

Porch and Deck Safety



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The Prelude

- Although City of Chicago Building Commissioner **Norma Reyes** sent out a press release warning about the porch danger on May 23, 2003,
- "Every summer, porches collapse due to large parties and gatherings held on unstable porch systems," Reyes wrote in her advisory.



Building Commissioner Issues Porch Safety Advisory

- As we move into the outdoor grilling season, **Building Commissioner Norma Reyes** today reminded property owners to inspect their porch systems before entertaining outdoors.
- **"Every summer porches collapse due to large parties and gatherings being held on unstable porch systems, as a result many people are seriously injured," explained Commissioner Reyes.**
- "As a general precaution we advise building owners and tenants to be vigilant in making sure that their porch systems are structurally sound," said Reyes. "They are ultimately responsible for inspecting and maintaining their porch systems."
- "The use of gas grills on wooden porches, decks and balconies in housing with 20 or more people is a fire hazard. People should use caution when grilling around wooden and other flammable surfaces," Reyes said.

Issued May 23, 2003 – Norma Reyes – City of Chicago

Building Commissioner Issues

Porch Safety Advisory

- Building owners and tenants should be aware of the following signs of a structurally unsound porch system:
 - Deck pulling away from the exterior wall
 - Weak footing at ground level
 - Extensive exterior peeling paint
 - Loose handrails
 - Cracked or rotted members (i.e., steps, handrails, decking, etc.)
 - Leaking roof structures, gutters, and downspouts above porch systems
 - Loose and rotting decking and floor joists
 - Improper connection of structural members (e.g., upright and lookouts)
 - Balusters improperly installed and maintained
 - If you notice any signs of structural problems with an exterior porch system, please contact 311 and a building inspector will investigate the property.

Issued May 23, 2003 – Norma Reyes – City of Chicago

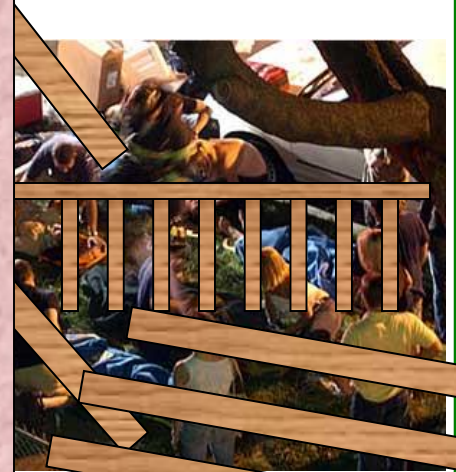
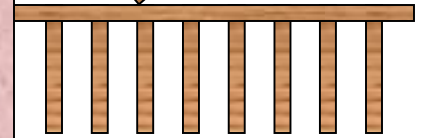
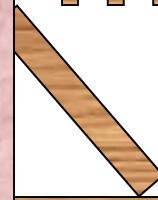
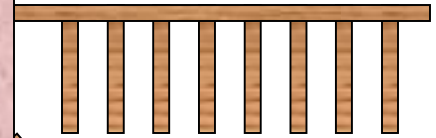
The Setting

- Warm summer night in Chicago on the near north side in Lincoln Park
- Over 80 people crowded onto three decks, one on each floor of a three unit apartment building.
- At 12:31am, June 29, 2003, the top floor deck gives way, and crashes into the second floor deck, which also gives way and crashes into the first floor deck.



Results

- 13 people were killed
- 56 were injured
- A LOT of sad families and friends
- The building code inspector says, “I warned the City a month ago about this...”
- Police want to talk to the building owner
- Lots of lawsuits, against the building owner and the city



Explanations

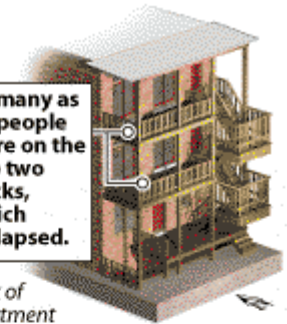
- Overcrowding
- Poor Judgement on the part of the party-goers.
- Possibly inadequate construction
- Non-compliance with City Building Codes
- Inadequate building inspections

Overcrowding might have caused collapse

A three-story wooden porch collapsed during a party in Lincoln Park early Sunday, killing 12 people and injuring 57 others. Officials said overloading of the porch might have contributed to the structure's failure.

As many as 80 people were on the top two decks, which collapsed.

Back of apartment



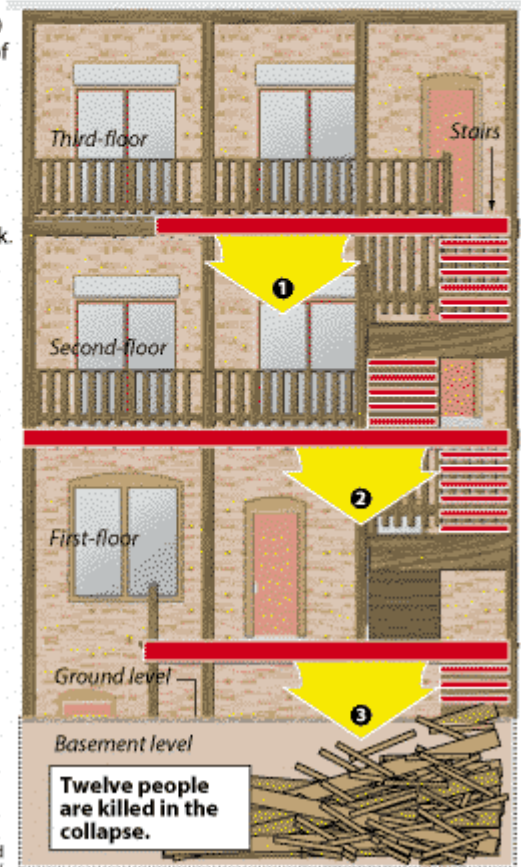
HOW THE PORCH COLLAPSED

KEY ■ Collapsed

1 At about 12:30 a.m., the center of the third-floor deck caves in, sending partygoers and debris on top of people on the second-floor deck.

2 With the weight of the first collapse, the second floor deck falls with people sandwiched between the two floors.

3 A tangle of people and porch debris fall into the basement level. Seven men and five women—all from the second level—are killed.



Sources: Chicago Department of Buildings and Chicago Emergency Management Office
Note: Rendering based on photos from scene/witness reports.

Chicago Tribune/Keith Claxton/Phil Geib and Haeyoun Park

Engineering Explanations

Wooden porch construction

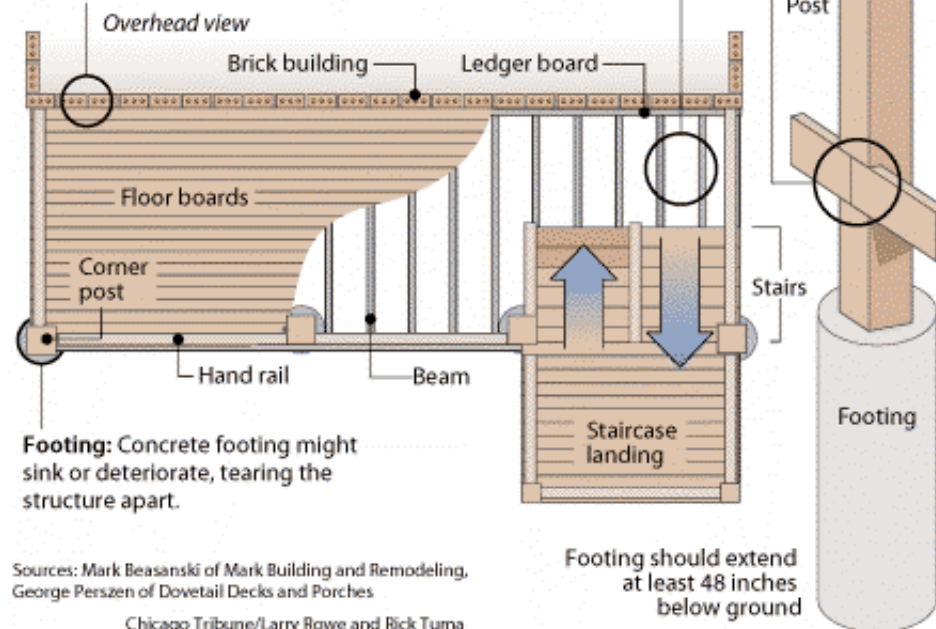
Flaws in construction can sometimes cause a porch to collapse under strain, although the cause of Sunday's porch collapse has not been determined. Builders stress that wooden porches are designed to be entryways, not gathering areas.

POTENTIAL PROBLEMS

Attachment to building: A porch might be improperly bolted to a building, bolted into crumbling mortar or not bolted at all.

Floor beams: Weakened, undersized or rotted floor beams could break.

Joints: Weak joints could collapse if not steel-plated.



Footing: Concrete footing might sink or deteriorate, tearing the structure apart.

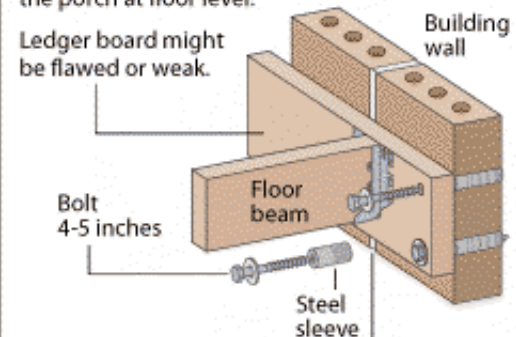
Sources: Mark Beasanski of Mark Building and Remodeling, George Perszen of Dovetail Decks and Porches

Chicago Tribune/Larry Rowe and Rick Tuma

Footing should extend at least 48 inches below ground

TYPICAL ATTACHMENT TO BUILDING

A common way to attach a porch to a building is to bolt it through the ledger board, which spans the porch at floor level.



Brick mortar might be old and crumbling, making the anchor weak.



Damage after Sunday's porch collapse

Famous Porch Problems in Chicagoland

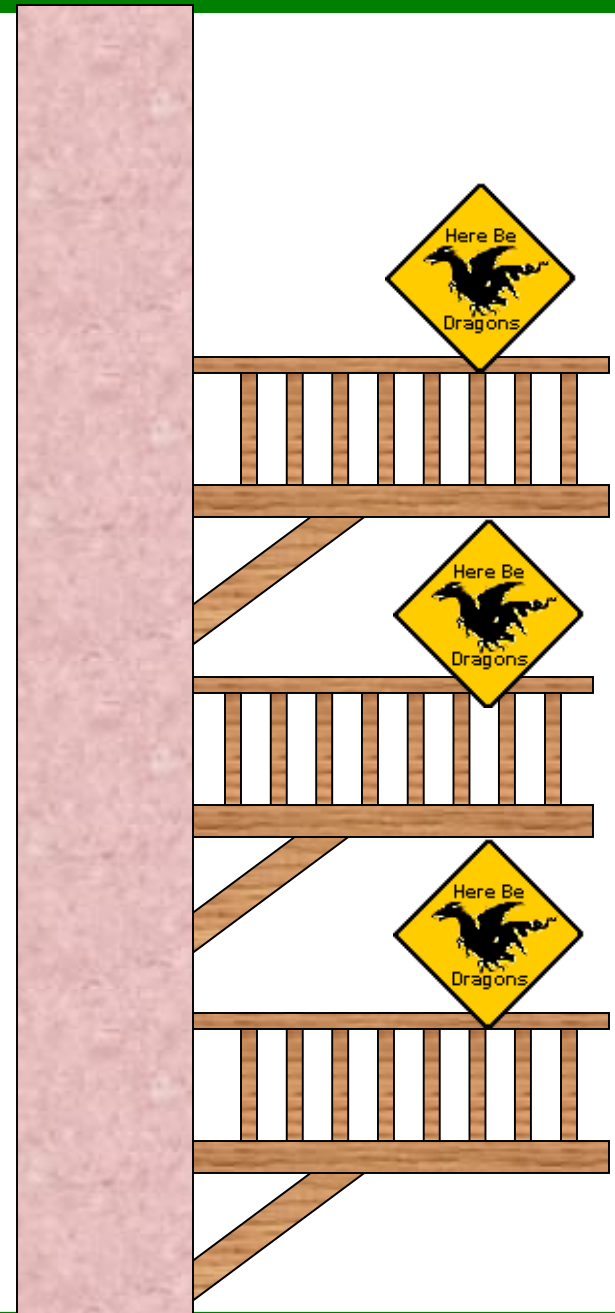
- ***December 2002, Cicero:** Two die of injuries when a third-floor porch collapses and the victims fall 30 feet.
- ***November 2001, Wrigleyville:** A woman dies after landing face down on the ground when a railing gives way on a third-floor porch.
- ***September 1999, McHenry County:** Twelve high school students suffer minor injuries when a porch collapses at a gathering at a teacher's apartment.
- ***June 1998, Wrigleyville:** Ten injured when a third-story porch collapses at a Bulls party.
- ***August 1997, Wicker Park:** Eighteen injured when a second-floor porch collapses during a party.
- ***September 1996, Wrigleyville:** Fifteen injured when a third-floor rear porch collapses during a party.
- ***December 1996, Des Plaines:** At least eight injured in a porch collapse.
- ***August 1995, Mount Prospect:** Eight hurt when wood supports on second-floor porch collapse, sending partygoers falling 10 feet to the ground.
- ***May 1995, Lincoln Park:** Eight injured when third-story porch collapses during a party. A 24-year-old woman's spine is fractured.
- ***May 1992, Lake View:** Seven injured when a third-floor porch collapses during a party.
- ***May 1990, Lincoln Park:** Ten injured when third-floor porch collapses "like a trap door," according to a partygoer.
- ***October 1989, Lincoln Park:** Eighteen injured when second-floor porch gives way.

Moral of the Story

- Just because a youthful outlook, a great evening, and a few beers makes you feel immortal, it doesn't mean that you are...
- Porches are for entry and egress.
- Make sure your porch or deck is safe.



Questions?



Epilogue

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City finds more than 400 unsafe porches

By **Gary Washburn**

Tribune staff reporter

Published August 8, 2003, 4:02 PM CDT

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City officials have identified more than 400 dangerous porches in a spate of inspections following the Lincoln Park porch collapse that killed 13 people and injured more than 50, it was disclosed today.

Since the June 29 accident, inspectors have checked out 1,394 complaints and found serious problems, from unstable upright supports to missing stair treads, at 446 buildings throughout the city, said Breelyn Pete, a spokeswoman for the city's Buildings Department.

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The cases have been referred to the city's Law Department for action in Cook County Circuit Court, officials said.

At another 596 properties, less serious violations such as peeling paint and moderately loose railings have been found. Landlords and managers of those buildings face administrative hearings.

The totals were as of late Wednesday, and complaints continue to come in, Pete said. On Thursday, for example, 20 were received.

But the volume of calls from concerned tenants and others has declined since immediately after the collapse, when scores of complaints were registered on some days, she said.

