

Memorandum

To: Andre del Valle, Sr. Director of Government Affairs, Pennsylvania Apartment Association
From: Econsult Solutions, Inc.
Date: March 21, 2023
RE: The Potential Economic Impact of Philadelphia City Council Bill No. 220299 (Philadelphia Sprinkler Bill)

1 Executive Summary

Philadelphia City Council Bill No. 220299 (henceforth referred to as “the proposed Bill”) would amend the Philadelphia Fire Code to require all existing residential high-rise buildings to install fire sprinklers in each apartment. The proposed Bill is scheduled for discussion at City Council in 2023.

While the proposed Bill is well-intentioned, ESI’s economic analysis reveals that implementing this legislation would have catastrophic impacts, directly causing hardship to tens of thousands of Philadelphians and potentially exacerbating the City’s housing crisis.

The new requirements imposed by the proposed Bill are estimated to impact roughly 140 high-rise properties across the City of Philadelphia. Potentially impacted properties would likely be located in all sections of Philadelphia, with the most significant impact in Center City, and they would include both condominiums and apartment buildings. Each of the potentially impacted properties houses dozens if not hundreds of residents, and **ESI estimates that the proposed Bill would impact 26,000 Philadelphians.**

The proposed Bill’s negative impacts on these 26,000 Philadelphians would include:

- **Guaranteed temporary displacement of 26,000 Philadelphians** – both renters and condominium owners – since in-unit fire sprinkler installation in historic buildings will require extensive repairs.
- **Some 14,000 renters would face a significantly heightened risk of rent increases and displacement** as landlords pass down repair costs. An architectural engineering consultant estimated the rent increases from these repairs at \$200-400 per month. Particularly considering that this legislation would impact older apartment buildings, which tend to be more affordable than newer counterparts, any rent increases could lead to permanent displacement.
- **More than 10,000 condominium residents would be personally burdened with the high costs of these repairs** – which an architectural engineering consultant estimated at \$25,000 per unit. These high repair costs could lead condo owners to defer other necessary maintenance costs.

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Impacted condominium units would likely be disproportionately located in Center City – a high-opportunity neighborhood where condos represent by far the most affordable homeownership option.

- **Increased rents and units taken off the market (temporarily or potentially permanently) could have catastrophic impacts on Philadelphia’s housing market** during a time of high inflation and a growing affordable housing crisis.

Especially when considering the rarity of high-rise fires and the numerous alternative safety measures already in place to prevent them, ESI concludes that the costs of the proposed Bill far outweigh any benefits.

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2 Introduction: About the Proposed Bill

In late 1991, in the wake of a tragic high-rise fire across the street from City Hall¹, Philadelphia Mayor Wilson Goode signed legislation that required all new residential high-rise buildings of 75 feet or higher in Philadelphia to include fire sprinklers. This legislation was originally slated to also require existing high-rise residential buildings to install fire sprinklers in each room; however, the legislation was amended to require only smoke detectors rather than fire sprinklers for existing buildings after research proved that “no one has died in a fire while living in a high-rise for about 30 years”.² Today, while new high-rise buildings are required to include fire sprinklers in each room, all residential high-rises that were occupied at the time of the original Bill’s enactment in late 1991 are still exempted from fire sprinkler requirements.

In March 2022, Philadelphia City Councilmembers Mark Squilla and Katherine Gilmore Richardson introduced Bill No. 220299 (henceforth referred to as “the proposed Bill”) to City Council. The proposed Bill revives the same proposal originally made in 1991: it would amend the Philadelphia Fire Code to require all existing residential high-rise buildings to install fire sprinklers in each apartment. The proposed Bill is scheduled for discussion at City Council in 2023.

While the proposed Bill is well-intentioned, ESI’s economic analysis reveals that implementing this legislation would have catastrophic impacts, directly causing hardship to tens of thousands of Philadelphians and potentially exacerbating the City’s housing crisis. The proposed Bill’s negative impacts on Philadelphians would include:

- Guaranteed temporary displacement for an estimated 26,000 Philadelphians, and, particularly for renters, the risk of rent increases and permanent displacement;
- Condominium owners burdened with high repair costs on condominium owners;
- Negative impacts on Philadelphia’s housing market during a time of high inflation and affordable housing crisis.

When considering the rarity of high-rise fires and the numerous alternative safety measures already in place, ESI concludes that the costs of the proposed Bill far outweigh any benefits.

3 Who Will Be Impacted By the Proposed Bill?

The new requirements imposed by the proposed Bill would impact roughly 140 high-rise properties across Philadelphia, including condominiums and apartment buildings. Each of the potentially impacted properties houses dozens if not hundreds of residents. Therefore, the proposed Bill’s impact upon even a seemingly small number of properties could hold major implications for the City’s housing market.

¹ “30 years ago: 3 Philadelphia firefighters killed in One Meridian Plaza fire,” 6ABC, 2021, <https://6abc.com/one-meridian-plaza-fire-deadly-philadelphia-firefighters-killed-high-rise/10363814/>

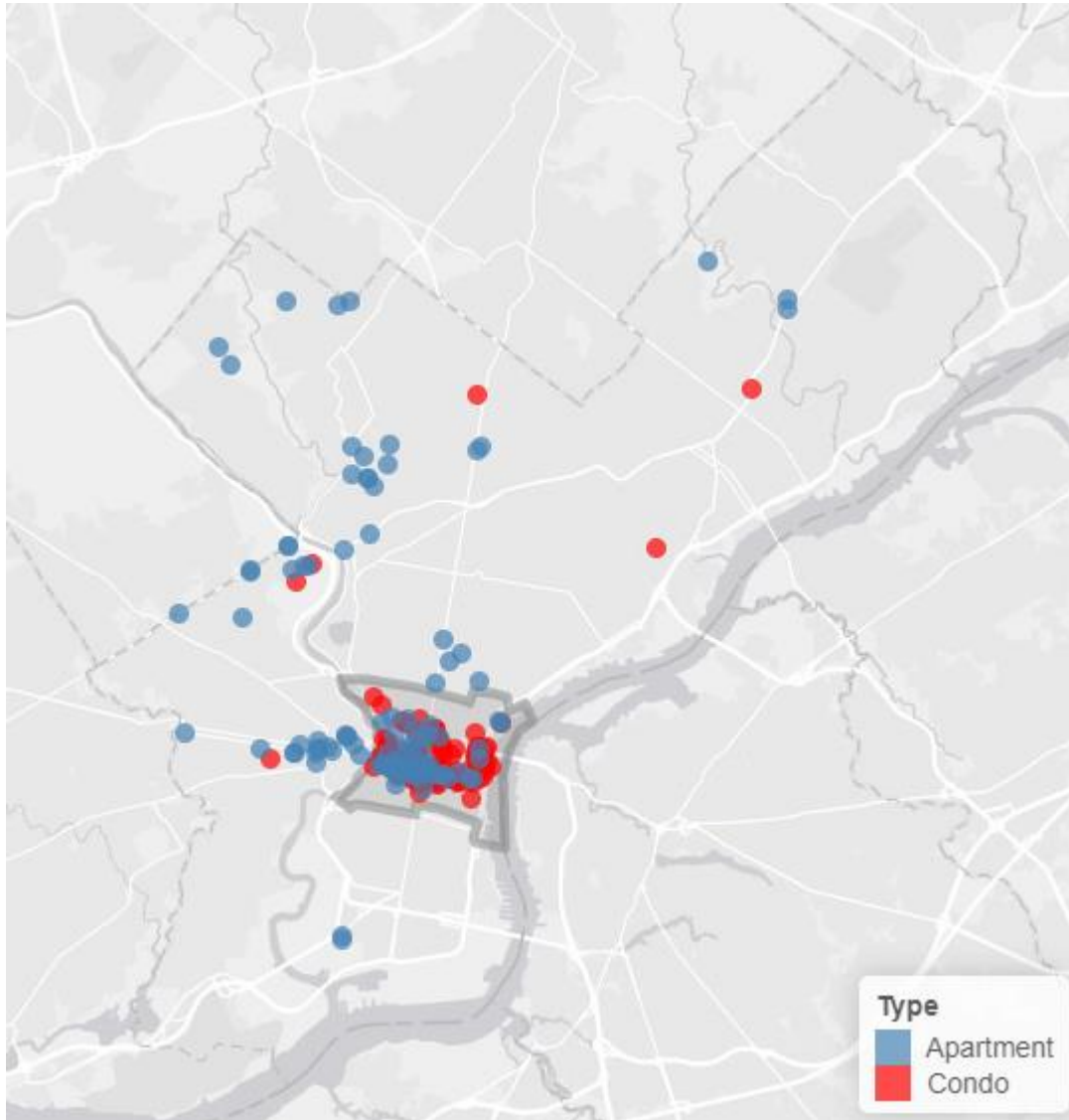
² Fragnito, Melissa and Daily Pennsylvanian, “Compliance with fire code revisions to cost U. \$5 million”, The Daily Pennsylvanian, 1992, <https://www.thedp.com/article/1992/01/compliance-with-fire-code-revisions-to-cost-u-5-million>.

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In the absence of precise information related to the properties likely to be impacted, ESI generated a sample of 229 high-rise properties built prior to 1992 and likely to fall under the proposed Bill's scope. The sample includes buildings located across Philadelphia, including Northeast Philadelphia, Northwest Philadelphia, and West Philadelphia with the greatest concentration of potentially impacted properties falling within Center City.

Figure 3.1: Map of Potentially Impacted Properties ([view interactive version here](#))



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Figure 3.2: Potentially Impacted Properties by Location and Type

Location	Apartment	Condo	Total	Proportion
Central Philadelphia ³	58	112	170	74.2%
Outside Central Philadelphia	53	6	59	25.8%
Total	111	118	229	
Proportion	48.5%	51.5%		

The results of ESI’s analysis revealed that both renters and homeowners in neighborhoods throughout Philadelphia would be negatively impacted by the proposed Bill.

ESI estimates that roughly **26,000 Philadelphians would be directly impacted by the Proposed Bill.**⁴

Figure 3.3: Estimated Number of Philadelphians Impacted By Proposed Bill

	Estimated Proportion of Buildings Impacted ⁵	Est. Number of Buildings Impacted	Est. Units per Building ⁶	Est. Number of Units Impacted	Est. Residents per Unit ⁷	Estimated Impacted Residents
Condominiums	51.5%	72	135	9,700	1.27	12,000
Apartments	48.4%	68	135	9,200	1.53	14,000
Total		140		18,900		26,000

This figure does not take into account the many more Philadelphians who would suffer indirect impacts from the proposed Bill’s exacerbating effect on the affordable housing crisis.

4 Negative Impacts of the Proposed Bill on Philadelphians

The proposed Bill proposed by the Councilmembers would lead to **significant personal hardship for tens of thousands of Philadelphians, with direct impacts on affected renters and condominium owners with high potential costs for Philadelphia’s economy.**

First and foremost, all 26,000 Philadelphians directly impacted by the proposed Bill, including 14,000 renters and 12,000 condominium residents, would be temporarily displaced from their homes for the duration of the repairs. Water stems found in older buildings are not designed to handle sprinkler

³ See gray outline in map above — “Central Philadelphia” is defined using the City of Philadelphia’s Central Planning District.
⁴ Assumptions leading to this estimate: 135 units per high-rise building (based on 106 buildings with known number of units); about 1.56 residents per condominium unit and 1.53 residents per apartment unit (based on ESI’s Community Data Analytics methodology); 68 impacted apartments and 72 impacted condominiums (based on 140 impacted properties, and proportions of apartments/condos found in sample of potentially impacted properties).
⁵ Based on sample data shown in Figure 2.2.
⁶ Based on 106 buildings with known number of units.
⁷ Based on ESI’s [Community Data Analytics](#) methodology.

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systems. As a result, retrofitting installation entails an extensive and invasive process including accessing water systems housed within each unit's walls. Due to the potential for tenant exposure to asbestos and lead, two potentially deadly hazardous materials commonly found in housing built before the 1908s, tenants would be required to vacate their units temporarily.^{8 9}

As will be discussed in detail in the section below, this temporary displacement will lead to financial and emotional damage; directly impacted renters may also face permanent displacement, while directly impacted condominium owners will personally bear the burden of repair costs. The legislation could also result in further stress on a Philadelphia housing market that is already in crisis.

4.1 Direct Impacts on Renters

ESI estimates that 14,000 renters would be temporarily displaced from their homes for the duration of the repairs. This temporary displacement would directly cause untold financial and emotional damage to impacted renters.

Philadelphians seeking temporary housing are likely to face high costs, as demand for temporary accommodations will increase sharply if faced with thousands of displaced residents competing for accommodations. Renters with insurance may be eligible for reimbursement of their expenses, but such reimbursements are unlikely to compensate tenants for the full scope of the tangible and intangible costs of displacement. While insurance reimbursements may provide some relief to insured renters, nearly half of renters are uninsured¹⁰ and thus likely to bear the full cost of displacement.

In general, renters living in older apartment buildings will be more likely to be paying lower rents and therefore have lower incomes. This is particularly true in low and moderate-income neighborhoods outside Center City. ESI's analysis of potentially impacted properties revealed that nearly half of the potentially impacted apartment properties are located outside the central part of Philadelphia, including numerous buildings located in low and moderate-income neighborhoods, such as Germantown.

Any low-income Philadelphians impacted by this legislation will be disproportionately burdened by the costs of displacement be they temporary or permanent. Temporary displacement has a disproportionate impact on low-income residents as competition and lack of affordable temporary housing options may lead displaced individuals to choose less-than-ideal options, potentially including damaged, unsafe, and unhealthy structures.¹¹

Tenants impacted by the legislation are also likely to face rent increases. Based on a study of similar legislation in New Jersey and industry-standard cost estimates, an architectural engineering consultant

⁸ "Asbestos Fact Sheet for Homeowners and Tenants", NSW Environment Protection Agency, <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/applications/asbestos/factsheet/19p1498-AA-factsheet-homeowners.pdf>.

⁹ Leonard, Nicole, "North and West Philly continue to see higher concentration of lead exposures, despite citywide decline", October 31, 2022, <https://whyy.org/articles/philadelphia-lead-exposure-decline-disparities/>.

¹⁰ Triple Crown Corporation, <https://www.triplecrowncorp.com/blog/do-you-need-renters-insurance-in-pa/>.

¹¹ Hamideh, Sara and Freeman, Maria, "Damage, Dislocation, and Displacement after Low-Attention Disasters", University of Colorado, <https://hazards.colorado.edu/quick-response-report/damage-dislocation-and-displacement-after-low-attention-disasters>.

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estimated the per-unit cost of repairs at \$25,000.¹² Based on this estimate, each owner of an impacted apartment building would accrue costs of about \$3.4 million.¹³

Landlords will pass these costs down to Philadelphia renters in the form of rent increases, with an architectural engineering consultant estimating rent increases of \$200-400 per month.¹⁴ **Particularly for low-income Philadelphians, there is significant potential for permanent displacement, which could further gentrification-induced changes in neighborhood demographics.** Considering that the properties impacted by this legislation are more likely to be older and have fewer amenities and lower rents, a \$200-400 per month rent increase may not be feasible for tenants, and landlords may seek to fill available units with higher-paying tenants upon completion of the repairs to defray their increased costs.

In addition, renters unable to afford long-term alternative housing situations while repairs are made may be forced to permanently leave their homes. Low-income renters are most vulnerable to permanent displacement, as they are least able to afford temporary housing.

By comparison, federally funded development projects require any displaced individual to be eligible for advisory services, reimbursement for moving expenses, and reimbursement for the difference between the costs associated with their new, comparable home and the rent/mortgage payments associated with their old home.¹⁵ Displaced Philadelphians under the proposed Bill will not be guaranteed such protections.

In a market where rents have spiked by 14 percent since the start of the pandemic¹⁶, renters who leave their homes permanently will face challenges seeking units that offer similar combinations of affordability, location, and amenities as their current living situation. This is particularly true for the 56 percent of Philadelphia renters who moved into their housing in 2018 or earlier.¹⁷ Research has shown rent growth rates are lower for units with long-term tenants compared to units with frequent tenant turnover,¹⁸ meaning that long-term tenants may be paying rents below market rate.

Philadelphians permanently displaced from their homes may be forced to seek housing in new neighborhoods and may find that equivalent prices secure worse living conditions and/or less convenient locations than their former residences. These residents may face disruptions in valuable social networks. Likewise, their children may have to change schools. For some children, this may mean attending lower-quality schools and/or facing the challenges of attending new schools. On the heels of the educational disruptions experienced during the Covid-19 pandemic and the costs associated with

¹² These results are part of a separate report completed by Steve Finkelman, Principal and Director of Engineering Service at Thriven Design.

¹³ As throughout, assuming 135 units per building.

¹⁴ Estimate from the aforementioned report by Steve Finkelman.

¹⁵ "Planning and Budgeting Relocation Costs for HUD-Funded Projects", https://www.hud.gov/sites/documents/DOC_16291.PDF.

¹⁶ "Housing Data", Zillow, <https://www.zillow.com/research/data/>

¹⁷ American Community Survey, Table B25026, 2021 1-Year Estimates

¹⁸ Genoseve, David, "The Nominal Rigidity of Market Rents," National Bureau of Economic Research, 1999, https://www.nber.org/system/files/working_papers/w7137/w7137.pdf

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poor educational outcomes, this aspect of the potential negative impacts of the proposed Bill cannot be overstated.

4.2 Direct Impacts on Condominium Owners

ESI estimates that 9,700 condominium units with a total of about 12,000 residents would be impacted by the legislation. **These condominium residents would not only be impacted by temporary displacement from their homes, they would directly bear the cost burden of the necessary repairs.**

As discussed above, an engineering consultant estimated the cost of repairs at \$25,000 per unit. Condominium owners will bear responsibility for these costs. For the 9,700 impacted condominium units, **this represents a total of \$243 million in repair costs handed down to thousands of Philadelphia homeowners.**

Costs of this magnitude represent a major burden on Philadelphia condominium owners. Condominiums serve as an important gateway to relatively affordable homeownership in the City's most exclusive neighborhoods, particularly in Center City, where most of the potentially impacted condominium properties are located (see Section 2).

According to ESI's Philadelphia Housing Index¹⁹, Center City West is the city's most expensive neighborhood for homeowners, while Center City East is not far behind. Condominiums tend to be the lowest-priced homeownership option in Center City: the median sale price for Center City condominiums is \$325,000, while townhomes in Center City sell for a median price of \$750,000.²⁰ The median price of Center City condominiums is also lower than the going rate for townhomes in further-out neighborhoods like Northern Liberties (\$617,000) and Passyunk Square (\$405,000). This means that the condominium owners impacted by this legislation are likely to include homeowners of relatively lower incomes than the typical Center City homeowner.

Home repairs already place a significant burden on lower-income homeowners, who are more likely to forgo these repairs or shift spending from other important priorities to cover home repair costs.²¹ Mandating fire sprinkler installation may lead condominium owners to forgo spending on other important home repairs, potentially causing future financial and safety concerns.

4.3 Impacts on Philadelphia's Housing Crisis

Increased rents and decreased housing supply from the proposed Bill would have significant negative impacts on the City's housing market at large, as adding large numbers of recently displaced Philadelphians to an already-tight housing market will further tighten that market.

Philadelphia is confronting a housing supply shortage that predates the COVID-19 pandemic. In 2019, Philadelphia's market demand could have supported an additional 10,500 rental units, according to the

¹⁹ Philadelphia Housing Index, Econsult Solutions, Inc, <https://econsultsolutions.com/philadelphia-housing-index/>.

²⁰ "Center City: Housing Market", Redfin, <https://www.redfin.com/neighborhood/32178/PA/Philadelphia/Center-City/housing-market>

²¹ "The State of Housing Affordability in Philadelphia", The Pew Charitable Trusts, 2020,

<https://www.pewtrusts.org/en/research-and-analysis/reports/2020/09/the-state-of-housing-affordability-in-philadelphia>

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U.S. Department of Housing and Urban Development. As has been the case nationally, demand in Philadelphia outpaces new construction, with just 3,000 units under construction as of 2019.²² The shortage further exacerbates affordable housing issues, in a city where more than half of renters and nearly one-third of homeowners are cost-burdened.²³ In addition, landlords are increasingly choosing to sell properties rather than keep up with rising repair costs and increased requirements.²⁴

The pandemic's impacts have placed additional strain on the city's housing supply. According to data supplied by Zillow, the number of homes for sale in Philadelphia was down 40 percent in the spring of 2022 compared to the pre-pandemic levels of February 2020, while rents have increased 11.7 percent year-over-year.²⁵

The proposed Bill would create an added expense for dozens of landlords. This may serve to exacerbate the ongoing crisis of deferred maintenance citywide, in a city with some of the nation's oldest housing stock;²⁶ it may also induce landlords to either pass on the expense by increasing rents or sell the property to a buyer willing to take on the elevated cost. If expenses are high enough and landlords do not believe they can financially recuperate their losses, some units may be temporarily or permanently taken off the market; any new buyers may also choose to renovate market-rate buildings for new luxury tenants.

In a city with a rental unit shortage exceeding 10,000 units and rapidly rising rents, removing even a single high-rise building from the housing market, whether permanently or temporarily, or shifting a single market-rate building into luxury apartments, may significantly worsen the housing crisis.

Any renters who are permanently displaced from their housing following the implementation of the proposed Bill will be sent onto the housing market, potentially creating even further competition for an already scarce supply of affordable rental housing.

Overall, the small and declining stock of available and affordable Philadelphia housing is ill-equipped to withstand the displacement, rent hikes, and reduced availability likely to result from the proposed Bill.

5 Potential Safety Impacts Below Expectations

The extensive potential social costs of the proposal are not outweighed by safety impacts, which are more questionable than they may appear at first glance.

²² [Comprehensive Housing Market Analysis for Philadelphia, PA \(huduser.gov\)](https://www.huduser.gov/portal/publications/cma/2019/03/20190301-comprehensive-housing-market-analysis-for-philadelphia-pa)

²³ "How Philadelphia Can Address Its Affordable Housing Shortage", The Pew Charitable Trusts, <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/10/26/how-philadelphia-can-address-its-affordable-housing-shortage>.

²⁴ Moselle, Aaron, "As More Philly Landlords Move to Sell and Hold Off on Repairs, Analysts See a Threat", WHYY, 2021, <https://whyy.org/articles/as-more-philly-landlords-move-to-sell-and-hold-off-on-repairs-analysts-see-a-threat/>.

²⁵ D'Onofrio, Mike, "Philadelphia region sees 'unprecedented' drop in housing inventory", Axios, 2022, <https://www.axios.com/local/philadelphia/2022/03/23/philadelphia-housing-inventory-drops-prices-rise>.

²⁶ Bond, Michaelle, "More Philly landlords are selling properties and deferring maintenance, which threatens the supply of affordable housing", The Philadelphia Inquirer, 2021, <https://www.inquirer.com/real-estate/housing/philadelphia-rental-assistance-phl-landlord-sell-maintenance-20210907.html>

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Only about 15,000 high-rise fires occur each year in the entire United States, not all of which take place in residential buildings. High rise fires that do occur in residential buildings cause relatively less damage compared to other types of high-rise fires. Though residential high-rise fires make up approximately three-quarters of all high-rise fires, they account for only one-quarter of all dollars lost.²⁷ Very few high rise fires have occurred in Philadelphia since the tragic 1991 fire that inspired the initial fire sprinkler legislation.²⁸

Therefore, catastrophic fires in Philadelphia residential high rise buildings are infrequent and unlikely events. Moreover, the high rises that would be impacted by the proposed Bill already have numerous fire safety precautions in place.

Though pre-1991 high-rises are not currently required to install sprinklers in each unit, the City of Philadelphia requires other fire safety precautions for these buildings, including the following²⁹:

- Standpipes, which enable firefighting in residential buildings.
- Smoke detectors in residential units and hallways for buildings without a sprinkler system.
- Portable fire extinguishers in common areas on each floor.
- Proactive inspections of residential buildings of seven stories or higher.

These represent only the bare minimum fire safety precautions required by the City; many high-rise buildings have installed fire safety protections above and beyond these requirements.

Due to the rarity of high-rise fires and the extensive safety precautions already in place for high-rise buildings, the safety impacts of the proposed Bill would likely be lower than they seem at first glance — a serious concern considering the upheaval this legislation would cause for tens of thousands of Philadelphians.

6 Conclusion

While the proposed Bill is well-intentioned, its impacts would be catastrophic:

- ESI's analysis reveals that **26,000 Philadelphians across the city, including apartment renters and condominium residents, would experience temporary displacement due to the proposed Bill**, leading to significant financial and emotional hardship for residents forced to seek temporary housing. In turn, temporary displacements may result in high competition for temporary housing options.
- **Impacted renters, particularly low-income renters, run the risk of experiencing permanent displacement.** As tenants are faced with temporary housing costs and landlords pass down repair costs estimated at about \$3.4 million per building with rent increases estimated at \$200-

²⁷ Highrise Fires, U.S. Fire Administration Topical Fire Research Series, 2002, <https://nfa.usfa.fema.gov/downloads/pdf/statistics/v2i18-508.pdf>

²⁸ "Deadly One Meridian Fire's Impact on Philadelphia 30 Years Later", NBC 10 Philadelphia, <https://www.nbcphiladelphia.com/news/local/one-meridian-high-rise-fire-philadelphia-30-years/2715596/>.

²⁹ Schmidt, Sophia, "What to know about fire safety rules for your Philadelphia home or apartment", WHYY, 2022, <https://whyy.org/articles/what-to-know-about-fire-safety-rules-for-your-philadelphia-home-or-apartment/>

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400 per month, tenants may be forced to leave their homes. Permanent displacements may place displaced residents at a disadvantage in the housing market, leading them to face increased rents and decreased living conditions.

- **Condominium owners would be forced to bear the full cost of repair – estimated at \$25,000 per unit.** Given that condominium owners likely have limited funds available for home repairs, homeowners impacted by the proposed Bill may be forced to delay other necessary repairs, exacerbating other building maintenance issues.
- Increased rents (due to increased competition for housing and higher repair costs) and decreased supply (due to apartment buildings either taken off-market or shifted to luxury housing due to high repair costs) could result from the legislation. In a city that is already facing an affordable housing crisis, **the increased rents and decreased supply that could result from the proposed Bill could have noticeable negative impacts on the City's rental market at large.**

Given the rarity of high-rise fires and existing fire safety standards, ESI concludes that the high costs of the bill outweigh any potential benefits.