

TAC MEETING

FRIDAY, OCTOBER 2, 2026, 10:00 A.M.

FOUR ARTICLES REFERENCED IN COMMENTS FROM
1080 CHESTNUT RESIDENT:

- AI'S BLUE-COLLAR PROBLEM (TWO ARTICLES)
- TRACY WAREHOUSE FIRE: SPRINKLERS FAILED
- REAL ESTATE COMPANY'S PERSPECTIVE.

From: **Patty Wilson** patty415@earthlink.net
Subject: **AI's problem: scarce plumbers for data center construction**
Date: **Jun 19, 2026 at 6:46:10 PM**
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SKILL ISSUE

The Real AI Talent War Is for Plumbers and Electricians

The AI boom is driving an unprecedented wave of data center construction, but there aren't enough skilled tradespeople in the US to keep up.

AI COMPANIES LIKE [Meta](#) and [OpenAI](#) have been offering multimillion-dollar pay packages to top talent, hoping to lure the best researchers and engineers away from their competitors. But there's another dimension of the AI talent wars that has garnered far less attention: the massive shortage of electricians, plumbers, and heating and cooling technicians in the US who can build the physical [data centers](#) that power AI.

The Bureau of Labor Statistics [estimates](#) that between 2024 and 2034, there will be a shortage of roughly 81,000 electricians on average each year in the US, measured in terms of unfilled jobs. The BLS projects the number of employed electricians to grow 9 percent over the next decade, "much faster than the average for all occupations." One [McKinsey study](#) came to a more dire conclusion: Between 2023 and 2030, it estimates that an additional 130,000 trained electricians—as well as 240,000 construction laborers and 150,000 construction supervisors—would be needed in the US.

The rapid construction of AI data centers [across the country](#) is likely a major driver of demand for skilled tradespeople. According to a [May blog](#) by the International Brotherhood of Electrical Workers—a labor union representing electrical workers in the US, Canada, and US territories—some local affiliates "are facing single data center projects that require two, three, sometimes four times their current membership."

Chris Madello, an international representative with the United Association, a union for plumbers and pipe fitters, says data center projects are currently demanding more workers than any other single industry. He adds that with the growth of AI, which requires a [huge amount of electricity](#) to run, "more and more manpower" is required.

Some tech companies are already sounding the alarm about the dwindling pool of skilled tradespeople and taking steps to address it. Google announced last spring that it was [donating](#) an undisclosed amount of money to the Electrical Training Alliance, a group that provides training materials for

electrical workers, to help 100,000 existing electricians upgrade their skills and train 30,000 new apprentices by 2030. The company said the project would contribute to an estimated 70 percent increase in the size of the trade in the coming years.

Tech companies building data centers have to compete for trades talent with other construction projects, including residential housing, hospitals, factories, and energy facilities. In all of these areas, there's already not enough workers to go around. "We have had a skilled construction worker shortage in America for years," says Anirban Basu, chief economist of the Associated Builders and Contractors, a trade group for the construction industry. In earlier eras, he says, tradespeople passed their skills on to their children, but more recently they have been encouraging the next generation to pursue four-year college degrees. As a result, Basu explains, the construction workers with the most advanced skills are now reaching retirement age.

"For years, the industry warned of a 'silver tsunami' in which these highly skilled baby boomers would retire in large numbers," Basu says. "That period has arrived. It's been here, and as a result, the industry has been dealing with generally expanding skilled-worker shortages."

Dan Quinonez, an executive at the Plumbing-Heating-Cooling Contractors Association (PHCC), a trade group for plumbing and HVAC professionals, says that the plumbing industry is "doing everything" it can to increase the number of workers available. But the problem requires long-term solutions and can't be fixed overnight.

Demand for workers also varies widely by trade and by region. In northern Virginia, for example, there's no lack of people applying to become plumbers or pipe fitters, even as data center construction has surged in the area, Madello says.

"We always have far more people applying than we actually accept into our apprenticeship programs," Madello explains. How many trainees are admitted, he adds, depends largely on how many union members are expected to retire in the coming years.

One problem, however, is getting people trained quickly enough to work on data center projects. Quinonez says the work itself is not very different from other plumbing jobs, but data centers are built on strict schedules, leaving little room for delays or errors.

That matters because apprentices typically learn on the job alongside more experienced plumbers at active construction sites. On data center projects, Quinonez says, companies are far less willing to take risks, since even small mistakes can slow a project down.

"It could get very costly for a contractor for something to go wrong," he explains. Apprentices and

trainees, he adds, may have to go through “more rigorous training” before they are assigned to help build a data center.

David Long, CEO of the National Electrical Contractors Association (NECA), says the group has done a good job keeping pace with retirements by training new electricians. But the scale and technical requirements of data center projects has made it a “challenge”—which he argues that NECA is appropriately meeting—to ensure that all workers are onboarded quickly and safely.

Charles White, who oversees regulatory affairs at PHCC, tells WIRED that there’s plenty of incentives for plumbers, pipe layers, and HVAC technicians to work on data centers. The projects typically offer higher pay than other types of construction, partially because of their tight schedules, which make it more likely that workers will log overtime.

White adds that high demand for plumbers incentivizes workers to switch employers, and they are often enticed by the longer hours and therefore better pay being offered by data center developers.

“I actually hear these stories all the time,” Quinonez tells WIRED. “You’re going to get paid quickly because you’re dealing with an Amazon, or a Google, or a large tech company. So there’s competition across the board.”

“The competition does get fierce,” Quinonez adds. “And part of the problem is there’s just not enough plumbers and HVAC technicians.”

In any industry, companies are always competing for a limited pool of manpower. But in construction, Madello says, some of the pressure is offset by the reserve of traveling tradespeople, who are prepared to show up “anytime you build something in the middle of nowhere.”

It’s unclear how long demand for tradespeople will last after the [artificial intelligence boom](#) eventually starts to wane. When construction ends, data centers typically keep a small crew on site around the clock, along with a network of outside contractors who handle repairs for multiple facilities.

“When the project gets done, they’re not crawling with people,” White tells WIRED. “But you have all of this stuff that has to be maintained and systems operated. So a certain number of those folks are going to stick around and get on a maintenance crew or an operations crew.”

If construction eventually tapers off, there might not be enough alternative jobs to go around, especially if the US economy enters a recession. But for now, business is great, and how things will end remains anyone’s guess. “Is it a sustained boom? Does it crash spectacularly?” says Basu. “Is the activity just

gradually receding once the heart of the boom is over?"

AI

The workers Meta and Google desperately need aren't in Silicon Valley

By George O'Malley · June 11, 2026



Companies need electricians, welders, and plumbers to build data centers.

The AI race has a blue-collar problem. Big Tech wants to fix it.

Days after Meta said it was launching a \$250 million program to train Americans for data center construction jobs, Google announced a similar initiative.

The search engine giant on Thursday said it is investing \$50 million in skilled-trades training programs across the US in fields critical to building AI and energy infrastructure.

They are tailored for aspiring construction workers, electricians, plumbers, pipe fitters, welders, and other laborers. Some training program partnerships are already underway, a Google spokesperson said.

The moves follow efforts unveiled earlier this year by Oracle and Microsoft to expand existing initiatives aimed at building a pipeline of workers to support the AI boom. Together, they underscore a shortage of tradespeople capable of building the data centers essential to powering AI ambitions — and Big Tech's increasing role in tackling it.

"The constraint on growth isn't hiring more engineers. It's building physical infrastructure," said Tulane University business professor Rob Lalka. "Silicon Valley's white-collar executives won't succeed without blue-collar workers across America."

The construction industry needs an estimated 349,000 new workers this year to meet demand elevated by AI, according to Associated Builders and Contractors, a trade group.

Since tech companies are more accustomed to training workers to use keyboards than bulldozers, they are partnering with organizations such as the International Training Institute for the sheet metal and air conditioning industry to achieve their goals. That has made the likes of Meta and Google highly appealing to proponents of long-standing programs designed to expand the ranks of hard-hat talent.

"We welcome the support of industry leaders like Google to create good, family-sustaining jobs and meet the growing energy needs of our economy," said Kenneth Cooper, international president of the International Brotherhood of Electrical Workers, in a statement.

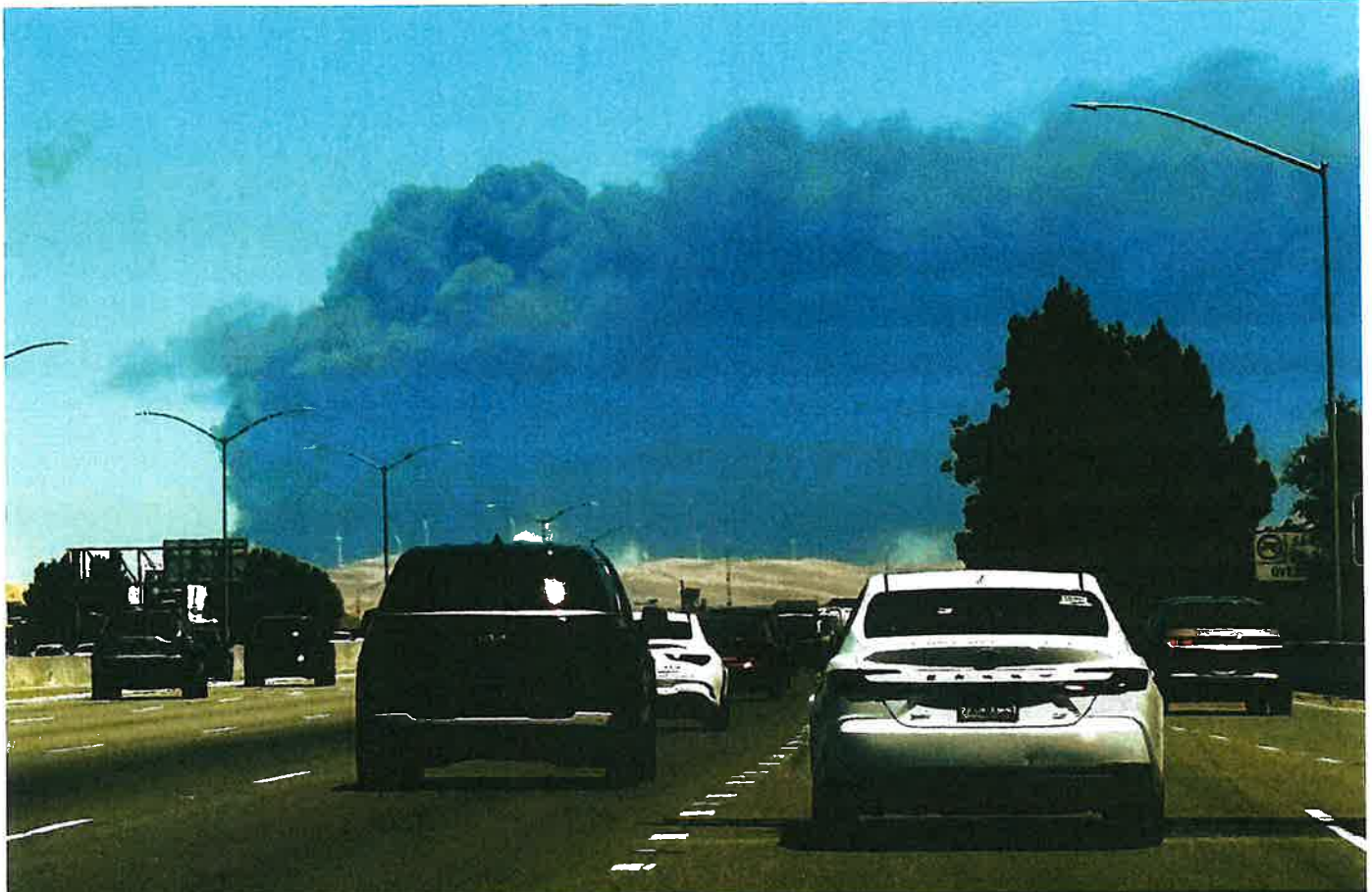
Big Tech's push to build more data centers, however, has also attracted foes.

Some critics point to the vast number of layoffs that tech companies have linked to AI, while residents across the US have been protesting such projects in their communities in recent months. A May Gallup poll found that seven out of 10 Americans oppose living near a data center.

In 2025, permits were issued for 176 new data centers across 34 states — the most new permits in one year since the first was issued in 1976, B-17 previously reported.

Similar Posts

Tracy fire one of the largest warehouse blazes in country



Smoke from a fire at a medical supply warehouse in Tracy is seen from Livermore on Thursday. The fire destroyed a 1 million-square-foot warehouse, and winds sent embers from the blaze to the south, starting several smaller fires in the area.

Image 1 of 2

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By Aidin Vaziri, Aldo Toledo, Lucy Hodgman and Megan Fan Munce

Staff Writers

A massive fire that destroyed a huge medical supply warehouse in Tracy — one of the largest blazes of its kind in the country — was

still burning Friday as health officials warned residents downwind to avoid potentially toxic smoke.

The fire, reported around 1 p.m. Thursday at 5701 Promontory Parkway, spread rapidly through the roughly 1 million-square-foot Medline facility after firefighters encountered problems with the building's private fire water system, according to the city of Tracy.

"This is such a unique fire," Tracy Fire Department Chief Randall Bradley said Thursday evening. "A million-square-foot fire is an extremely rare fire in the United States."

By Friday morning, fire officials said the blaze was contained to the Medline facility, though crews expected to remain at the scene through the day and night to monitor and extinguish hot spots.

Fire officials said the blaze could take days to extinguish.

South San Joaquin County Fire Authority Deputy Chief Brian Bagley said Friday that officials were aware of only a few comparable fires.

"There's been distribution centers that have burned throughout our nation, but to have one, you know, over a million square feet, there's only been two or three that we are aware of, and so it's very, very challenging," Bagley told reporters. "It's a skyscraper laying on its side."

No Medline employees or on-site personnel were reported missing, the company said. Officials said about 120 workers were at the facility when the fire started, out of roughly 900 employees assigned to the site.

No injuries were reported, police said.

The fire began on or near the roof of the warehouse and quickly moved into the building. Bradley said Thursday that "the whole building was engulfed" within about 20 minutes.

Bagley said Friday that the building was fully consumed within about 40 minutes.

Fire officials said high winds, low humidity, heat and the failure of the facility's private fire protection system helped turn the blaze into a major regional emergency.

"We don't know why those fire hydrants weren't pressurized," Bradley said, adding that the facility's fire pumps and alarm systems were last tested in January.

The city said the water problem involved the building's private fire protection system. Municipal water pressure remained stable and continued to support firefighting efforts.

Bagley said Friday that crews had to connect to municipal fire lines about 1,600 feet from the warehouse, requiring two fire engines just to move water close enough to attack the blaze.

Neither of the facility's sprinkler systems appeared to have activated, Bradley said. The cause of the blaze and the apparent failure of the fire suppression systems remained under investigation Friday.

The Bureau of Alcohol, Tobacco, Firearms and Explosives is expected to assist local officials with the investigation. Officials said it could be several days before investigators can safely examine the interior of the destroyed warehouse.

The blaze sent a towering column of black smoke over the Tri-Valley and East Bay hills Thursday afternoon. Closer to the fire, county health officials urged residents to stay indoors, close windows and doors, run air conditioning in recirculation mode if available, and avoid strenuous outdoor activity.

San Joaquin County Public Health Officer Dr. Maggie Park said smoke from the fire could pose risks, particularly for children, older adults, pregnant people, and those with asthma, heart disease or other respiratory conditions.

"Among the chemicals that were consumed in the Medline fire were an assortment of respiratory irritants, toxic gases, carcinogens, and at least one neurotoxin," Park said in a statement.

Park said anyone near the smoke plume who developed sudden respiratory problems, headaches, dizziness, nausea or throat irritation should seek emergency medical evaluation.

Several air-monitoring stations had been set up around the incident area, and continuous monitoring showed no protective actions were required as of Friday morning, the fire authority said.

The San Joaquin Valley Air Pollution Control District also warned that smoke from the fire could elevate fine-particle pollution in nearby communities, depending on wind and other weather. Residents were advised to monitor conditions through [AirNow.gov](https://airnow.gov).

Medline reported last year that the Tracy facility stored bleach, isopropyl alcohol, lye, sulfuric acid and xylene, according to California Environmental Protection Agency records reviewed by the Chronicle. Xylene is a solvent used in some laboratory and medical processes and can be harmful when inhaled.

Fire officials were also reviewing inventory lists for hazardous materials. Bagley said several hundred lithium-battery-powered robots were inside the facility and that burning lithium-ion batteries can produce hydrogen fluoride gas.

The fire's impact extended well beyond the Medline property. Wind-driven embers traveled south, igniting several spot fires in the area. Firefighters battled blazes involving pallet storage areas and several trailers near a FedEx facility.

The exterior of the FedEx building caught fire, but crews were able to prevent flames from engulfing the main facility, authorities said. FedEx said Friday that its building was not damaged and that all employees were safe.

"Our thoughts remain with those affected by this event," FedEx said in a statement. "Safety is our top priority. We are thankful our team members are safe and appreciate the efforts of the local fire department and our safety team."

Additional spot fires broke out near Schulte and Larch roads and

near Tracy Municipal Airport. The city said mutual aid crews contained those fires and prevented further spread.

More than 120 firefighters and dozens of pieces of apparatus responded, including crews from San Joaquin County, Alameda County and neighboring jurisdictions. Incident management personnel from Stanislaus County also supported the response.

Medline, based in Illinois, describes itself as a major medical surgical supply company serving hospitals, health systems and other care providers. The company said Friday that the Tracy facility was a local distribution center largely serving parts of Northern California.

“Medline’s supply chain is designed with resiliency, scale and flexibility at its core,” the company said in a statement.

“Immediately following this incident, Medline activated a command center and a network contingency plan and began incorporating secondary and tertiary distribution centers.”

The company said product distribution previously handled by the Tracy facility had been reassigned and was being deployed to other facilities in its regional network “to help maintain service and support customer needs.”

Fire officials said crews were also working with Medline to move trucks carrying unaffected medical supplies out of the area.

“There’s a lot of medical equipment that are loaded up on those trucks that those hospitals and medical facilities are relying upon,” Bagley said Friday.

Sutter Health said it was monitoring the situation but did not expect broad impacts.

“Our supply chain teams have contingency plans in place to maintain access to critical supplies,” the health system said in a statement.

UC Davis Health said Medline is one of dozens of suppliers it relies

on.

“We are a large hospital and that means we have many different suppliers for different things,” UC Davis Health said in a statement. “We are asking employees to be careful with supplies until we know the impact of this fire.”

Larissa Gomez, a shift supervisor at a nearby Starbucks, said Thursday that workers from nearby facilities walked toward businesses and a rest stop near Interstate 580 after police blocked roads and some employees could not reach their cars.

“There are probably a dozen people — honestly, more than that — sitting in the shade,” Gomez said. “I saw a lot of factory workers and FedEx workers walking this way because they weren’t able to reach their cars.”

The immediate danger to nearby homes appeared limited. Tracy’s mayor said the fire was burning in the city’s largest industrial zone, away from residential neighborhoods.

Still, officials said the fire scene remained active Friday, with smoke, hot spots and hazardous-materials concerns likely to keep crews there for days.

Fire officials said their primary concern remained embers from the Medline facility and the possibility of other spot fires.

“Although we had a very significant fire, the fact that no firefighters were injured and all employees evacuated quickly is astounding,” Bradley said.

Newsroom meteorologist Anthony Edwards contributed to this report.

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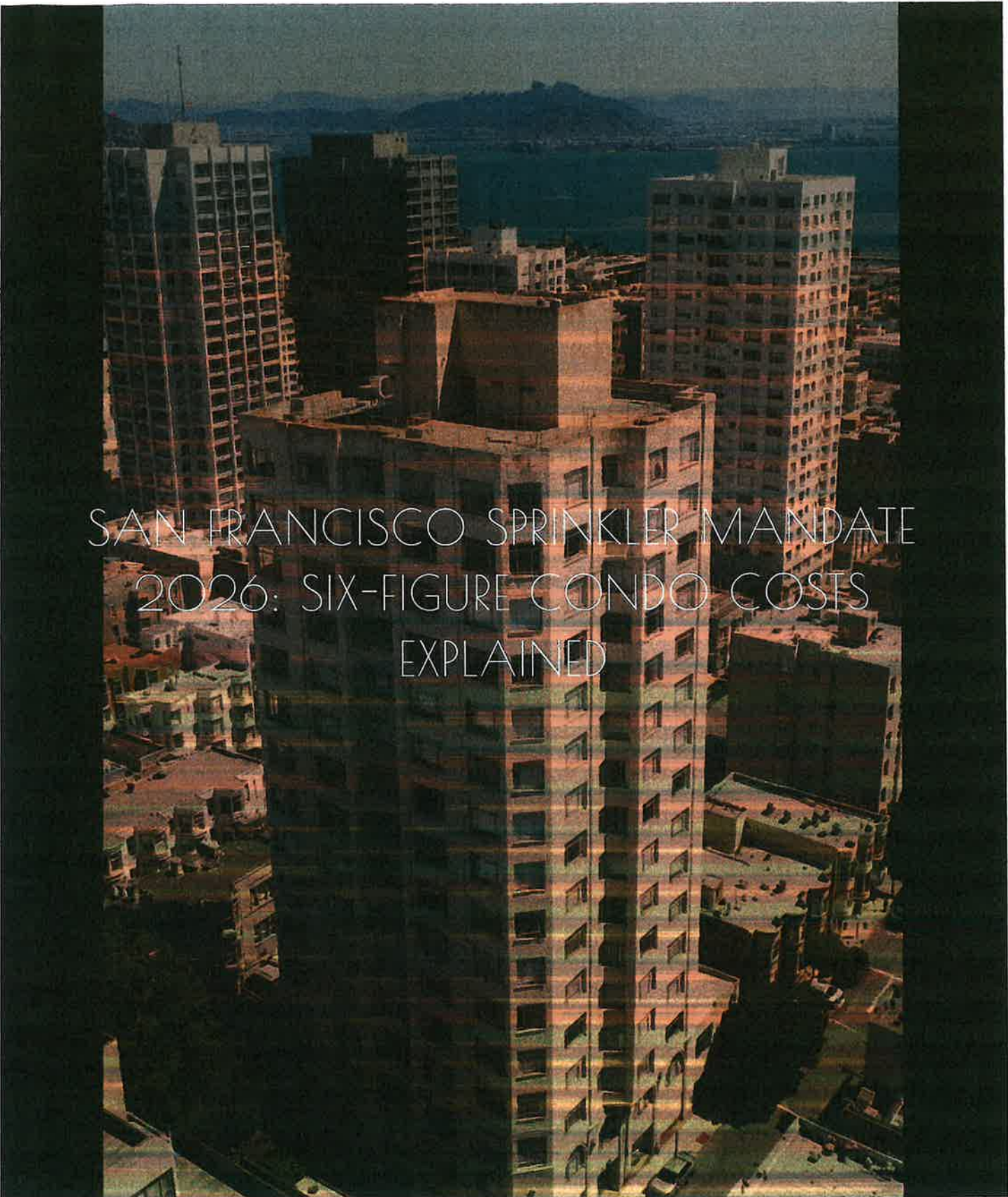
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An aerial photograph of a dense urban area in San Francisco, featuring several tall, modern high-rise buildings. The buildings are primarily light-colored with many windows. In the background, the city's coastline and hills are visible under a clear sky. The title text is overlaid in the center of the image.

SAN FRANCISCO SPRINKLER MANDATE 2026: SIX-FIGURE CONDO COSTS EXPLAINED

The San Francisco Fire Sprinkler Retrofit Mandate stems from Ordinance File #220038 ("Fire Code - Automatic Sprinkler Requirements for Existing High-

Rise Buildings"), introduced on January 11, 2022, by **Supervisor Aaron Peskin** and co-sponsored by **Supervisors Connie Chan, Rafael Mandelman, Myrna Melgar, and Shamann Walton**. It was adopted by the **Board of Supervisors** in late 2022 and incorporated into the repeal and re-enactment of the **San Francisco Fire Code**. Local amendments are now part of the **2025 San Francisco Fire Code**, effective January 1, 2026.

The mandate requires automatic sprinkler systems in **every room of every unit** in approximately **126 pre-1975 residential high-rise buildings** (typically 12+ stories or occupied floors over ~120 feet, lacking two protected interior staircases with two-hour fire-rated walls), plus building-wide upgrades such as pumps, tanks, and piping.

The phased compliance timeline includes:

- Submit professionally designed drawings and obtain building permits (originally by 2027)
- Secure an approved reliable water supply (2031)
- Complete full installation and Fire Department approval (2035)

The ordinance aimed to close fire safety gaps in older concrete high-rises, extending protections similar to the 1993 commercial retrofit rule that largely exempted pre-1974 residential buildings.

Water Supply Challenges: Can Existing Lines Handle It?

A major hidden hurdle is that pre-1975 domestic water lines and infrastructure were never designed to support full-building automatic sprinklers—especially the high flow and pressure needed for unit-by-unit coverage across dozens of floors (per NFPA 13 standards referenced in the SF Fire Code).

- **Existing systems often inadequate** — Older high-rises rely on city street-main pressure for domestic plumbing, lacking capacity, redundancy, or booster capability for fire protection. Most buildings will need new

dedicated fire-water systems, including fire pumps, on-site storage tanks (rooftop or basement), and backup generators.

- **Specific complications** — In hilly neighborhoods (Nob Hill, Russian Hill, Pacific Heights), connecting to city mains may require street excavation or major trenching. Prolonged water outages during tie-ins, plus potential asbestos/lead in aging pipes, add risk and expense. Some engineering reports have paused projects due to these issues.
- **Who pays and who is responsible?** — The burden falls entirely on building owners (via HOAs in condos). Owners must fund and manage all upgrades—new piping to city connections, pumps (~\$100,000+ in many cases), tanks, generators, and any public-right-of-way work. The San Francisco Public Utilities Commission (SFPUC) does **not** cover or subsidize private building-side upgrades. The Fire Department enforces the requirement but offers no financial assistance.

These water-related upgrades often drive total costs far beyond initial sprinkler piping estimates.

Additional Construction Challenges in High-Rise Retrofits—and Union Contractor Factors

Retrofitting sprinklers in occupied, older concrete high-rises brings unique logistical and practical hurdles:

- **Invasive work in concrete structures** — Drilling/coring through thick slabs, floors, and ceilings is labor-intensive, requiring specialized tools and structural engineering. Asbestos abatement and lead paint removal trigger mandatory protocols, HEPA dust control, and phased demolition/restoration.
- **Disruption in occupied buildings** — Work proceeds unit-by-unit or floor-by-floor, creating prolonged noise, dust, vibrations, and water outages—especially hazardous for elderly residents. Temporary relocation (hotels/rentals for weeks/months per phase) is common, posing health risks and adding significant extra costs.
- **Logistical high-rise issues** — Limited elevator access often requires

dedicated hoists/rigging. Tight unit spaces, furniture moving, and resident coordination extend timelines (potentially years for 12+ stories).

Historic/landmark status in some towers adds preservation approvals.

- **Union contractor dynamics** — In San Francisco, fire protection work frequently involves union-signatory contractors (e.g., Sprinkler Fitters Local 483), meaning prevailing wage laws, certified journeyman requirements, and union rules apply. This ensures skilled labor but can inflate costs (higher wages/overtime), limit availability, and add administrative layers. Industry advocates note modern techniques allow occupied retrofits with minimal long-term displacement; opponents argue union involvement contributes to higher bids.

These challenges amplify displacement fears and cost variability. HOA estimates often reach \$200K–\$300K+ per unit, while industry sources cite real bids at \$5–\$10 per square foot or \$60K–\$100K per unit with less-invasive methods.

Why This Hits Retired Residents Hardest

Many of these high-rises attracted long-term buyers professionals, teachers, public servants, or military retirees—who purchased when San Francisco real estate was more affordable. Now in their 70s, 80s, or 90s+, they rely on fixed incomes from pensions, Social Security, or modest savings.

- **Massive one-time costs per unit** — HOA projections frequently cite \$200,000 to \$300,000+ (sometimes higher), factoring in all elements.
- **Ongoing monthly assessments** — Many HOAs are imposing or planning \$1,000–\$3,000+ per month in special assessments—on top of existing HOA dues (\$1,000–\$2,000+ monthly). For retirees, this could double housing costs overnight.

Devastating Impacts on Long-Term Retired Owners

- **Forced displacement and relocation risks** — Construction creates dust,

noise, vibrations, and unsafe conditions for weeks to months. Elderly residents face serious dangers from temporary moves.

- **Inability to afford staying put** — Fixed-income retirees often can't absorb assessments or qualify for loans without depleting savings or reverse mortgages, leading to sales at a loss in a cooled market.
- **Loss of lifelong homes and community** — Deep roots—neighbors, doctors, transit—are disrupted; many face uprooting to less convenient areas or assisted living.
- **Equity erosion after years of building wealth** — Many paid off mortgages long ago, viewing their condo as retirement security. Now, the mandate risks turning that asset into a liability, with potential sales under duress or inherited properties becoming burdensome for heirs. The uncertainty and high looming assessments have reportedly cooled buyer interest, depressing resale values and making sales harder or at lower prices in affected buildings.

How the Mandate Passed: Sponsors and Process

Introduced by **Supervisor Aaron Peskin** and co-sponsored by **Supervisors Connie Chan, Rafael Mandelman, Myrna Melgar, and Shamann Walton**. It passed standard procedures (Fire Commission recommendation in 2022, committee review, full Board approval) amid fire safety concerns, but critics highlight no targeted outreach to affected owners or formal cost/feasibility studies specific to these buildings. Many seniors only learned in 2025.

As of late February 2026, pushback has secured progress: A Board committee approved a **five-year pause** on interim deadlines, Mayor Daniel Lurie proposed delays to 2030–2032 plus a feasibility committee, and Supervisors **Stephen Sherrill (D2)** and **Danny Sauter (D3)** advocate for hardship relief.

How People Can Push Back and Potentially Stop or Change This

Join the "No Sprinkler Mandate" for updated news.

www.nosfsprinklermandate.com

Advocacy has already driven delays and studies—collective action remains key:

- **Join groups:** No SF Sprinkler Mandate (nosfsprinklermandate.com), SF Blueprint, or building/HOA coalitions.
- **Sign/share petitions:** SF Blueprint or SFAR petitions for pauses, reviews, exemptions.
- **Attend/speak at hearings:** Board of Supervisors (Land Use Committee), Fire Commission—check [sfgov.legistar.com](https://sfgov.org/legistar).
- **Contact officials:** Your district supervisor and Mayor Lurie urge delays, exemptions, alternatives, or funding.
- **Get independent assessments:** Engineer your building's water supply, feasibility, and costs to challenge projections.
- **Legal/financial steps:** Review HOA rules; consult condo attorneys if needed.

Monitor Legistar closely, the full Board vote on delays/studies is imminent. Pushback works: Hundreds speaking out have shifted the conversation. If affected, start with your HOA and advocacy sites.

Stay proactive, safety is vital, but so is protecting long-term residents from unaffordable burdens. Share your building's status or experiences below to help others connect.



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