



MATERIAL AVAILABILITY & ESCALATION

Region: Northeast

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INTRODUCTION

The majority of the materials we track have seen a slight increase in cost compared to the previous quarter. Focus has been on identifying the unknown increases from the supply chain and negotiating the length of time in which pricing can be held. Pike is providing an update to our material availability and escalation report to identify these changes since May 2022.

Over 81% of materials being tracked have increased in costs since May 2022. However, in the last month we have seen those increases trending lower than previous months and a limited number of isolated reductions for a few trades from historic highs. Although this slowing and stabilizing trend could continue, we are receiving notices from suppliers and vendors for future price increases. A few material and equipment lead times have slightly improved, but the majority of items have remained unchanged or have become slightly worse. Electrical and mechanical equipment continue to have

historically long lead times with delivery durations of 44 to 66 weeks on select gear.

A set of efforts to focus on have been developed from our short timeline, renovation projects. “Enabling mindset” strategies including early communication, early procurement of materials, alternate products, and rethinking installation sequences — all of which contribute to offsetting long lead time availability. Overlapping design and procurement has been a successful solution for our team members as well as partnering with subcontractors that have the flexibility and labor commitment to get the job done. Tracking of materials from the original purchase through the lead time duration is also required to ensure the materials will arrive as anticipated. These solutions are helping to maintain our schedules throughout our projects.



Ed Kurowski
Executive Vice President



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CONSTRUCTION INFLATION & UNCERTAINTY

UPDATE

Since Q2 of 2022 the vast majority (87%) of the materials we track have increased in price. 8% of materials have decreased in price while the remaining saw no change. Those materials that saw an increase went up an average of 2.8%, while those materials showing a decline in price (excluding lumber) averaged around -2.0%. As price uncertainty continues, bids are held for only a few days or weeks, and some manufacturers will not give firm pricing until materials have been shipped.

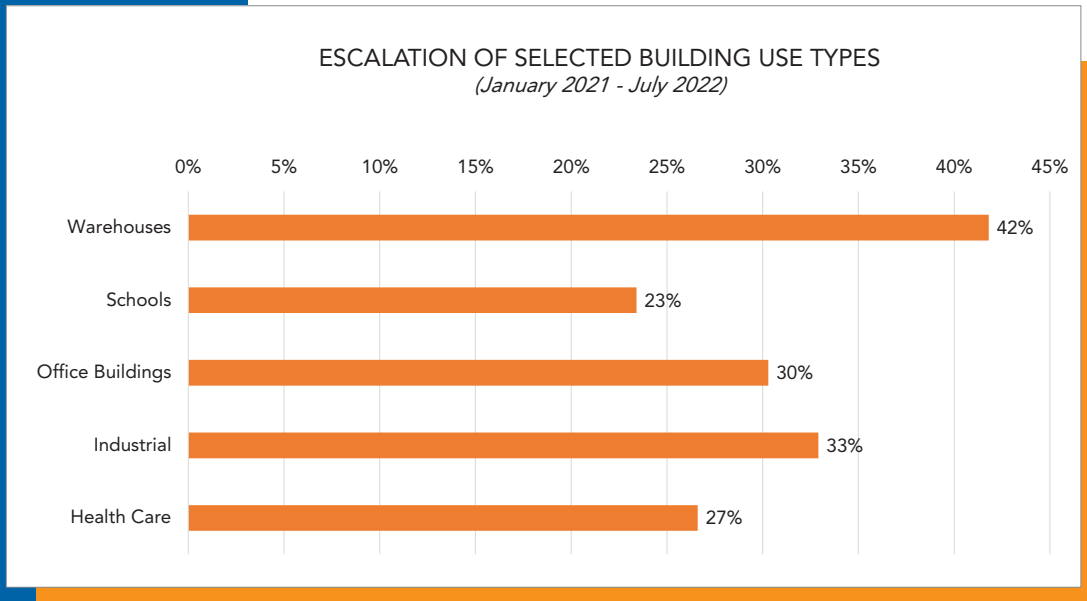
Significant Increases Since May 2022

- Natural Gas..... Up 28.0%
- Precast Structural Planks..... Up 10.5%
- Precast Architectural Wall Panels..... Up 9.1%
- Gypsum Building Materials..... Up 7.9%
- Metal Windows..... Up 5.1%
- Hot-Rolled Steel Plates and Structural Shapes..... Up 6.0%

Significant Decreases Since May 2022

- LumberDown 35.0%
- Wood TrussesDown 7.1%

In the last month, additional materials have seen month-to-month reductions. These include: wood trusses, wood moldings, sheet metal roofing, metal studs, copper wire, trucking, diesel fuel and gas. These are a positive sign; however, these prices remain higher than what they were a year ago.

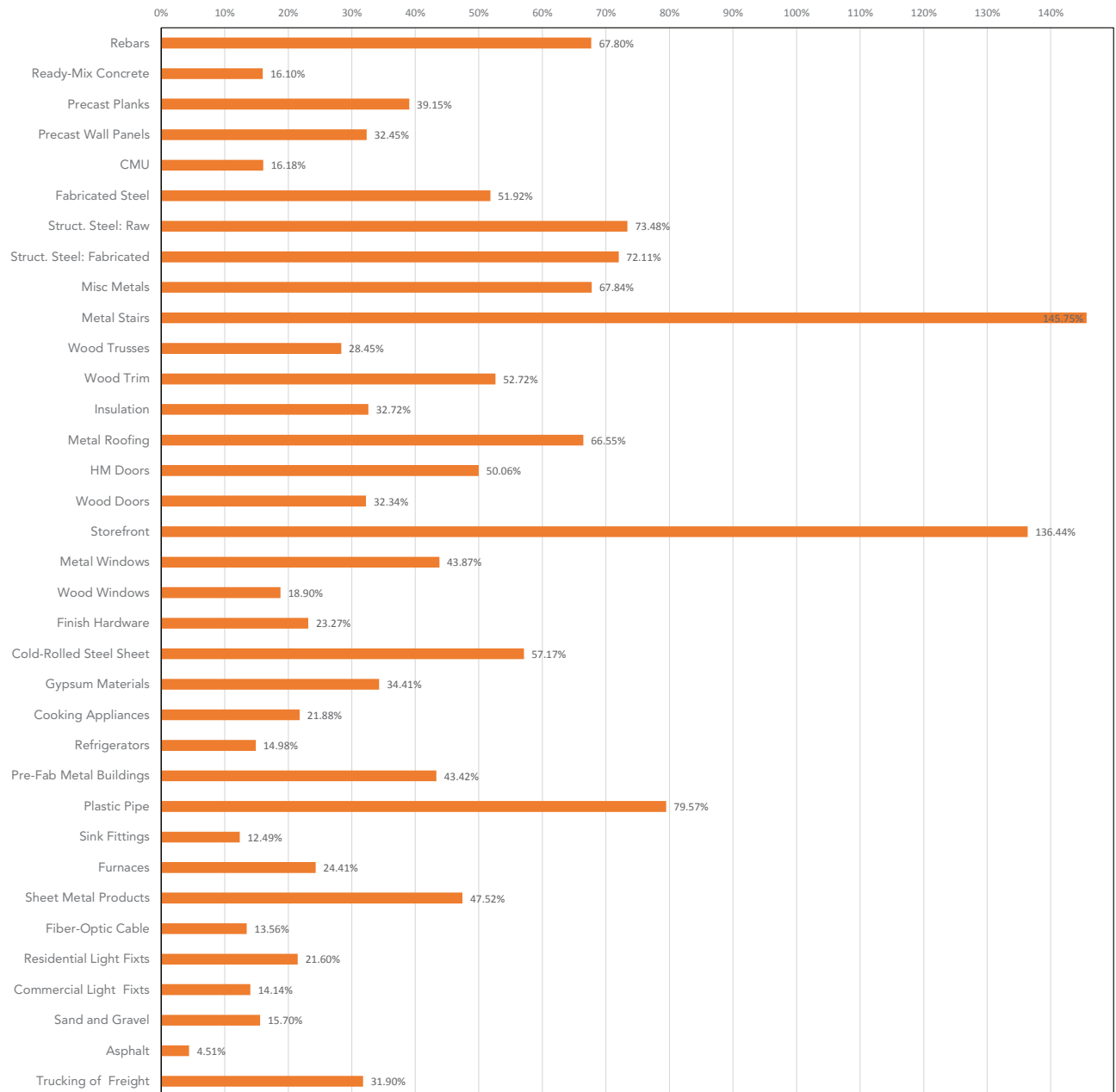


Source: US Bureau of Labor Statistics

MATERIAL PRICE CHANGES

This chart shows a set of materials and how much escalation they have experienced throughout the course of 2021 and Q2 of 2022.

MATERIAL ESCALATION (January 2021 - July 2022)



Source: US Bureau of Labor Statistics

Lumber pricing has decreased 31% from January 2021.

Lumber

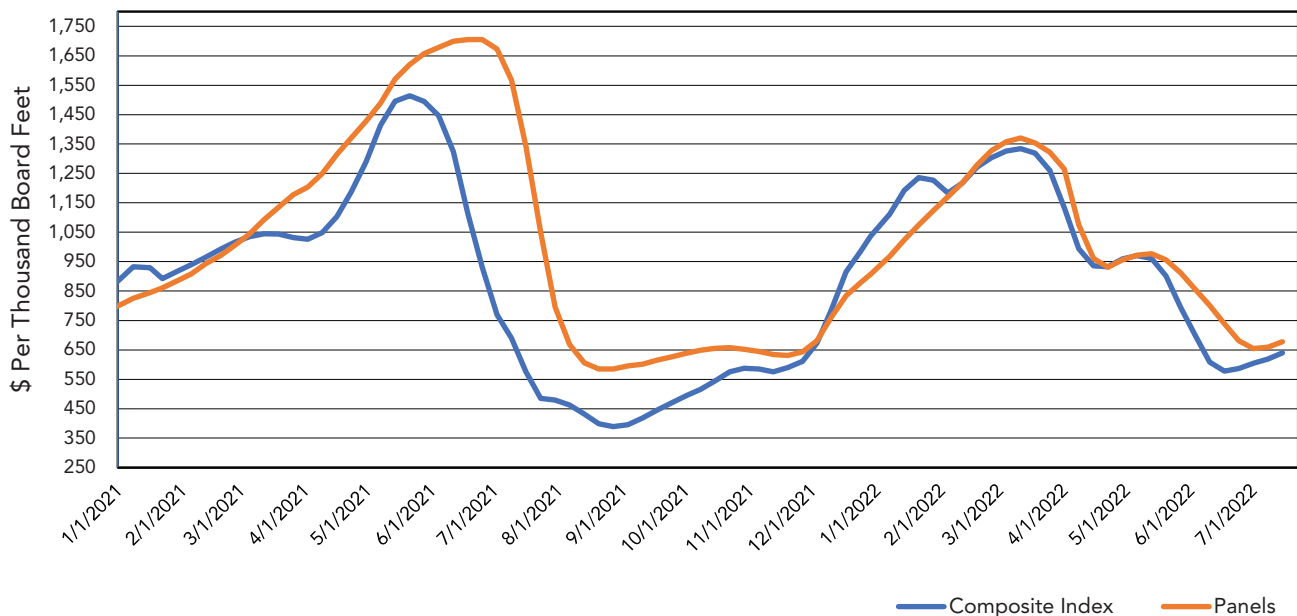
The chart below shows lumber prices at the mill. These directly and significantly affect the cost of wood framed apartments, retirement communities and affordable housing. When asking if lumber is up or down always ask, since when?

Volatility in lumber and plywood prices continues. Between April and mid-June 2022, the market dropped almost 60%. Since June, however, lumber and plywood prices has increased by roughly 11%.

Lumber is down 31% from Jan. 2021; however, this is still a 170% increase from January 2020.

Despite fluctuation in lumber pricing, low-rise wood frame construction continues to be the most affordable structural system for building four stories and under.

DIMENSION LUMBER & PANELS (OSB & PLYWOOD)
(Fast-Markets - Random Lengths Composite Indexes from Jan 2021)



NOTE: Composite is a mixture of dimension lumber products.
Panels is a mixture of plywood and OSB.

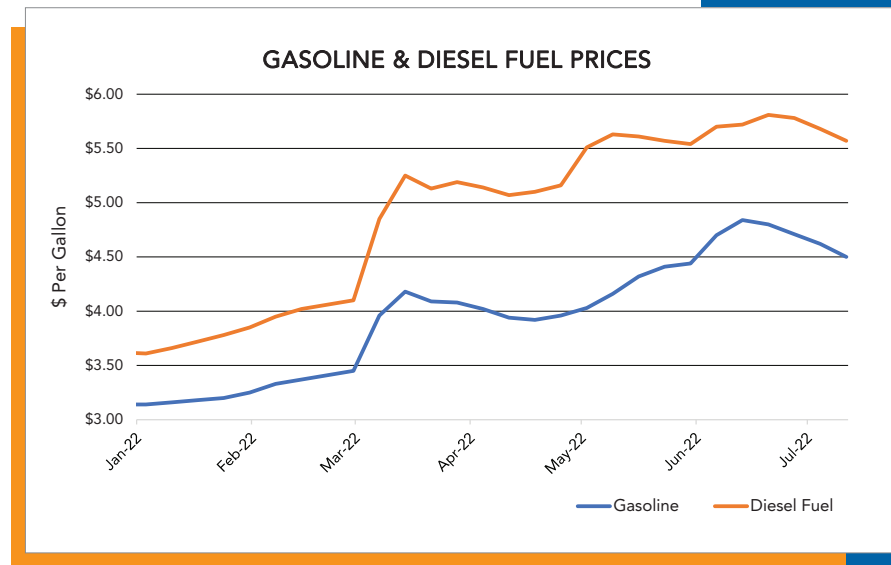
Source: Fast markets RSI / Random Lengths

Fuel

Although gasoline prices have decreased slightly from recent highs, they are still 208% higher than prices in January 2021. Diesel prices have also decreased recently but are still 211% higher than January 2021.

The recent peaks occurred in mid-June and late-June for gas and diesel respectively.

Some states have reduced taxes on gas and diesel which has attributed to the recent decline in both gas and diesel prices.



Source: US Energy Information Agency

Trend

The average price increase per quarter for the materials we track, excluding lumber, is reflected below. The rate of inflation is less than last year; however, it is still at a historical high.

Average Price Increase Per Quarter

- 2021 Quarter 3: 6.28%
- 2021 Quarter 4: 4.76%
- 2022 Quarter 1: 4.14%
- 2022 Quarter 2: 4.02%

Notices of Price Increases

We continue to receive notices of future price increases from manufacturers and suppliers. Occasionally, these notices arrive several months ahead of the proposed price increase. This, unfortunately, is the exception. Typically, the warning period is a week or even less.

These notices must be accounted for, as best we can, and reflected in the estimates we prepare. Competitive forces, regional variations, reduced demand, and other factors combine to make a portion of the increases disappear. On the flip side, remember if the start of your job is a year away, there will be additional price increase notices of unknown magnitude that will impact your job.

There are still instances where subcontractors and suppliers will only hold their bid pricing for short periods of time because they too are subject to manufacturers, commodity markets, fuel increases and other factors. There are also trades where subcontractors will not give a firm price until the material is about to be shipped.

Below is a partial list of price increase notices that recently took place as well as those we are aware of for Q3 2022, taking effect in the month indicated. The average percentage increase across all these items is around 10%.

July

- Vapor Barriers
- Tectum Products
- Cable Railing Components
- Simulated Wood Trim
- Styrofoam Insulation
- Blueskin Air Barrier
- Asphalt Shingles
- Polyisocyanurate Roof Insulation
- Shutters
- Metal Doors
- Door Hardware
- Fire Suppression Components
- Pipe Insulation
- Registers, Grilles and Diffusers

August

- Tyvek Air Barrier
- Fiber-cement Siding
- Skylights
- Gypsum Board
- Glass Mat Board
- Asphalt Shingles
- Light Fixtures

September

- TPO Roofing
- Polyisocyanurate Roof Insulation
- Metal Roofing

October

- Doors
- Windows





MATERIAL AVAILABILITY & LEAD TIME

Q2 of 2022 has brought about several changes in lead times. 25% of materials have experienced an improvement in lead time and availability, roughly 50% experienced a decline, and 25% remained unchanged.

Though labor shortages continue throughout the transportation industry and on our jobsites, project teams are pooling together and collaborating towards proactive solutions.

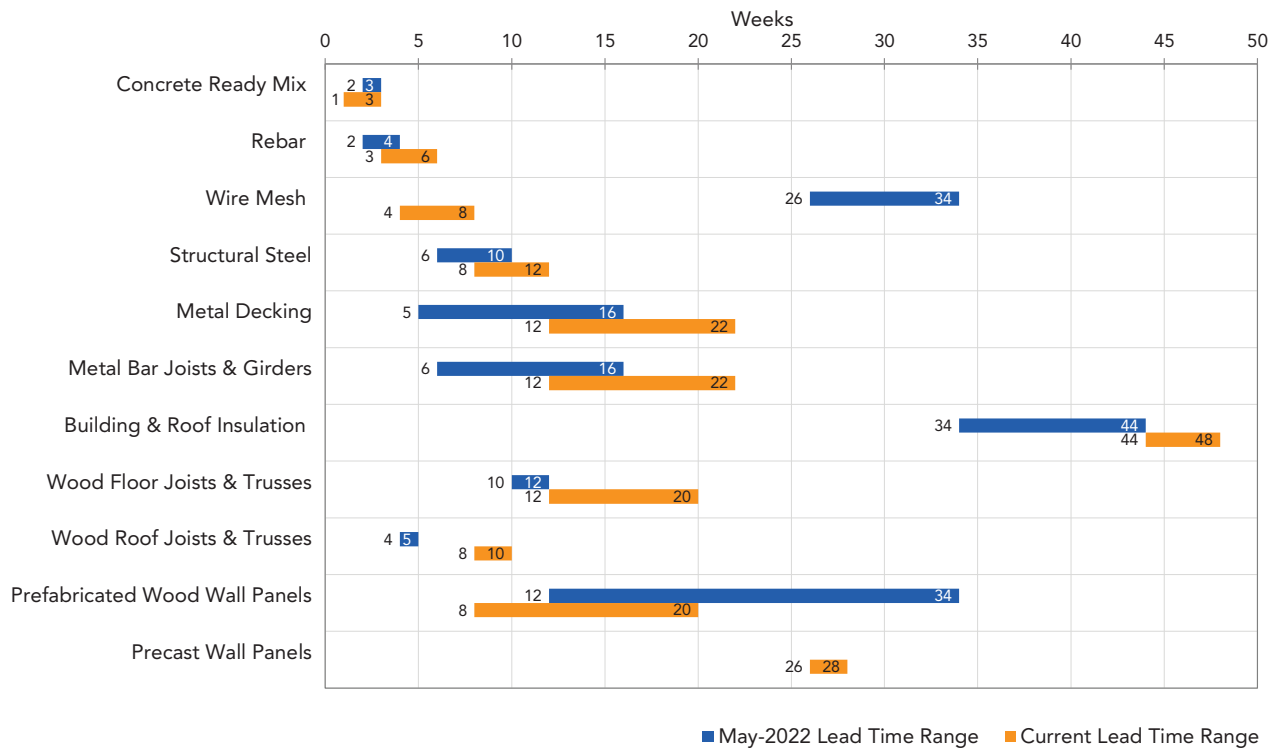
Even though raw material shortages persist, manufacturers have been able to stabilize production levels and in turn are able to expand the number of selections in their product lines. With the cost of materials ever fluctuating, many lead times are now being affected by buyers moving to what is affordable. This is causing those materials to be overbought, resulting in new bottlenecks in production and delivery delays.

Material lead times often differ for the same materials and even the same project depending on vendor. Identifying these differences is key to successful early procurement planning.

Based on recent communications with vendors, suppliers and subcontractors, the graphs on the following pages report the average lead time ranges between May 2022 and current lead times.

As for all items in this report, contractors should verify lead times & availability for the specific products with potential subcontractors and suppliers.

MATERIAL LEAD TIMES - BUILDING STRUCTURE

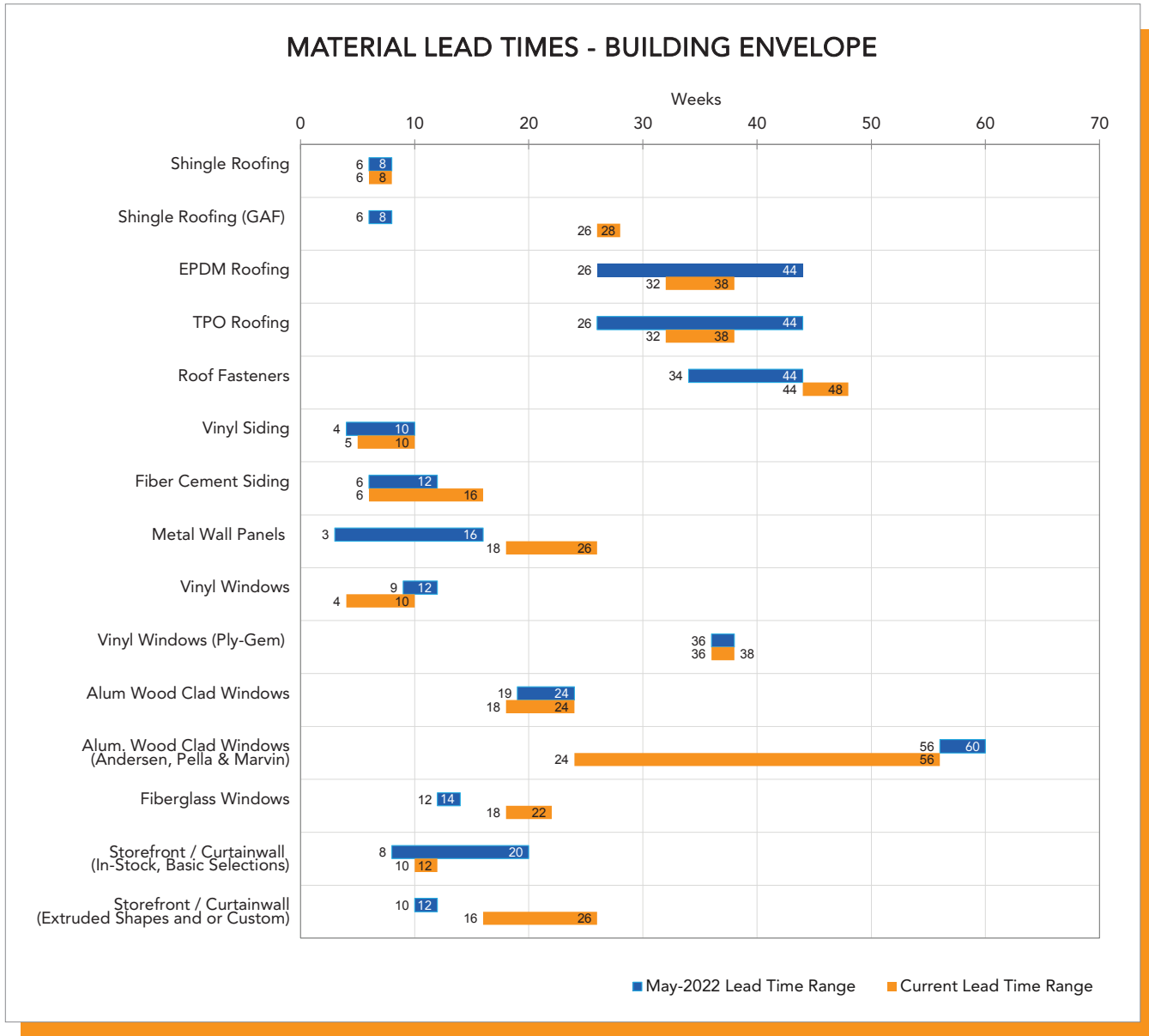


Building Structures

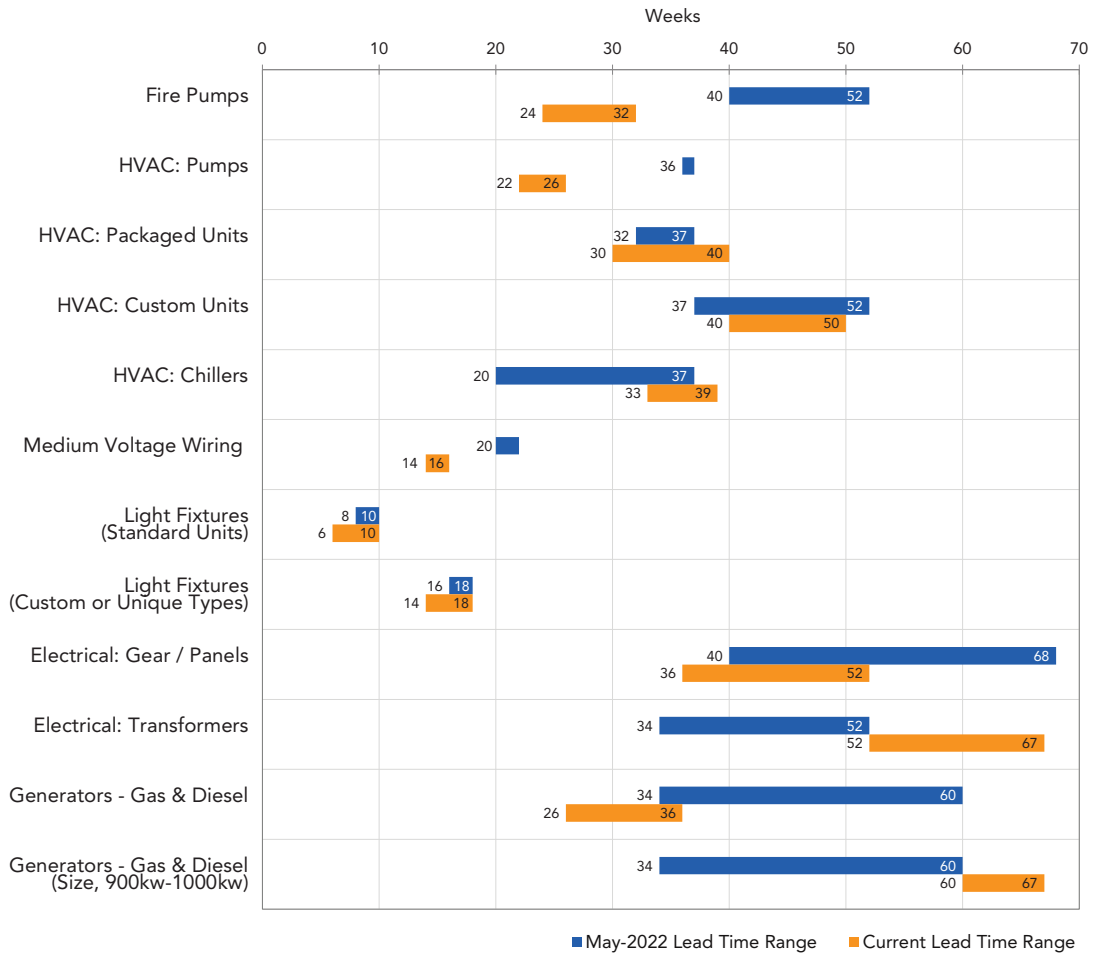
- Ready-mix across Western NY is experiencing a shortage of drivers to get materials to jobsites.
- Wire mesh lead times have greatly improved due to manufacturers shipping a larger volume of raw material to the Northeast region of the country, reducing supplier backlog significantly.
- Prefabricated wood wall panels have shown improvement. While materials are still being rationed nationally, a slight decline in pricing in the Quarter 2 was a contributing factor.
- Precast wall panels have been added to the graph in this report, as precast options are becoming more frequently explored.

Building Envelope

The graph below represents the average lead time ranges between May 2022 and current lead times for building envelope materials. This data is based on recent communications with vendors, suppliers and subcontractors.



MATERIAL LEAD TIMES - MEP



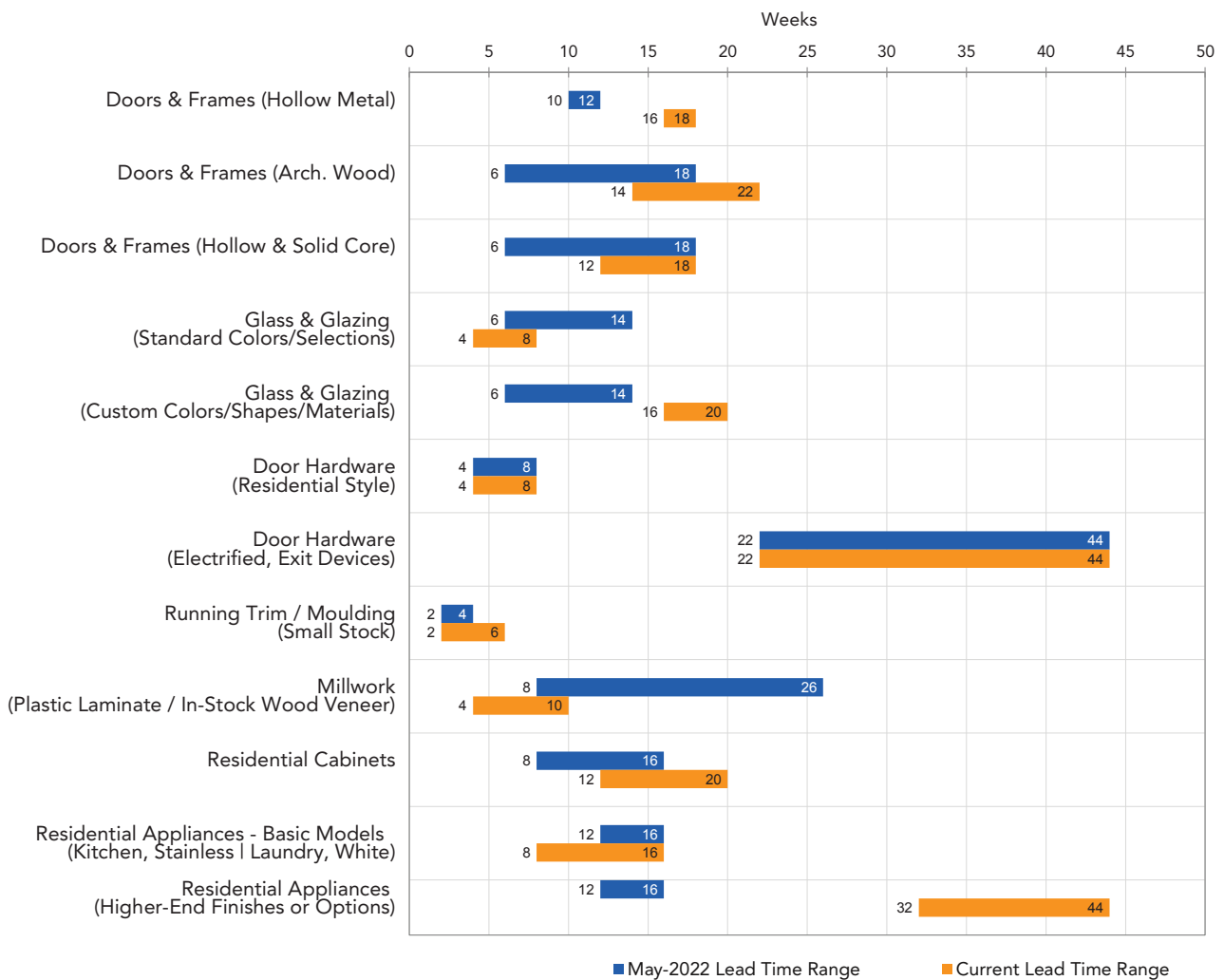
Mechanical, Electrical, and Plumbing (MEP)

The graph above represents the average lead time ranges as of May 2022 and current lead times for MEP materials.

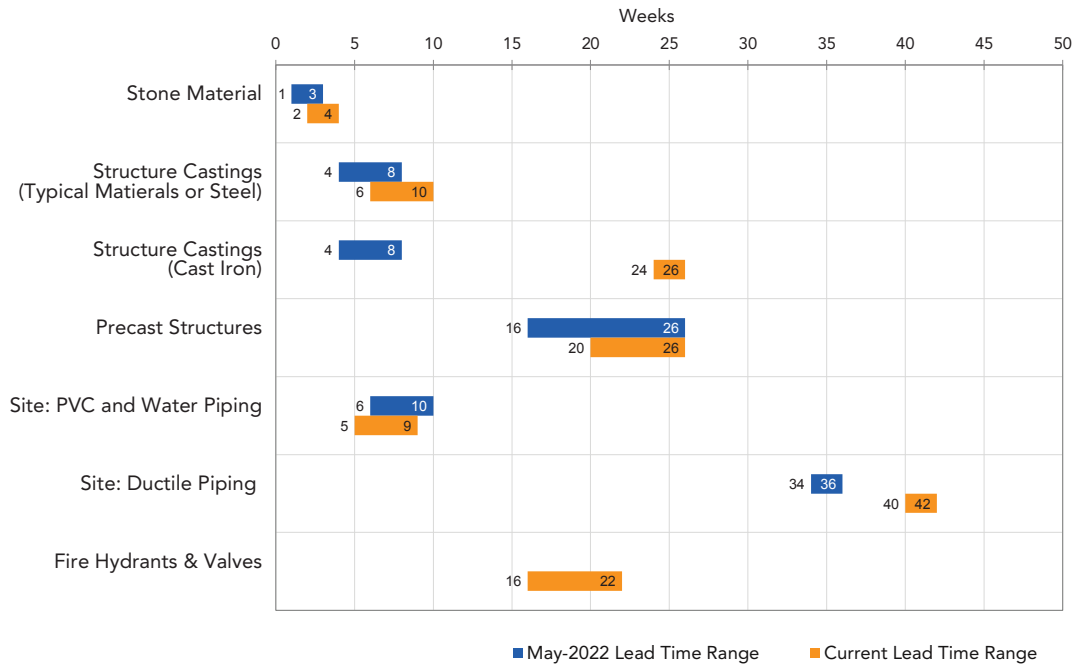
Finishes

The graph below represents the average lead time ranges between May 2022 and current lead times for finishes. This data is based on recent communications with vendors, suppliers and subcontractors.

MATERIAL LEAD TIMES - FINISHES



MATERIAL LEAD TIMES - SITEWORK



Sitework

- Fire Hydrants and valves have been added to the graph in this report. Raw materials shortages are the reason for the long lead time, which previously took about a month.
- PVC gaskets & fittings delays continue in New York state (NYS), specific to the NYS region. These are no longer being produced by national manufactures because it was a low percentage of their business. It is worth noting that this has begun to pose a large issue recently and have backlogged utility companies in our area because alternate designs/ materials are not being accepted as equals. Design teams, utility companies and regulatory jurisdictions are actively seeking a resolution with no foreseeable conclusion at this time.

RENOVATION PROJECTS

Material Availability, Lead Time, and Cost Escalation Issues

We are continually adapting our construction strategies to meet the challenges created by material availability, long lead times and cost escalation. Over the last couple of years, on a wide variety of projects, we have learned that the entire project team including owners, architects, designers, manufacturers, suppliers and subcontractors, benefits from adopting what we call an “enabling mindset.” This means working as a team, being flexible and creative without reducing standards of quality.

Enabling mindset strategies are listed below. These strategies fall into a few broad categories:

- Emphasize communication among the project team.
- Do what we have always done but in a different sequence or earlier.
- Focus on schedule impacts of lead times and consideration of “early procurement”.
- Put all materials under scrutiny regarding their availability and lead time.

Similar challenges face both new construction and renovation projects. However due to the shorter timelines, renovation projects require a more intense effort. Also, the conditions under which renovations are performed require emphasis on different solutions. The information below is based on interviews with eight (8) of our Project Managers about more than a dozen real projects across several market segments and states.

Renovation of Unoccupied Buildings

There is a shortened period before finish materials and equipment are needed than on a new build project because there is no waiting for the structure to be completed. There may be flexibility in working in one area versus another depending on what materials you can get.

Renovation of Occupied Buildings

The challenges for this project type are the same as an unoccupied renovation project; however, there is less flexibility to work in different areas because the building is occupied.

Renovation of Occupied Apartment Buildings Where Occupants Stay in Their Apartments

This is the most difficult type of renovation, and the schedule to renovate the few apartments you are allowed to work in may only be a couple of weeks. Right out of the gate, you need every material, appliance, window treatment, etc. There is no flexibility to expand the work to other areas. Nursing homes and hospital renovations have similar challenges.

Hard Bids

The contractor has no opportunity to order anything with a long lead time. On renovation projects with a hard bid, it may make sense to delay the start of renovations until materials are in hand. As soon as the contractor is on board, a review of availability for all needed products should be conducted.



STRATEGIES TO MITIGATE CHALLENGES

The following is a list of key actions, which when employed by all team members, increase the chance for success.

Team Communication

- Hold team kick-off meeting to set expectations and define roles and responsibilities.
- Encourage open and timely communication to keep team members informed, educated and up to date.
- Change the design-then-build approach to a process that is re-sequenced so design, procurement, and construction overlap to deal with longer lead times.

Project Planning

- Early on, make a plan that lets material availability drive schedules for design, procurement, and construction. Each team member should provide input to the plan and, when ready, buy in to it.
- A project development schedule that is expanded to include construction and based partially on a buyout log is a good tool for this. This project development schedule should include the following:
 - Owner's key dates for moving people, commencing operations, starting fit-out, final completion, etc.
 - Design milestone dates, coordinated with early procurements when necessary.
 - Financing application dates, award dates and closing dates.
 - Local agencies' processes and timelines for approvals needed for construction.
 - Lead times for all materials and equipment needed on the job.
 - Installation time & sequence as usual.
- To prepare for the possibility of needing substitute products, a parallel log of potential products should be created.

Design

Design and procurement must overlap. Often, to maintain schedule, some materials must be ordered before the rest of the design is complete and the project budget is finalized. This means design for some items is pushed to an earlier date. The following strategies address this issue and others:

- Provide designers with enough time to completely design early procured items in order to avoid redesign, re-ordering, rework and their associated additional costs and schedule delays.
- Do exploratory demo/testing to reveal conditions that effect design, structure, MEP layout, etc.
- Use BIM technology:
 - Use laser scanning to document and verify existing conditions and dimensions.
 - Create a building model and use it for clash detection.
- Specify materials and equipment with availability as a key consideration.
- Specify alternate materials (plan B) so materials can be switched quickly in response to delays.
- Work with subcontractors to get input on design (steel, wood trusses, HVAC, electric, etc.)

Budgeting

- Understand the commitments required for early procured items (sometimes you only need to pay for shop drawings).
- Include appropriate additional time and resources in the budget.
- Adjust contingencies in the project budget to allow for increased costs that are trending beyond traditional scheduled material increases.
- Select subcontractors early to gain from their knowledge of availability and current costs.
- Plan on awarding to most responsive bidders based on cost, delivery times and ability to perform.

Procurement & Partnering with Key Subs

- Avoid buying in phases, a.k.a. batches, because a product may be discontinued or its lead time has changed.
- Work with subcontractors of known quality and/or that the Owner has good relationships with.
- In a new region, vet potential subcontractors via diligent financial prequalification, reference checks, outreach via personal meetings, meet and greets, and visits to their facilities.
- Finalize design of any item prior to procuring that item early.
- Agree upon funding sources for purchasing commitments made prior to closing.
- Award multiple subcontracts in the same trade. This works for larger projects and multiple building projects.
- Encourage teaming (labor-sharing) between subcontractors - potentially including this in their contract terms.
- Understand every potential subcontractor's workload and upcoming schedule – can they handle the job?

Continuous Monitoring of Material Fabrication and Delivery

- Change is the only constant; lead times and costs are constantly changing.
- Keep in frequent contact with subcontractors, suppliers, and manufacturers. Be the squeaky wheel.
 - After material release, remain in contact to ensure lead times have not increased.
 - Confirm and track status multiple times during fabrication of long lead/critical items.
 - Reconfirm delivery time for any batch orders after the initial order is placed.
 - Communicate material delivery delays with the installing subcontractors to ensure labor is available once materials arrive.
 - Notify following trades and coordinate any revised schedule with them.
 - Monitor the trucking situation. It is the last link in the chain but could be broken.
- Act fast when rumors of or actual material/labor problems are heard.

Temporary Solutions

- Alternative permanent solutions should be considered before any temporary ones.
- Temporary solutions come with additional costs due to double installation, removal, patch and repair.
- In cases where temporary solutions cannot be avoided, temporary materials should be selected and vetted by the designers, manufacturer, and installer to ensure the temporary measure(s) is designed to work with other components of the building and meet code requirements for occupancy where required.
- Several instances where temporary solutions have worked include roofing, doors, finish hardware, and flooring.



Materials Receipt, Double Handling and Storage

- Take delivery of materials as soon as they become available.
- Include costs for staff to be available to receive and unload materials when subcontractors are not on site.
- Plan for and include costs for extra storage. Consider off-site storage facilities, on-site storage containers, rented trucks, and storage in the building as potential options.
- Recognize that some items require controlled environment spaces.
- Include costs for double handling and extra breakage.
- If batched deliveries (a portion of the total) are required to keep the installation going, monitor the delivery dates of each batch and coordinate with labor to ensure it is available when materials arrive.

Construction Period Labor Issues

- Labor availability is still an issue. Factors now include:
 - Shortage of workers in construction trades in general
 - Competition for the workers that are available from other higher paying jobs.
 - Increased cost of travel to sites far from the workers' homes.
- Monitor each subcontractor's manpower & productivity.
- Encourage an "enabling mentality".
 - Do what you can with what you have.
 - Work out of sequence.
- Take advantage of multiple subcontractors in the same trade. Multiple subcontractors can supplement each other to ease labor issues.

Creative Scheduling

- Creative scheduling means considering additional strategies to mitigate issues of material availability labor shortages, inflation, and storage.
- Phasing the start and/or sequencing of a project around long lead material deliveries.
- In the base plan, evaluate the need for overtime, double-shifts, and weekend work.
- Factor in storage needs, solutions available and their effect on production and efficiency of material handling.

Recognize the environment we are in today, adopt an enabling mindset and be understanding as we move through the project together.

Contact us for further information and solutions for your project.



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