

**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 Uytterhoeven</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>
<i>Sal N. DiDomenico</i>	<i>Middlesex and Suffolk</i>	<i>4/28/2021</i>
<i>Rebecca L. Rausch</i>	<i>Norfolk, Bristol and Middlesex</i>	<i>6/29/2021</i>
<i>David Henry Argosky LeBoeuf</i>	<i>17th Worcester</i>	<i>6/29/2021</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 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.