

# **Industrial Real Estate Development Market**

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# Topics in Industrial Real Estate

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1. Expansion into Emerging Global Markets
2. Inland Ports and Distribution
3. Trends in Building Design
4. Sustainability
5. Site Selection



# 1. Expansion into Emerging Global Markets

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- ▶ Major retailers expanding footprint to new global markets creating domestic distribution needs.
- ▶ Export based consolidation and distribution centers
- ▶ Emerging markets and emerging strategies drive flexible solutions
  - ▶ China
  - ▶ India
  - ▶ Mexico
  - ▶ Brazil
  - ▶ Chile
  - ▶ Eastern Europe



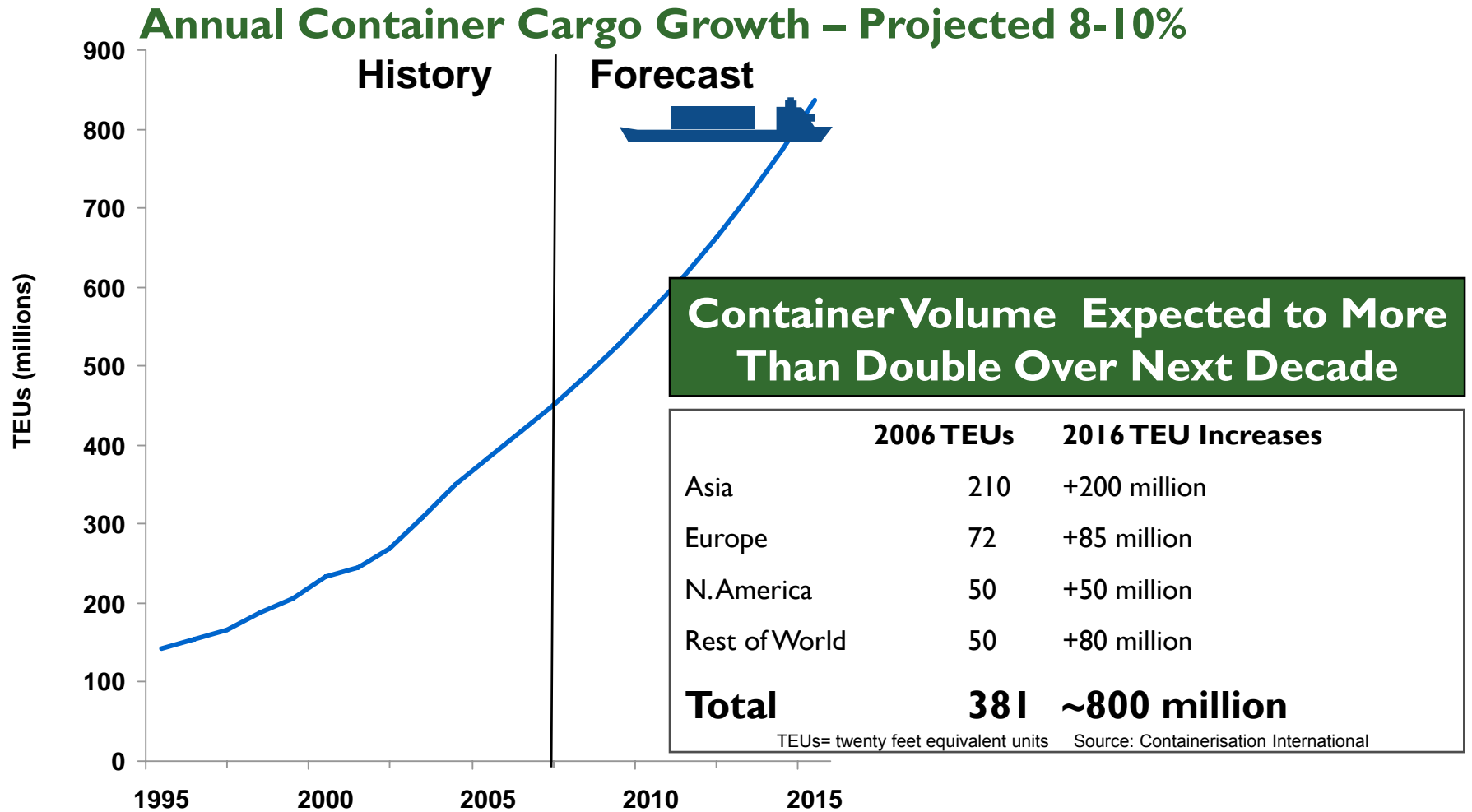
## 2. Inland Ports and Distribution

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- ▶ The growth drivers for Inland Ports
- ▶ Key benefits of Inland Ports
- ▶ Locations – now and future

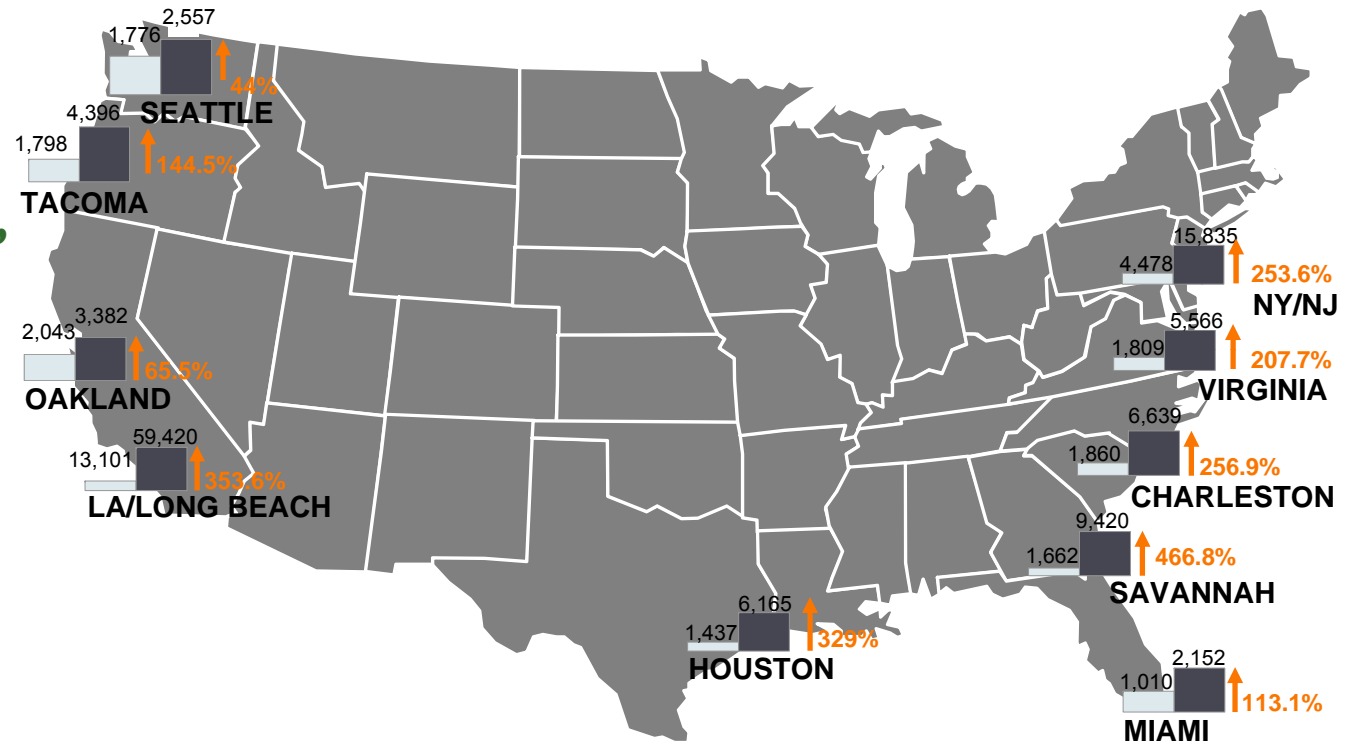


## 2. Inland Ports and Distribution Macro Drivers and Trends



## 2. Inland Ports and Distribution Infrastructure Challenges

- ▶ Container imports are expected to double by 2020
- ▶ From 1970 to 2003, vehicle travel on highways rose by 161% but road mileage only increased by 6%
- ▶ Congestion costs US\$ 63 billion in wasted time & fuel
- ▶ Rail freight tonnage is expected to increase by 50% by 2020

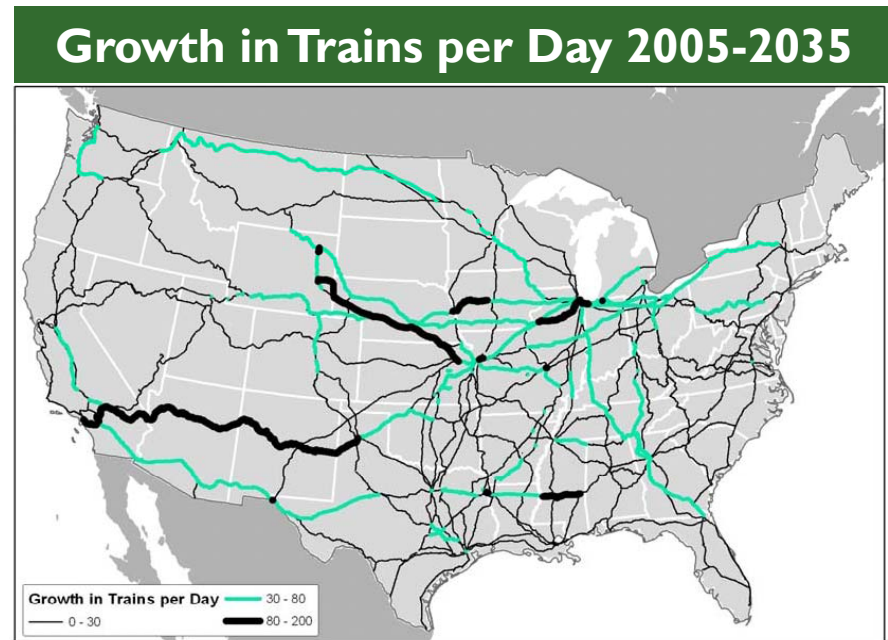


2004 Volumes ('000 TEUs)  
 2020 Volumes ('000 TEUs)



## 2. Inland Ports and Distribution Rail Investment & Capacity

- ▶ Rail industry invested \$9 bil in 2007 in improvements and expansion – Up from \$5.7 bil in 2002
- ▶ 2035 expected volumes represent an increase of at least 30-80 trains per day and up to 80-200 trains per day on main corridors from USWC
- ▶ Cost of improvements needed to accommodate expected 2035 demand estimated at \$148 bil – Class I share being \$135 bil

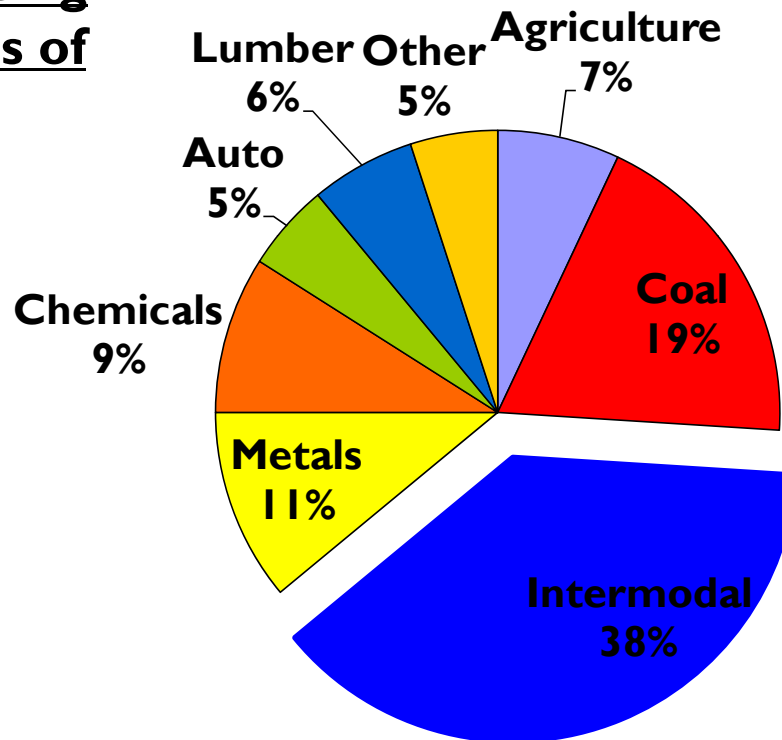


Source: Cambridge Systematics, Inc.

## 2. Inland Ports and Distribution

### Commodity Mix for Class I Railroads

Seven key commodities,  
with Intermodal being  
the largest in terms of  
volume



#### Class I Railroads

- Burlington Northern SantaFe
- Union Pacific
- Norfolk Southern
- CSX
- Canadian National
- Canadian Pacific



## 2. Inland Ports and Distribution Sustainability & Security Programs

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- ▶ **TWIC**
  - ▶ Requires background checks, including proof of legal residency.
  - ▶ Estimated 22% will not apply for TWIC card implemented
- ▶ **Clean Air Action Plan - Environmental Cargo Fee**
  - ▶ \$35/TEU effective 6/2008 - Expected to raise \$1.6 billion
  - ▶ \$15/TEU effective 1/2009 - Expected to raise \$1.4 billion
- ▶ **Clean Trucks Program**
  - ▶ Reduce pollution by banning old trucks in phases – all trucks meeting fed standards by 2012
  - ▶ Harbor trucking only by specially licensed firms with own drivers
  - ▶ Modern trucks cost \$100,000+ - ports will subsidize up to 80%
  - ▶ Cost of retiring old trucks is estimated at \$2 billion



## 2. Inland Ports and Distribution

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- ▶ A single double stack train equals the capacity of 750 trucks
- ▶ The railroad is 2-4 times more fuel efficient on a metric ton basis than trucks
- ▶ Rail is 2-3 times cleaner than trucks on a metric ton basis



## 2. Inland Ports and Distribution

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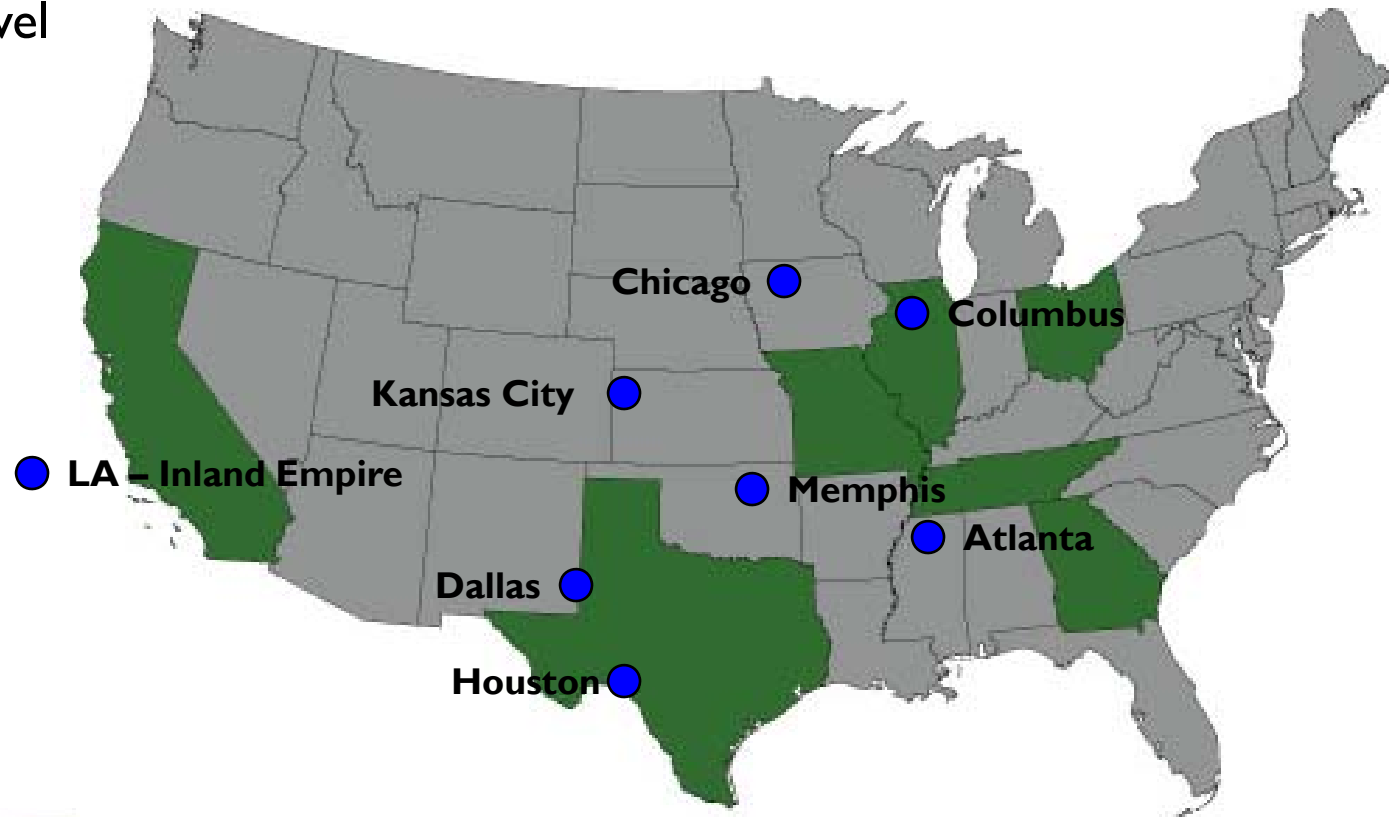
- ▶ Growth of Integrated Logistics Parks
  - ▶ Most successful where Intermodal capability combines with a strong distribution location
- ▶ Benefits
  - ▶ Customers
    - ▶ Lower dray costs, reduced demurrage, value-added services (FTZ)
  - ▶ Railroads & Ocean Carriers
    - ▶ Improved equipment management
    - ▶ Ability to expand business as import volumes expand
  - ▶ Communities
    - ▶ Less traffic and reduced emissions at the ports
    - ▶ Fluid global trade benefits consumers



## 2. Inland Ports and Distribution

### Key Rail Hubs within the US

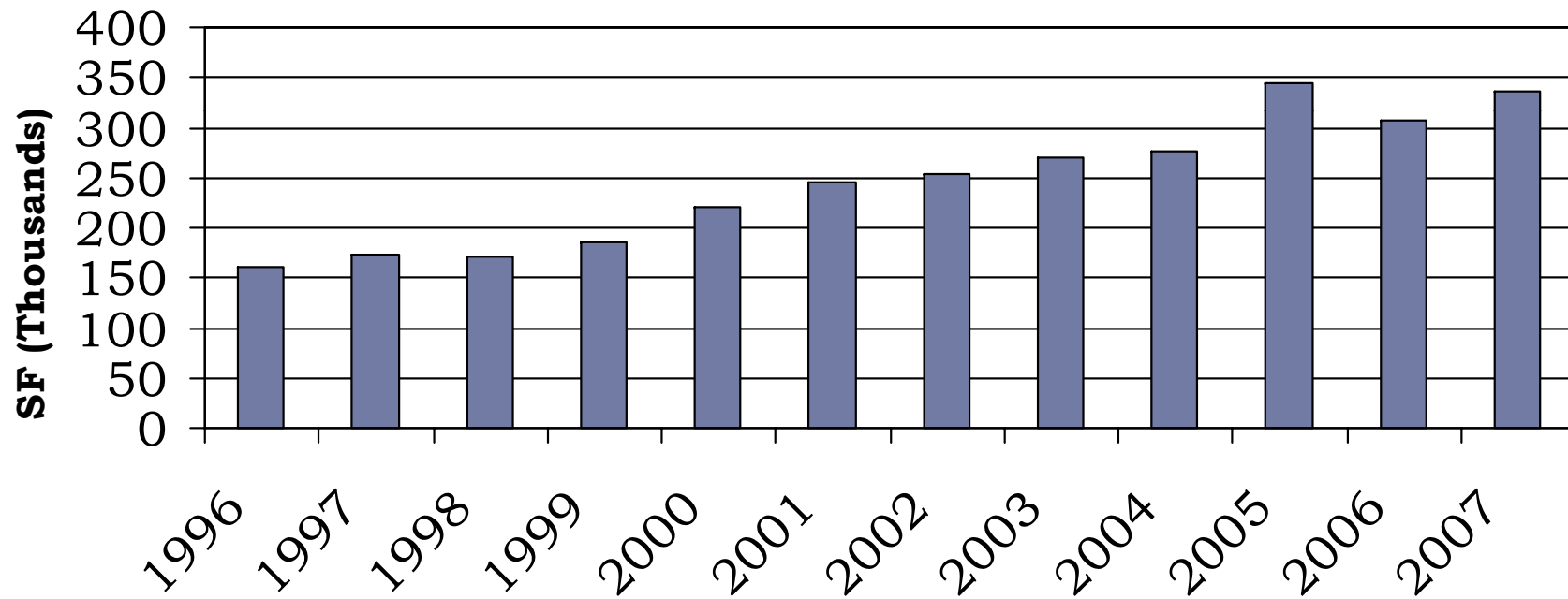
**Key Rail Hubs:** A major intermodal terminal that is served by multiple rail lines in which trailers/containers are either grounded for highway delivery or reswitched by grounding or transferring to another railroad ramp and then reloaded for further rail travel



### 3. Trends in Building Design

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**Average Building Size**



Source: ProLogis analysis



### 3. Trends in Building Design (cont.)

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- ▶ Increasing Clear Height
  - ▶ 1995 = 24'      2008 = 32'+
- ▶ Column Spacing
  - ▶ 1995 = 40' x 40'    2008 = 50' x 50'
- ▶ More Trailer Parking
  - ▶ Traditionally 1 space per 10k sf, now 2-3x for some buildings
- ▶ Reduced Demand for Rail Served Facilities
  - ▶ Access to intermodal is increasingly important
- ▶ Shift to fluorescent lighting and other sustainable elements



## 4. Sustainability

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- ▶ Lighting Upgrades
- ▶ LEED Certification
- ▶ Renewable Energy



# Lighting Upgrades

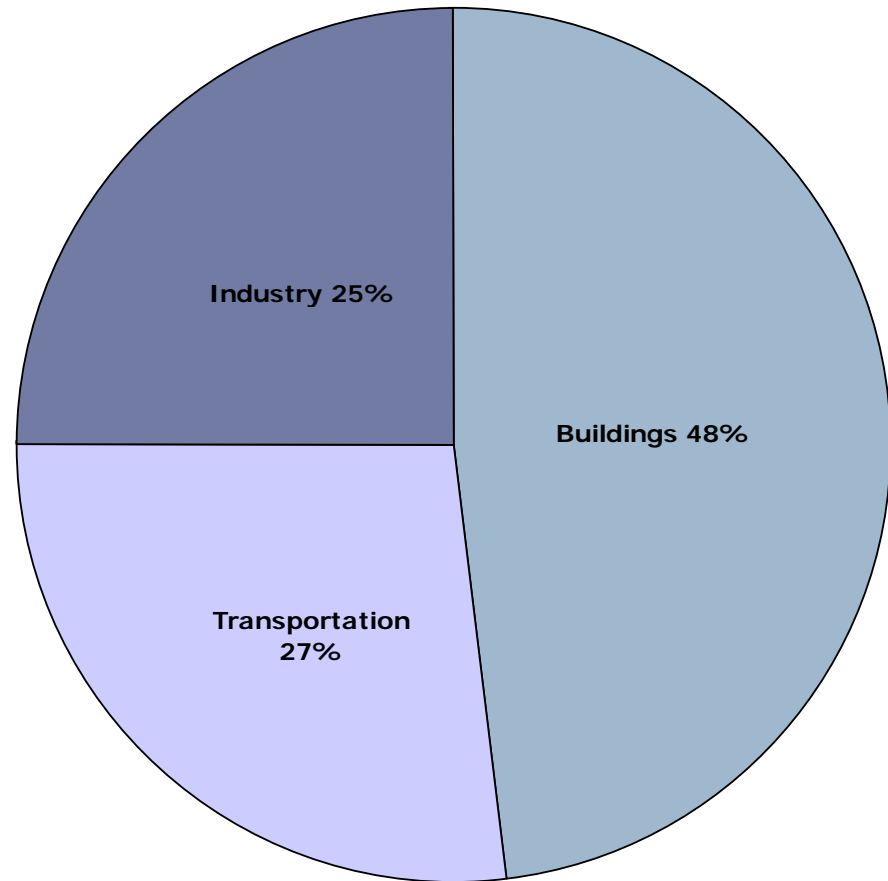


# CO2 Emissions by Sector

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**“Buildings are the largest source of both energy consumption and greenhouse gas emissions in America as well as around the world.”**

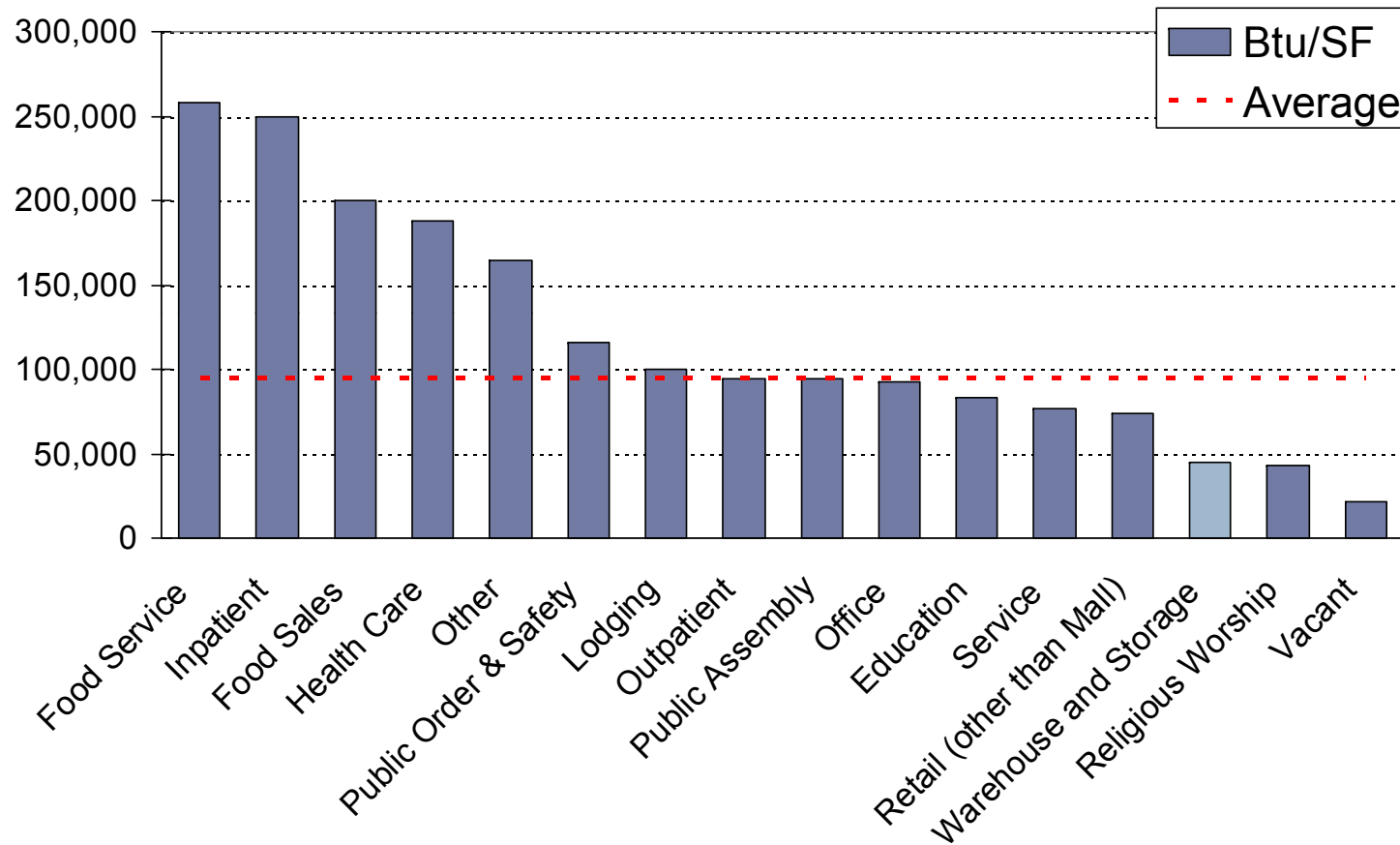
- The American Institute of Architects



Data Source: AIA & EIA data



# Total Energy Consumption by Principal Building Activity



Data Source: EIA's 2003 Commercial Buildings Energy Consumption Survey



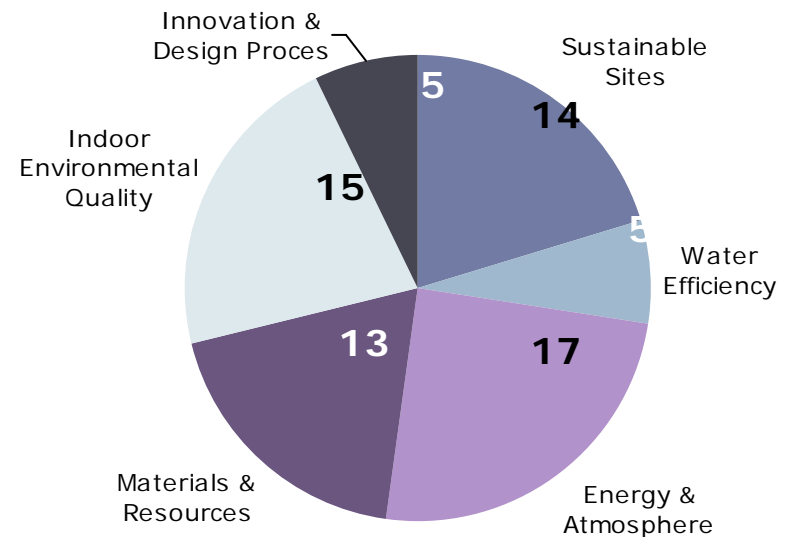
# LEED Certification

## Leadership in Energy & Environmental Design

- Nationally accepted benchmark for the design, construction, and operation of high performance green buildings
- Developed by the U.S. Green Building Council
- Predominantly a U.S. based rating system
- Standards tailored to a variety of building types

Data Source: USGBC website ([www.usgbc.org](http://www.usgbc.org))

### Possible LEED Points by Category



# LEED Construction Items

## Sustainable Site:



**White Roof**  
**Credit 7.2 – Reduction of Roof Heat Island Effect**  
 White TPO reduces the heat island effect and cooling costs.



**“Dark Sky” Approved Light fixtures**  
**Credit 8 – Light Pollution Reduction**  
 Special exterior light fixtures completely eliminate light pollution.



**Hybrid Vehicle Parking Spaces:**  
**Credit 4.1 Alternative Transportation:**  
 17 Hybrid vehicle signs encourage use of fuel efficient vehicles.



**Carpool Vehicle Parking Spaces**  
**Credit 4.3 Alternative Transportation:**  
 10 Carpool signs installed at preferred spaces encourage ride sharing.

## Water Efficiency:



**Captured Rainwater Used for Irrigation**  
**Credits 1.1 & 1.2 – No Potable water used for irrigation**  
 Saves millions of gallons of water annually.



**Waterless Urinal & Motion Sensors on Sinks**  
**Credits 3.1 and 3.2 – Water Use Reduction**  
 Fixtures reduce potable water consumption by 30%.

## Energy & Atmosphere:



**Zero CFC's Used in Office A/C units**  
**Prerequisite for Leed Certification**  
 AC units selected for the office area utilize CFC-free refrigerant



**Energy Efficient Insulation and Lighting**  
**Credits 1 – Optimize Energy Performance**  
 Extra roof insulation and motion activated T-5 lights make Etna 3 70% more efficient than required by the Energy Code.

## Materials & Resources:



**Onsite Recycling**  
**Prerequisite for Leed Certification**  
 On site recycling bins will be provided.



**Recycled Building Materials**  
**Credits 4.1 & 4.2**  
 Building materials used contain over 20% post-consumer recycled materials.



**Regionally Manufactured Building Materials**  
**Credits 5.1 & 5.2**  
 Many building materials were made within 500 miles of the job site.



**Forest Stewardship Council Certified Wood**  
**Credit 6**  
 Wood used was harvested in accordance with FSC's sustainability principles.

## Indoor Environmental Quality:



**Low Emitting Sealants & Adhesives**  
**Credit 4.1**  
 Low VOC emitting sealants and adhesives were used in the building.



**Low Emitting Carpet Systems**  
**Credit 4.3**  
 Only Low VOC emitting carpets were used.

## Innovation:



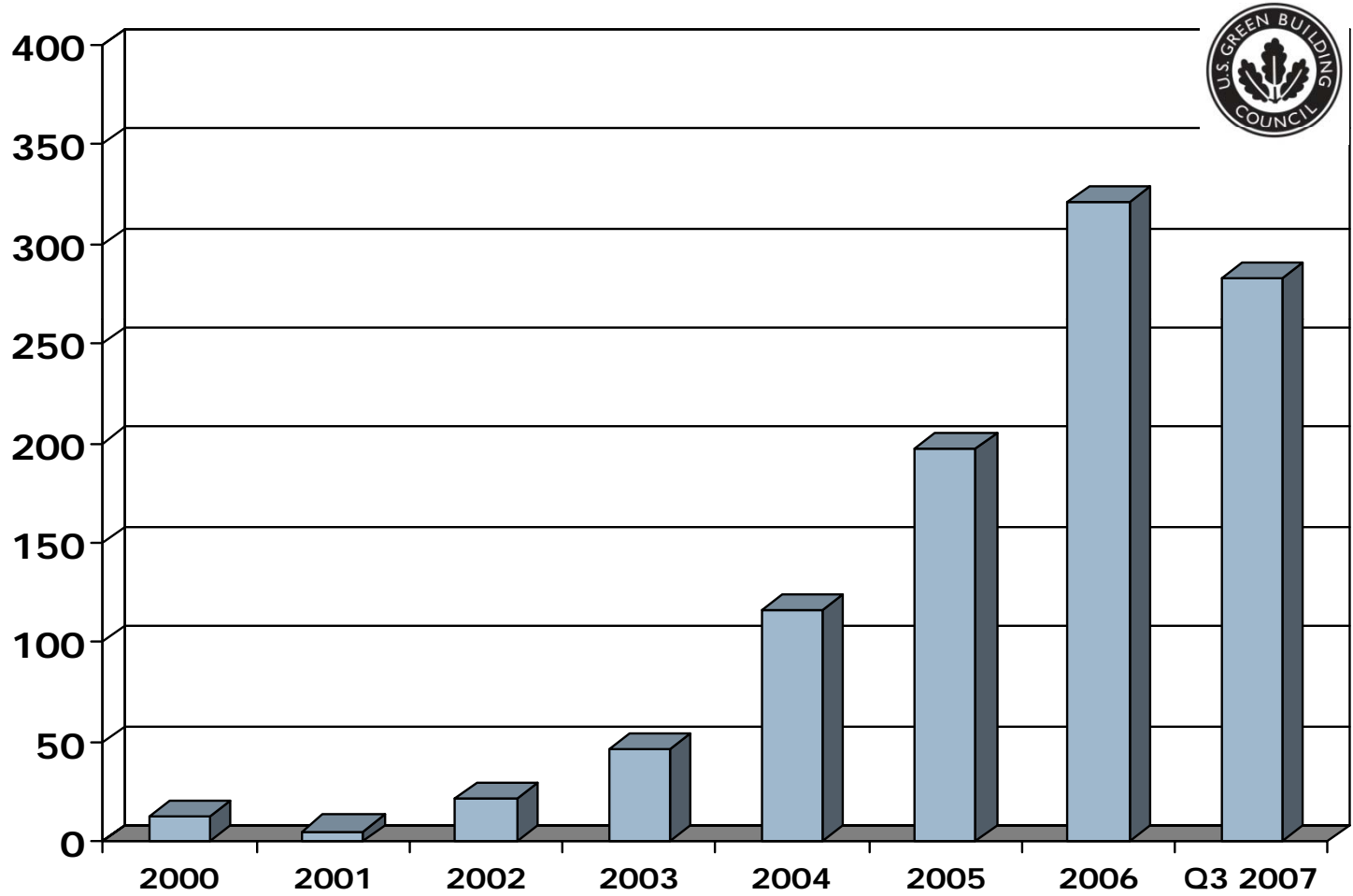
**Educational Information**  
**Credit 1.1**  
 Environmental education material will be posted around the building.



**Green Cleaning Products Schedule**  
**Credit 1.2**  
 A list of “green” friendly cleaning products will be provided to tenants.



# LEED Certified Buildings



# Renewable Energy



## 5. Site Selection

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- ▶ Proximity to sources of supply and customers!
- ▶ Access to Transportation
- ▶ Quantity and Quality of Labor
- ▶ Incentives and Tax benefits
- ▶ Did we mention proximity to sources of supply and customers?





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