

SENATE No. 1447

The Commonwealth of Massachusetts

PRESENTED BY:

Patricia D. Jehlen

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act to improve outdoor and indoor air quality for communities burdened by transportation pollution.

PETITION OF:

| NAME: | DISTRICT/ADDRESS: | |
|---------------------------------|---|------------------|
| <i>Patricia D. Jehlen</i> | <i>Second Middlesex</i> | |
| <i>Joanne M. Comerford</i> | <i>Hampshire, Franklin and Worcester</i> | <i>2/24/2021</i> |
| <i>Jason M. Lewis</i> | <i>Fifth Middlesex</i> | <i>3/1/2021</i> |
| <i>Carmine Lawrence Gentile</i> | <i>13th Middlesex</i> | <i>3/4/2021</i> |
| <i>Erika Uyterhoeven</i> | <i>27th Middlesex</i> | <i>3/9/2021</i> |
| <i>John F. Keenan</i> | <i>Norfolk and Plymouth</i> | <i>3/9/2021</i> |
| <i>Joseph A. Boncore</i> | <i>First Suffolk and Middlesex</i> | <i>3/16/2021</i> |
| <i>Adam G. Hinds</i> | <i>Berkshire, Hampshire, Franklin and Hampden</i> | <i>4/6/2021</i> |
| <i>Thomas M. Stanley</i> | <i>9th Middlesex</i> | <i>4/6/2021</i> |

SENATE No. 1447

By Ms. Jehlen, a petition (accompanied by bill, Senate, No. 1447) of Patricia D. Jehlen, Joanne M. Comerford, Jason M. Lewis, Carmine Lawrence Gentile and other members of the General Court for legislation to improve outdoor and indoor air quality for communities burdened by transportation pollution. Public Health.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Second General Court
(2021-2022)**

An Act to improve outdoor and indoor air quality for communities burdened by transportation pollution.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 SECTION 1. Section 1 of Chapter 111 of the Massachusetts General Laws is hereby
2 amended by adding the following definitions

3 “black carbon” shall mean those fine particles less than or equal to 2.5 micrometers in
4 diameter (also known as soot).

5 “environmental justice population” shall mean the populations defined in section 62 of
6 chapter 30.

7 “HEPA filtration” shall mean a high efficiency particulate arrestance filtration system
8 that removes at least 99 percent of dust, pollen, mold, bacteria, and any airborne particles with a
9 size of 0.3-10.0 microns and is equivalent to a MERV 17, MERV 18, MERV 19, or MERV 20
10 filter.

11 “MERV 16 filter” shall mean a minimum efficiency reporting value filtration system that
12 removes at least 95 percent of dust, pollen, mold, bacteria, and any airborne particles with a size
13 of 0.3-10.0 microns.

14 “particulate matter” or “particulates” shall mean a broad class of chemically and
15 physically diverse substances that exist as discrete particles in air, including coarse, fine, and
16 ultrafine particles.

17 “fine particulate matter” or “fine particulates” shall mean particulate matter less than or
18 equal to 2.5 micrometers in diameter

19 “ultrafine particulate matter” or “ultrafine particulates” shall mean particulate matter less
20 than or equal to .1 micrometers in diameter (.1 micrometers is equivalent to 100 nanometers)

21 SECTION 2. Chapter 21A of the General Laws, as appearing in the 2016 Official
22 Edition, is hereby amended by inserting after section 18A, as Section 18B, the following
23 section:-

24 The department of environmental protection, in consultation with the executive office of
25 energy and environmental affairs and department of environmental health, shall convene a
26 technical advisory committee comprised of: residents of environmental justice populations living
27 adjacent to major highways; academics with expertise in air monitoring, environmental health,
28 air toxics, and air pollution; and labor representatives; for the purpose of identifying
29 communities with high cumulative exposure burdens for toxic air contaminants and criteria
30 pollutants. The department shall convene the technical advisory committee by December 1,
31 2021. The technical advisory committee shall identify the likely air pollution hotspots due to
32 high concentrations of traffic-related air pollution throughout the Commonwealth that should be

33 equipped with new or expanded air monitors and establish a definition of “air quality” and “air
34 quality target pollutants” that includes, but is not limited to, consideration of criteria pollutants,
35 black carbon, and ultrafine particulate matter.

36 By June 30, 2022, the department of environmental protection shall install and operate air
37 monitors in at least eight air pollution hotspots that measure for at least one of the following
38 pollutants: black carbon, nitrogen oxides, ultrafine particulate matter. By December 31, 2022,
39 the department of environmental protection shall establish baseline air quality in air pollution
40 hotspots. Data from the air monitors shall be publicly accessible and provide near-time
41 information. The department of environmental protection shall work with residents of
42 environmental justice populations to conduct participatory action research where residents can
43 use mobile air sensors to expand the number of locations where residents can track air quality.

44 Once those hotspots are determined and the baseline data is established, the department
45 of environmental protection shall set annual targets to decrease air quality target pollutants
46 between 2023 and 2035 to improve the air quality in that location. Air monitoring data shall be
47 collected every three years between 2023 and 2035 to measure progress toward achieving air
48 quality target pollutants reduction targets and make such data publicly available. By December
49 31, 2030, the department of environmental protection shall ensure that air pollution hotspots will
50 have achieved air quality target pollutant concentrations that are at least 50 percent below the
51 baseline in each hotspot and certify as such by publicly reporting compliance. By December 31,
52 2035, the department of environmental protection shall ensure that air quality target pollutants
53 concentrations in hotspots are at least 75 percent below the baseline in each hotspot and certify
54 as such by publicly reporting compliance.

55 The department of environmental protection, in consultation with the department of
56 public health, shall promulgate regulations for conducting indoor/outdoor assessments
57 monitoring exposure to ultrafine particulate matter and black carbon particulate matter
58 concentrations present in the indoor air of existing and proposed buildings, based on the best
59 available science about the health risks associated with ultrafine particulate matter and black
60 carbon. The department of environmental protection’s regulations shall at minimum set forth
61 standard procedures for conducting air dispersion modeling, managing air pollution, monitoring
62 ultrafine particulate matter, and estimating exposure.

63 The provisions of this chapter may be enforced by means of an action in the superior
64 court seeking either injunctive relief, a declaratory judgment, a writ of mandamus or any
65 combination thereof. No such action may be commenced without the plaintiff providing written
66 notice of the violations of this chapter to defendants at least sixty (60) days prior to filing a legal
67 action in superior court. All persons shall have standing to commence such enforcement actions.
68 Reasonable attorneys’ fees shall be recoverable by all substantially prevailing plaintiffs who seek
69 relief under this section.

70 SECTION 3. Section 26 of Chapter 111 shall be amended by adding the following
71 section after the first paragraph:

72 Boards of health shall require the installation of air filtration in eligible buildings located
73 within 200 meters of a class 1, class 2 or class 3 roadway, marine terminal, airport, or a train
74 station or train yard serving diesel locomotives. Eligible buildings include: (i) existing
75 residential public housing; (ii) existing residential private multifamily housing with more than
76 two tenant-occupied units; (iii) existing public schools serving students of any age in grades

77 kindergarten through twelfth grade; (iv) existing private schools schools serving students of any
78 age in grades kindergarten through twelfth grade; (v) existing charter schools serving students of
79 any age in grades kindergarten through twelfth grade; (vi) existing college and university
80 buildings with one or more classrooms; (vii) existing commercial buildings with businesses that
81 have five or more full-time employees; and (viii) existing correctional facilities, including
82 prisons and jails. Boards of health shall require that air filtration be maintained throughout the
83 building operation.

84 The department of environmental protection, in consultation with the department of
85 public health, department of elementary and secondary education, and executive office of
86 administration and finance, shall identify funding sources to provide incentives for eligible
87 buildings that are schools, private housing, and public housing to cover the cost of installing air
88 filtration equipment.

89 Air filtration equipment installed in eligible buildings that are schools, commercial
90 buildings greater than 20,000 square feet, and residential buildings with more than 10 units shall
91 be MERV 16 or other equipment that removes at least the same amount of ultrafine particulate
92 matter as a MERV 16 filter.

93 SECTION 4. Section 4A of chapter 15D of the General Laws, as so appearing, is hereby
94 amended by adding the following paragraph:-

95 (e) The department of early education and care shall issue a new original license for a
96 school age child care program, day care center, family day care system, group care facility or
97 temporary shelter facility, family day care home or large family day care home which is not a

98 part of a family day care system, as defined in section 1A of chapter 15D of the General Laws,
99 only after the applicant has:

100 carried out the indoor/outdoor assessment described in section 18B of chapter 21A of the
101 General Laws and the assessment results indicate the concentration of fine, ultrafine, and black
102 carbon particles in indoor air is or will be mitigated to at least 80 percent below outdoor air
103 concentrations; or

104 installed a MERV 16 filter in mechanical ventilation system or standalone HEPA
105 filtration or acceptable mitigation to be determined by the department.

106 (f) No license shall be issued until acceptable mitigation has been installed and is
107 functioning.

108 SECTION 5. Section 1A of chapter 40A of the General Laws, as so appearing is hereby
109 amended by inserting before the definition of “permit granting authority” the following
110 definitions:

111 “construction” shall mean new construction or rehabilitation up to 50 percent of
112 assessed value.

113 “hospital” shall mean any institution in the Commonwealth of Massachusetts,
114 however named, whether conducted for charity or for profit, which is advertised, announced,
115 established or maintained for the purpose of caring for persons admitted thereto and staying
116 overnight for diagnosis or medical, surgical or restorative treatment which is rendered within
117 said institution; but shall not include clinics, day surgery centers, dialysis centers, or other such
118 health care facilities which do not admit patients overnight.

119 “long-term care facility” shall mean any institution whether conducted for charity
120 or profit which is advertised, announced or maintained for the express or implied purpose of
121 providing three or more individuals admitted thereto with long-term resident, nursing,
122 convalescent or rehabilitative care; supervision and care incident to old age for ambulatory
123 persons; or retirement home care for elderly persons. Long-term care facility shall include
124 convalescent or nursing homes, rest homes, and charitable homes for the aged.

125 “particulate matter mitigation” shall mean strategies, structural and nonstructural,
126 that verifiably reduce indoor ultrafine particle levels by 80 percent, relative to outdoor levels.

127 “publicly funded” shall mean any entity or institution which receives federal, state
128 or municipal monies, grants, and/or subsidies.

129 “publicly subsidized” shall mean any project receiving any form of direct funding,
130 loan, loan guarantee, tax credit, TIF funding, publicly bonded funds, or property tax incentives,
131 issued or granted by any public or quasi-public entity.

132 “school” shall mean any public or private institution primarily engaged in the
133 education of persons aged 18 years and younger. This definition does not include institutions of
134 higher education.

135 SECTION 6. Section 94 of chapter 143 of the General Laws, as so appearing, is hereby
136 amended by inserting the following paragraphs after section (r):

137 (s) No permit granting authority shall grant a building permit for any proposed
138 residential development, hospital, school, long-term care facility, school aged child care
139 program, day care center, family day care home or large family day care home which is not a

140 part of a family day care system, family day care system, or group care facility or temporary
141 shelter facility as defined in section 1A of chapter 15D of the General Laws unless:

142 (a) the owner or applicant carries out an indoor/outdoor particulates
143 assessment consistent with the regulations adopted pursuant to section 18B of chapter 21A of the
144 General Laws, and the assessment results indicate that the concentration of ultrafine particulate
145 matter and black carbon is or will be mitigated to at least 80 percent below outdoor
146 concentrations; or

147 (b) the owner or applicant has installed a MERV 16 filter in the building's mechanical
148 ventilation system.

149 SECTION 7. Subsection (a) of section 6 of chapter 70B of the General Laws, as so
150 appearing, is hereby amended by inserting after subparagraph (6) the following paragraph:-

151 (7) If the school project includes structures, apart from parking structures and
152 accessory structures, as defined in Section 21 of Chapter 17 of the General Laws or a train
153 station or train yard serving diesel locomotives, the applicant shall:

154 carry out the indoor/outdoor particulates assessment described in section 18B of chapter
155 21A of the General Laws and the assessment results indicate that the concentration of ultrafine
156 particulate matter and black carbon is or will be mitigated to at least 80 percent below outdoor
157 concentrations; or

158 install a MERV 16 filter in the building's mechanical ventilation system.

159 SECTION 8. Section 51 of Chapter 111 of the General Laws, as so appearing, is hereby
160 amended by inserting after the second paragraph the following paragraph:

161 No original license shall be issued to establish a hospital so as to place structures
162 inhabited by patients unless the developer

163 has carried out the indoor/outdoor particulates assessment described in section 18B of
164 chapter 21A of the General Laws and the assessment results indicate that indoor ultrafine
165 particulate matter and black carbon levels are or will be mitigated to at least 80 percent below
166 that of outdoor levels. In the case of a facility previously licensed as a hospital in which there is
167 only a change in ownership, no such particulates assessment shall be required, in the absence of
168 expansions or new construction; or

169 has installed a MERV 16 filter in the building's mechanical ventilation system.

170 SECTION 9. Section 71 of Chapter 111 of the General Laws, as so appearing, is hereby
171 amended by inserting after the second paragraph the following paragraph:-

172 No original license shall be issued to establish a convalescent or nursing home,
173 rest home or charitable home for the aged so as to place residential structures unless the
174 developer:

175 has carried out the particulates assessment described in section 18B of chapter 21A of the
176 General Laws and the assessment results indicate indoor ultrafine particulate matter and black
177 carbon levels are or will be mitigated to at least 80 percent below those of outdoor levels. In the
178 case of a facility previously licensed in which there is only a change in ownership, no such health
179 risk assessment shall be required, in the absence of expansion or new construction; or

180 has installed a MERV 16 filter in the building's mechanical ventilation system.

181 SECTION 10. Section 127A of chapter 111 shall be amended to add the following
182 section after the second paragraph:

183 The department shall amend the state sanitary code to require mold remediation in
184 residential buildings and school buildings with one or more classrooms for the purpose of
185 eliminating moisture and airborne mold spores that have the potential to contribute to public
186 health impacts for building occupants. Mold remediation shall be required if mold is detected in
187 the interior or exterior of buildings or on structures located throughout a property containing
188 residential buildings or school buildings with one or more classrooms.

189 Within 365 days of the effective date, the department shall modify its regulations
190 establishing that the minimum standards of health for human habitation require an environment
191 free of mold. Local boards of health shall have the authority to enforce said code against
192 building owners that fail to remove moisture and remove airborne mold spores. Local boards of
193 health may use equipment, such as mold monitors, to detect the presence of moisture or mold.

194 SECTION 11. (1) Notwithstanding any special or general law, rule or regulation to the
195 contrary the board of building regulations and standards shall, commencing with the next edition
196 of the International Energy Conservation Code adopted after January 1, 2022 under section 94 of
197 chapter 143 of the General Laws, adopt, approve, codify, and publish mandatory building
198 standards:

199 (a) for mandatory building standards for the installation of air filtration systems at a
200 minimum of MERV 16; and

201 (b) do not permit the installation of gas stoves for use in residential construction.

202 (2) In proposing and adopting standards and regulations under this section, the Board of
203 Building Regulations and Standards shall actively consult with interested parties, including, but
204 not limited to, the Department of Public Health and the Department of Energy Resources.