

HOUSE No. 4018

The Commonwealth of Massachusetts

PRESENTED BY:

Michelle L. Ciccolo

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 relative to transportation resiliency planning.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Michelle L. Ciccolo</i>	<i>15th Middlesex</i>	<i>1/20/2023</i>

HOUSE No. 4018

By Representative Ciccolo of Lexington, a petition (accompanied by bill, House, No. 4018) of Michelle L. Ciccolo relative to transportation resiliency planning. Transportation.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Third General Court
(2023-2024)**

An Act relative to transportation resiliency planning.

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. Chapter 6C of the General Laws is hereby amended by adding the
2 following section:-

3 Section 79. (a) For the purposes of this section the following words shall, unless the
4 context requires otherwise, have the following meanings:

5 “Adaptation”, adjustments in natural or human systems in response to actual or expected
6 climatic stimuli and associated impacts, including but not limited to changes in processes,
7 practices and protocols to increase resiliency of built and natural structures, moderate potential
8 damages or benefit from opportunities associated with climate change.

9 “Adaptation cost assessment”, a determination of the life cycle financial cost of
10 infrastructure procured and infrastructure improvements made to implement the adaptation
11 strategies identified in a vulnerability assessment. The adaptation cost assessment shall include:

12 (i) estimated financial costs associated with procurement, construction, maintenance, retrofits

13 and other related improvements made to said infrastructure; and (ii) the estimated financial cost
14 savings resulting from the abated climate risk associated with said infrastructure procurement
15 and improvement. The adaptation cost assessment shall evaluate said infrastructure from its
16 construction or acquisition to its decommissioning. The adaptation cost assessment may include
17 an estimation of the financial value of the co-benefits resulting from said infrastructure
18 procurements and improvements.

19 “Vulnerability assessment”, an evaluation of degree of susceptibility to, or ability to cope
20 with, adverse effects of climate change, such as climate variability and extremes, including an
21 evaluation of adaptive capacity and subsequent adaptation strategies and options for the asset,
22 system, institution or other subject being assessed.

23 (b) In addition to any vulnerability assessment required pursuant to subsection (b) of
24 section 10 of chapter 21N, the department and each division and authority under the control of
25 the department shall complete a vulnerability assessment and an adaptation cost assessment
26 pertaining to all assets comprising the metropolitan highway system.

27 The vulnerability assessment shall: (i) identify adaptation solutions to be prioritized
28 based on severity of asset vulnerability, level of anticipated climate risk, safety risk to users,
29 riders and workers if vulnerability is not addressed; and (ii) identify whether the asset is located
30 in or serves an environmental justice community. Adaptation solutions shall:(i) identify any
31 opportunities to work in partnership with abutting landowners and municipalities in the
32 implementation of adaptation solutions; and (ii) include the identification of solutions that are
33 reflected in municipal hazard mitigation plans and additional planning efforts related to the
34 municipal vulnerability preparedness grant program. Every 2 years, the department shall review

35 and update the vulnerability assessment and adaptation cost assessment required pursuant to this
36 subsection.

37 (c) The department and each division and authority under the control of the department
38 shall complete a vulnerability assessment and an adaptation cost assessment pertaining to all
39 equipment and mass transportation facilities as defined in section 1 of chapter 161A.

40 Each vulnerability assessment shall: (i) identify adaptation strategies to be prioritized
41 based on severity of asset vulnerability, level of anticipated climate risk and safety risk to users,
42 riders and workers if vulnerability is not addressed; (ii) identify whether the asset is located in or
43 serves an environmental justice community; (iii) identify the authority's plan to provide
44 replacement or alternative service to sustain the current level of service to riders in the event
45 assets are unsuitable to operate due to damage associated with climate risks, including, but not
46 limited to, flooding, extreme heat, excessive snow and ice and other extreme weather events; and
47 (iv) include the cost of any temporary or extended use facilities required to provide ongoing
48 access or detours for roads and bridges during their replacement or repair. Adaptation solutions
49 shall: (i) identify any opportunities to work in partnership with abutting landowners and
50 municipalities; and (ii) include identification of solutions that are reflected in municipal hazard
51 mitigation plans and additional planning efforts related to the municipal vulnerability
52 preparedness grant program Every 2 years, the department and each division and authority under
53 the control of the department shall review and update the vulnerability assessments and cost
54 adaptation assessments required pursuant to this subsection.

55 (d) The vulnerability assessments and adaptation cost assessments required pursuant to
56 subsections (b) and (c) shall be completed within 18 months of the enactment of this section.

57 Every 2 years following the enactment of this section, the secretary of the department shall
58 provide a report detailing progress toward the vulnerability and adaptation cost assessments
59 required pursuant to said subsections (d), (e) and (f) to the clerks of the house of representatives
60 and the senate, the chairs of the house and senate committees on ways and means and the chairs
61 of the joint committee on transportation.

62 SECTION 3. Section 5 of chapter 161A of the General Laws, as so appearing, is hereby
63 amended by inserting after the word “act”, in line 111, the following words:- , capital
64 investments identified as priority adaptation strategies in the department’s vulnerability
65 assessment.

66 SECTION 4. Chapter 161B of the General Laws is hereby amended by adding the
67 following section:-

68 Section 28. (a) For the purposes of this section the following words shall, unless the
69 context requires otherwise, have the following meanings:

70 “Adaptation”, adjustments in natural or human systems in response to actual or expected
71 climatic stimuli and associated impacts, including but not limited to changes in processes,
72 practices and protocols to increase resiliency of built and natural structures, moderate potential
73 damages or benefit from opportunities associated with climate change.

74 “Adaptation cost assessment”, a determination of the life cycle financial cost of
75 infrastructure procured and infrastructure improvements made to implement the adaptation
76 strategies identified in a vulnerability assessment. The adaptation cost assessment shall include:
77 (i) estimated financial costs associated with procurement, construction, maintenance, retrofits
78 and other related improvements made to said infrastructure; and (ii) the estimated financial cost

79 savings resulting from the abated climate risk associated with said infrastructure procurement
80 and improvement. The adaptation cost assessment shall evaluate said infrastructure from its
81 construction or acquisition to its decommissioning. The adaptation cost assessment may include
82 an estimation of the financial value of the co-benefits resulting from said infrastructure
83 procurements and improvements.

84 (b) All regional transit authorities, as established in section 2, shall complete a
85 vulnerability assessment and an adaptation cost assessment.

86 The vulnerability assessment and adaptation cost assessment shall pertain to all
87 equipment and mass transportation facilities as defined in section 1 of chapter 161A. The
88 vulnerability assessment shall: (i) identify adaptation strategies to be prioritized based on
89 severity of asset vulnerability, level of anticipated climate risk and safety risk to riders and
90 workers if vulnerability is not addressed; (ii) identify whether the asset is located in or serves an
91 environmental justice community; and (iii) identify the authority's plan to provide replacement
92 or alternative service to sustain the current level of service to riders in the event assets are
93 unsuitable to operate due to damage associated with climate risks, including but not limited to
94 flooding, extreme heat, excessive snow and ice, and other extreme weather events. Adaptation
95 solutions shall: (i) identify any opportunities to work in partnership with abutting landowners
96 and municipalities; and (ii) include identification of solutions that are reflected in municipal
97 hazard mitigation plans and additional planning efforts related to the municipal vulnerability
98 preparedness grant program. Every 2 years, each regional transit authority shall review and
99 update the vulnerability assessments and cost adaptation assessments required pursuant to this
100 subsection.

101 (c) The vulnerability assessment and adaptation cost assessment required pursuant to
102 subsection (b) shall be completed within 18 months of the enactment of this section. Every 2
103 years following the enactment of this section, the secretary of the regional transit authority
104 council shall provide a report detailing progress toward the vulnerability and adaptation cost
105 assessments required pursuant to said subsection (b) to the clerks of the house of representatives
106 and the senate, the chairs of the house and senate committees on ways and means and the chairs
107 of the joint committee on transportation.

108 SECTION 5. Chapter 465 of the acts of 1956 is hereby amended by adding the following
109 section:-

110 Section 37. (a) For the purposes of this section the following words shall, unless the
111 context requires otherwise, have the following meanings:

112 “Adaptation”, adjustments in natural or human systems in response to actual or expected
113 climatic stimuli and associated impacts, including but not limited to changes in processes,
114 practices and protocols to increase resiliency of built and natural structures, moderate potential
115 damages or benefit from opportunities associated with climate change.

116 “Adaptation cost assessment”, a determination of the life cycle financial cost of
117 infrastructure procured and infrastructure improvements made to implement the adaptation
118 strategies identified in a vulnerability assessment. The adaptation cost assessment shall include:
119 (i) estimated financial costs associated with procurement, construction, maintenance, retrofits
120 and other related improvements made to said infrastructure; and (ii) the estimated financial cost
121 savings resulting from the abated climate risk associated with said infrastructure procurement
122 and improvement. The adaptation cost assessment shall evaluate said infrastructure from its

123 construction or acquisition to its decommissioning. The adaptation cost assessment may include
124 an estimation of the financial value of the co-benefits resulting from said infrastructure
125 procurements and improvements.

126 “Vulnerability assessment”, an evaluation of degree of susceptibility to, or ability to cope
127 with, adverse effects of climate change, such as climate variability and extremes, including an
128 evaluation of adaptive capacity and subsequent adaptation strategies and options for the asset,
129 system, institution or other subject being assessed.

130 (b) The Authority shall complete a vulnerability assessment and an adaptation cost
131 assessment pertaining to all equipment and mass transportation facilities as defined in section 1
132 of chapter 161A of the General Laws.

133 Each vulnerability assessment shall: (i) identify adaptation strategies to be prioritized
134 based on severity of asset vulnerability, level of anticipated climate risk and safety risk to users,
135 riders and workers if vulnerability is not addressed; (ii) identify whether the asset is located in or
136 serves an environmental justice community; (iii) identify the authority’s plan to provide
137 replacement or alternative service to sustain the current level of service to riders in the event
138 assets are unsuitable to operate due to damage associated with climate risks, including, but not
139 limited to, flooding, extreme heat, excessive snow and ice and other extreme weather events; and
140 (iv) include the cost of any temporary or extended use facilities required to provide ongoing
141 access or detours for roads and bridges during their replacement or repair. Adaptation solutions
142 shall: (i) identify any opportunities to work in partnership with abutting landowners and
143 municipalities; and (ii) include identification of solutions that are reflected in municipal hazard
144 mitigation plans and additional planning efforts related to the municipal vulnerability

145 preparedness grant program Every 2 years, the department and each division and authority under
146 the control of the department shall review and update the vulnerability assessments and cost
147 adaptation assessments required pursuant to this subsection.

148 (c) The vulnerability assessment and adaptation cost assessment required pursuant to
149 subsection (b) shall be completed within 18 months of the enactment of this subsection. Every 2
150 years following the enactment of this section, the A shall provide a report detailing progress
151 toward the vulnerability and adaptation cost assessments required pursuant to said subsection (b)
152 to the clerks of the house of representatives and the senate, the chairs of the house and senate
153 committees on ways and means and the chairs of the joint committee on transportation.