Agenda

- Team Introductions
- Big Questions
- Executive Summary
- Our Research Process
- Community Analysis
- Policy Analysis
- Industry Analysis
- Summary
- Ancillary Opportunities
- Questions & Discussion
Team Introductions

Jaison John
- Background in Operations and Entrepreneurship
- Passionate about socially impactful Corporate Strategy

Lindsay Sacco
- Government Affairs Consultant prior to Carlson
- Emphasis in Entrepreneurship

Adam Wardak
- Background in Medical Device Sales and Operations
- Focused on Attainable Housing Entrepreneurship

Dave Burton
- Prior Army NCO
- Interested in socially-driven projects -- Disaster Relief focus
Definitions

- **OffSite Construction** - the process of manufacturing, planning, design, fabrication, and assembly of building elements at a location other than their final installed location.

- **Stick Frame Construction** - the process in which structural components of a home (walls, roof and floor systems) are in effect, created on site from individual pieces of lumber. Sizes of 2x4’s, 2x6’s, 2x8’s and larger.

- **Panelized Construction** - the process in which structural components of a home (walls, roof and floor systems) are constructed in a factory as panels of masonry and delivered to the jobsite where it is finished like a stick-built home.

- **Modular Construction** - the process in which a building or part of building is constructed off-site in modules, using the same materials and designing to the same codes and standards as conventional homes.

- **Multi-family Modular Construction** - applies modular construction methods to residential projects by pre-assembling repeated modules off-site.

- **Living wage** - income level that allows an individual or family to afford adequate shelter, food, and the other basic necessities. Estimated to be $28,325 - $33,475 for 2018-2019 in Minneapolis.

- **Accessory Dwelling Unit (ADU)** - a secondary housing unit on a single-family residential lot that has been designed or configured to be used as a separate dwelling unit and has been established by permits.
Big Questions

- **Is off-site construction a viable industry in North Minneapolis?**
- **Will off-site construction create enough jobs at a living wage.**
- **If YES, how can we implement this industry?**
Executive Summary

Problem
We know a manufacturing facility will create jobs, but how many and how can we keep those jobs within North Minneapolis?

Process
Our team conducted research by dividing into two separate focus areas and working in three phases before tying it all together. This process allowed us to add depth and breadth to our work.

Findings
A modular manufacturing facility has the potential to create 25-100 direct jobs in North Minneapolis.

Recommendation
Pursue collaboration with a local entrepreneur.
Our Research Process

11
Previous Projects Reviewed

33
Academic Studies Analyzed

24
Interviews Conducted
Connections

Associated General Contractors of Minnesota

North Central States Regional Council of Carpenters

Northside Economic Opportunity Network

College of Design

University of Minnesota

Je Dunn Construction

RISE Modular

North Hennepin Community College

Hopewell Tradition, LLC

Summit Academy OIC

Stack Modular: A Bird Partnership

Braman Brothers Real Estate, LLP

Ryan Construction

PCL Construction

Minneapolis Community Planning and Economic Development
Community Analysis
Secondary Research – Trends in North Minneapolis Community

The community of North Minneapolis is diverse, yet ready. Zip Codes: 55411 & 55412

**Education Level**
- College Degree: 32.3%
- High School Grad: 21.7%
- Some College: 22.5%
- GED: 6.5%
- Some Education: 17.0%

**Industry**
- Services: 56.8%
- Retail: 11.1%
- Manu: 11.7%
- Other: 20.5%

**North Minneapolis Population**
- 2010
- 2018
- 2023

**Method of Living**
- Owner Occupied
- Renters
- Vacant

Source: Community Profile for Zip Codes 55411 et al, prepared by esri on February 12, 2019.
Renting in North Minneapolis

Eviction rates are higher than any other area

North Minneapolis (55411 & 55412) holds...

- 8% of all rental units in Minneapolis
- 22% of Minneapolis’ landlords
- 35% of Minneapolis evictions

- 50% of renter households in North had an eviction filing
- 69% of landlords of North rentals are white
- 84% of landlords of North rentals don’t live in 55411 & 55412

Source: The Illusion of Choice, Dr. Brittany Lewis et al, June 15, 2019
The Twin Cities Region faces a gap in affordable housing
Modular construction could help solve this problem

### Households for Extremely low-income (ELI) Renters

- **Total units available**: 109,300
- **Units are affordable and occupied**: 36,905
- **GAP in affordable rental units**: 72,395

### Homeownership for People of Color and Indigenous (POCI)

- **39% of POCI households are Homeowners**
- **75% of white households are Homeowners**
- **36% GAP in Homeownership**

Source: ³State of the State’s Housing, Gabriela Norton, 2019
**Start-up costs likely higher in North than in surrounding suburbs**

<table>
<thead>
<tr>
<th></th>
<th>Access to Labor and Transportation</th>
<th>Crime Rates</th>
<th>Cost of Land</th>
<th>Financial Incentives</th>
<th>Taxes</th>
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<tbody>
<tr>
<td>Northside</td>
<td><img src="image" alt="great/good" /></td>
<td><img src="image" alt="poor" /></td>
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<tr>
<td>Surrounding Suburbs</td>
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*North Minneapolis may not be a modular construction entrepreneur's first choice, so it's imperative to find someone with an interest in the community and an understanding that profits may be lower.*

Source: 4Interactive Map, 5Transit Accessibility Map, 6A deeper look at Minneapolis crime rates, Jeff Hargarten, Sept 19, 2018, 7Crime Rates, 8Minneapolis Crime Rate Report, 9Access Across America
Potential Sites
Modular production requires specific site infrastructure.

Upper Harbor Terminal

Bassett Creek

Must have easy on/off access to interstate due to lack of river dredging.

Roads must be multi-lane to allow semis to turn with modular loads.

Ideally land requirement is 40 acres, depending on type of production.

Must have appropriate vacant lots available for industrial use.

Source: 10NJCT 2015 project by Humphrey
Upper Harbor Terminal is zoned for industrial applications

Though it may not hold adequate space if modular factory requires large storage needs.

Upper Harbor Terminal vacant land zoned for I2 (medium industry) & I3 (heavy industry).

Total area of UHT is 48 acres – not enough space for both manufacturing activities and storage in individual lots.

Bassett Creek holds a total area of 16 acres – not enough space for both manufacturing activities and storage.

Source: ¹NJCT 2015 report by Humphrey, ¹¹Upper Harbor Planning & Background, ¹³Upper Harbor Terminal Concept Plan, City of Minneapolis et al, January 2019
Policy Analysis – Minneapolis Plan for Sustainable Growth

Minneapolis Plan for Sustainable Growth laid the groundwork for a supportive environment for modular construction.

**Land Use Policy 1.8:** Promotes diversity and growth in urban areas by allowing for increased density and many different types of housing structures/buildings.

**Housing Policy 3.3:** Increase attainable housing options through unique partnerships with developers and faith institutions so those facing barriers to housing find a pathway to rentership and ownership.

**Housing Policy 3.4:** Allows for supportive housing in smaller unit sizes (ie supports ADUs and other tiny home options).

**Policy 3.6:** Fosters “complete communities” through creating housing solutions for folks of all ages and income levels.

Source: Proposed Zoning Text Amendment, Madel Duenas, August 22, 2019
Policy Analysis – 2040 Plan

Many policies in the 2040 Plan are favorable for the modular housing/off-site construction industry.

**Policy 35:** Supports community driven innovative housing solutions (prefabricated and manufactured housing, 3D printed housing, and accessory dwelling units)

**Policy 52:** Invest in high-quality community-based, culturally appropriate, and accessible employment programs to remove barriers to holding a living-wage job.

**Policy 55:** Explore regulatory changes that reduce/eliminate barriers to innovative and alternative uses of space

**Policy 56:** Develop strategies to include affordable commercial tenant spaces for small businesses in new developments; continue targeted outreach to fill existing commercial properties that have long-term vacancy

**Policy 82:** Increase access to affordable housing options, particularly multifamily housing along transit corridors; support Northside entrepreneurs to become small business owners and leverage that for job creation opportunities

Source: 2040 Plan, CPED, September 2015
Industry Analysis
Key Stakeholders in Modular Construction

**Developer**
Assembles design & construction team

**Architect**
Analyzes potential of the site

**Contractor**
Provides construction management services

**Modular Builder**
Provides details of fabrication parameters

**Inspection/Permitting Agencies**
Regulate residential/commercial construction

**Investor**
Financial investors and lenders
Benefits to Modular Construction
Time & money savings, safer environments, and many applications make modular a promising industry.

- Up to 20% cost savings*
- Up to 50% waste reduction*
- Safer workspace & reduces effects of seasonality
- Addresses growing population & lack of affordable housing

*Based on metrics for a 3-4 story multi-family build with wood frame

Source: 15Building Affordability by Building Affordably, Terner Center, March 2017
Modular Construction Saves Time (and Money)

**Months**

<table>
<thead>
<tr>
<th>Traditional construction</th>
<th>Modular construction</th>
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<tr>
<td>Planning &amp; Design (6 mo.)</td>
<td>Planning &amp; Design (5-7 mo.)</td>
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<tr>
<td>Foundations (2 mo.)</td>
<td>Foundations (2 mo.)</td>
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<tr>
<td>Onsite Construction</td>
<td>Offsite Manufacture (6 mo.)</td>
</tr>
<tr>
<td>Construction overrun</td>
<td>Onsite Installation (3-6 mo.)</td>
</tr>
</tbody>
</table>

20-50% Faster

Source: *Overcoming Barriers to bringing off-site construction to scale*, Ahmad Abu-Khalaf, July 2019
Construction costs are steadily climbing in the U.S. Innovative solutions could help mitigate overall cost increases.

National construction costs increased approximately 4.72% in FY 2018.

Construction materials costs increased by 7.4% in 2018.

70–80% of construction firms struggle to fill critical skilled labor positions.

9% → 40% of women working in construction

Reduces on-site construction work which is currently facing a skilled-labor storage.

Indoor factory environment provides safer conditions workers.

Modular reverses the negative effects of:

- Adverse weather conditions
- Stretches of unemployment or inactivity
- Long or irregular hours typical for traditional construction work
- Long commutes to construction sites, including those inaccessible by public transport

Source: 15 Building Affordability by Building Affordably, Terner Center, March 2017, 16 Overcoming Barriers to bringing off-site construction to scale, Ahmad Abu-Khalaf, July 2019
Drawbacks of Modular Construction
Regulatory barriers and a slow changing industry may hinder progress

Lack of consensus within the policy community across the state

Factory inspections create an additional regulatory hurdle

Requires significant upfront financing rather than installments.

Limits ability for investors to use unfinished buildings as collateral.

Demands higher levels of precision and coordination up front.

Less flexibility for last minute changes

Source: Overcoming Barriers to bringing off-site construction to scale, Ahmad Abu-Khalaf, July 2019
Choice of market depends heavily on who starts the facility

**Commercial/Multi-Residential**
- Revenue opportunities are significant, but so is risk.
- Biggest concern is economies of scale.
- Significant loss potential without adequate output.
- Requires standardized subcomponents.
- Market not yet proven in Midwest.
- Requires sophisticated team.

**“Bridge” Supplier or Manufacturer**
- Lower-risk opportunity.
- Nascent market for suppliers of modular components.
- Deployable in traditional construction setting.
- Example is componentized electrical with wire harnesses.

**Accessory Dwelling Units**
- Beachhead market for a less experienced entrepreneur.
- Rapidly gaining popularity.
- Units can be made to order very quickly.
- Still a nascent market in the Twin Cities but poised for growth.
- Appeals to high-income buyers and low-income renters.

Source: 19 Accessory Dwelling Units, White Bear Lake, 2019 20 Economic Development Written Testimony, Multiple Authors
Summary
Job Creation Potential
A manufacturing facility with create both direct and ancillary opportunities in North Minneapolis

25-100
Direct Jobs

Plus additional 186-744 opportunities created.
Total estimated economic impact: $8.5M-$29M.

Source: 21Updated employment multipliers, Josh Bivens, January 2019 22Economic Impact Calculator, Ball State University
Job Creation Potential

Direct manufacturing jobs in Minneapolis provide higher-than-average income.

Average Hourly Wage:

$21 - $30

Annual wages will range from

$42,000 - $60,000+*

* - pre-tax income. Source: Glassdoor.com search + current modular facility interview
Job Pipeline
Modular production allows for career progression and entrepreneurship

Job training programs can prepare labor for the facility.

Hennepin Technical College
SUMMIT Academy OIC
North Hennepin Community College

Skill Workers
~$42,000
Positions Include: Apprentice, Associate, Laborer, Finisher, Operator
Requirements: High school diploma or GED. Most train on site. Typically audited every 6 months-1 year with potential for promotion.

Manufacturing Supervisor
~$60,000 - $70,000
Positions Include: Supervisor, Project Manager, Coordinator, Safety Manager
Requirements: Common were at least 2 years experience + Associates Degree

Manufacturing Manager
~$95,000+
Positions Include: Chief Construction Officer, Director, Construction Engineer
Requirements: BS, 5+ years experience, leadership skills.

Potential Career: Traditional Field-Based Apprenticeship
Potential Career Progression:
Consultant, Specialization (Safety, QC, Lean), Entrepreneurship, Educator

Source: Glassdoor.com search + current modular facility interview
## Coloplast Case Analysis

<table>
<thead>
<tr>
<th>Initial deal in 2007 to create 500+ jobs while getting $3M in tax relief from city</th>
<th>Given 7 ½ years to meet job goals to hire 100 city residents including 30 from North Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>By 2015, only ~250 jobs created with 59 city residents and 13 from Northside</td>
<td>Coloplast sites worsening economy and trouble finding workers. Shipped jobs to International Markets</td>
</tr>
</tbody>
</table>

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**Required to pay $600,000 in Fines in 2014**

**For**

**Overall Public Aid of $4M**

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Source: 
1. Pledges of job growth fall short at Coloplast, Steve Brandt, August 2011
2. Danish firm to pay Minneapolis, Steve Brandt, July 2014
Ancillary Opportunities
Interest in a northside modular construction plant already exists

![Hopewell Tradition Logo]

<table>
<thead>
<tr>
<th>Property Development Startup out of St. Paul</th>
<th>Focused on delivering affordable rental properties through modular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans to offer rents 20% below market rate</td>
<td>Design and development is complete, but have not locked in manufacturing</td>
</tr>
</tbody>
</table>

More information: [http://www.hopewelltradition.com](http://www.hopewelltradition.com)
Creating incentives for affordable housing development

| Limited mechanisms to incentivize attainable development. | Developers state land entitlement timing as pain point. | Developers spend a lot of time navigating obstacles. | City has scheduled $40M for attainable housing. |

1. Create/Sustain Fast-Track Desk
2. Staff w/Land Entitlement Expert
3. Reward developers w/Fast-Track pass for ideal project*
4. Fast-Track Desk eases entitlement process

*Passes are granted for achieving attainable housing standards. Passes are transferable/sellable*

Source: Minneapolis is using zoning to tackle, Daniel Harsha, 2019
Big Questions

- Is off-site construction a *viable* industry in North Minneapolis?

- Will off-site construction create *enough* jobs at a *living wage*?

- If YES, *how* can we implement this industry?
Final Recommendation Summary

Off-site construction is a viable industry.

Creates 25-100 direct job opportunities.

It’s necessary to find the right entrepreneur.

Team Contact Information

Dave - burto286@umn.edu  
Lindsay - sacco024@umn.edu  
Jaison - cheri022@umn.edu  
Adam - warda014@umn.edu
2. The Illusion of Choice, Dr. Brittany Lewis et al, June 15, 2019
4. Hennepin Interactive Map: [https://gis.hennepin.us/property/map/default.aspx]
5. Transit Accessibility Map: [https://api.mapbox.com/styles/v1/ctswebrequest/cjhjl69ls2yp02rk9syslxqxnw.html?fresh=true&title=true&access_token=pk.eyJ1IjoiY3Rzd2VicmVxdWVzdCI
9. Access Across America: Transit 2017, Owen & Murphy, June 2018
10. NJCT 2015 report by Humphrey, [https://uroc.umn.edu/sites/uroc.umn.edu/files/NJCT%20Final%20Report%205.15.2015.pdf#overlay-context=northside-job-creation-team]
11. Upper Harbor Planning & Background, [http://upperharbormpls.com/planning-background/]
20. Economic Development Written Testimony, Multiple Authors, [https://www.stpaul.gov/sites/default/files/Media%20Root/Planning%20%26%20Development/Updated%20Testimony.pdf]
22. Economic impact calculator, Ball State University, [https://profiles.cberdata.org/calculator]
26. Minneapolis is using zoning to tackle housing affordability and inequality, [https://ash.harvard.edu/minneapolis-using-zoning-tackle-housing-affordability-and-inequality]
Types of ADUs & Definition

WHAT IS AN ACCESSORY DWELLING UNIT (ADU)?

In Minneapolis, an Accessory Dwelling Unit, or ADU, is defined as a room or set of rooms with its own cooking, sleeping, and sanitation facilities, and which is located on the same lot as a single- or two-family home. The ADU must be smaller in area compared to the main dwelling to which it is accessory.

Source: Administrative Review for an ADU, CPED, June 2019
ADUs are relatively new, but gaining popularity across the state

**STRENGTHS**
- Serve “lifecycle housing” needs; renting, expanding property, housing aging family, investing, and downsizing can be done at different times with an ADU.
- ADUs are more environmentally friendly.
- Support in increased density while maintaining residential feel; “gentle density.”
- Allows renters of almost all incomes access to additional neighborhoods.

**WEAKNESSES**
- Still in the growth phase of the product life-cycle.
- Some neighborhoods concerned about the curb appeal and potential changes to the look and feel of a community if they permit Detached ADUs.
- Limited in # of persons allowed to live within the unit (2 in most places).
- Smaller jobs with the potential of not generating enough sales for profits.

**OPPORTUNITIES**
- Detached ADUs gaining popularity in Minnesota.
- Detached ADUs already permitted in Burnsville, Chaska, Minneapolis, Plymouth, White Bear Lake, select areas in South Dakota, Wisconsin.
- Municipalities interested in housing for growing & aging populations while reducing environmental harm.

**THREATS**
- Many locations not allowing Detached ADUs (Minnetonka, Bloomington) or restricted access of Detached ADUs in certain zoning districts.
- Detached ADUs can have high associated costs for water/electricity hookup.

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ADUs are one possible entry market

Value Proposition: ADUs

Customer Profile

- Need to house self and/or extended family
- Looking to downsize w/o moving
- Caring for elderly family
- Looking to increase sq. footage, property value, and/or income.

Jobs to be Done

- Don’t want to leave location but not enough space for needs of family.
- Need to find assisted living for elderly family.
- Need add’l income but want to own property and don’t want to lose privacy.

Customer Pains

- Want flexibility to customize space for exact needs (i.e., recreational, extended family, rental).
- Maintain privacy while increasing # of people living on property.
- For ADU renters, want privacy without having to buy a home.

Customer Gains

- Fully customizable. Can be used for any purpose, including full rental apartment.
- Can be detached and private, like a tiny house.
- Smaller, cheaper, more energy efficient. Affordable living while being in home versus commercial properties.

Value Proposition

- 300–800 sq. ft. of attached or detached space.
- Can be used for add’l space or as a rental unit.
- Supports aging in place, increased density, add’l income, multigenerational housing, reduced environmental impact.

- Allows families to stay on property while increasing livable space.
- Elderly family/those needing care can be nearby in own space.
- Add’l space for income w/o losing existing location.

Source:
1. Accessory Dwelling Units, White Bear Lake, 2019
2. Cities in the Twin Cities Metro Area with an ADU policy, Family Housing Fund, February 2019
3. ADUs: Housing options, Family Housing Fund, 2019
Interactive Map Shows Infill Lots
Time savings may be erased by increased regulatory challenges

Lack of consensus in the policy community on how to regulate both factory inspections and finished prefabricated module inspections creates additional barriers, however.

Different policies in the jurisdictions of the factory and the construction site slow down the process by creating dual hurdles.

Without statewide consensus and more collaboration across jurisdictions, the time savings in the modular construction process may not actually be realized.

Source: Overcoming Barriers to bringing off-site construction to scale. Ahmad Abu-Khalaf, July 2019
Financing constraints will require new ways of procuring funding

The traditional construction process allows lenders to release money as major milestones are passed, rather than all up front.

Modular construction financing needs don’t fit within the traditional process.

Modular construction firms require up to 50% of the total costs at the start of the project in order to purchase the raw materials, pay labor, and cover the factory’s overhead costs. This could be viewed as a more risky investment, as a result.

Modular construction has additional costs such as factory overhead and transportation of modules (although it still has the potential to save money over time).

Source: *Overcoming Barriers to bringing off-site construction to scale*, Ahmad Abu-Khalaf, July 2019
Modular construction requires a high degree of design and planning. While the quality of factory-made modules can be better, the initial design and engineering process is more intensive than that of traditional construction:

Modules are highly coordinated pieces that fit together in very specific ways, so **engineer must plan ahead** through thorough and precise designs. **Transportation constraints** can lead to challenges around size and dimensions of modules.

Modular construction can lead to less flexibility in design and execution:

*Complex designs and layouts are not cost-effective* in modular construction. *Last-minute changes are challenging to execute* due to highly specific designs made very early-on in the process.

Possible challenges during installation include **unsuccessful stacking, leakage issues, plumbing and electrical incompatibilities.**

Source: "Overcoming Barriers to bringing off-site construction to scale," Ahmad Abu-Khalaf, July 2019
Key Midpoint Takeaways – Industry

Trend in the local industry moving to **modular adoption** via panelization.

**Code changes** in Minneapolis and St. Paul are clearing the way for ADU's (Accessory Dwelling Units).

U.S. demand for prefabricated housing types is **projected to rise 5.6% per year**. Construction management jobs are anticipated to **grow by 8.1%** over 10 years.

Modular offsite construction growing along the coast and it’s only a **matter of time** before it reaches the the Midwest.

In 2017, 1336 **affordable housing** units produced in the Twin Cities that were attainable to 60% of Area Median Income (AMI); 164 of those were attainable to 30% of AMI.

“For an investment of $500–750K, we can create a facility that **hires 21 employees** with 60% entry-level technicians hired from **within the local community**.”
Key Midpoint Takeaways – Community

**Government contracts** can stipulate job numbers and who is hired.

Challenging to ensure that a private company will hire from within the community.

Are there **partnerships** with construction materials manufacturers and green roofing firms we can leverage?

**Sustainability** is a large lever to pull.

Barriers are more prominent after reaching a certain level success in business.
## Competitive Landscape

### Offsite Construction Manufacturer Feature Comparison

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Factory OS</th>
<th>Blokable</th>
<th>Guerdon</th>
<th>RAD Urban</th>
<th>Prescient</th>
<th>Katerra</th>
<th>Sustainable Living</th>
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<tbody>
<tr>
<td>Location</td>
<td>Vallejo, CA</td>
<td>Vancouver, WA</td>
<td>Boise, ID</td>
<td>Vallejo, CA</td>
<td>Arvada, CO</td>
<td>Phoenix, AZ</td>
<td>Seattle, WA</td>
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<tr>
<td>Panelized or Volumetric</td>
<td>Full Volumetric</td>
<td>Full Volumetric</td>
<td>Full Volumetric</td>
<td>Hybrid Volumetric</td>
<td>Panels/Components</td>
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<td><strong>Design</strong></td>
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<td>Fully customizable design</td>
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<td>Wood frame</td>
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<td>Suitable for high rise</td>
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<td>Maximizes height ratio</td>
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<td>Self-performing/manufacturer engages general contractor</td>
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<td>Opportunity to dual track construction (factory and on-site)</td>
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<td>Less waste in construction process</td>
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<td>Labor cost savings at factory</td>
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<td>Union agreements at factory and/or prevailing wage</td>
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<td>Flat pack for ease of transit</td>
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<td>Factory proximate to BRIDGE markets</td>
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<td>Building performance monitoring</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Competitive Cost and Time Comparison

**Offsite Construction Manufacturer Cost and Time Comparison**

Savings presented are as advertised or reported in interviews. "As observed" costs are for different sample projects and should not be compared to one another. Observed cost/sqft were derived from estimates based on design drawings when savings are not maximized and should not be seen as fully representative.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Factory OS</th>
<th>Blokable</th>
<th>Guerdon</th>
<th>RAD Urban</th>
<th>Prescient</th>
<th>Katerra</th>
<th>Sustainable Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Vallejo, CA</td>
<td>Seattle, WA</td>
<td>Boise, ID</td>
<td>Vallejo, CA</td>
<td>Arvada, CO</td>
<td>Phoenix, AZ</td>
<td>Seattle, WA</td>
</tr>
<tr>
<td>Panelized or Volumetric</td>
<td>Full Volumetric</td>
<td>Full Volumetric</td>
<td>Full Volumetric</td>
<td>Hybrid Volumetric</td>
<td>Panels/Components</td>
<td>Panelized</td>
<td>Panelized</td>
</tr>
<tr>
<td>Cost Savings Advertised</td>
<td>20%</td>
<td></td>
<td>20%</td>
<td>20%</td>
<td></td>
<td>10%</td>
<td>$310 turnkey</td>
</tr>
<tr>
<td>Cost/sqft Advertised</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/sqft Observed</td>
<td></td>
<td></td>
<td>$323.43/G SF (-$3.54)$</td>
<td>$535.26/NR SF (+$8.47)²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/Door excluding land</td>
<td></td>
<td></td>
<td>$200K-350K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Savings Advertised</td>
<td>40%</td>
<td></td>
<td>30-40%</td>
<td>30%</td>
<td>40%</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>Other Features or Savings</td>
<td>- Net zero ready</td>
<td>- Real time monitoring system supports lower operating and maint. costs</td>
<td></td>
<td>Steel components recyclable Additional savings may be realized in insurance premiums and other design elements.</td>
<td></td>
<td>Varies with project; add'l efficiencies anticipate as they scale.</td>
<td>- 70% reduced energy</td>
</tr>
</tbody>
</table>