



THE UNITED

STATES

VERTICAL

TRANSPORTATION

MARKET

U.S. STATISTICS

& TRENDS

CALEB GIVENS,

ELEVATOR WORLD, INC.

**ELEVATOR U, CHARLOTTESVILLE
2017**

U.S. at a Glance



- Gross Domestic Product: 18.46 trillion dollars (2016)*
- Current US population: 325.2 million (2016)**
- Many large cities, such as New York, Chicago, **Los Angeles** and Miami continue to show tremendous growth in the high-rise/commercial construction industry.
- Other cities such as Seattle and Dallas are now showing more activity as well.
- Residential and mixed-use buildings are increasing.
- **It appears that the worst of the recession is over.**
- **Slow and steady overall growth is expected to continue.**

*Bureau of Economic Analysis, June 2, 2017

** United States Census Bureau

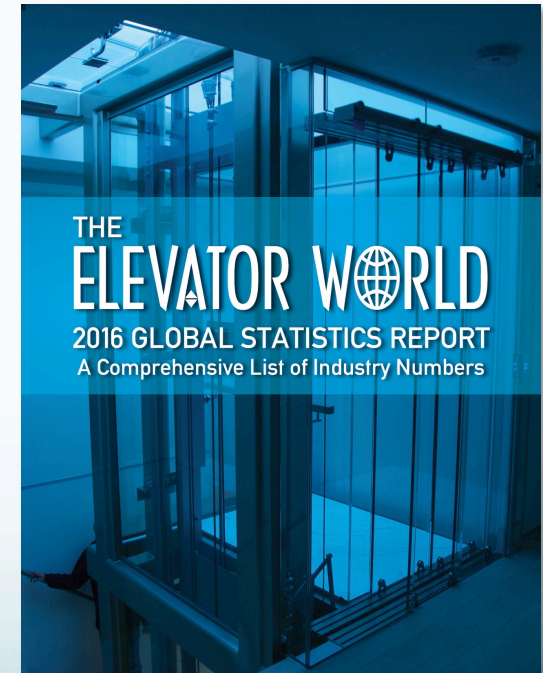
U.S. at a Glance



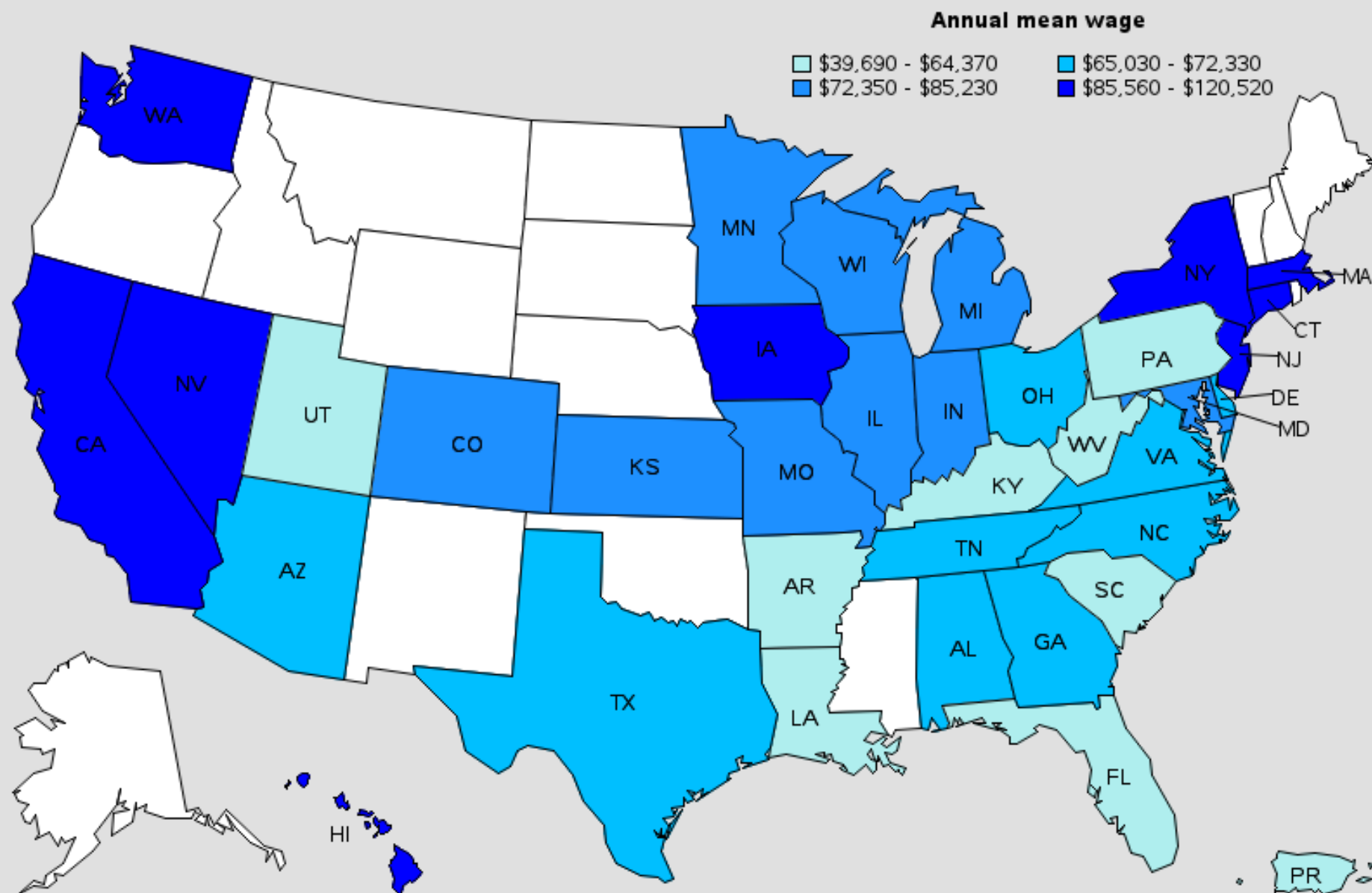
Vertical-Transportation Statistics (2014, 2016)

U.S. Totals

- Elevators: 1.1 million (est., 2016)
- Escalators: 35,000 (2014)



Annual mean wage of elevator installers and repairers, by state, May 2016



Blank areas indicate data not available.

2016 Union Labor Rates

Local	Location	Hourly Rate (Mechanic)
8	San Francisco	61.863
4	Boston, MA/Portland, ME	54.528
126	Honolulu	54.291
138	Poughkeepsie	53.722
<hr/>		
51	Richmond, VA/Roanoke, VA	37.614

U.S. Elevator Industry and Construction Trends

What companies are saying to EW:

Business is better than before

- Companies still hold education and safety as a high priority.
- Positive expectations for the future.
- Companies are expanding and looking for larger facilities.
- Companies are consistently busy, with more work than before the economic turndown.



**THE FEEDBACK
FROM CONSULTANTS
ABOUT THEIR BACKLOG
MAKES US BELIEVE
THAT 2017 WILL BE ANOTHER
RECORD YEAR.**

**- Doug Witham,
EW March 2017**



U.S. Elevator Industry and Construction Trends

- Nonresidential construction spending fell 1.7% in April 2017, totaling \$696.3 billion however...
- Spending has **increased 4.3%** on a year-ago basis
- The nonresidential construction sector **added 4,400 net new jobs** in May

*Source: Associated Builders and Contractors

U.S. Elevator Industry and Construction Trends

- Employment of elevator installers and repairers is projected to **grow 13% from 2014 to 2024**, faster than the average for all occupations.
- In addition, the need to regularly maintain, update, and repair old equipment; provide access to the disabled; and install increasingly sophisticated equipment and controls will maintain demand for elevator installers and repairers.

2016 Median Pay	\$78,890 per year \$37.93 per hour
Job Outlook, 2014-24	13% (Faster than average)

*Source: Bureau of Labor Statistics

U.S. Elevator Industry and Construction Trends



- Increased spending on hotels, office buildings, data centers and warehouses related to e-commerce is helping support nonresidential job creation.
- The bigger issue for contractors is not excess labor, but difficulty locating appropriately skilled labor.
- The construction industry's unemployment rate is down to 6% - the largest month-over-month decrease in the unemployment rate since April 2005.
- Firms are responding by offering more hours to current workers. The average workweek expanded by four-tenths of an hour in April to 39.1 hours per week, and average weekly earnings rose by nearly \$14.



*Source: Associated Builders and Contractors chief economist Anirban Basu

U.S. Elevator Industry and Construction Trends

Integrated mobile technology and information on jobsites

- There is an increased use in mobile devices to file reports share information and keep jobsites safe.
- Use of this technology reduces costs while improving the reliability of reports and jobsite documentation.
- Using custom applications on mobile devices provides instant answers to questions that would have previously slowed down a project with trips to the jobsite.
- Both OEMs and independents are embracing mobile technology for solutions.

*Source: Modern Contractor Solutions; Elevator World magazine

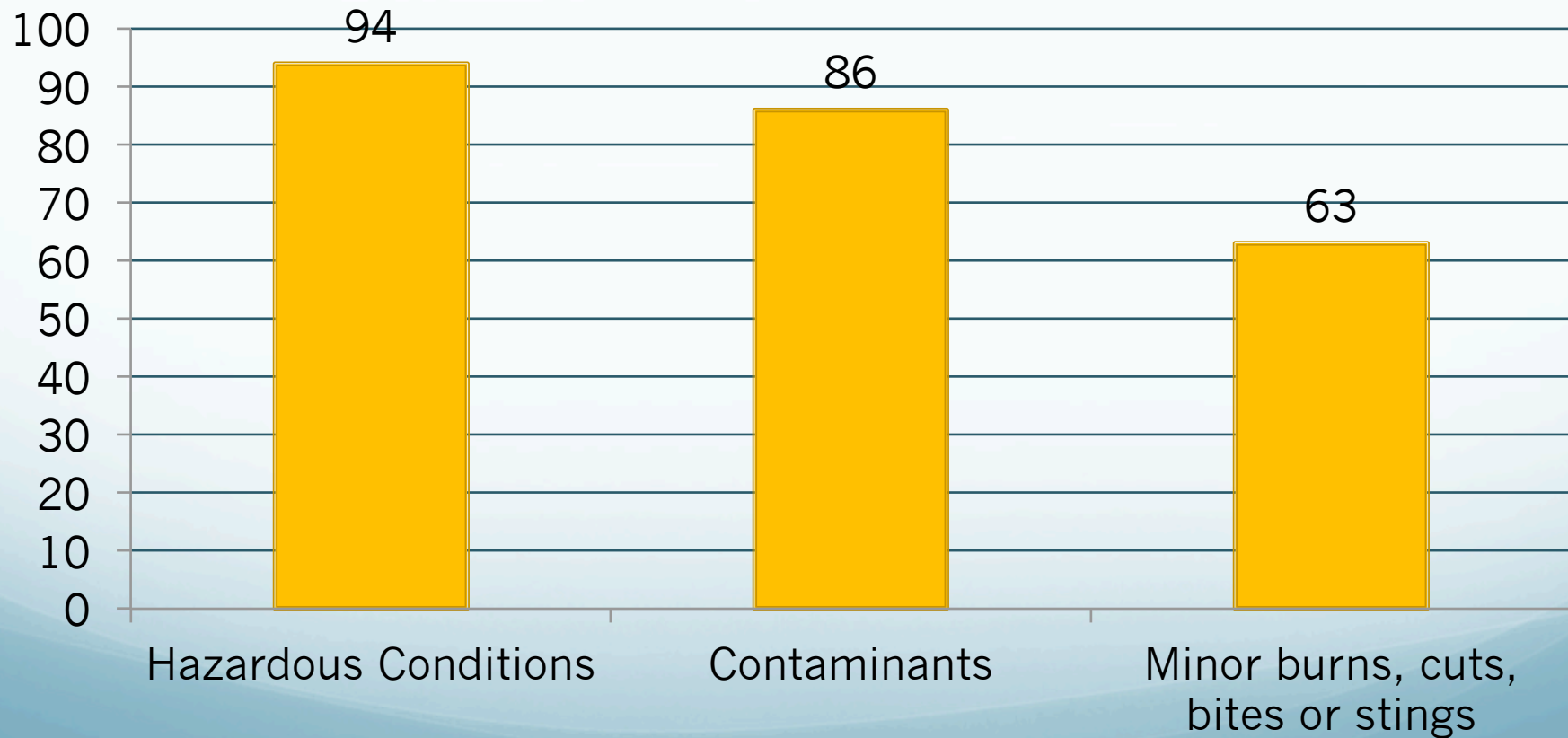
U.S. Elevator Industry and Construction Trends

- “As technology moves workers further and further away from the most dangerous tasks, construction projects should get safer. Each year, workers die and sustain injuries from preventable jobsite accidents. It’s one of the biggest problems in construction. **The industry already has well-established safety practices, and combined with technology, jobs should be less dangerous.**”

*Source: Modern Contractor Solutions

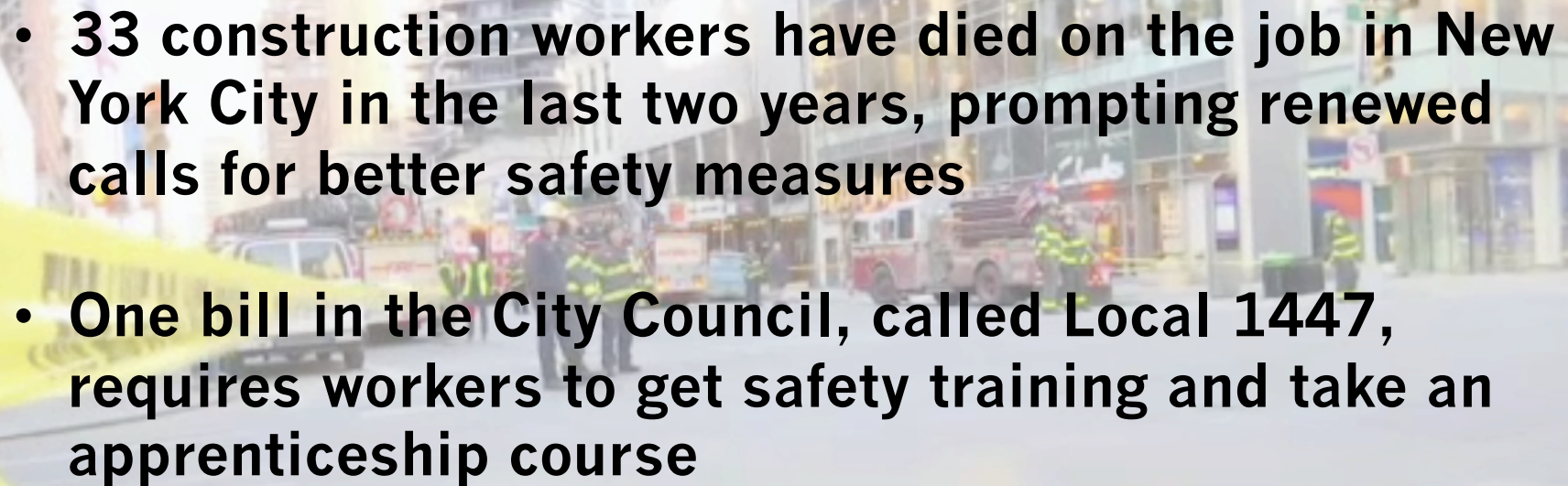
Safety

- Elevator workers/maintainers/installers consistently rank among the most dangerous jobs



Source: O*NET

Safety

- 
- **33 construction workers have died on the job in New York City in the last two years, prompting renewed calls for better safety measures**
 - **One bill in the City Council, called Local 1447, requires workers to get safety training and take an apprenticeship course**

NEII Field Safety Committee Meeting

“Safety Absolutes”

- 1.Car Top Access
- 2.Pit Access
- 3.Mechanical Stored Energy
- 4.Fall Protection
- 5.False Cars and Running Platforms
- 6.Hoisting and Rigging
- 7.Jumpers
- 8.Electrical Safe Work Practices
- 9.LOTO
10. PPE



THE [CONSTRUCTION]
INCREASE HIGHLIGHTS
OUR INDUSTRY'S NEED
FOR TRAINING AND ONGOING
CONTINUING EDUCATION.

- RICIA
STURGEON-HENDRICK,
EW APRIL
2016

A 17.1 2013 Code and MCP

The **2013** edition of the ASME A17.1/CSA B44 code has benefitted from more than two years of work from a task group charged with **clarifying and defining what constitutes a code-compliant MCP.**



A 17.1 2016 Code

Some notable changes for the 2016 edition include:

- Updates to **general requirements** such as the addition of elastomeric buffers and their detailed requirements
- Several updates to **seismic requirements**, including the addition of a seismic detection device and a scan feature to help determine the usability of an elevator after a seismic event
- Updated **maintenance, repair and replacement criteria** including requirements for replacement of car doors and speed governors, and testing of elastomeric buffer requirements
- Updates to the **alterations section** including requirements for the addition of surface mount sump pumps, standard railings, and suspension means monitoring for elevators, as well as speed variation for escalators and moving walks

*Source: National Elevator Industry, Inc.



A low-angle, upward-looking photograph of the 3 World Trade Center skyscraper in New York City. The building is covered in glass and steel, with visible construction cranes and scaffolding on its exterior. The sky is blue with scattered white clouds. The text "NOTABLE U.S. PROJECTS" is in the top left, and "3 WORLD TRADE CENTER" is in large yellow letters in the center.

NOTABLE
U.S.
PROJECTS

3 WORLD TRADE CENTER

3 World Trade Center

New York City, New York | 80 stories | 1,079 feet

- Expected to be complete in early 2018
- Vertical-transportation by Schindler
- 53 elevators
- Utilizes regenerative-power technology allowing the elevators to give power back to the building



NOTABLE
U.S.
PROJECTS

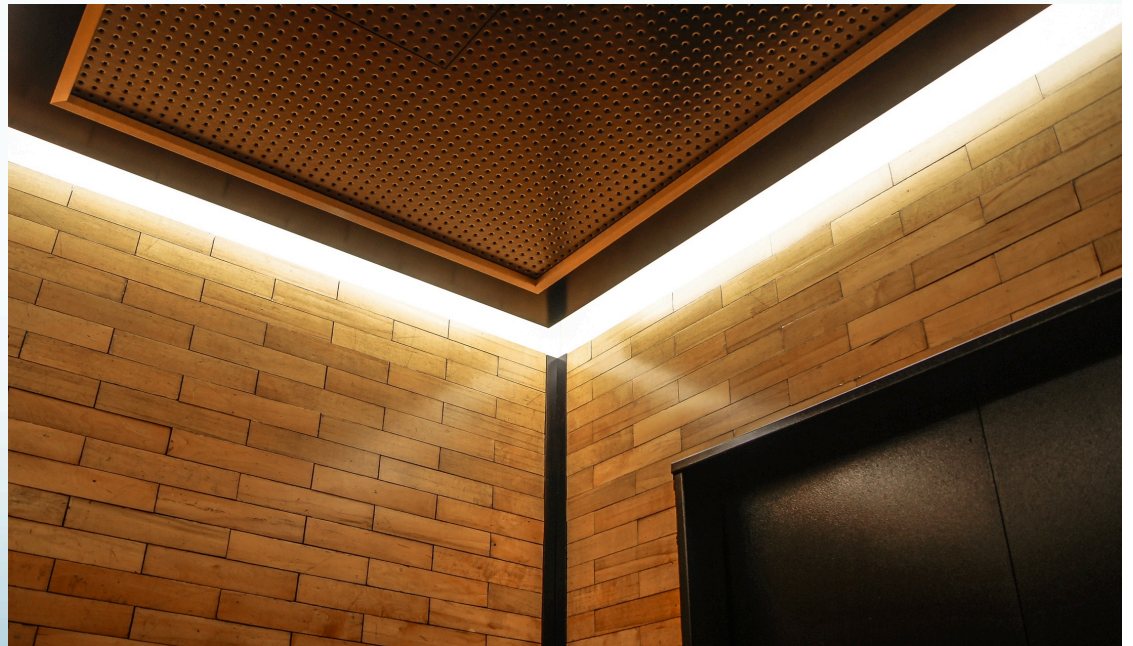


**CHICAGO
ATHLETIC
ASSOCIATION**

Chicago Athletic Association

Chicago, Illinois | Built in 1893

- Project involved modernizing 2 traction elevators, adding 4 electric elevators, modernizing and replacing machinery, controls and fixtures
- Redesigned to serve the newly added levels 12 and 13
- G&R Custom Elevator Cabs and Parkway Elevators used salvaged maple planks for the cab walls



NOTABLE
U.S.
PROJECTS

FRAMEWORK



Framework

First Mass Timber High-Rise Building in the US Cleared for Construction in Portland

Official Name: Framework

Structure Type: Building

Country: United States

City: Portland

Building Function:
residential / office

Structural Material: wood



Source: CTBUH



NOTABLE UNIVERSITY/CAMPUS
PROJECTS

NOTABLE
UNIVERSITY/CAMPUS
PROJECTS

University of Virginia

**EMERGENCY ROOM
EXPANSION**





- \$400-million new construction expansion will be approximately 425,000 sq. ft.
- 12 elevators; 10 will be Hollister-Whitney overhead traction machines
- Controllers from Motion Control Engineering
- Installation by KONE
- New elevators expected to be operational in 2019



NOTABLE
UNIVERSITY/CAMPUS
PROJECTS



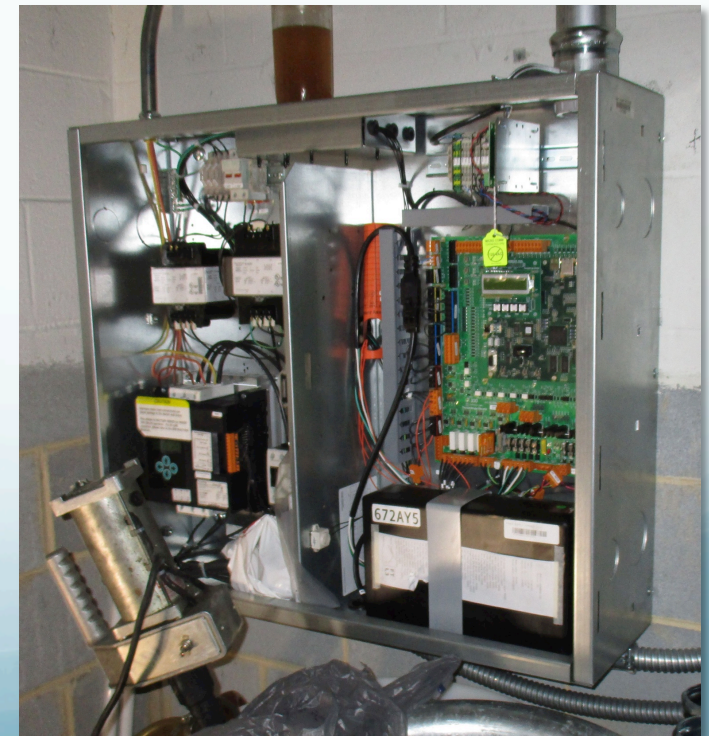
UNC CHARLOTTE
BELK COLLEGE *of* BUSINESS

University of North Carolina at Charlotte

**ELEVATOR
RENOVATIONS**



- \$3.5-million renovation project for 15 elevators
- Years of abuse, outdated equipment and repeated service calls led to the modernization
- 14 of the elevators are thyssenkrupp TAC32 hydraulic units
- Biggest challenge: taking down the only elevator in a building
- Inpro Ascend Division provided the durable cab interiors





NOTABLE
UNIVERSITY/CAMPUS
PROJECTS

Cleveland State University

**RHODES TOWER
ELEVATOR UPGRADES**



- \$2.6-million renovation project for the building's 6 passenger elevators
- Elevators were original to the 23-story building, since 1971
- Schindler won the new contract to install and maintain the units
- Among the items to be replaced are controls, gears, call buttons, counterweights, wiring, lighting and fixtures

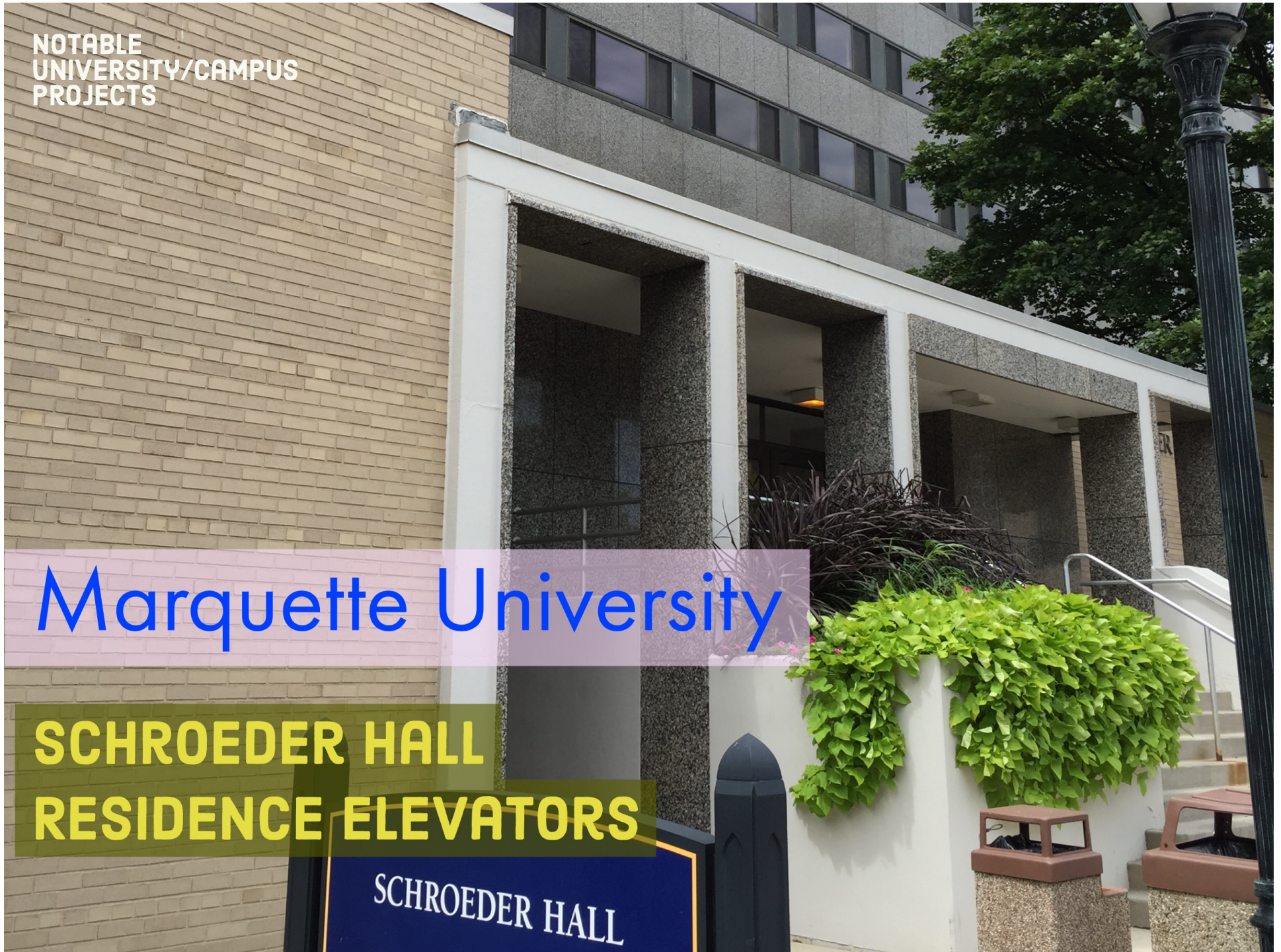


NOTABLE
UNIVERSITY/CAMPUS
PROJECTS

Marquette University

**SCHROEDER HALL
RESIDENCE ELEVATORS**

SCHROEDER HALL





- Schroeder Hall was building in 1956
- Residence elevators remained relatively untouched over the years
- Service issues led to the improvement project
- Contractor: Performance Elevator Consulting, LLC
- Magnetek provided two Quattro AC Cube Elevator Drives; worked with GAL to customize the drive software
- Goal was to deliver clean and efficient power with a safer and smoother ride

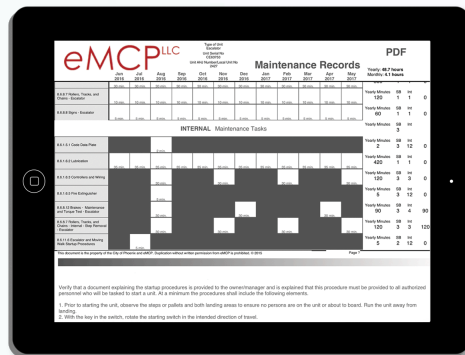


In conclusion...

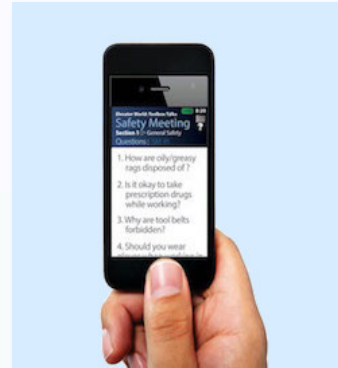


- The elevator industry is seeing positive growth as a result of the increase in construction.
- Technology, specifically mobile technology, is making its way into the elevator industry.
- Keep safety as priority #1.

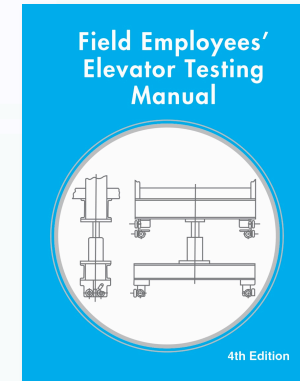
What's New at elevatorbooks.com ELEVATOR WORLD'S ONLINE BOOKSTORE



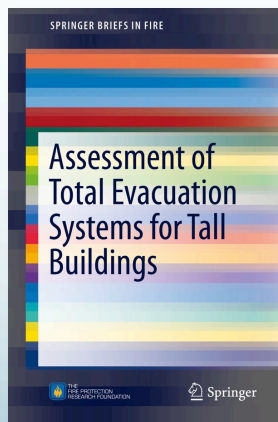
eMCP



Mobile Safety Meetings



Testing Manual



Assessment of Total
Evacuation Systems



Lift Modernisation,
Second Edition



Judith Dupré
Tall Building Set

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