



Office of the City Manager

INFORMATION CALENDAR

July 30, 2024

To: Honorable Mayor and Members of the City Council

From: LaTanya Bellow, Interim City Manager

Submitted by: Terrance Davis, Director, Public Works

Subject: Analysis and Response regarding the Aerosols Requirements of the “Healthy City Buildings” Voter Initiative on the November 5, 2024 Ballot

INTRODUCTION

At a special meeting on June 14, 2024, the City Council requested a report, under the provisions of California Elections Code Section 9212, on the, “Healthy City Buildings,” citizen initiative that will appear before Berkeley voters on the November 5, 2024 ballot. The Section 9212 report, prepared in response to this request and drafted as an Off-Agenda Memo, is attached.

CURRENT SITUATION AND ITS EFFECTS

As specified in Election Code Section 9212, this report must be presented to City Council no later than 30 days after the date on which the City Clerk certified the sufficiency of the initiative petition. Council requested that this report include:

- An explanation of the air quality standards proposed in this measure, and any other air quality standards applicable, including those under consideration by State or Federal government.
- The technical feasibility and costs of retrofitting these buildings to apply the new air quality standards and systems.
- City resources required for the ongoing monitoring and maintenance after the installation of new systems.
- Staff Time related to the reporting requirements prescribed in the initiative to ensure that systems are functioning and continuously meet the required air quality standards.

BACKGROUND

Staff from the Public Works Department have provided analysis and information on the “Healthy City Buildings” Voter Initiative’s potential impacts, to the greatest extent possible given constraints on available time and resources.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Environmental impact may vary depending on the course of action and project implementation and phasing.

POSSIBLE FUTURE ACTION

Future action will be dependent on the outcome of this initiative at the ballot on November 5, 2024.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

The financial implications of adopting the Healthy City Buildings Ordinance are significant. The estimated cost range for facility assessments alone is \$2M - \$4M, with additional hard and soft costs anticipated for system upgrades, Staff training, and ongoing maintenance. These costs must be factored into the City's budget planning. Unknown costs associated with tenant improvements to existing City building leases, monitoring, and building management associated with the requirements are likely to far exceed existing budget allocations for facility maintenance.

CONTACT PERSON

Terrance Davis, Director Public Works Department

Attachments:

- 1: July 25, 2024 Off-Agenda Memo: Analysis and Response regarding the Aerosols Requirements of the 'Healthy City Buildings' Voter Initiative on the November 5, 2024 Ballot



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From: LaTanya Bellow, Interim City Manager

Re: Analysis and Response regarding the Aerosols Requirements of the 'Healthy City Buildings' Voter Initiative on the November 5, 2024 Ballot

Background:

Registered voters in the City of Berkeley may soon vote on a new initiative called the Healthy City Buildings Ordinance (Ordinance). This Ordinance which would require building air monitoring and filtration systems. As written, the Healthy City Buildings Ordinance would amend the Berkeley Municipal Code by adding Section 12.12 requiring the City to install and maintain air monitoring and filtration system in existing and new buildings to aid in the control of infectious aerosols. Specifically, the Ordinance would require City-owned or City-leased occupied buildings to meet the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 241-2023.

ASHRAE is a global society aimed at advancing heating, ventilation, and air conditioning (HVAC) technology for the built environment and provides engineering and policy guidance on ventilation, filtration and air cleaning, air distribution, HVAC system operation.

ASHRAE Standard 241-2023 establishes minimum requirements to reduce the risk of airborne disease transmission, including SARS-COV-2 and the flu virus, in buildings. This standard is applicable to both new and existing buildings as well as major renovations, and it sets forth comprehensive guidelines for air system design, installation, operation, and maintenance.

This brief Off Agenda Memo aims to provide an overview of pertinent issues and background to aid in examining the potential impacts of the Ordinance. Given the short turnaround time, a comprehensive analysis was not feasible; however, this memo represents the best effort under the circumstances.

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ASHRAE Standard 241-2023 Elements

The authors of the Healthy City Buildings initiative reference ASHRAE requirements as the desirable indoor air quality standard, so it is important to briefly outline some of the key elements addressed in the Standard 241-2023.

- *Infection Risk Management Mode (IRMM)*: The standard mandates the establishment of an IRMM, activated during periods of elevated disease transmission risk. The local authorities have the jurisdiction to determine when these enhanced protections are necessary. The standard emphasizes resilience in indoor air quality control design and operations to respond to extreme circumstances effectively.
- *Requirements for Equivalent Clean Airflow Rate*: ASHRAE 241 sets specific targets for equivalent clean airflow rates per occupant, ensuring pathogen-free air to reduce infection risks.
- *Use of Filtration and Air Cleaning Technology*: The standard provides detailed requirements for the use of filtration and air cleaning technologies, including HEPA filters, air ionizers, and UV lights. These technologies must be implemented effectively, safely, and cost-efficiently.
- *Planning and Commissioning*: The standard requires a building readiness plan documenting procedures for assessing and ensuring the proper functioning of HVAC systems to meet the equivalent clean air delivery standards.

Existing City Building Ventilation Standards

The California Division of Occupational Safety and Health (DOSH), better known as Cal/OSHA, is responsible for regulatory oversight of California employees through the setting and enforcing of health and safety standards. On December 15, 2022, the Occupational Safety and Health Standards Board voted to adopt non-emergency COVID-19 prevention regulations. These regulations took effect on February 3, 2023, and will remain in effect for two years after the effective date, except for the record keeping subsections that will remain in effect for three years.

In compliance with State regulations, on March 2023, the City revised its adopted Covid Prevention Plan (CPP), which includes various control measure to limit the spread of airborne illness. The CPP also includes the following Engineering control measures, relative to the built environment:

For indoor locations, the City identifies and evaluates how to maximize ventilation, to the extent feasible, indoor air exchange with outdoor air by utilizing the maximum mechanical ventilation and utilizing the highest filtration efficiency compatible with the existing ventilation system. Where appropriate, portable or mounted High Efficiency Particulate Air (HEPA) filtration units, or other air

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cleaning systems, may be utilized to achieve increased air filtration. The City may limit ventilation with outside air when the United States Environmental Protection Agency (EPA) Air Quality Index is greater than 100 for any pollutant.

Applicable City Building Inventory

The City is responsible for maintenance of 95 facilities, not including Library facilities and facilities leased to other entities, which have not been accounted for in this analysis. These 95 facilities include: 39 facilities in the Parks Recreation and Waterfront inventory and 56 facilities in the Public Works inventory.

Implementation Considerations

From a planning, resourcing and operational implementation point of view, Staff have identified the following considerations regarding the proposed Ordinance to implement ASHRAE Standard 241-2023:

- *Facility Assessments:* Although the City regularly performs high level assessments to create condition reports and cost estimates to calculate general deferred infrastructure improvement needs, Staff lack the detailed baseline building condition assessment data necessary to determine the full cost and associated timeline to comply with the proposed Ordinance. An immediate detailed assessment of all City building envelopes, including windows, roofs, and door systems, HVAC filtration and ducting, hazardous materials, and electrical systems is necessary. This assessment is anticipated to take 24-36 months to complete.
- *Building Readiness Plans/IRMM Requirements:* For effective pathogen mitigation, ASHRAE 241 recommends buildings make plans for multiple building operation modes:
 - For normal operations, buildings follow their normal operating mode that meets the outdoor air ventilation requirements set by ASHRAE Standard 62.1.
 - During times of high-risk, buildings enter an infectious risk management mode (IRMM). The standard specifies an equivalent outdoor air ventilation rate, on a cubic feet per minute per person basis, to be used during IRMM. This rate is to be derived from a combination of mechanically supplied outdoor air and through air filtration.
- *HVAC Expertise:* The City currently lacks certified HVAC technicians to diagnose, repair, install, and monitor filtration systems. Thus, implementation of the Ordinance would require external contract expertise to design, construct, and monitor the system to meet the requirements and timelines outlined in the proposed Ordinance. The costs to secure contract resources are unknown. Over time, the City would need to establish HVAC certified Facilities Maintenance

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positions to ensure required skilled labor to manage, troubleshoot, repair, and monitor the operation of systems citywide.

- *Staff Training:* City Staff will need extensive training to manage and maintain the new air quality systems effectively. Again, the costs associated with this is unknown and will be dictated by the type of system or systems selected for implementation.
- *Historic City Buildings:* Many City buildings, due to age and construction materials, require significant and costly improvements to their ducting systems to meet the new standards. For example, the potential presence of non-friable hazardous building materials (asbestos mixed with cement or other hard bonding materials) will add significant remediation and air quality monitoring costs to the project in addition to extending the project duration. Assessing a wider range of historic preservation options may be necessary to ensure sustainable and cost-effective solutions are selected. This would require assembling an interdepartmental team (Public Works, Building and Safety, and Planning) to work with a consultant team (historic preservationist, structural engineer, architect/contractor specializing in renovation of historic public buildings) to assess and prioritize City buildings for renovation, preservation, and/or partial or full replacement.
- *Leased Facilities:* The proposed Ordinance requires that any building that the City leases meet the ASHRAE 241-2023 standards. As of 2024, the City leases four (4) facilities for City operations. Compliance with the Ordinance would require renegotiation of some leases to ensure that the adequate tenant improvements to the building ventilation systems can be implemented.
- *Compliance Timeline:* Meeting the compliance timeline by January 1, 2025, is challenging, particularly for interim measures requiring operable windows and HEPA filters installation.
- *Potential Operational Impacts:* Enacting the required measures may lead to temporary closures of some City facilities, impacting public services and operations. It is essential to assess the extent of these operational impacts to plan effectively.

Financial Estimates

The financial implications of adopting the Healthy City Buildings Ordinance are significant. The estimated cost range for facility assessments alone is \$2M - \$4M, with additional hard and soft costs anticipated for system upgrades, Staff training, and ongoing maintenance. These costs must be factored into the City's budget planning. Unknown costs associated with tenant improvements to existing City building leases,

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monitoring, and building management associated with the requirements are likely to far exceed existing budget allocations for facility maintenance.

Required Next Steps (If Ordinance is Adopted)

- *Detailed Facility Assessments:* Prioritize and schedule comprehensive facility assessments to determine the specific requirements and costs for each building.
- *Engage External Expertise:* Hire certified HVAC technicians and consultants to assist with the implementation and on-going maintenance of upgraded and/or new air quality systems.
- *Staff training programs:* Initiate Staff training programs to ensure that city personnel are equipped to manage and maintain the new systems.
- *Budget Allocation:* Allocate sufficient funding in the city budget to cover the costs of assessments, upgrades, and ongoing maintenance.

Conclusion

Implementing the Healthy City Building Ordinance, and the associated ASHRAE Standard 241 in the City of Berkeley's facilities is essential for enhancing indoor air quality and reducing the risk of airborne disease transmission. However, this undertaking requires significant financial investment, technical expertise, and strategic planning. The outlined steps and Staff recommendations aim to ensure a safe and effective implementation process, safeguarding the health and safety of city employees and the public.

cc:

Anne Cardwell, Deputy City Manager
Tasha Tervalon, Interim Deputy City Manager
Jenny Wong, City Auditor
Farimah Brown, City Attorney
Mark Numainville, City Clerk
Matthai Chakko, Assistant to the City Manager

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