

A light gray map of North Central Massachusetts serves as the background. It shows major roads like I-90, I-190, and various state routes (2, 12, 31, 140, 117, 111, 70, 85, 62, 68, 101, 2A, 13, 225). Towns labeled include Gardner, Fitchburg, Leominster, Lancaster, Clinton, Princeton, Hubbardston, Westminister, Shirley, Devens, Ayer, Groton, and Harvard. The Wachusett Mountain State Reservation is also marked. The text is overlaid on the left side of the map.

North Central Industrial Lands Study Update

February 23rd

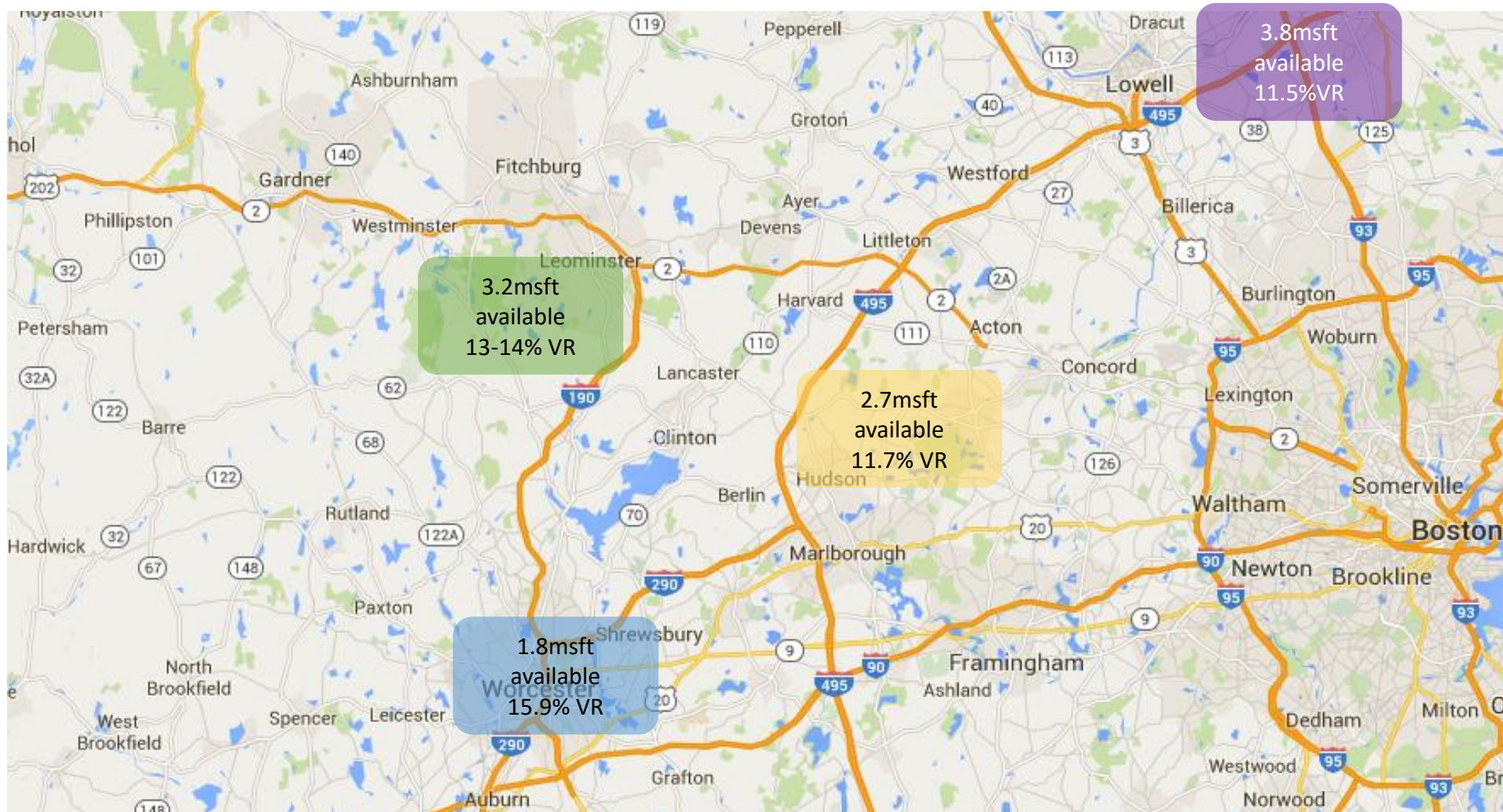
DRAFT



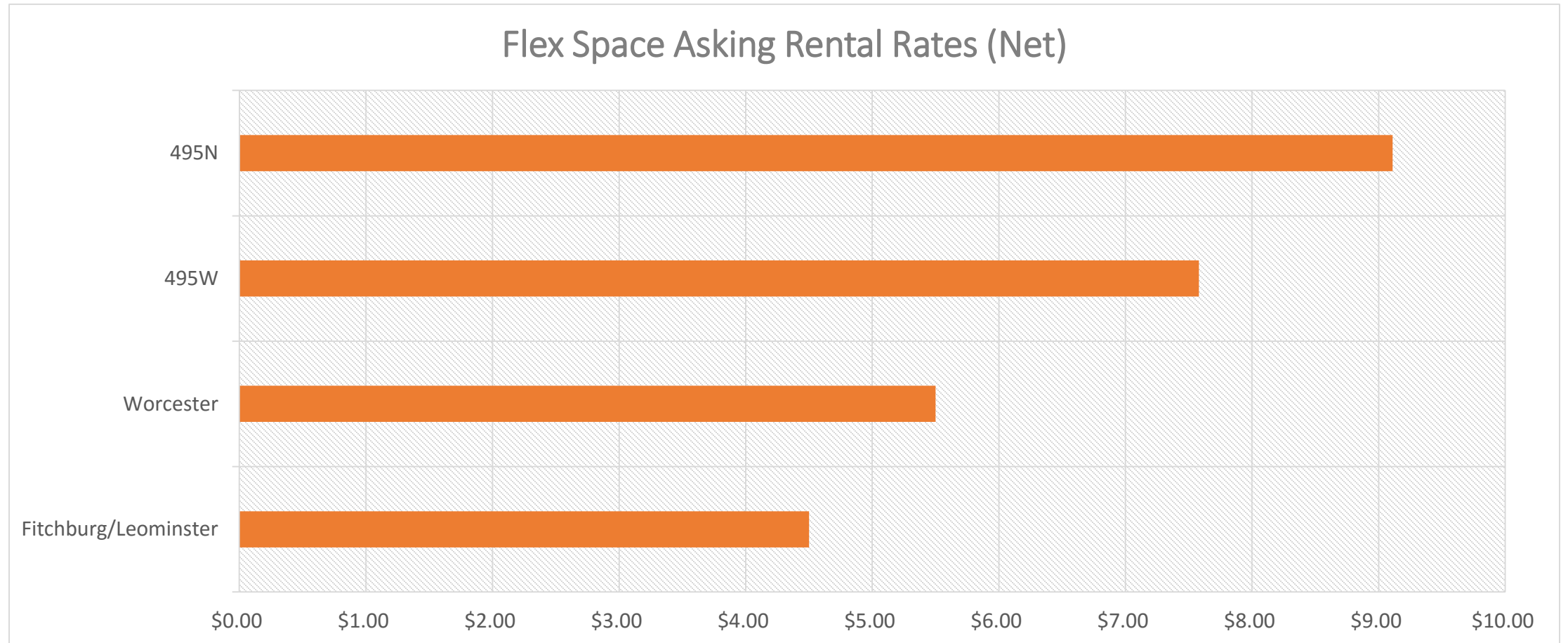
Market Conditions

11.5msft of industrial/distribution space is available

- However, the quality of the remaining available real estate is in question



Low market rents

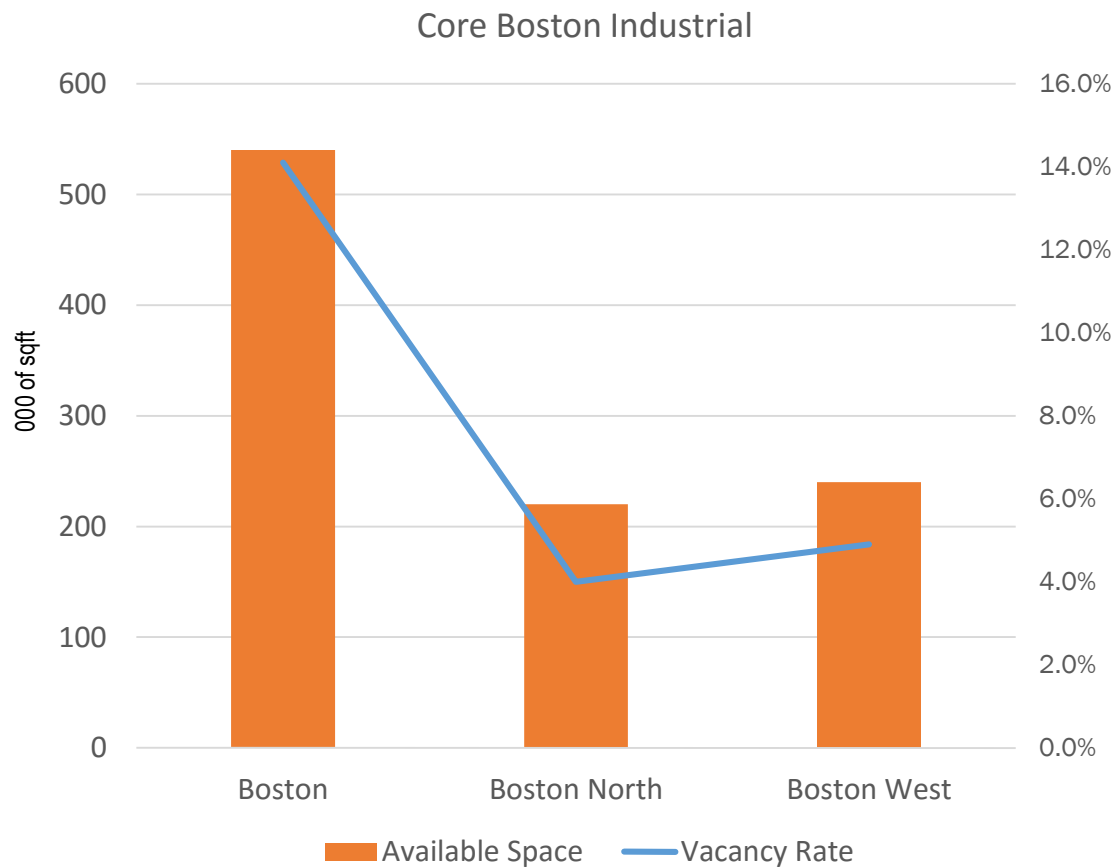


Source: NP analysis of Cushman Wakefield Q2 2015 industrial report; The Foster Report Jan 2015;

Lead stream analysis shows a range of activity

- 20 total active searches for over 7ksft or acreage
 - 4 searches for less than 20ksft
 - 7 searches for between 20ksft and 30ksft (high bay / flex type space)
 - 3 searches for more than 100ksft – biopharma related
- 6 acreage searches
 - 2 searches for 5 acres
 - 2 searches for 10 acres
 - 1 search for 25 acres
 - 1 search for 40-50 acres

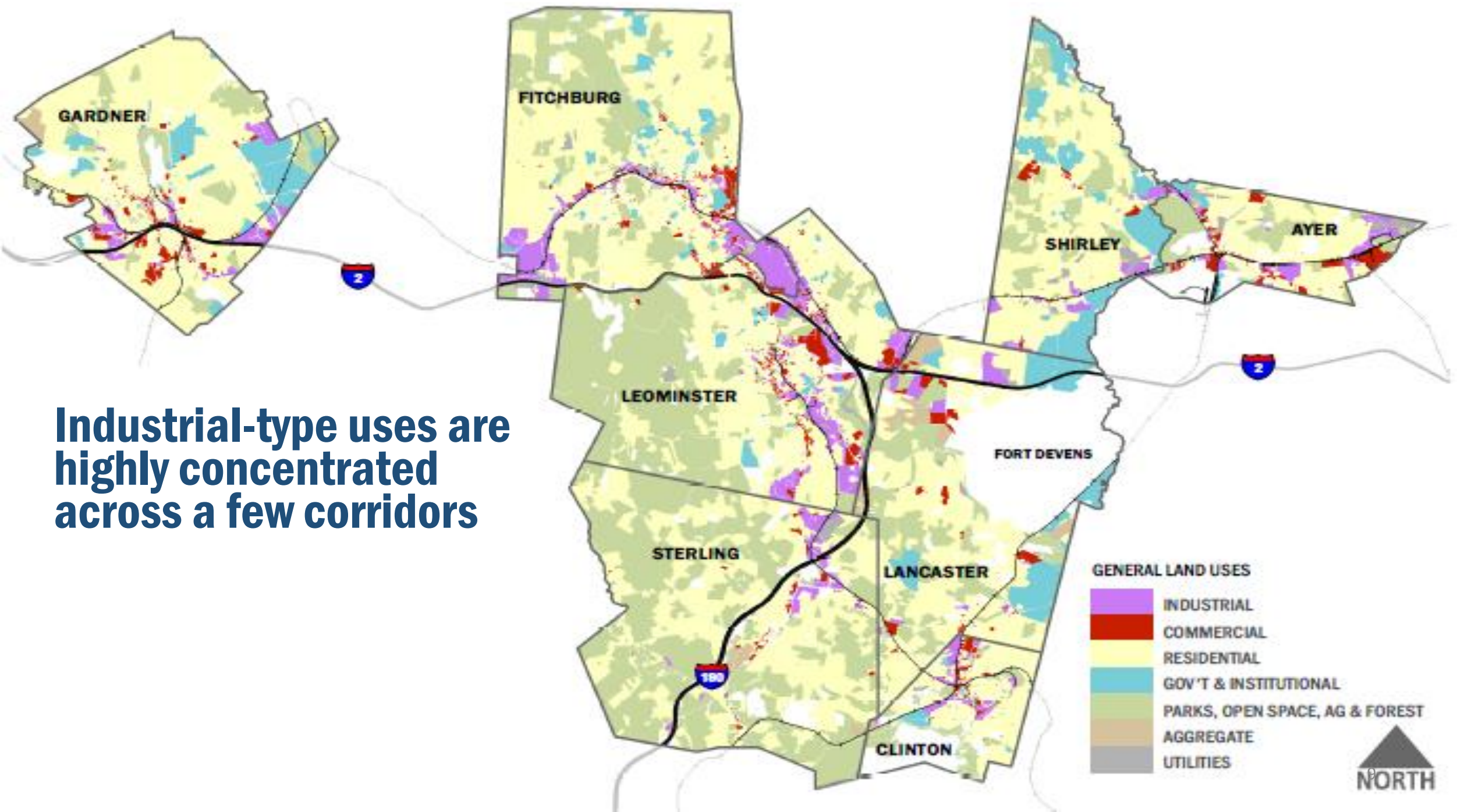
Increasingly tight “Boston” market may create a ripple effect for Greater Boston industrial space demand

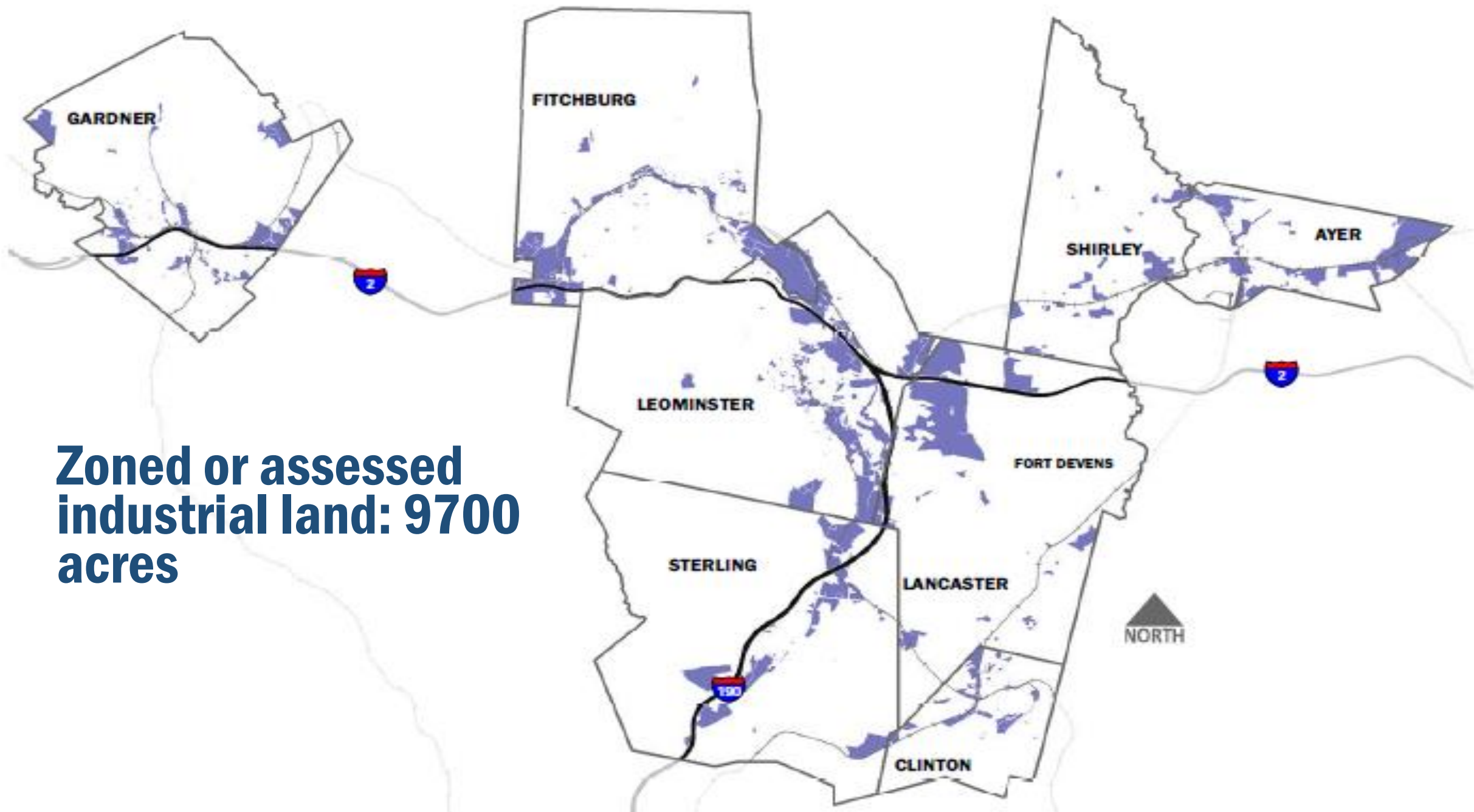


- Vacancy rate for Boston appears high but translates to just over 500ksft
- Based on previous work much of the vacancy is driven in part by real estate speculation in several historic industrial areas of Boston / Everett / Watertown
 - Leases are not being offered except for high tech / high rent uses
 - Asking rents are \$11-12 nnn
- “Expect demand for industrial product to grow in the coming months, as users continue to lease up the limited supply of first class industrial space at an extraordinary pace. “

Land Capacity

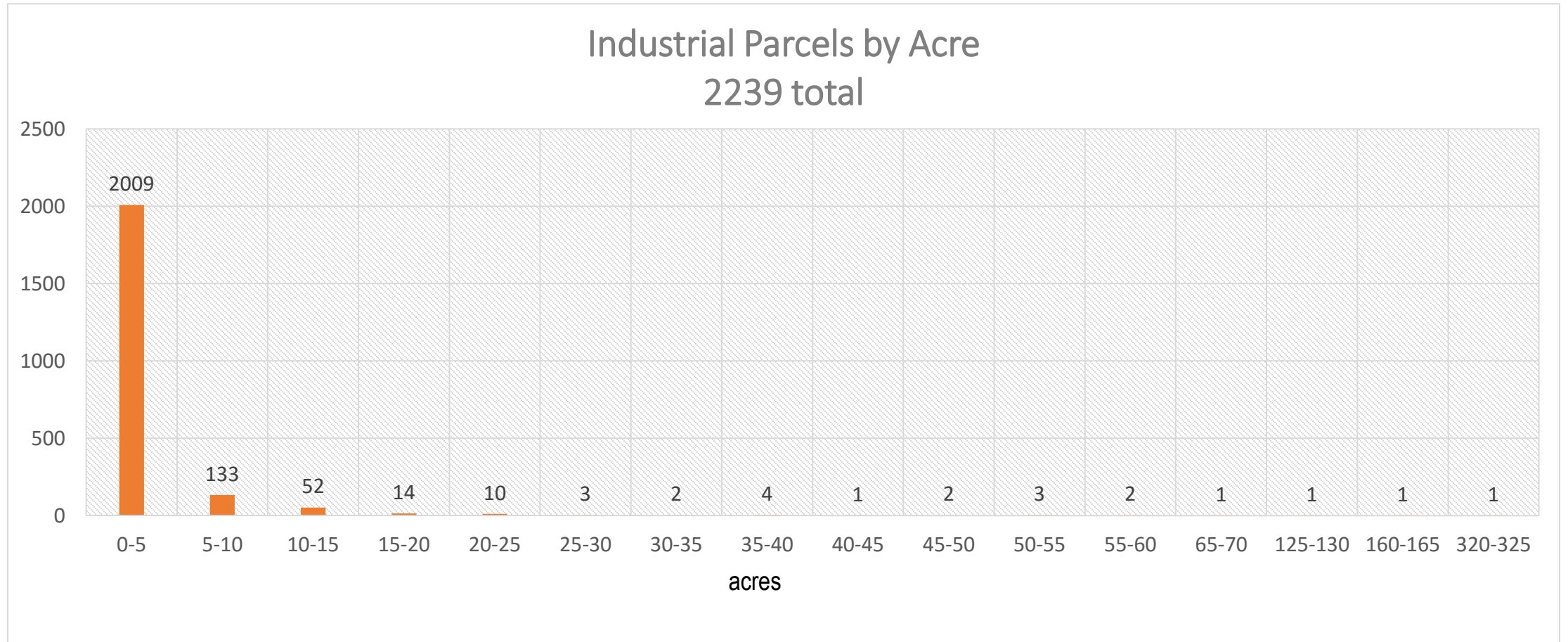
Industrial-type uses are highly concentrated across a few corridors





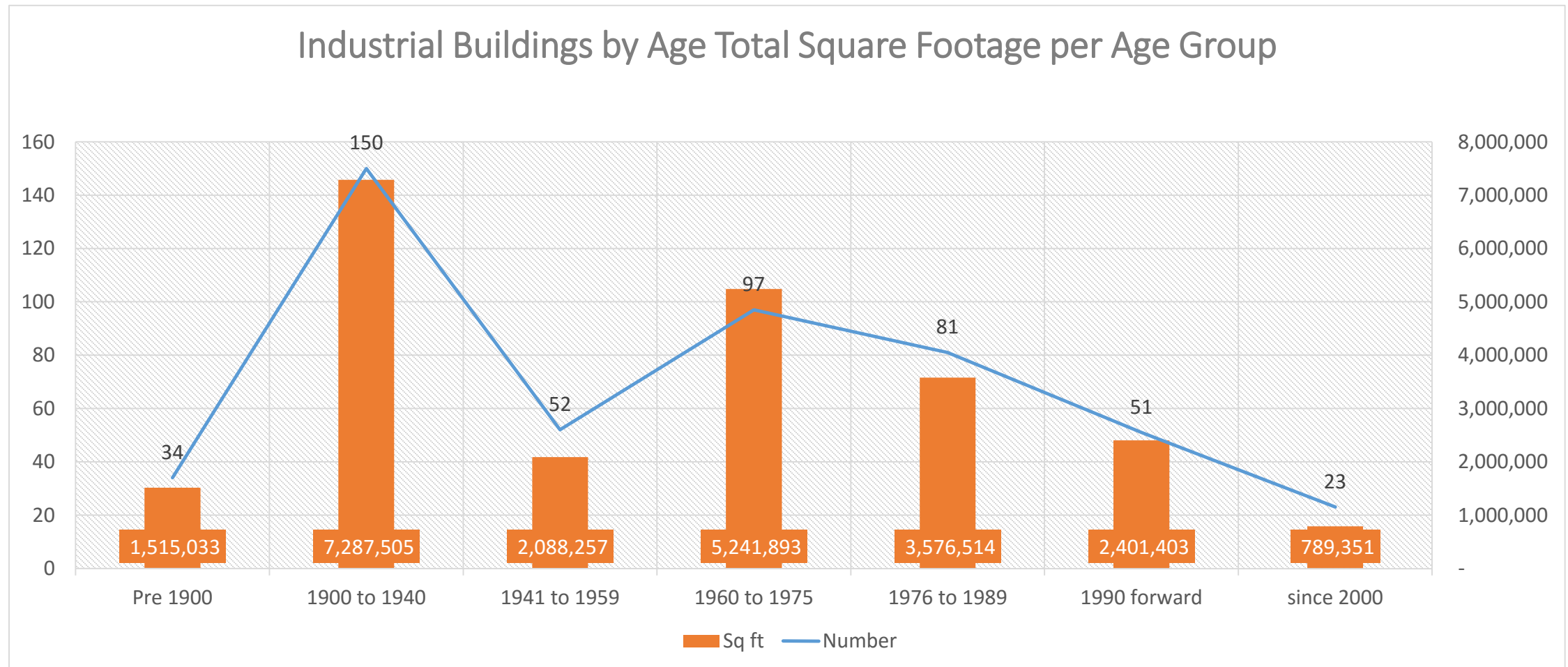
**Zoned or assessed
industrial land: 9700
acres**

Nearly all the current industrial parcels are under 5 acres



Industrial buildings total approximately 23msft

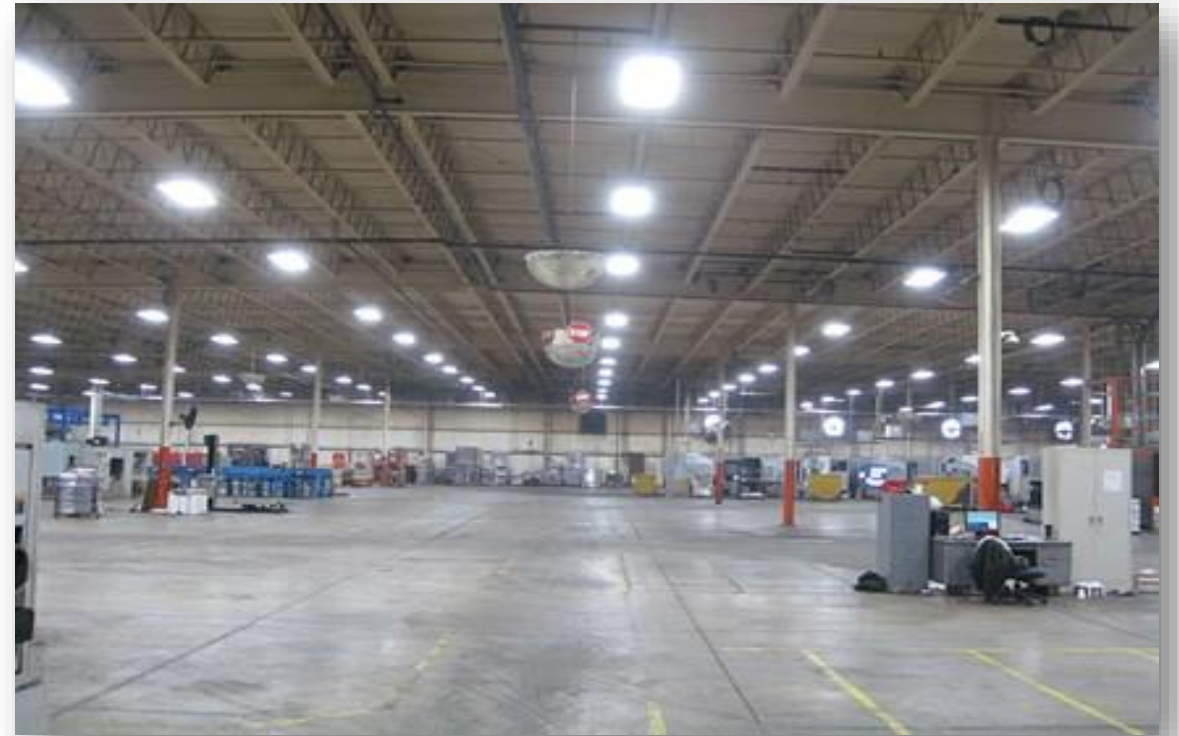
- 47% were built before 1960
- 3% since 2000



Why building age matters – an illustration

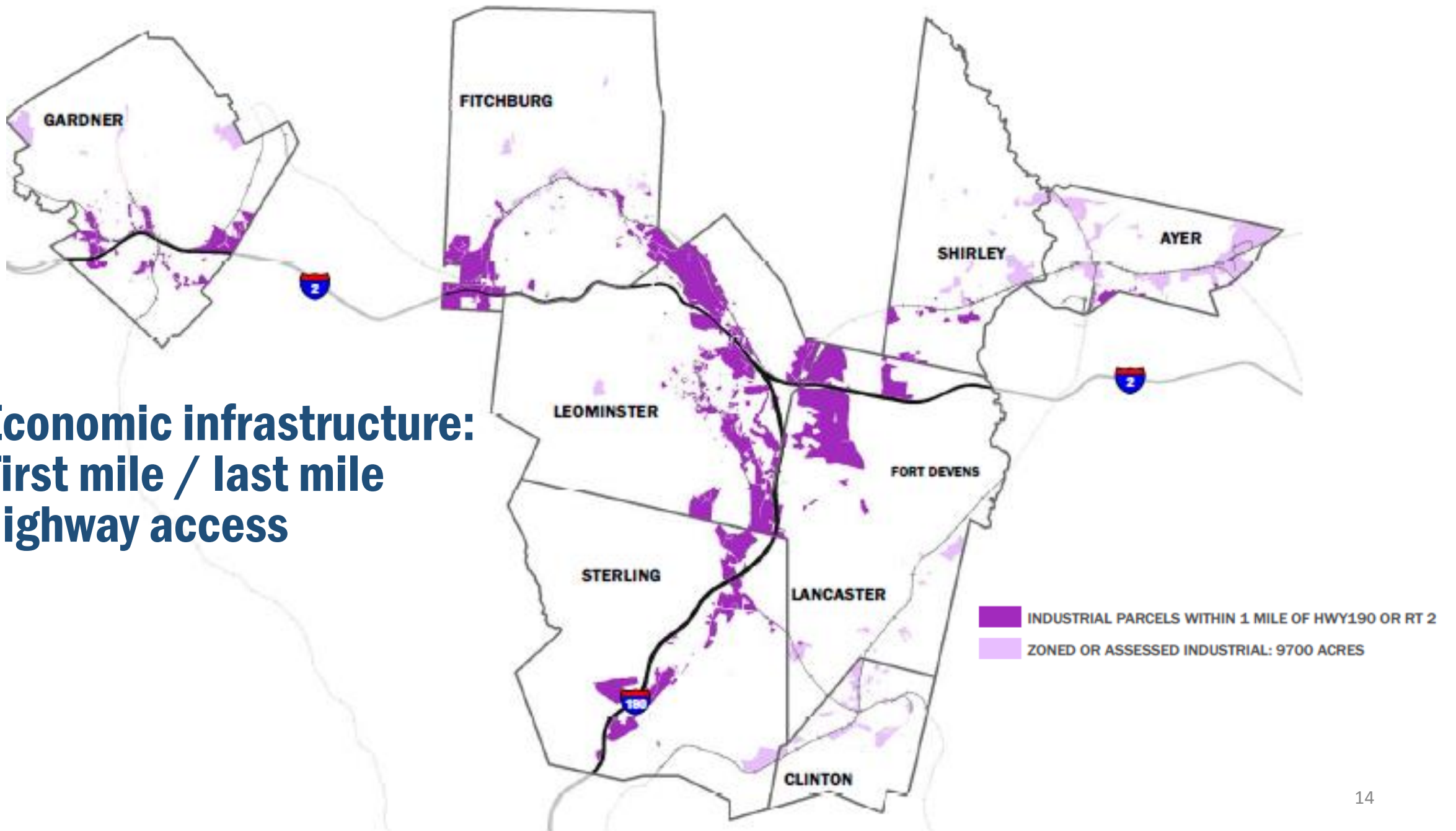


Old industrial building – notice column structure & ceiling clearance

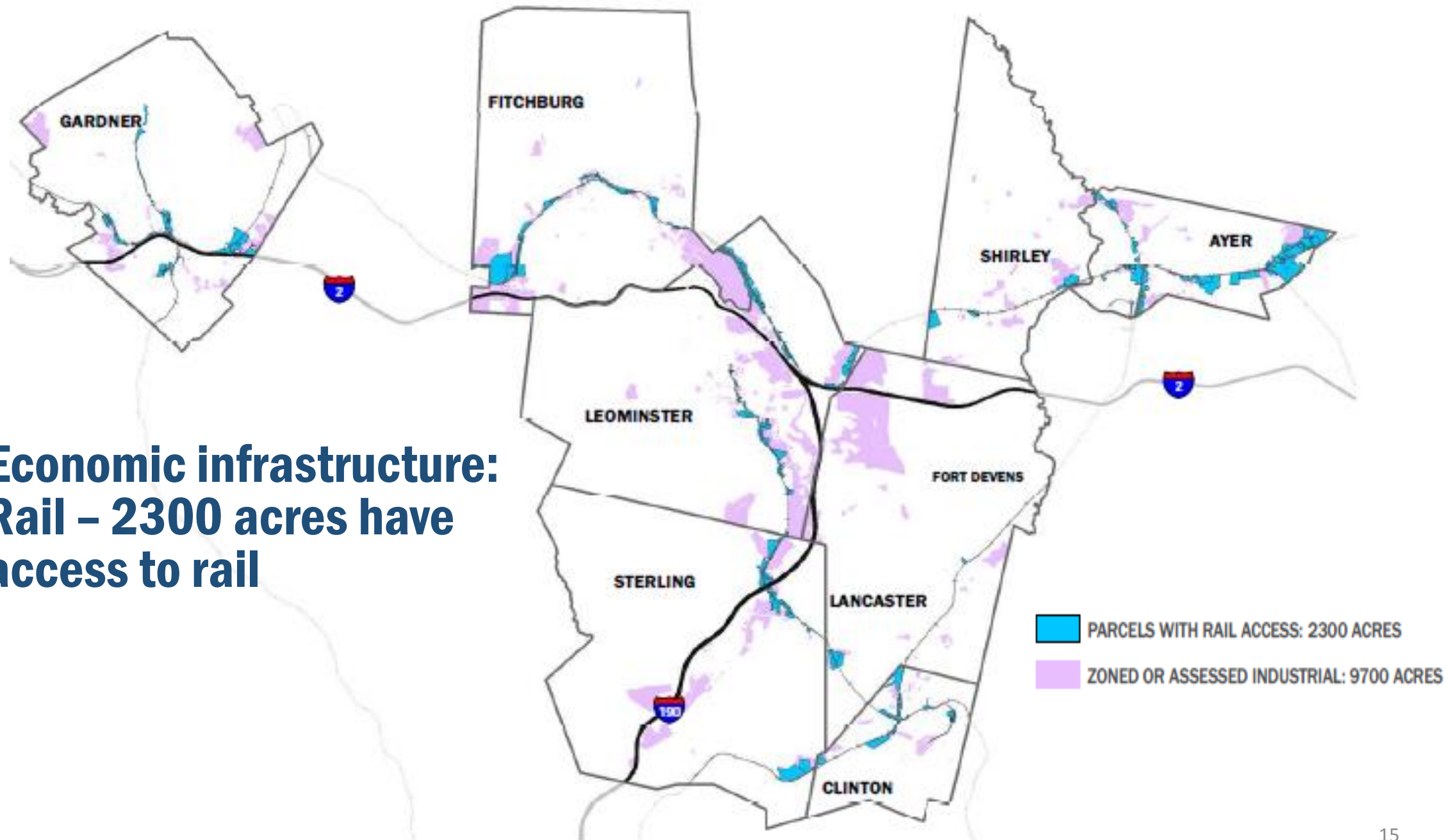


Modern high bay building – notice column structure & ceiling clearance

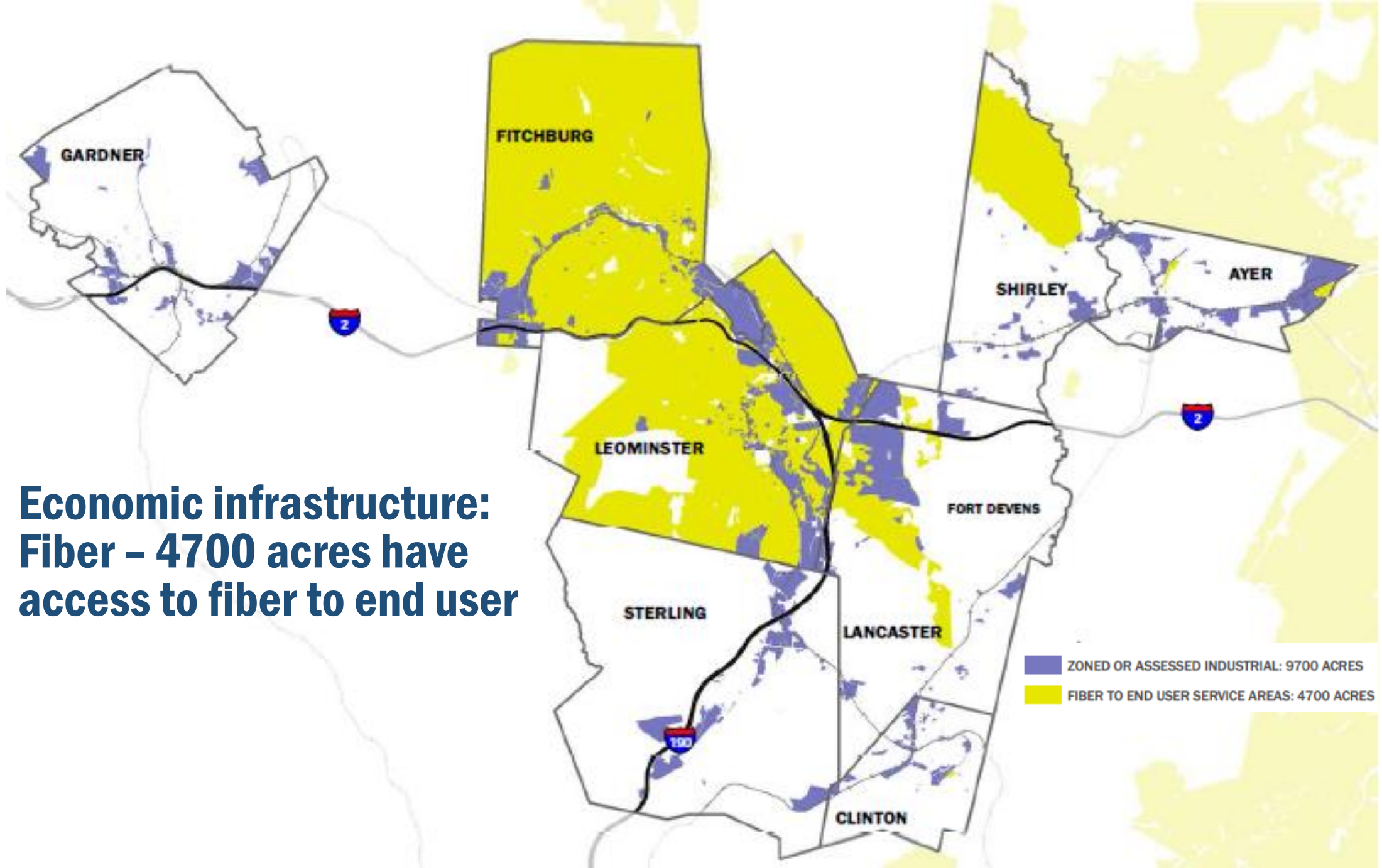
Economic infrastructure: First mile / last mile highway access



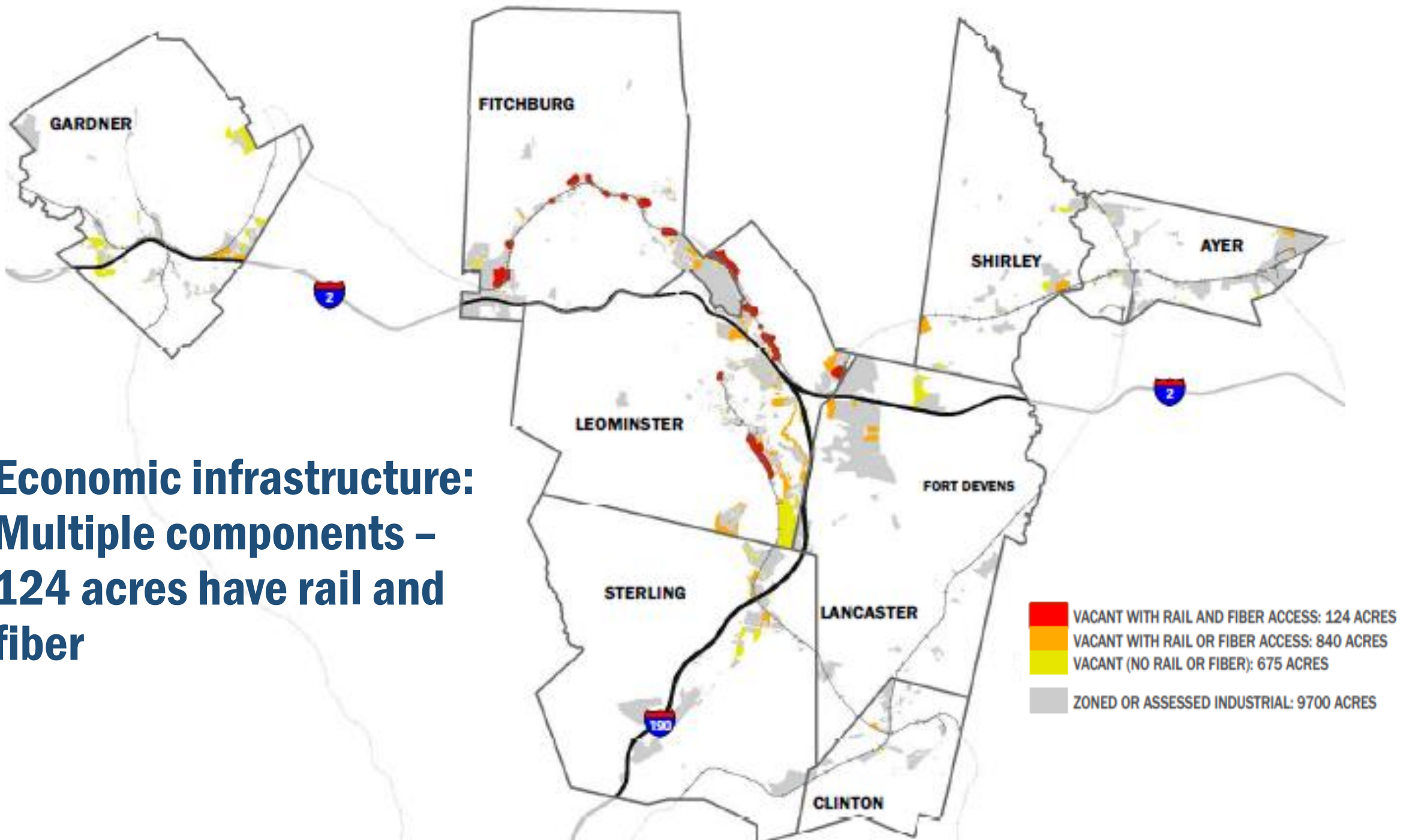
**Economic infrastructure:
Rail – 2300 acres have
access to rail**

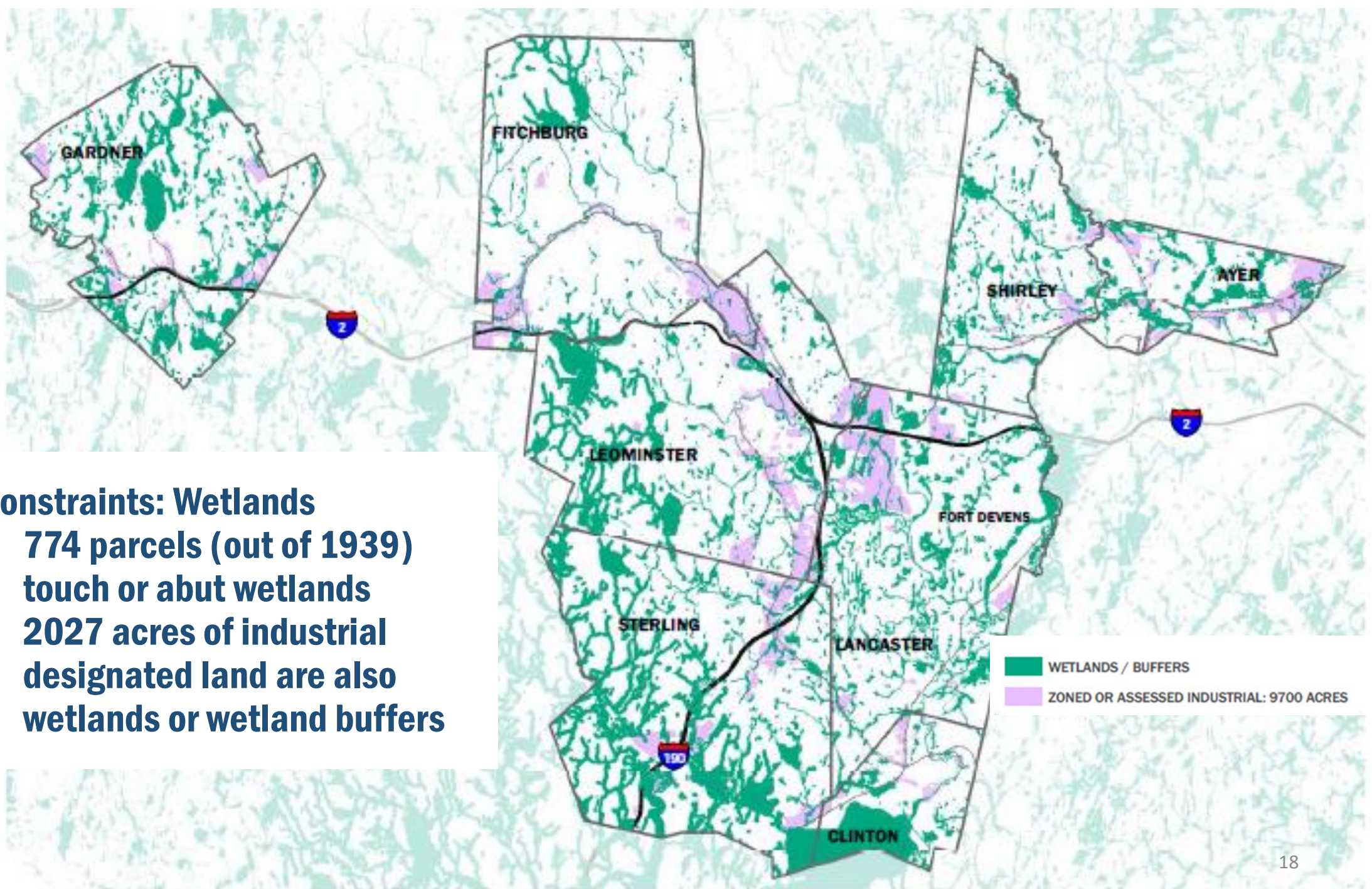


**Economic infrastructure:
Fiber – 4700 acres have
access to fiber to end user**



**Economic infrastructure:
Multiple components –
124 acres have rail and
fiber**



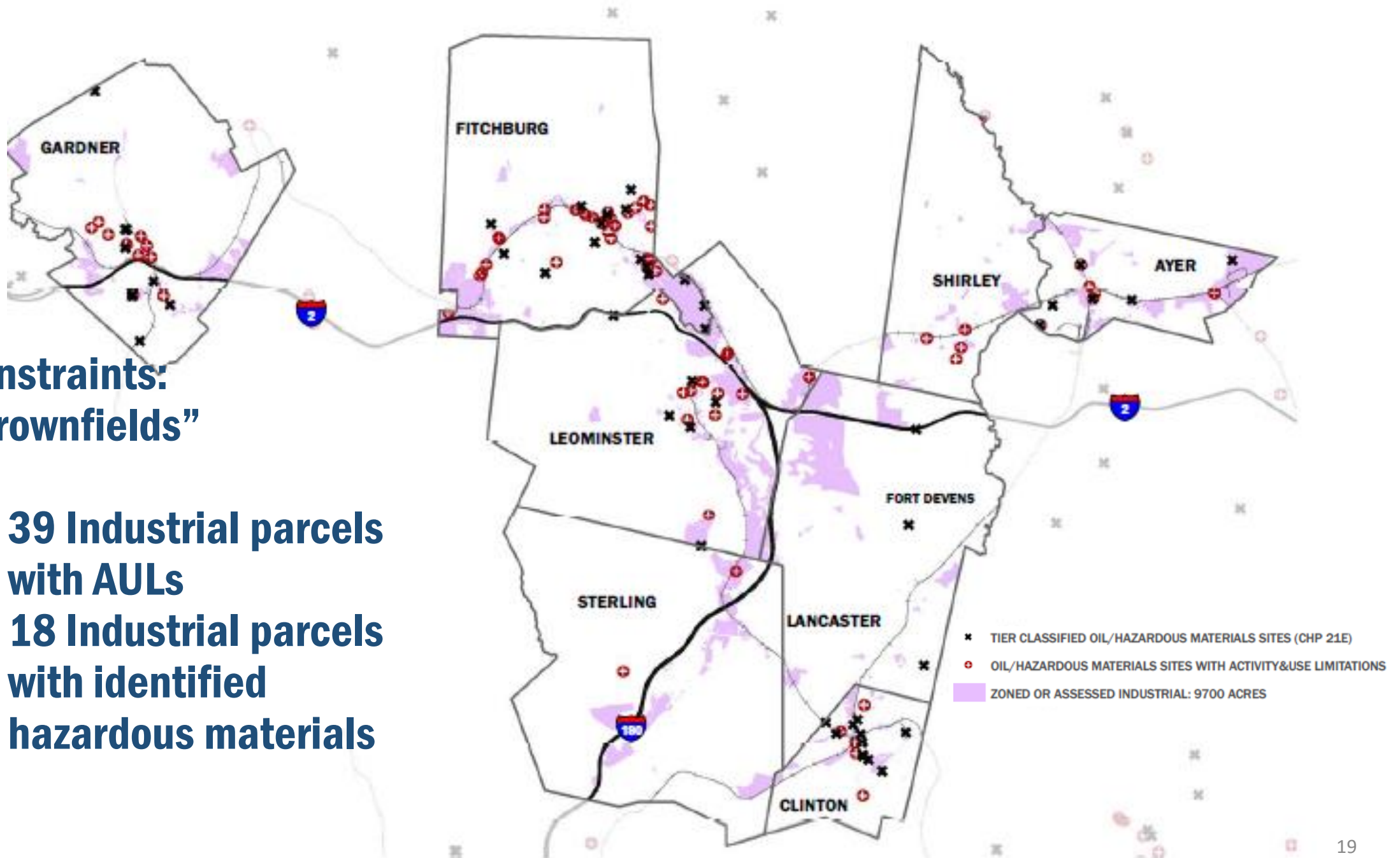


Constraints: Wetlands

- 774 parcels (out of 1939) touch or abut wetlands
- 2027 acres of industrial designated land are also wetlands or wetland buffers

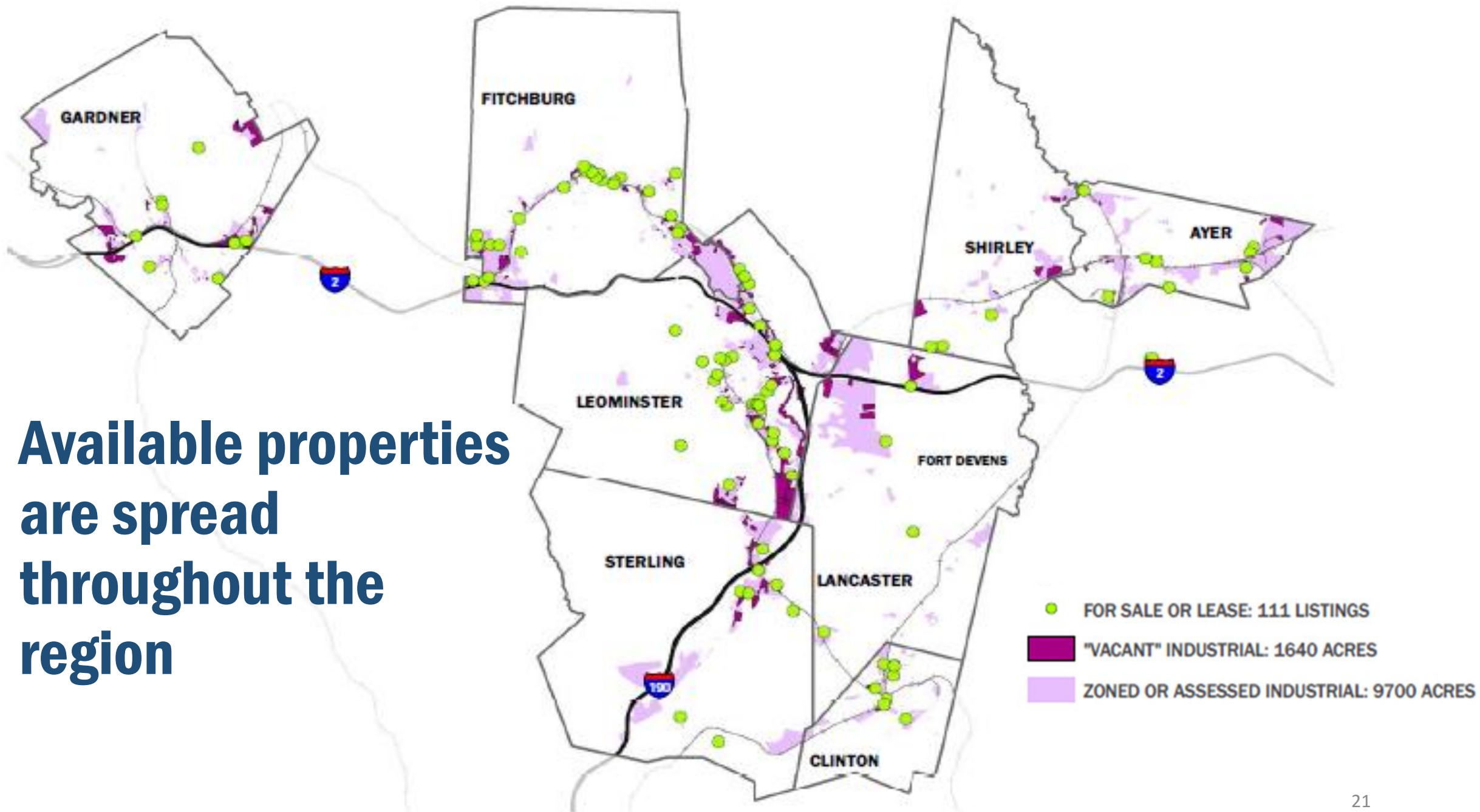
Constraints: “Brownfields”

- 39 Industrial parcels with AULs
- 18 Industrial parcels with identified hazardous materials

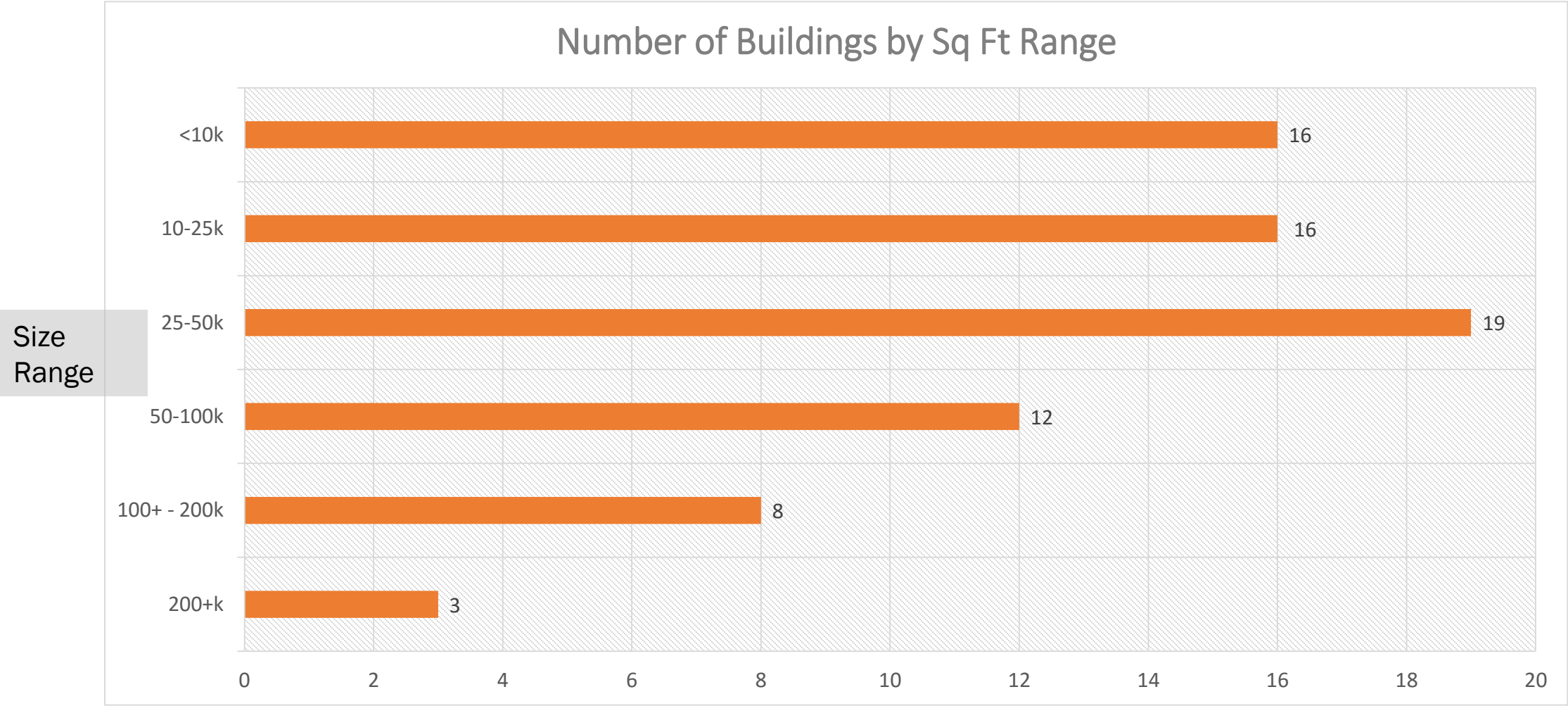


Land Availability

**Available properties
are spread
throughout the
region**

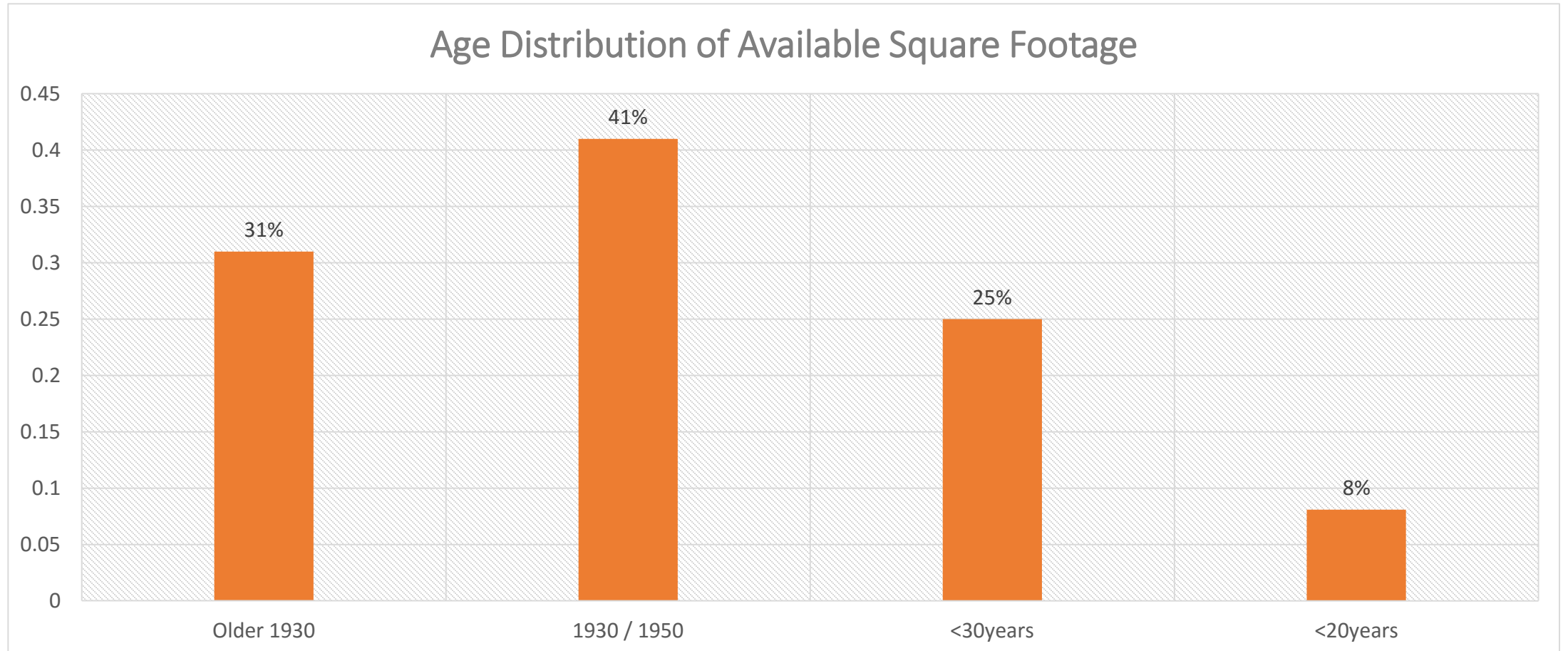


About 14% of existing capacity or 3.2msft of industrial space is available



Source: NP analysis of Co-Star data provided by MassDevelopment

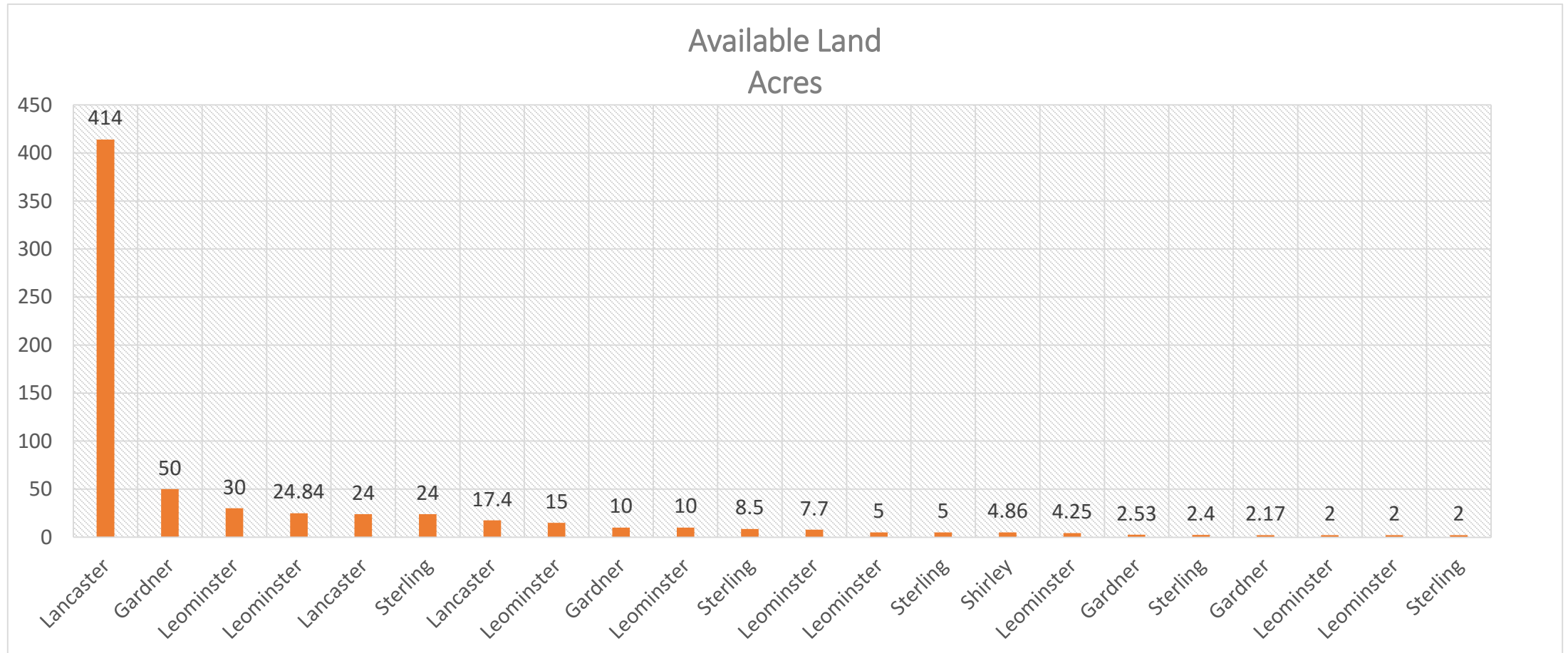
72% of available square footage is older than 1950



There are very few contemporary building options available

| Size | older 1930 | 1930/1950 | 1950/1980 | less than 30yrs | less than 20yrs |
|-------------|------------|-----------|-----------|-----------------|-----------------|
| 200+ | | | 2 | | 1 |
| 100+ – 200k | 2 | 1 | 2 | 1 | |
| 50-100 | 5 | 1 | 1 | 2 | 2 |
| 25-50k | 7 | 1 | 4 | 3 | 2 |
| 10-25k | 9 | 3 | 2 | 4 | 1 |
| >10k | 2 | 2 | 3 | 3 | 1 |

668 acres available at different levels of site readiness



Status / Readiness

- Level 1: Building at move-in quality
- Level 2: Building needs refurbishment, modifications, or final build-out
- Level 3: Building in place but requires substantial renovation or code upgrades (mill and older industrial buildings)
- Level 4: Developed “pad ready” site with full site approvals, site plans and infrastructure in place
- Level 5: Raw land, zoned industrial or office / industrial
- Level 6: Raw land not necessarily zoned but designated for future business use

| | |
|---------|--------------------------|
| Level 1 | 7 buildings |
| Level 2 | 67 |
| Level 3 | |
| Level 4 | 168 acres ^{ish} |
| Level 5 | 500 acres ^{ish} |
| Level 6 | UNKNWN |

- Only 12 buildings have ceiling heights above 20’
- 4 buildings over 20’ and these are primarily warehouses

Other estimates of readiness

- 2 sites meet ReadyMass requirements
 - Summit Industrial Park (land) owned by Gardner Redevelopment Authority – 30 acres – located in Gardner
 - Southgate Business Park (land) owned by J. Whitney Development – 60 acres – located in Leominster
- MassBio Ready Communities
 - Platinum: Leominster
 - Gold: Gardner
 - Bronze: Fitchburg

Industry Structure

North Central manufacturing by the numbers - 2014



227 companies

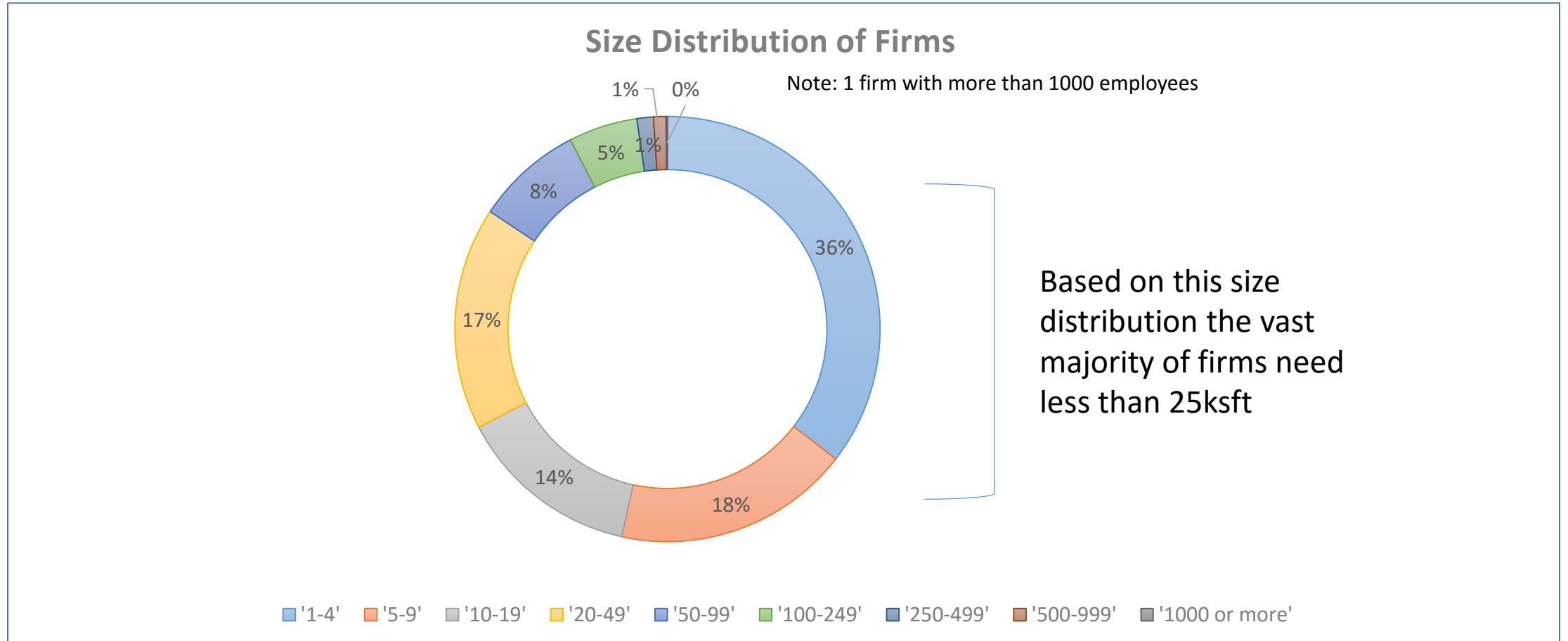


6100 jobs



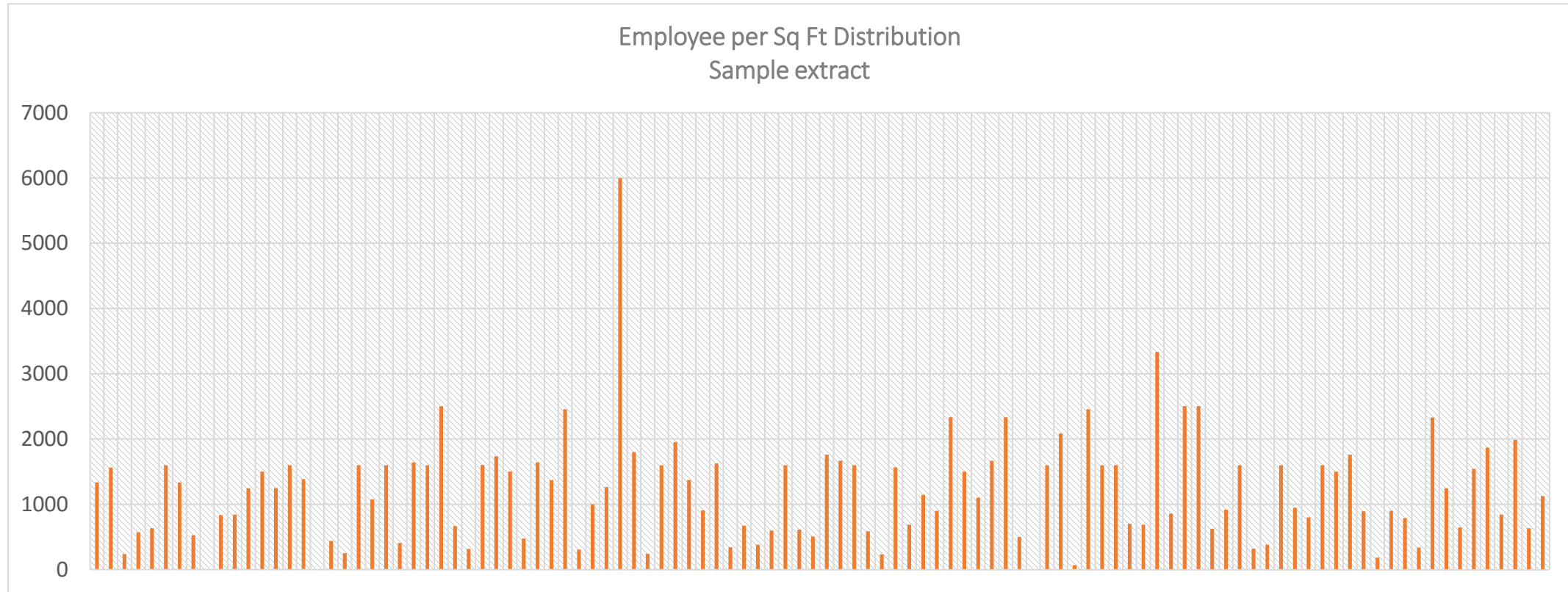
\$353m wages

54% of manufacturing firms in region are under 10 employees



In active industrial buildings, average sqft per employee is approximately 1240

- Based on present total employment level and estimated industrial square footage the average is 3770sqft per employee



Source: NP analysis of D&B company files based on 2014 data; D&B files provide estimated employees and estimated square footage

Performance indicators and industrial space demand

Three perspectives

- ▶ Firms = places needing space
- ▶ Employment = size of space needed
- ▶ Average firm size = Potential change in space requirements

Performance (cont)

Net New Firms 2010 - 2014

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Electronic Instrument Manufacturing | | 3 | 3 |
| Other Food Manufacturing | | 3 | 3 |
| Medical Equipment and Supplies Mfg | 3 | 5 | 2 |
| Metalworking Machinery Manufacturing | 11 | 13 | 2 |
| Architectural and Structural Metals | 8 | 9 | 1 |
| Converted Paper Product Manufacturing | 9 | 9 | 0 |
| Other Chemical Preparation Manufacturing | 8 | 8 | 0 |
| Other Electrical Equipment & Components | 5 | 5 | 0 |
| Other Miscellaneous Manufacturing | 7 | 7 | 0 |
| Plastics Product Manufacturing | 38 | 38 | 0 |
| Pulp, Paper, and Paperboard Mills | 5 | 5 | 0 |

Performance (cont)

Net Job Adds 2010 - 2014

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Other Food Manufacturing | | 89 | 89 |
| Electronic Instrument Manufacturing | | 77 | 77 |
| Plastics Product Manufacturing | 1414 | 1464 | 50 |
| Other Chemical Preparation Manufacturing | 340 | 370 | 30 |
| Medical Equipment and Supplies Mfg | 9 | 27 | 18 |
| Cement & Concrete Product Manufacturing | 74 | 87 | 13 |
| Other General Purpose Machinery Mfg | 98 | 107 | 9 |
| Metalworking Machinery Manufacturing | 164 | 167 | 3 |
| Other Electrical Equipment & Components | 140 | 143 | 3 |
| Other Miscellaneous Manufacturing | 39 | 40 | 1 |

Performance (cont)

Change in Average Firm Size 2010 - 2014

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Other Food Manufacturing | | 29.7 | 29.7 |
| Electronic Instrument Manufacturing | | 25.7 | 25.7 |
| Other General Purpose Machinery Mfg | 24.5 | 35.7 | 11.2 |
| Cement & Concrete Product Manufacturing | 10.6 | 14.5 | 3.9 |
| Other Chemical Preparation Manufacturing | 42.5 | 46.3 | 3.8 |
| Resin, Rubber, and Synthetic Fibers | 31.8 | 35.0 | 3.2 |
| Printing and Related Support Activities | 29.3 | 31.9 | 2.5 |
| Medical Equipment and Supplies Mfg | 3.0 | 5.4 | 2.4 |
| Office Furniture and Fixtures Mfg | 20.8 | 23.0 | 2.2 |
| Plastics Product Manufacturing | 37.2 | 38.5 | 1.3 |
| Household and Institutional Furniture | 13.7 | 14.6 | 0.9 |
| Other Electrical Equipment & Components | 28.0 | 28.6 | 0.6 |
| Machine Shops and Threaded Products | 5.9 | 6.3 | 0.4 |
| Other Miscellaneous Manufacturing | 5.6 | 5.7 | 0.1 |

Comparison to State – Net Change in Firms

North Central – Change in Firms

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Electronic Instrument Manufacturing | | 3 | 3 |
| Other Food Manufacturing | | 3 | 3 |
| Medical Equipment and Supplies Mfg | 3 | 5 | 2 |
| Metalworking Machinery Manufacturing | 11 | 13 | 2 |
| Architectural and Structural Metals | 8 | 9 | 1 |
| Converted Paper Product Manufacturing | 9 | 9 | 0 |
| Other Chemical Preparation Manufacturing | 8 | 8 | 0 |
| Other Electrical Equipment & Components | 5 | 5 | 0 |
| Other Miscellaneous Manufacturing | 7 | 7 | 0 |
| Plastics Product Manufacturing | 38 | 38 | 0 |
| Pulp, Paper, and Paperboard Mills | 5 | 5 | 0 |

State – Change in Firms

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Beverage Manufacturing | 58 | 86 | 28 |
| Bakeries and Tortilla Manufacturing | 398 | 420 | 22 |
| Other Wood Product Manufacturing | 152 | 164 | 12 |
| Accessories and Other Apparel Mfg | 11 | 21 | 10 |
| Other Fabricated Metal Product Mfg | 94 | 104 | 10 |
| Other Food Manufacturing | 76 | 86 | 10 |
| Communications Equipment Manufacturing | 56 | 65 | 9 |
| Ag., Construction, and Mining Machinery | 6 | 13 | 7 |
| Commercial & Service Industry Machinery | 68 | 75 | 7 |
| Electronic Instrument Manufacturing | 357 | 363 | 6 |
| Leather and Hide Tanning and Finishing | | 6 | 6 |
| Dairy Product Manufacturing | 25 | 30 | 5 |
| Other Electrical Equipment & Components | 89 | 94 | 5 |
| Fruit, Vegetable, & Specialty Foods Mfg | 28 | 32 | 4 |
| Pharmaceutical & Medicine Manufacturing | 82 | 86 | 4 |
| Animal Food Manufacturing | 3 | 5 | 2 |
| Motor Vehicle Body and Trailer Mfg | 15 | 17 | 2 |
| Petroleum & Coal Products Manufacturing | 40 | 42 | 2 |
| Aerospace Product & Parts Manufacturing | 33 | 34 | 1 |
| Cleaning Compound and Toiletry Mfg | 35 | 36 | 1 |
| Other Leather Product Manufacturing | 19 | 20 | 1 |
| Other Transportation Equipment Mfg | 7 | 8 | 1 |
| Paint, Coating, & Adhesive Manufacturing | 53 | 54 | 1 |

Comparison to State – Net Change in Employment

North Central – Change in Employment

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Other Food Manufacturing | | 89 | 89 |
| Electronic Instrument Manufacturing | | 77 | 77 |
| Plastics Product Manufacturing | 1414 | 1464 | 50 |
| Other Chemical Preparation Manufacturing | 340 | 370 | 30 |
| Medical Equipment and Supplies Mfg | 9 | 27 | 18 |
| Cement & Concrete Product Manufacturing | 74 | 87 | 13 |
| Other General Purpose Machinery Mfg | 98 | 107 | 9 |
| Metalworking Machinery Manufacturing | 164 | 167 | 3 |
| Other Electrical Equipment & Components | 140 | 143 | 3 |
| Other Miscellaneous Manufacturing | 39 | 40 | 1 |

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Bakeries and Tortilla Manufacturing | 9356 | 11488 | 2132 |
| Other Fabricated Metal Product Mfg | 4183 | 5276 | 1093 |
| Pharmaceutical & Medicine Manufacturing | 9136 | 10075 | 939 |
| Other Electrical Equipment & Components | 3241 | 4056 | 815 |
| Machine Shops and Threaded Products | 9963 | 10716 | 753 |
| Beverage Manufacturing | 2578 | 3130 | 552 |
| Other Food Manufacturing | 3138 | 3626 | 488 |
| Coating, Engraving & Heat Treating Metal | 3945 | 4239 | 294 |
| Other General Purpose Machinery Mfg | 3923 | 4190 | 267 |
| Purchased Steel Product Manufacturing | 687 | 937 | 250 |
| Other Wood Product Manufacturing | 1789 | 2020 | 231 |
| Boilers, Tanks, and Shipping Containers | 926 | 1151 | 225 |
| Fruit, Vegetable, & Specialty Foods Mfg | 1775 | 1946 | 171 |
| Ag., Construction, and Mining Machinery | 55 | 212 | 157 |
| Computers and Peripheral Equipment | 12253 | 12403 | 150 |
| Cut and Sew Apparel Manufacturing | 2129 | 2278 | 149 |
| Architectural and Structural Metals | 4894 | 5038 | 144 |
| Footwear Manufacturing | 1135 | 1267 | 132 |
| Office Furniture and Fixtures Mfg | 1696 | 1828 | 132 |
| HVAC and Commercial Refrigeration Equip | 1045 | 1171 | 126 |
| Other Nonmetallic Mineral Products | 1390 | 1506 | 116 |
| Forging and Stamping | 1857 | 1967 | 110 |
| Industrial Machinery Manufacturing | 4011 | 4116 | 105 |

Comparison to State – Net Change in Average Firm Size

| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|--|-------|-------|------------|
| Other Food Manufacturing | | 29.7 | 29.7 |
| Electronic Instrument Manufacturing | | 25.7 | 25.7 |
| Other General Purpose Machinery Mfg | 24.5 | 35.7 | 11.2 |
| Cement & Concrete Product Manufacturing | 10.6 | 14.5 | 3.9 |
| Other Chemical Preparation Manufacturing | 42.5 | 46.3 | 3.8 |
| Resin, Rubber, and Synthetic Fibers | 31.8 | 35.0 | 3.2 |
| Printing and Related Support Activities | 29.3 | 31.9 | 2.5 |
| Medical Equipment and Supplies Mfg | 3.0 | 5.4 | 2.4 |
| Office Furniture and Fixtures Mfg | 20.8 | 23.0 | 2.2 |
| Plastics Product Manufacturing | 37.2 | 38.5 | 1.3 |
| Household and Institutional Furniture | 13.7 | 14.6 | 0.9 |
| Other Electrical Equipment & Components | 28.0 | 28.6 | 0.6 |
| Machine Shops and Threaded Products | 5.9 | 6.3 | 0.4 |
| Other Miscellaneous Manufacturing | 5.6 | 5.7 | 0.1 |

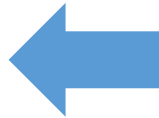
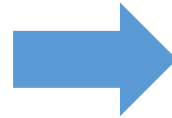
| Industry Type | YR 10 | Yr 14 | DIFF 14-10 |
|---|-------|-------|------------|
| Computers and Peripheral Equipment | 165.6 | 243.2 | 77.6 |
| Footwear Manufacturing | 113.5 | 140.8 | 27.3 |
| Purchased Steel Product Manufacturing | 36.2 | 52.1 | 15.9 |
| Boilers, Tanks, and Shipping Containers | 38.6 | 50.0 | 11.5 |
| Resin, Rubber, and Synthetic Fibers | 57.2 | 68.5 | 11.3 |
| Grain and Oilseed Milling | 43.9 | 54.9 | 11.0 |
| Leather and Hide Tanning and Finishing | | 10.3 | 10.3 |
| Household Appliance Manufacturing | 62.0 | 70.5 | 8.5 |
| Spring and Wire Product Manufacturing | 17.6 | 25.0 | 7.4 |
| Cut and Sew Apparel Manufacturing | 26.3 | 33.5 | 7.2 |
| Ag., Construction, and Mining Machinery | 9.2 | 16.3 | 7.1 |
| Animal Food Manufacturing | 3.3 | 10.4 | 7.1 |
| Other Electrical Equipment & Components | 36.4 | 43.1 | 6.7 |
| HVAC and Commercial Refrigeration Equip | 32.7 | 39.0 | 6.4 |
| Other Fabricated Metal Product Mfg | 44.5 | 50.7 | 6.2 |
| Clay Product & Refractory Manufacturing | 27.2 | 33.1 | 5.9 |
| Pharmaceutical & Medicine Manufacturing | 111.4 | 117.2 | 5.7 |

Takeaways

Takeaways

Challenges

- The age of the industrial physical plant and its capabilities is a concern and potential limiting factor for attraction, retention or expansion
- High quality sites are limited and most existing sites are fairly small
- The age & limitations of these facilities is not a major inhibitor at early stages of company development but can become so for those companies as they grow in scale
 - Distribution and warehousing
 - Production technology
- Other identified issues outside scope of this study such as aging workforce and “skill” level of younger workforce (RTI study)



Opportunities

- “Food” manufacturing, apparel and related supply chain, woodworking, electronic hardware, and biopharmaceuticals represents a growth opportunity
- Direction and strength of “inside 495” industrial and warehousing market
- Employment growth & increasing firm size in some key local industries creates an opportunity but also a challenge

Level 4 Pad Ready Site Example



AInylam



12 acre site
\$200m facility

Questions & Comments