



Beyond Demolition: Reuse Innovation in the Built Environment

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October 2026

How might project design teams drive material reuse?

Context & Opportunity

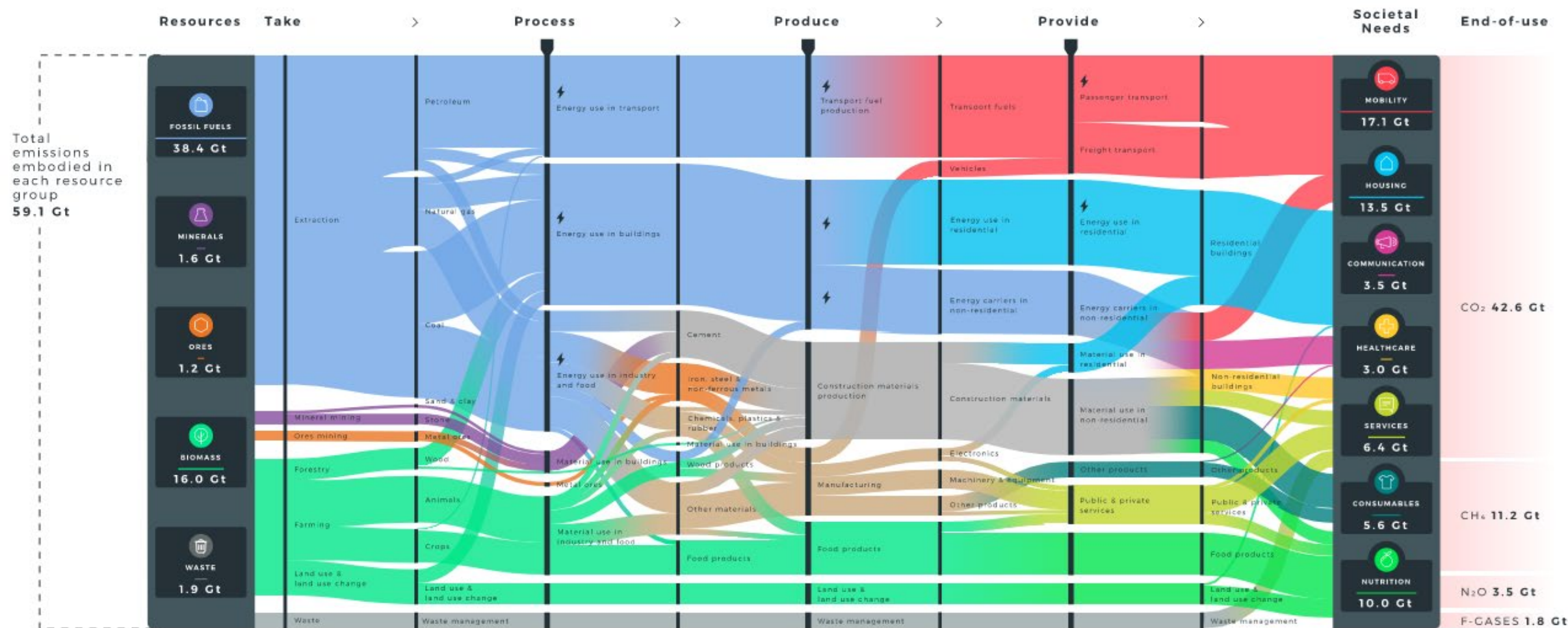


Figure One X-ray of global greenhouse gas emissions behind meeting key societal needs and wants in billion tonnes (Gt).

Context & Opportunity



The Challenge

This project aimed to explore what will enable teams to work with reused products, and proactively distribute existing materials.

Focused on two overarching needs:

- the quantification of usable products
- development of processes and workflows

The Interiors Opportunity

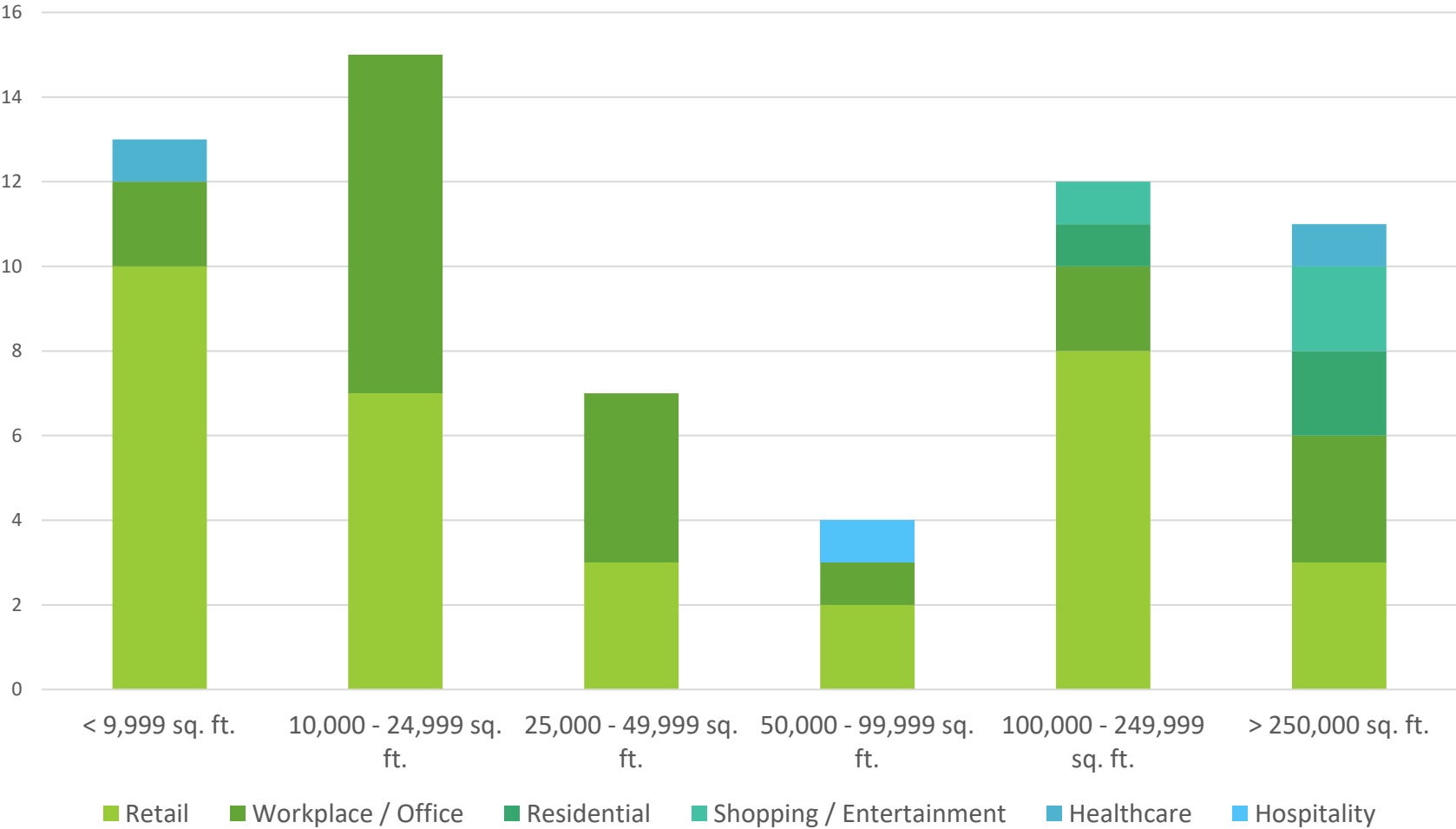
- Short & predictable leases
- Premium & durable products
- Standardized assemblies
- Fit-outs are small but many
- Long-term relationships



Internal Survey



Responses by Project Area & Type



68

Survey Respondents

88%

Frequently work with the same client on multiple projects

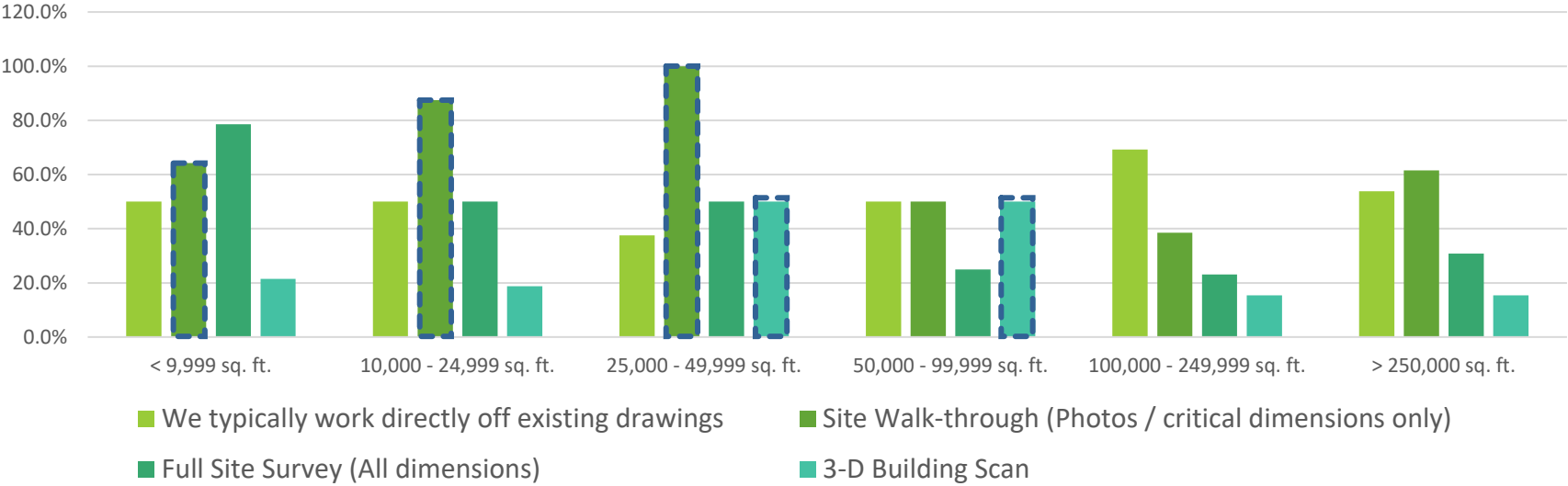
35%

The project team, or firm generally, were frequently involved in an earlier fit-out of the space

Learnings & Insights



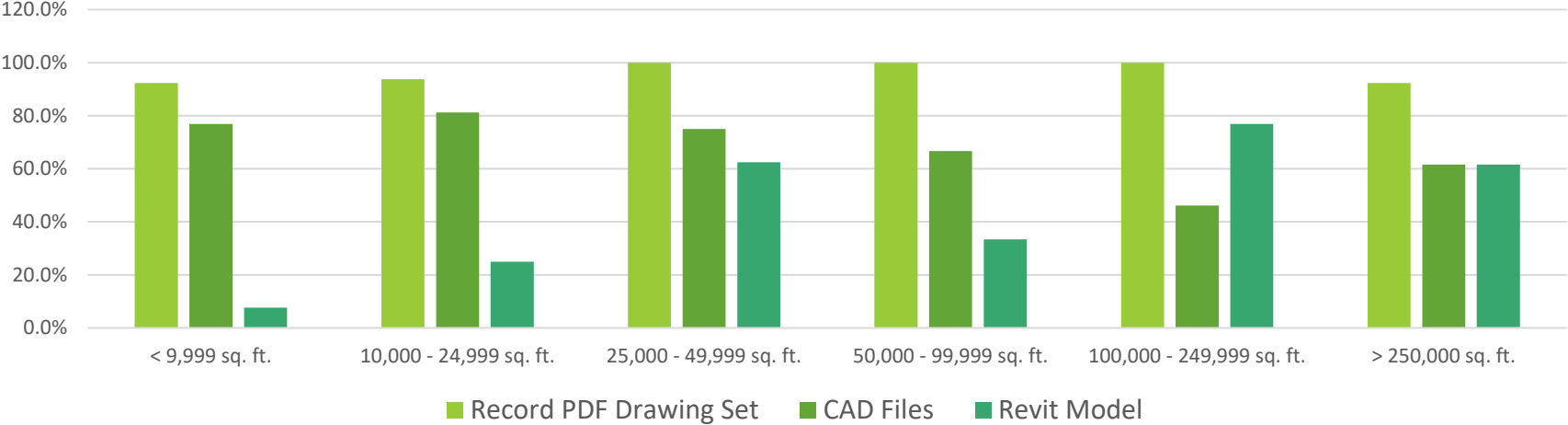
Site Verification Methods



3-D building scans are most common on projects between 25,000-100,000 sf

Most projects less than 50,000 sf include a site walk-through

Closeout Documents

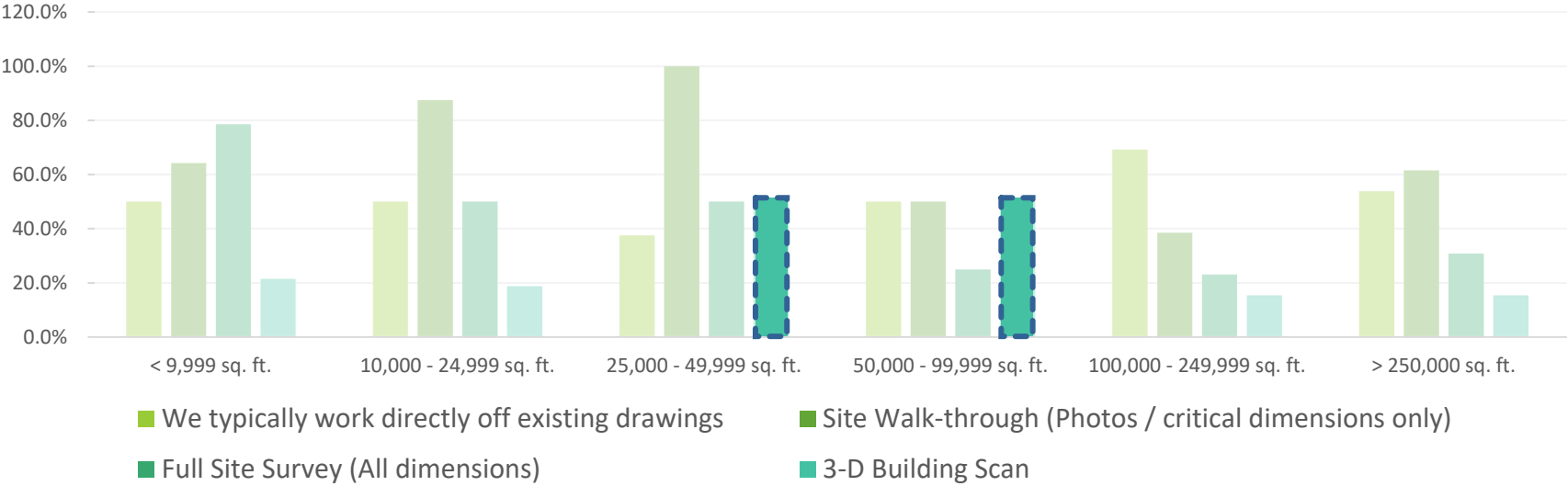


Smaller projects are less likely to provide a Revit model at closeout than the largest scales, but nearly all projects at all scales must at least hand off a PDF record set.

Learnings & Insights



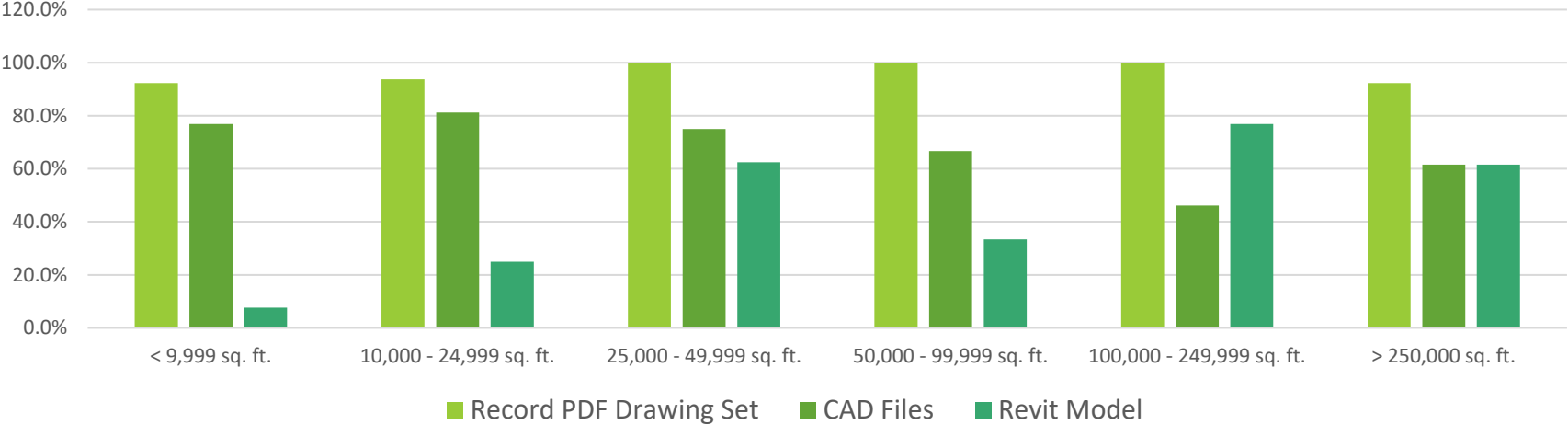
Site Verification Methods



3-D building scans are most common on projects between *25,000-100,000 sf*

Most projects less than *50,000 sf* include a site walk-through

Closeout Documents

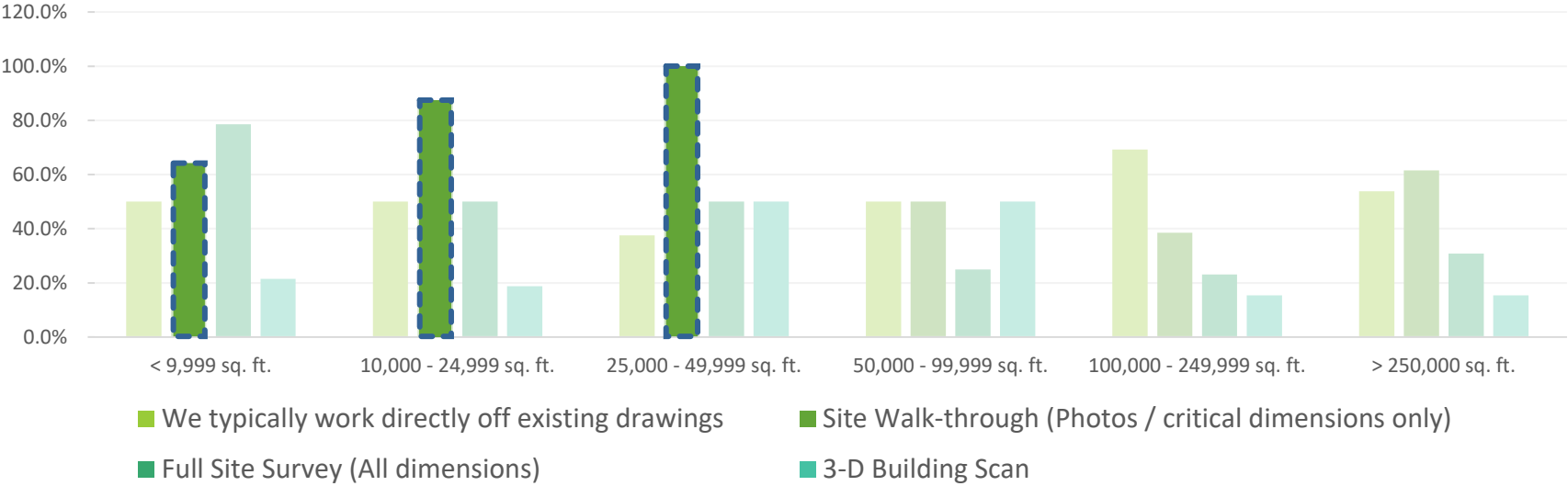


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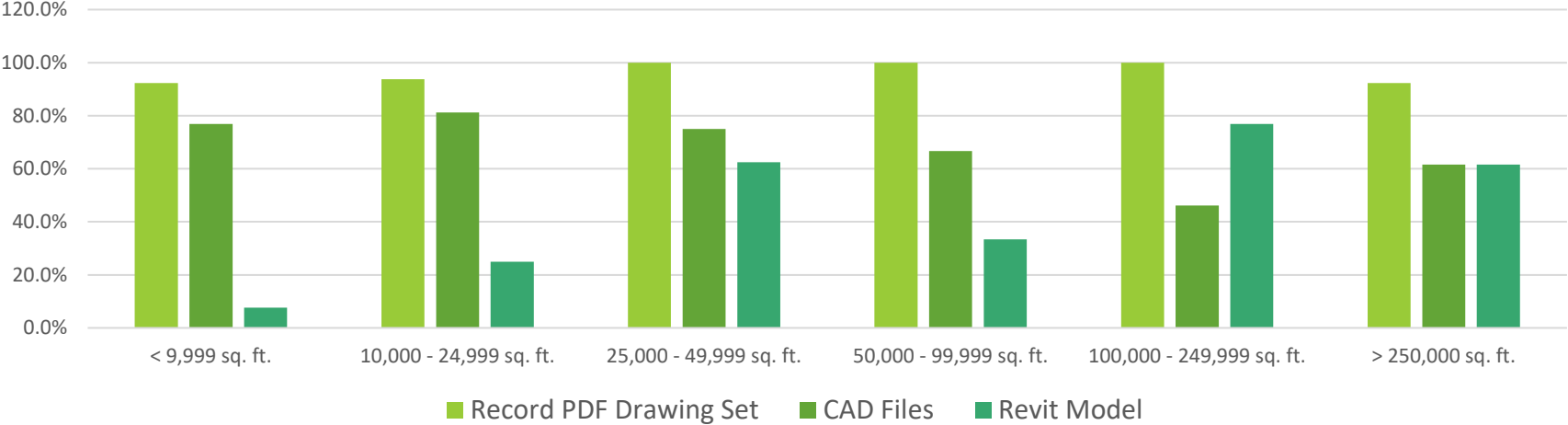
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Successes & Challenges



Project	Client	Project Type	Square Footage (est.)	Project Location
Project 1	Client A	Workplace	30,000	Pittsburgh, PA
Project 2	Client A	Workplace	20,000	Houston, TX
Project 3	Client B	Workplace	21,100	Mclean, VA
Project 4	Client C	Workplace	26,000	Washington, DC
Project 5	Client D	Workplace	48,603	Atlanta, GA
Project 6	Client E	Retail	27,300	Cleveland, OH
Project 7	Client E	Retail	19,943	Columbia, SC
Project 8	Client E	Retail	26,830	Rochester, NY
Project 9	Client E	Retail	38,565	Rockville, MD
Project 10	Client F	Retail	7,600	Miami, FL
Project 11	Client F	Retail	7,345	San Francisco, CA

Figure 3: Historical CRTKL assessed projects, Source, Author

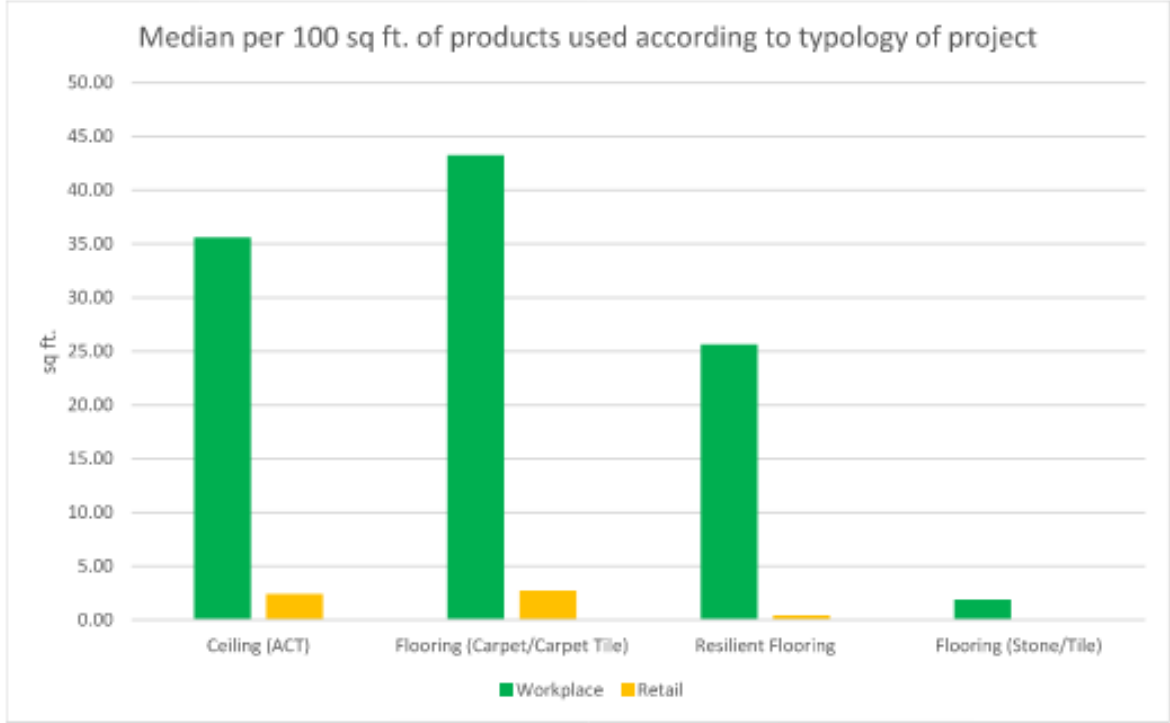
Successes & Challenges

Product	Total	Unit
Ceiling (ACT)	46,128	sq. ft.
Flooring (Carpet/Carpet Tile)	63,786	sq. ft.
Resilient Flooring	39,901	sq. ft.
Flooring (Wood)	1,205*	sq. ft.
Flooring (Stone/Tile)	2,737	sq. ft.
Flooring (Sealed/Finished Concrete)	1,359	sq. ft.
Electrical Receptacles (Wall/Floor boxes)	2,489	# units
Doors	488	# units
Ceiling Light Fixtures	5,333	# units
Millwork Cabinetry	4,665*	linear ft.
Faucets	82	# units
Exit Signs	120*	# units

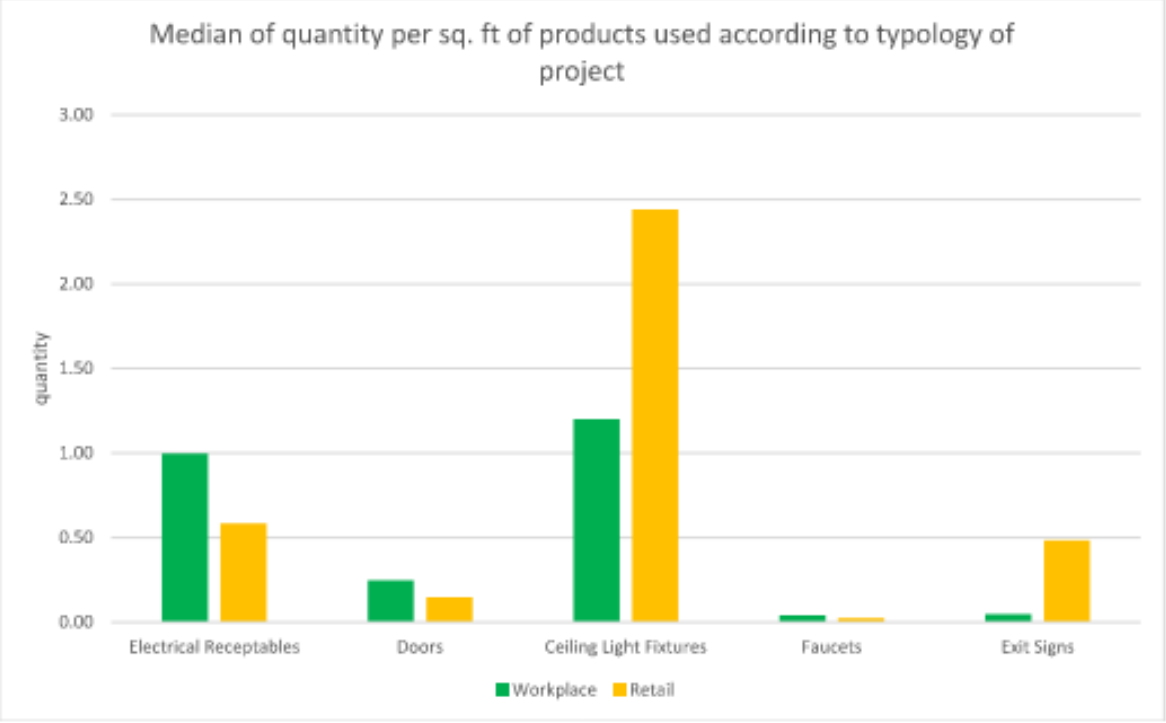
Figure 4: Cumulative product amounts *Indicates data was missing from one or more projects, Source: Author

Successes & Challenges

Median of sq. ft. of products used by project typology



Median of quantity of products used by project typology



Opportunities



Phase 1 Furniture Sale Items

Proposed List

13 February 2019

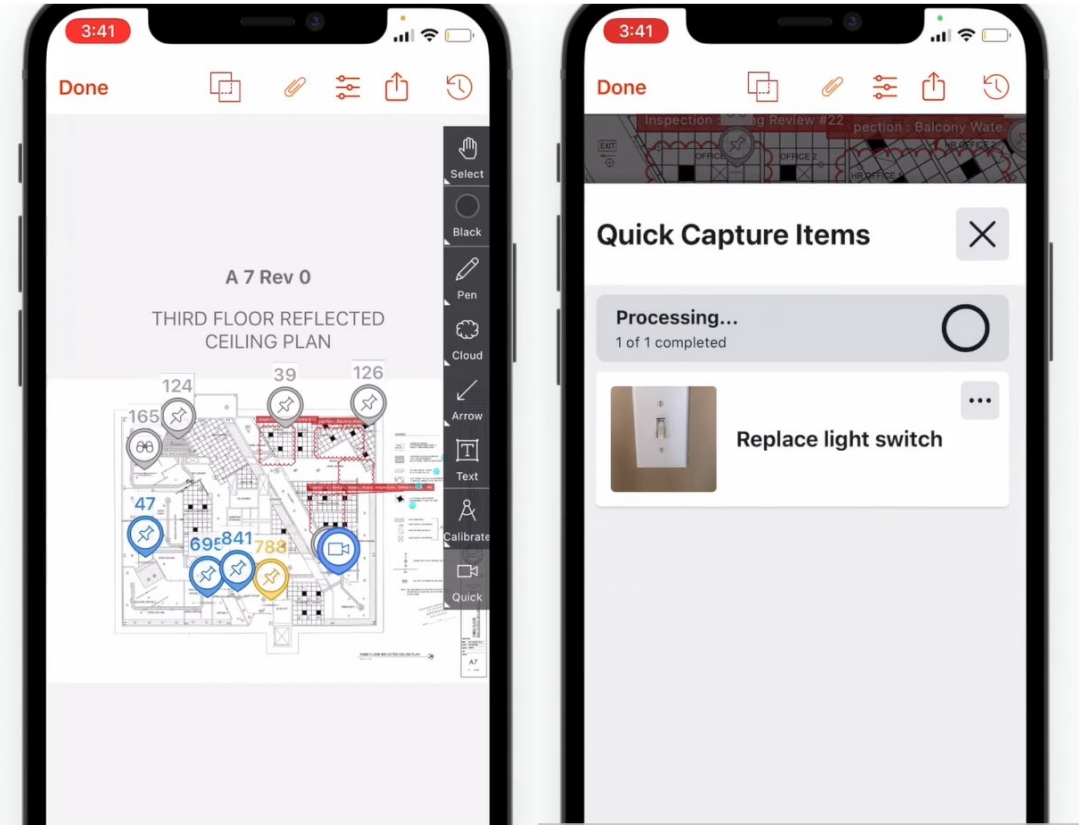
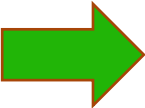
ITEM PROPOSED FOR SALE	PIC	CURRENT LOCATION	EXISTING QTY	QTY PROPOSED TO SELL
ROUND TABLES, VARYING DIAMETER (MOST ARE HMI, 1 STEELCASE)		Corridor, (1) Reception (1) By Azar (1) Offices (15) Basement (5)	23 Eventually need only 2	8
CHICAGO TROLLEY TABLE		Corridor	2	2
BLACK CHAIRS		Corridor	8	8
LOW ROUND TABLES (HMI)		Reception & by Azar	8	6

ale Items

CURRENT LOCATION	EXISTING QTY	QTY PROPOSED TO SELL
Reception	14 Keep 8 as backup for community space	6
Library	48 (507) Need to keep 18 for library	20
Misc	19 (207)	19 (207)
Misc	75 Need to keep 24 for seating in open offices	25

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Source: CRTKL DC Office Renovation

Source: Procore.com

Implications & Future Opportunities

- Measure outbound materials in the same units as inbound products
- The data to quantify the supply is at our fingertips
- The tools we already use can be easily adapted to rethink resource use



What are the opportunities to shape broader policy and standards?

Thank you!



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