

Cold Storage

Crucial Property Infrastructure

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Crucial

Decisive or critical, especially in the success or failure of something.

Infrastructure

The basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise.

~ Oxford English Dictionary

Introduction

Few would argue that the safe and efficient distribution of key food products and medicines is critical to a well-functioning economy and society. For many years prior to the pandemic, changing consumer preferences favoring fresh rather than processed food increased demand for more volume within the temperature-controlled portion of the global supply chain. More recently, advances in various pharmaceuticals and biomedical treatments have also heightened the need for additional capacity. The experience of the COVID-19 pandemic has only served to heighten both the demand for refrigerated space as well as the awareness of the critical role it plays in society broadly. To this point, the U.S. Cybersecurity & Infrastructure Security Agency (CISA) in December issued guidance for physical security for cold storage locations, particularly with respect to the safe and efficient distribution of COVID-19 vaccines.¹ Going forward, we believe that this portion of the global supply chain will become increasingly more important as the value added by temperature controlled storage advances in step with the demand for the products and customers that it serves.

What Is Cold Storage?

The term "cold storage" typically refers to the segment of the global supply chain that provides storage for products and materials that require some form of temperature control, most typically food and pharmaceuticals. As such, cold storage properties, also known as refrigerated warehouses, represent a critical subset of the much larger universe of warehouse and other distribution properties. Cold storage layouts typically match a tenant's operations with multiple temperature and humidity zones for various product categories such as meat, dairy, produce, frozen goods, flowers, pharmaceuticals, and other perishables.

¹Physical Security for Cold Storage Locations. CISA Insights. December 2020. U.S. Cybersecurity & Infrastructure Security. https://www.cisa.gov/sites/default/files/publications/Insights_Physical_Security_for_Cold_Storage_Locations.pdf

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Cold Storage Considerations Today

Cold storage is a fast growing but relatively small subsector of the broader U.S. Industrial market, accounting for perhaps +/- 2% of total industrial stock. Much of the existing cold storage stock is relatively old, with roughly half of all cold storage capacity built prior to 1990. While typical non-refrigerated warehouse/ bulk distribution ("dry") properties require little physical specialization, cold storage properties typically feature specialized climate-controlled areas that fall into two general categories:

Cooler or Cold:	(33-39°F): used to store perishables (e.g. fruits, vegetables,
	flowers, dairy, and meats)

Freezer:

(0-32°F): generally used to store frozen vegetables, fruit, fish, meat, and seafood

Ceiling heights (clear heights) for modern traditional non-refrigerated (dry) warehouses currently range from 32 to 40 feet compared with 36 to 60 (or higher) feet for modern freezer buildings. Often, a typical dry warehouse can be retrofitted with what is referred to as a "Box-in-Box" system, whereby insulated metal panels are installed to form distinct climate and moisture environments in an otherwise non-climate-controlled building. Generally, purpose-built (i.e. not retrofitted) cold storage development is more complicated to design and develop and typically has much higher additional costs for mechanical equipment and other physical requirements of the building (e.g. enhanced and heated slabs within freezer space). Historically, this greater cost and complexity has acted to limit speculative development within the sector.

Broadly, there are two categories of refrigerated warehouses in the United States today: public and private. A private refrigerated warehouse is one that is owned or leased by a company that primarily produces or owns the products that are kept in the warehouse, such as a food manufacturer or a grocery company. It is generally used to store only that company's products.

PRIVATE WAREHOUSES	PUBLIC WAREHOUSES
Traditional net leases to third party tenants.	Owner/operator-occupied and includes income for both per pallet rent/storage & warehouse services (handling, packaging, other value-add services)
Typically, located closer to retailers or consumers near population centers.	Typically, located closer to product (food) origination as well as around population centers.
Most first-generation space is owned by grocery and food companies directly. Second generation property is often investor owned.	Operators like Americold and Lineage dominate the market.
Typical to find freezer, cooler and dry warehouse space all in the same building.	Typical to find 100% cold. Mostly freezer space.
Properties are often comprised of partial buildouts, and often in retrofitted existing warehouse stock via a "box in a box" construction.	Operated as an independent business that typically perform a suite of services to their customers.

TABLE 1: CHARACTERISTICS OF PRIVATE AND PUBLIC WAREHOUSES

Source: Global Cold Chain Alliance

In contrast, Public Refrigerated Warehouses (PRWs) store and distribute products on behalf of other companies, usually on a rental pallet per month basis. Public warehouses are typically owned and operated by third-party logistics providers (3PLs) that, in addition to providing refrigerated space, often provide various product handling services to their tenants.

Private refrigerated warehouses often have a higher percentage of space that is not refrigerated (i.e. dry), while PRWs are more likely to be primarily cold and often largely freezer space, typically 80% or more.

While all cold storage properties offer some degree of temperature control and refrigeration, the sector represents a wide range of physical spaces, covering everything from movable refrigerated containers to purpose-built specialized warehouses for very specific industry and tenant needs. Please refer to the appendix for more detail.

Refrigerated Container (Reefer)	A shipping container used in intermodal freight transport capable of refrigeration of temperature-sensitive, perishable cargo
Blast Freezers and Chillers	Refrigerated storage areas designed to rapidly lower the temperature of perishable products below freezing
Cold Rooms	Storage area designed to maintain a specific temperature for the storage of perishable products
Pharmaceutical Grade Cold Storage Warehouses	Specialized cold storage warehouse used by hospitals and research institutes typically dealing with biopharmaceuticals, blood, and certain vaccines.
Plant Attached Cold Storage Warehouses	Dedicated cold storage warehouse for manufacturers wanting to keep output on-site
Dedicated Custom Cold Storage Warehouses	Facility provided by a 3PL for cold tenants with specialized needs

TABLE 2: TYPES OF COLD STORAGE WAREHOUSES

Source: Winnesota Regional Transportation

How Large is the U.S. Cold Storage Property Sector?

Precise measurement of the U.S. cold storage property sector is elusive as many properties may be only partially temperature controlled with the remainder being dry space (non-refrigerated). Also, properties originally developed as dry can be retrofitted to include refrigeration in total or part and this is not always captured by brokerages and other third-party data providers.

The U.S. Department of Agriculture (USDA) regularly reports on the storage capacity of the nation's refrigerated warehouses² but with some notable qualifications of the data. Specifically, beginning with their January 2018 report, the USDA modified the inclusion criteria for their survey to include only properties that are artificially cooled to a temperature of 50 degrees Fahrenheit or lower, normally store food products for 30 days or more and store at least one of the 110

²See, for example, "Capacity of Refrigerated Warehouses 2019 Summary". January 2020. United States Department of Agriculture. ISSN: 1949-1636. https://downloads.usda.library.cornell.edu/usda-esmis/files/x059c7329/zg64v297x/m326mj432/rfwh0120.pdf

commodities reported in their Monthly Cold Storage inventory report. Given these restrictions, the USDA tally, while informative, clearly misses various segments of the broader cold storage market that are supporting inventories not included in the 110 USDA tracked groupings (e.g. pharmaceutical products) or tenants experiencing much faster inventory turnover (e.g. a cold storage warehouse that is supplying final demand at local restaurants). Please refer to the appendix for more detail on the characteristics of dry versus cold storage.



FIGURE 1: TOP TEN STATES BY COLD STORAGE SQUARE FOOTAGE

Despite these limitations, as of the end 2019 the USDA recorded 3.65 billion total cubic feet of gross refrigerated storage space and 2.97 billion cubic feet of usable space across 912 distinct properties (551 public warehouses and 361 private warehouses). Usable freezer space represented 80% of all space with 20% identified as cooler space. Public warehouse space currently represents 74% of total refrigerated space tracked by the USDA.

The CoStar Group tracks a somewhat larger universe of refrigerated warehouses totaling approximately 240 million square feet across more than 2,200 properties. While ceiling height data is not available for all properties, the average height for properties reporting is between 20 and 25 feet indicating gross cubic footage between five and six billion cubic feet. While larger than the USDA universe, the CoStar sample likely also undercounts the true universe as numerous properties in their database are classified as "food processing" despite having some degree of refrigerated space. Additionally, there are likely numerous properties throughout the country that have some degree of refrigeration that is simply not reported. Throughout this report, we are using the set of properties classified as refrigerated unless otherwise noted.



FIGURE 2: TOP TEN METRO AREAS BY COLD STORAGE SQUARE FOOTAGE

The geographic distribution of cold storage warehouse space correlates closely with aggregate population and food production. Given this, it is no surprise that California is home to more than 50% more cold storage space than the next largest state, Texas. Interestingly, despite California's rank as the top state for aggregate refrigerated warehouse space, the top three metropolitan areas are Chicago, Dallas/Fort Worth and Philadelphia with Los Angeles coming in fourth.

Although many cold storage tenants are found in industry sectors that require a high level of precision regarding the care and status of their products (e.g. certain pharmaceuticals and food applications), the U.S. inventory of cold storage properties is fairly antiquated with roughly half of all properties built before 1990.



FIGURE 3: COLD STORAGE INVENTORY BY DECADE BUILT

The main reason that the age of the cold storage stock matters is directly related to building height and, consequently, cubic volume. Warehouses have generally become taller over time to reflect both advances in building and warehouse management technology but also to reflect rising land costs. The pre-1990 built cold storage inventory is largely lower height construction, typically averaging between 20 and 25 feet. In contrast, the stock of properties built after the financial crisis (i.e. after 2009) have an average height of more than thirty feet and maximum height over seventy feet³.

FIGURE 4: AVERAGE AND MAXIMUM HEIGHT OF COLD STORAGE WAREHOUSES BY DECADE BUILT



Source: CoStar

³Note, ceiling height is not reported for all properties in the dataset used. Modern cold storage properties with ceiling heights greater than 100 feet exist though are not representative of the broader universe. The largest cold storage property in the U.S., 2800 Polar Way in Washington state, is reported to have a ceiling height of 120 feet (see https://www.tricitiesbusinessnews.com/2019/04/ preferred-freezer-facility/)

Warehouses have generally become taller over time to reflect both advances in building and warehouse management technology but also to reflect rising land costs.

Cold Storage Industry Concentration

The North American cold storage sector is fragmented with two companies (Lineage Logistics and Americold Logistics) representing roughly one-third of the total cubic volume identified from the CoStar data with the next eighteen largest companies accounting for less than 20%. In addition to being the largest company in the sector, Lineage is also the fastest growing with total cubic feet increasing by more than 20% between 2019 and 2020, followed by 16% growth for the much smaller United States Cold Storage Inc.

COMPANY	LOCATIONS	2020 VOLUME (mcf)	2019 VOLUME (mcf)	PERCENT CHANGE
Lineage Logistics	U.S.	1,391.9	1,097.1	21.2%
Americold Logistics	U.S./Canada	1,032.1	1,016.8	1.5%
United States Cold Storage, Inc.	U.S.	373.9	312.0	16.6%
VersaCold Logistics Services	Canada	123.0	123.0	0.0%
AGRO Merchants Group	U.S.	118.6	119.9	-1.1%
Interstate Warehousing, Inc.	U.S.	115.7	115.7	0.0%
Frialsa Frigorificos S.A. DE. C.V.	Mexico	102.2	105.8	-3.5%
Burris Logistics	U.S.	74.9	74.9	0.0%
Congebec Logistics, Inc.	Canada	57.7	57.7	0.0%
Conestoga Cold Storage	Canada	56.6	56.6	0.0%
NewCold Advanced Cold Logistics	U.S.	47.9	48.0	-0.2%
Hanson Logistics	U.S.	43.8	43.8	0.0%
Holt Logistics	U.S.	35.0	35.0	0.0%
Confederation Freezers	Canada	34.5	34.6	-0.3%
Trenton Cold Storage, Inc.	Canada	34.2	34.3	-0.3%
Qualianz	Mexico	25.9	n/a	n/a
MTC Logistics	U.S.	25.2	25.2	0.0%
Midwest Refrigerated Services, Inc.	U.S.	23.4	23.4	0.0%
WOW Logistics	U.S.	23.4	23.4	0.0%
Nor-Am Cold Storage, Inc.	U.S.	22.2	22.2	0.0%

TABLE 3: TOP 20 NORTH AMERICAN REFRIGERATED WAREHOUSING COMPANIES

Source: International Association of Refrigerated Warehouses (IARW)

While Lineage Logistics and Americold Logistics are the largest North American cold storage companies, it should be noted that they are dwarfed by companies such as DHL and Amazon in terms of overall logistics footprint.

COMPANY	HEADQUARTERS	WAREHOUSE SQUARE FEET	NUMBER OF WAREHOUSES
DHL Supply Chain North America	Westerville, OH	139.0	439
Amazon	Seattle, WA	136.8	217
XPO Logistics	Greenwich, CT	90.0	400
Ryder Supply Chain Solutions	Miami, FL	56.4	328
NFI	Camden, NJ	49.6	145
GEODIS North America	Brentwood, TN	44.0	142
Americold	Atlanta, GA	42.7	163
Lineage Logistics	Novi, MI	37.0	190
FedEx Logistics	Memphis, TN	30.7	110
Kenco Logistic Services	Chattanooga, TN	26.0	90
CJ Logistics North America	Des Plaines, IL	24.9	66
Penske Logistics	Reading, PA	24.6	70
DB Schenker North America	Chesapeake, VA	23.7	91
Saddle Creek Logistics Services	Lakeland, FL	22.5	70
Kuehne + Nagel North America	Jersey City, NJ	18.7	87
CEVA Logistics North America	Houston, TX	18.1	119
UPS Supply Chain Solutions	Alpharetta, GA	17.3	144
Warehouse Services	Piedmont, SC	14.0	30
WSI	Appleton, WI	14.0	52
APL Logistics North America	Scottsdale, AZ	12.7	44
Radial	King of Prussia, PA	11.7	21
Expeditors	Seattle, WA	11.7	133

TABLE 4: TOP 20 NORTH AMERICAN WAREHOUSING 3PLS

Source: Armstrong & Associates

What is Driving Demand for Cold Storage Property?

Many of the same forces driving demand for distribution space generally are also driving demand for cold storage space specifically; forces such as displacement of portions of the in-person retail channel by direct delivery to customers' homes or other locations, growing demand for faster order fulfilment and the need for more resilient and, possibly redundant, inventory. In the case of cold storage property, this is largely related to online purchasing of food in general and fresh food specifically.



FIGURE 5: SHARE OF FRESH FOOD PURCHASED THROUGH EACH CHANNEL

Total sales at food and beverage stores increased at an average annual rate of roughly 3% per year over the decade preceding the COVID-19 pandemic. Similarly, the share of all food and beverage purchases made online had also slowly increased from almost zero ten years ago to slightly more than 3% in 2019. During 2020, sales at food and beverage stores increased by more than 10% as most restaurants and bars were completely or partially closed due to the pandemic. At the same time, the online share of all food and beverage sales jumped to more than 10%. A recent study by Deloitte examined this phenomenon by directly surveying consumers regarding their shopping habits and preferences with respect to fresh foods specifically.⁴ Deloitte identified two distinct consumer profiles within their responses: conventional consumers and contemporary consumers.

Conventional consumers represented 60% of the study group and tended to be older, lower-income and more rural. Contemporary consumers, in contrast, represented 40% of the study group and tended to be younger families, more affluent, more urban and more ethnically diverse. The Deloitte researchers note that

⁴Renner, Barb, Baker Brian, Cook, Justin and Mellinger, Josh. "The Future of Fresh, Patterns from the pandemic". Deloitte Insights. October 13, 2020.

the conventional consumer shops almost exclusively at grocery stores while the contemporary consumer is more fluid, shopping across multiple channels that best suit their various purchases. They also note that both groups reported shopping less frequently in person during the pandemic and posited that this increases the need for fresh food to be even fresher at the time of purchase to minimize spoilage at home during elongated periods between shopping.⁵

As younger consumers, the habits of contemporary consumers will likely become the norm as this group ages. Historically, consumers generally disliked using nonstore (i.e. online) channels for fresh food purchases such as meats and produce and generally preferred selecting these items themselves. The Deloitte study showed, however, that 68% of contemporary consumers trust assigned in-store shoppers to select their fresh products.



FIGURE 6: PERCENT OF CONSUMERS THAT PREFER ON-LINE PURCHASES OVER IN PERSON BY CATEGORY⁶

Source: Mercatus

A recent survey by the online grocery platform Mercatus suggests that while most consumers preference for online purchases of groceries will retreat some from the elevated level of 2020, it is likely to remain far above the pre-COVID level going forward. Reflecting that, Mercatus projects that more than 20% of all grocery sales in the U.S. will take place online by 2025. Currently, food and beverage stores reported \$863 billion of sales in 2020 and total food and beverage sales are estimated to be approximately \$1 trillion when sales at other types of stores (e.g. Target and Walmart) are included. Using the online penetration estimates from Mercatus, online sales of food and beverages were approximately \$100 billion in 2020. Moody's Analytics projects 15% aggregate growth in this category, bringing total food and beverage sales to \$1.15 trillion by 2025. Again, using the projected online penetration ratio for 2025 (21.5%), expected online grocery sales in 2025 will be approximately \$250 billion, roughly 2.5 times the size of the 2020 marketplace.

⁵This component of fresh food demand could reverse if consumers revert to pre-pandemic shopping habits. ⁶"e-Grocery's New Reality – The Pandemic's Lasting Impact on U.S. Grocery Shopper Behavior". Mercatus/INCISIV. September 2020.



FIGURE 7: ONLINE SHARE OF TOTAL GROCERY SALES

While food garners the most attention, it should be noted that other common temperature sensitive and temperature-controlled goods include⁷:

- Pharmaceutical products
- Flowers and plants
- Artwork
- Biological samples and components such as blood and some vaccines
- Specialty pharmaceuticals including orphan drugs
- Raw materials for pharmaceutical products
- Some petrochemicals
- High-tech electronic goods
- Candles
- Film
- Lipstick
- Cologne
- Certain textiles

Cold Storage Property Performance

Cold storage investment performance is not measured by conventional sources such as NCREIF and there is currently only one publicly traded REIT (Americold). Overall, cold storage properties have performed as well or better than industrial properties as a whole and, at least in terms of occupancy, significantly outperformed the industrial sector average through the financial crisis period and most recently.

⁷Source: Unexpected Items That Require Cold Storage. Central Florida Freezing & Warehousing. December 21, 2020



FIGURE 8: COLD STORAGE VACANCY RATE VS ALL INDUSTRIAL PROPERTIES

Source: CoStar

Lower structural vacancy in cold storage relative to the industrial sector in total reflects both steady demand as well as lower levels of supply. As shown in Figure 7, the year-over-year growth in the U.S. cold storage stock has been lower than the comparable growth rate for the entire industrial property sector and this difference has widened over the past 12-18 months. Currently, the cold storage stock is increasing at an annual rate of only 1%, roughly half the growth rate of overall industrial stock. Again, this likely reflects the greater cost and complexity of cold storage development relative to more commonplace dry property development.

FIGURE 9: NEW SUPPLY YEAR-OVER-YEAR GROWTH IN TOTAL STOCK



Source: CoStar

Currently, CoStar is tracking 45 cold storage development projects across the United States totaling 11.2 million square feet. Of this, 3.5 million square feet are currently under construction with 7.7 million square feet categorized as proposed.

FIGURE 10: GEOGRAPHIC DISTRIBUTION OF CURRENT COLD STORAGE SUPPLY PIPELINE



Source: CoStar

Cold Storage Transaction Market

The total transaction volume for cold storage properties has grown steadily in recent years rising from slightly less than one billion dollars per year in the earlier part of the past decade to nearly \$3.5 billion during 2020, despite the global pandemic. More significantly, the average price per square foot of properties that traded have also risen steadily with top quartile properties in 2020 commanding more than \$180 per foot.



FIGURE 11: TOTAL TRANSACTION VOLUME FOR U.S. REFRIGERATED WAREHOUSES AND PRICE PER SQUARE FOOT

Source: Real Capital Analytics (RCA)

Not surprisingly, the transaction market for cold storage properties in the U.S. has been dominated by the two largest refrigerated warehouse companies, Bay Grove Capital (Lineage) and Americold Realty Trust with both organizations acquiring more than \$1 billion of property over the past 24 months.



FIGURE 12: MOST ACTIVE BUYERS OF U.S. REFRIGERATED WAREHOUSES OVER PAST 24 MONTHS⁸ (\$ MILLIONS)

Pricing for cold storage properties, like industrial properties in general, has experienced compressing yields (capitalization rates) over the past decade. For cold storage properties specifically, there has been significant compression of yields in an absolute sense and as a spread to industrial properties in total. Figure 11 illustrates this compression showing the average yield of properties tracked by both CBRE and RCA compared with the stabilized carrying value yield of institutionally owned industrial properties in the NCREIF property index. While this spread has narrowed from approximately 250 basis points five years ago to 150 basis points today, we expect the spread to narrow even further going forward as top quartile industrial property transactions continue to set new milestones for compressing yields.

⁸Includes recent transactions completed by AEW Capital Management not yet in the RCA database.

Sources: Real Capital Analytics (RCA), AEW Research

FIGURE 13: COLD STORAGE AND INDUSTRIAL CAP RATES



Source: CBRE, RCA, NCREIF

Conclusion

Cold Storage is a relatively small but vital component of the global supply chain servicing the growing and evolving demand for products requiring various degrees of temperature control. To date, much of this demand stems from a growing consumer appetite for fresh and perishable food products but also from rapid development of new and more temperature sensitive pharmaceutical and biomedical products as well as a variety of specialty niches such as fresh flower, candles, artwork and electronics. The stock of refrigerated warehouses in the U.S. is relatively old and the higher development cost of building new cold facilities discourages speculative development. As such, the growth in the cold stock typically lags growth in industrial properties generally resulting in lower structural vacancy in the cold segment. Ownership of the existing cold storage inventory is fragmented with two large third party logistics operators dominating the public warehouse portion of the market with little concentration in the private warehouse segment. We believe there exists a significant near-term and long-term opportunity to acquire and update existing properties as well as develop true state of the art facilities to service a growing tenant base with limited location options.

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Appendix

PRIVATE VS. PUBLIC COLD STORAGE WAREHOUSES

	PRIVATE/SEMI-PRIVATE WAREHOUSES	PUBLIC WAREHOUSES
Inventory	\cdot Estimated at 20-30% of inventory	• Estimated 70-80% of inventory
Ownership	 A substantial amount of first generation space was constructed and is owned by grocery and food companies directly. Second generation property is often investor owned 	 Cold storage operators like Americold and Lineage dominate the market
Location Drivers	 Typically, located closer to retailers or consumers near population centers 	 Numerous food facilities are located adjacent to food production facilities ("first mile") and clustered around export centers (especially, protein exporters) Also around and near population
		centers
Typical Tenants	 Wide variety (raw food product suppliers, grocery distributions, restaurant suppliers, food production, 	 Cold storage operators servicing their client base that is typically comprised of food producers and food retailers
	non-food perishables, retailers, ecommerce, 3PLs, consumer product companies)	 Dominated by core food production companies and protein processors (Conagra, McCain, Tysons, Nestle, General Mills, Smithfield)
Lease Structure	Typically 3rd party net leases (tenant/ landlord)	 Less than 50% of revenue is contractually obligated and short term contracts are common
	• Longer Term. 10-15 year term	 Owner/operator-occupied and includes income for both per pallet rent/storage (half of revenues) & warehouse services (handling, packaging, other value-add services) (half of revenues)
		 Pricing is based on variable (monthly "pay-per-use") or year-long fixed storage commitment contracts
		 Significant number of customers/ tenants lease multiple locations through master leases
Construction Characteristics	 Traditional warehouse clear heights of 16-36' for existing inventory 	 Purpose built, especially freezer buildings are 40-120' clear
	 Typical to find a mix of freezer, cooler and dry warehouse space ("tri temp") 	 Typical to find 100% cold, mostly freezer space
	all in the same building	Automation is becoming more prevalent and cost effective as labor
	Insulated tilt up concrete	costs increase
	 Insulated metal panel system inside of dry warehouse ("box in box") 	
Construction Costs	 Up to 3x more costly than bulk distribution ("dry") 	 3x or more costly than bulk distribution ("dry")
	Cooler and freezer improvements range between \$55-100+ psf	 Purpose built freezer facility (60'+ clear height) are \$200+ psf

Appendix

WAREHOUSE/DISTRIBUTION VS. COLD STORAGE

	BULK DISTRIBUTION ("DRY")	COLD STORAGE
Inventory & Vacancy Rate	 +/- 10 bsf (5.2% national vacancy rate) 	• 250-500 msf (est. 3% vacancy rate)
Location Drivers	 Access to population density, critical highways, airports, ports, rail intermodals, and labor. 	 Access to food production facilities, population density, ports, critical highways, airports, rail intermodals, and especially labor which is leading to building automation
Building Size	 Building size continues to trend larger; 1+ million sf buildings are no longer uncommon 	 Generally smaller building size; Typically 50,000 sf-400,000+ sq ft
Clear Height	 32-36' clear for new construction typical, infrequently see 40' clear 	 16-36' for existing inventory 36' clear for "box-in-box" dry to cold conversions 50-120' clear for purpose built, especially in freezer buildings
Construction Costs/Tenant Improvements	 Shell (excluding land): \$50+ psf Tenant Improvements (excluding racking) Bulk: \$5-10+ psf 	 Shell (excluding land): \$50+ psf Tenant Improvements (excluding racking) Cooler: \$60-90+ psf Freezer: \$90-115+ psf
Rental Rates/ Typical Lease Terms	 Rental rates vary by market 5-10 year term 	 Rental rates are typically higher as Landlords amortize a portion of cold storage tenant improvements over a dry rental rate
		• 10-20+ year term
Other Characteristics	 Typically feature low office finish (5% or less) Rarely climate controlled in warehouse 	 Feature low office finish (5% or less). Office spaces typically have dehumidification systems
	 space. Typically utilize fans to improve labor conditions Dry and cooler warehouse slabs have identical construction methodology Additional trailer or vehicular parking 	 Typically, "box-in-box" systems are utilized whereby insulated metal panels are installed inside a typical "dry" warehouse building to form distinct climate/moisture controlled environments within
	highly preferred Access to labor is critical 	 Distinct climate/moisture controlled areas include: cooler (32° to 55° F) or freezer (-10° to 32° F). Typically, freon systems are utilized in smaller buildings and ammonia systems in larger buildings
		 Freezer buildouts require a heated "sub-slab" – specialized vapor barriers and interstitial floor insulation to prevent slab icing and cracking
		 Automation is becoming more prevalent and cost effective as labor costs increase
		 The majority of the existing cold storage inventory is of older vintage
		 Cold development requires construction expertise