

# Controlling the Unpredictable:

## A case study in supply chain solutions




MHCEA Fall Conference  
September 15, 2022



Mortenson | BWBR | Fairview  
HEALTH SERVICES

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### ▶▶ Introductions

 <p>Rod Neil, Senior Project Manager M Health Fairview</p>	 <p>Julie Crawford, CHC, Market Executive Mortenson</p>	 <p>Chan Scholz, AIA, Project Manager BWBR</p>
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## ▶▶ AGENDA

### Supply Chain: A Market Update

#### Case Study: Fairview Community Health & Wellness Hub

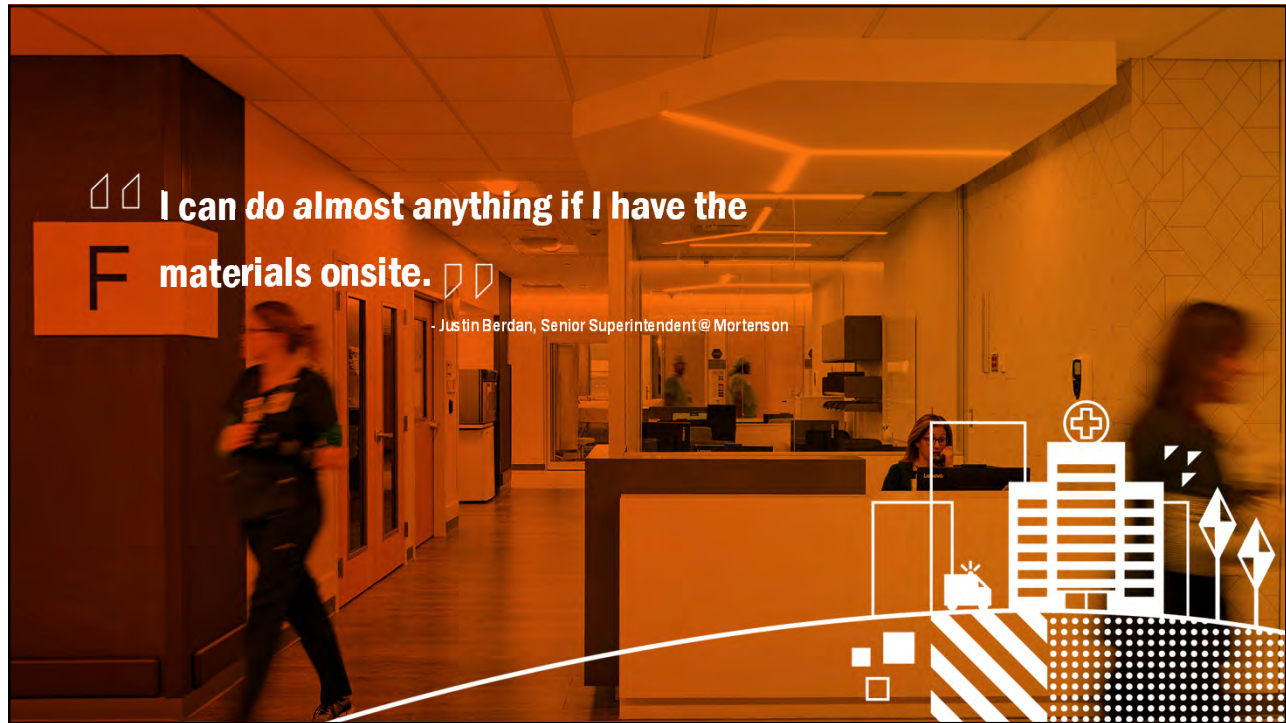
- ▶ About the Hub Project
- ▶ The July 1 Challenge
- ▶ Best Practices & Strategies Implemented



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## ▶▶ Market Update

*"Due to ongoing concrete supply chain issues, all ready-mix concrete suppliers have been placed on scheduled allotments from their respective cement and aggregate suppliers. Due to these allotments, ready-mix suppliers are expected to reduce their concrete production capacity by approximately 50%. These allotments are expected to remain in effect through the end of this year and could extend into 2023."*

*- A ready-mix supplier in Omaha*

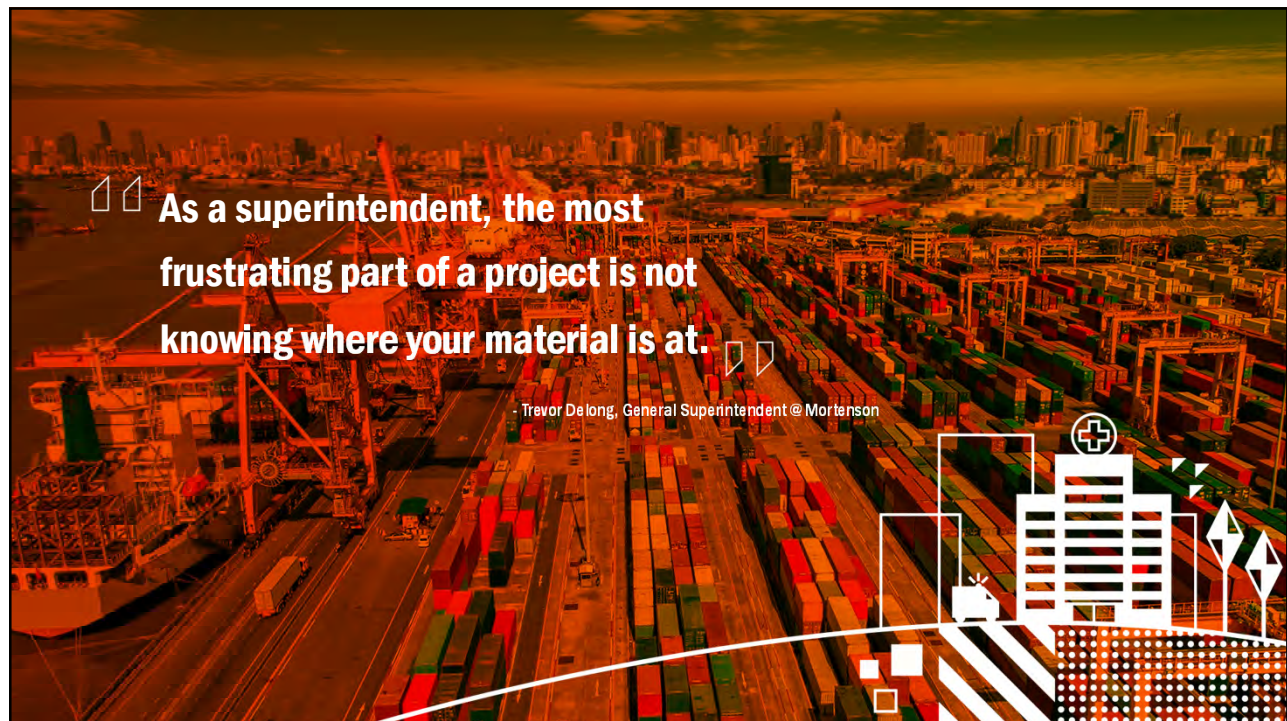
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## ▶▶ Market Update

- ▶ Supply and Demand Imbalance
  - ▶ Factory capacity “catch-up” from Covid shutdowns
  - ▶ Volatility of labor market across most industries
- ▶ Storm Season
  - ▶ Feb 2021 Texas Freeze => power crisis, intermodal (rail) transport impacts, semiconductor manufacturing shutdowns
  - ▶ Sept 2021 Hurricane Ida => New Orleans Port damage, disruptions to oil & gas production
- ▶ Transportation Delays
  - ▶ March 2021 Ship stuck in Suez Canal for 6 days => months of supply chain disruption
  - ▶ Labor volatility affects trucking industry => increased ground transport timelines
- ▶ Feb 2022 Russia invades Ukraine

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## ▶▶ Market Update

### Current Hot Supply Chain Challenges + Lead Time from Approved Submittals

- ▶ Galvanized misc. metals -> 8 weeks from field measure
- ▶ Hollow Metal Frames -> 10 weeks
- ▶ Wood Doors -> 18-20 weeks
- ▶ Acrovyn Doors -> 26 weeks
- ▶ Overhead Doors (powder coat) - 7+ months
- ▶ Curtainwall Frames/covers -> 16+ weeks
- ▶ Terrazzo Epoxy - 7-8 weeks (typically 3 weeks)
- ▶ Roof insulation, poly-iso -> 6 months, and improving.
- ▶ Kynar custom color on metal panel -> 6 weeks for SAMPLE
- ▶ Metal Panel, standard color -> 12+ weeks
- ▶ Metal Lockers -> Up to 6 months
- ▶ Elevators - 5+ months

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## ▶▶ Market Update

### Current Hot Supply Chain Challenges + Lead Time from Approved Submittals

- ▶ Custom AHU's -> 50 weeks
- ▶ Flat panel radiators -> 24+ weeks
- ▶ VFD's -> 45 - 50 weeks and climbing
- ▶ VRF's -> up to 48 weeks
- ▶ Heat Exchangers - > 34 weeks
- ▶ Controls - Valves & Actuators -> 16 weeks
- ▶ Electrical Transformers -> 44 weeks, and falling
- ▶ Electrical Switchgear -> 40 - 60 weeks, depend on size
- ▶ Generators over 125kW -> 1 year +
- ▶ Networking Equipment (circuits, switches) -> up to 400 days
- ▶ Card Readers & Control Boards -> 8-40+ weeks, depending on type
- ▶ Multi-sensor Security Cameras -> 12+ weeks
- ▶ IP Cameras -> 1 YEAR
- ▶ Fire Alarm Devices & Panels -> 2-5 months, depending on type

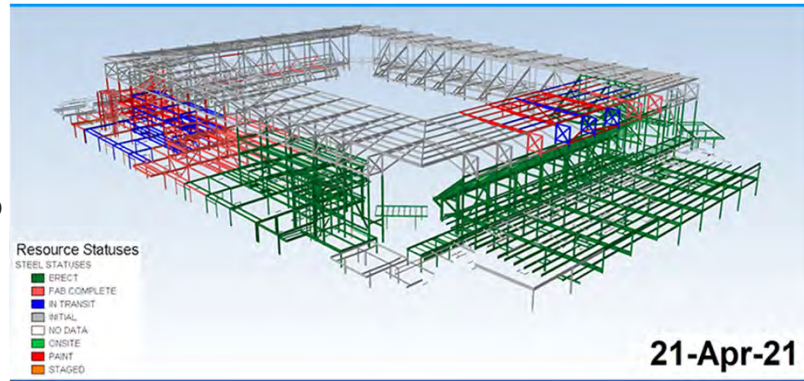
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## ▶▶ Cutting Edge Strategy

### GEODIS Park – MLS Stadium in Nashville

- ▶ RFID tagging on structural steel elements
- ▶ Tracked status of each piece from fabrication through erection
- ▶ Direct updates to the Synchro 4D model when pieces are scanned as they are installed

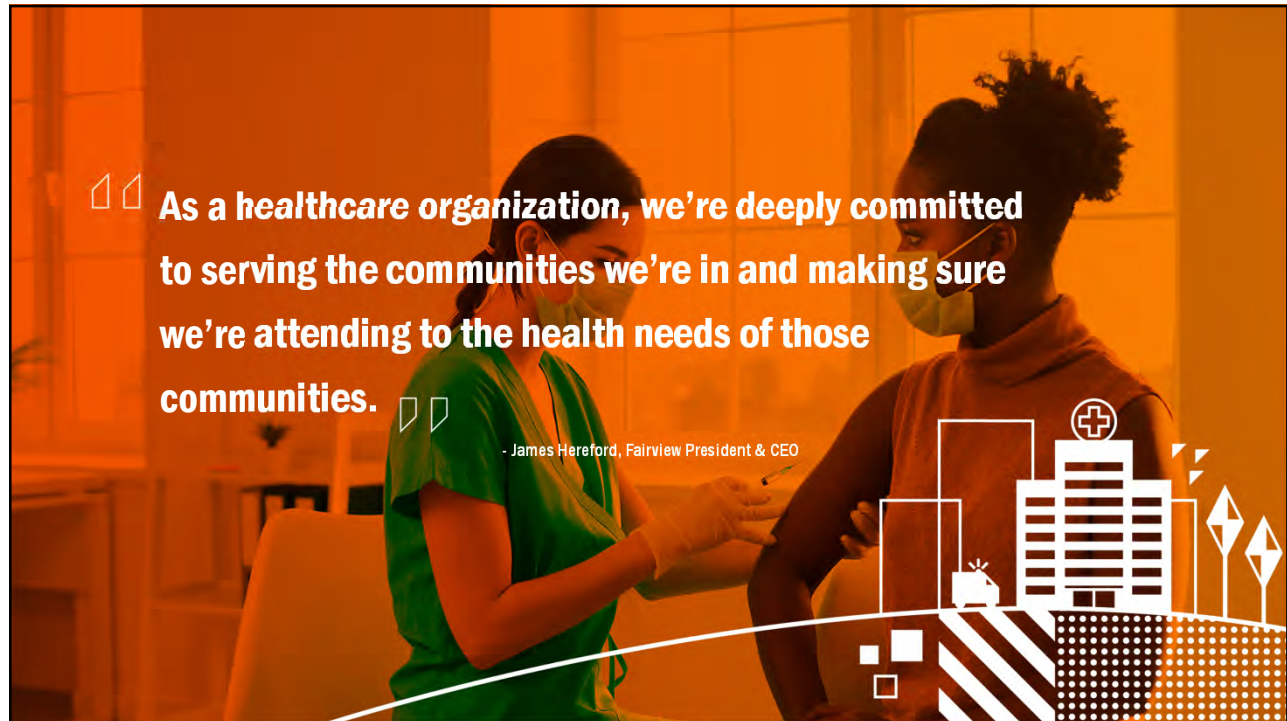


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As a healthcare organization, we're deeply committed to serving the communities we're in and making sure we're attending to the health needs of those communities.

- James Hereford, Fairview President & CEO

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## ▶▶ Fairview Community Health & Wellness Hub

### A new model for healthcare

- ▶ *Focused on Community Needs* – home to Ebenezer adult day program, Fairview Frontiers research, mental health clinic and Center for Community Health Equity
- ▶ *Providing Affordable Care* – partnerships with Minnesota Community Care
- ▶ *Addressing Social Risk Factors* – food access through partnerships with The Senneh Foundation and Second Harvest Heartland









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# The July 1 Challenge

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## ▶▶ Best Practices

 <b>CREATE A DETAILED FLOW SCHEDULE</b>	 <b>ANALYZE MARKET &amp; LEAD TIMES</b>	 <b>COMMUNICATE WITH TRADE PARTNERS</b>
 <b>GAIN VISIBILITY INTO PROCUREMENT</b>	 <b>IDENTIFY MATERIAL ALTERNATIVES</b>	 <b>INCORPORATE PREFABRICATION</b>

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# Hub Procurement Challenges

## Wood Doors

Planned: 18 weeks from approved submittals

Actual: 20 weeks from approved submittals

## VAV's

Planned: 8 weeks from approved submittals

Actual: 2 weeks - expedited shipping

## Ceramic Tile

Planned: Discontinued!

Actual: 4 weeks from approved samples

## Terrazzo Epoxy

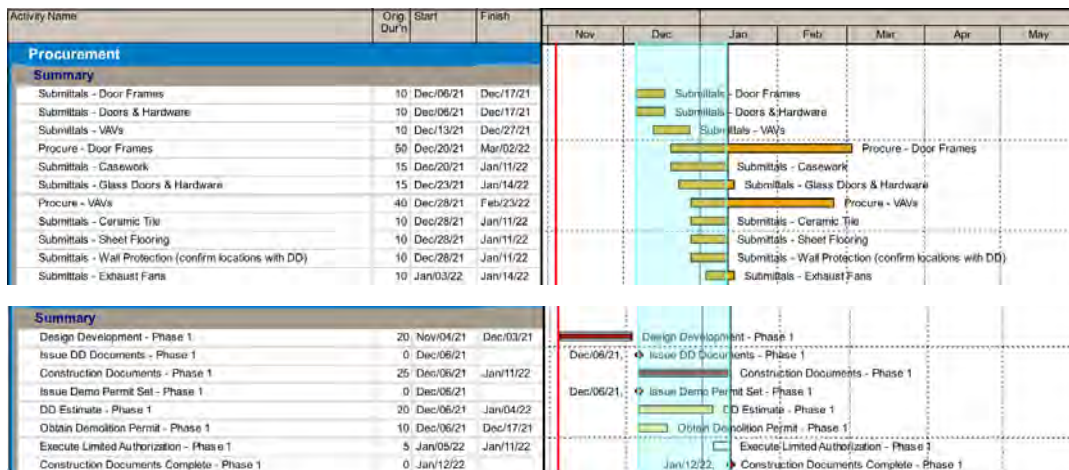
Planned: 3 weeks

Actual: 8 weeks!



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## Collaborative, Early Schedule



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## ▶▶ Strategies for Fairview Hub

### Eliminated Schematic Design

- ▶ Rapid design timeline was needed to meet the July 1 completion goal.
- ▶ Conceptual budgets established early using historical data.
- ▶ Contractor full engagement in design meetings to keep scope in alignment with budget.

### Material Availability Dialogue during Design

- ▶ Trade partners flagged that the building standard ceramic tile was discontinued during procurement conversations. Alternate product identified before CD document issuance.

### Established GMP at Design Development

- ▶ Optimized timing for authorizing subcontracts – validate DD budget in lieu of all new bids.
- ▶ Allowances and contingency deployed to fill known gaps in documents at DD

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## ►► Strategies for Fairview Hub

### Doors & Hardware Concurrent Submittals

- ▶ Early engagement with supplier – leverage existing partnerships with facility manager
- ▶ Concurrent hardware schedule creation with final CD design timeline saved 8 weeks over tradition project schedule

### Early Mechanical & Electrical Partner Selection

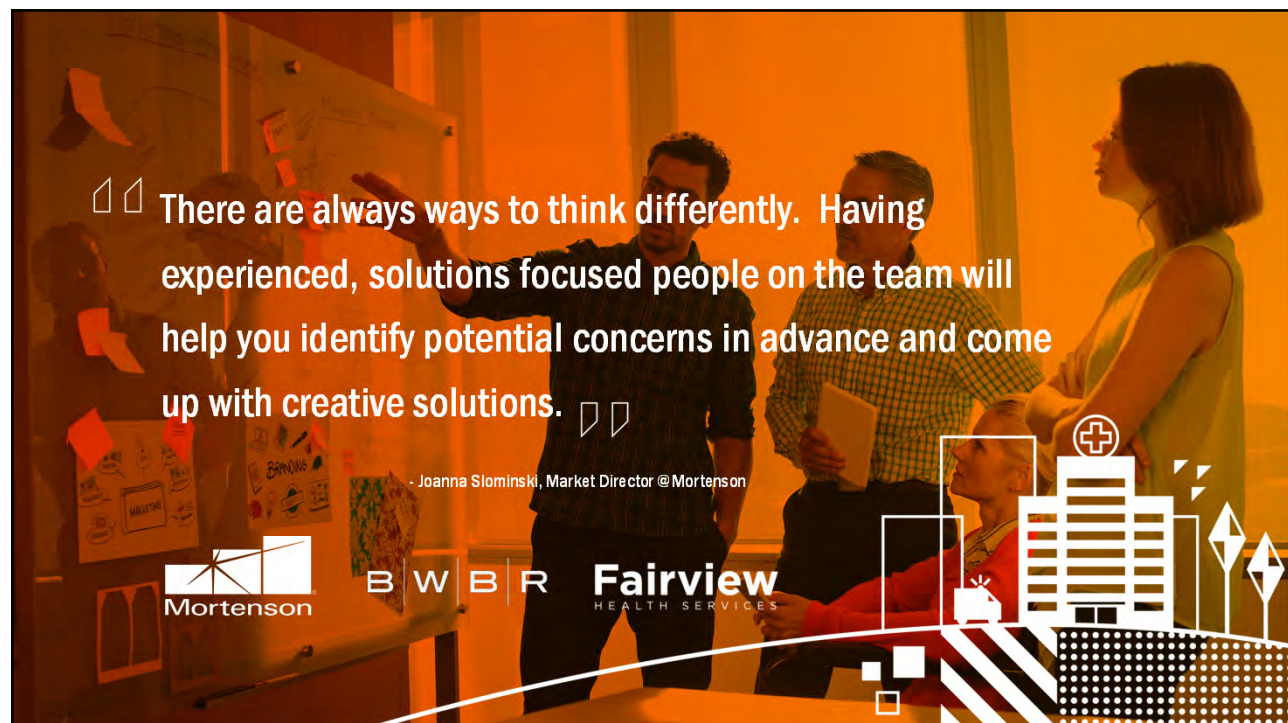
- ▶ Selection at DD to allow for long lead item submittal timelines to start early: VAV's, light fixtures, exhaust fans.

### Terrazzo Epoxy – The Last-Minute Challenge

- ▶ Epoxy material which typically runs 3 weeks was running long at 8 weeks - 90% of this product is produced in the Ukraine – unexpected curve ball late in the project.

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□□ There are always ways to think differently. Having experienced, solutions focused people on the team will help you identify potential concerns in advance and come up with creative solutions. □□

- Joanna Slominski, Market Director @ Mortenson

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