops each</td>
<td>$(37,000)</td>
<td>$65,000</td>
<td>$28,000</td>
</tr>
</tbody>
</table>
NATIONAL REPORTS

This is a snapshot of what national publications are reporting in the design and construction industry.

- **AIA Architecture Billings Index**
- **ENR Quarterly Cost Reports**
- **Dodge Data & Analytics Newsroom**
- **ULI Real Estate Consensus Forecast**
- **McKinsey & Company Modular Construction Report**
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