SENATE DOCKET, NO. 45 FILED ON: 1/4/2019

SENATE . . . . . No. 2122

The Commonwealth of Massachusetts

PRESENTED BY:

Michael O. Moore

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 life cycle costs for long term pavement solutions.

PETITION OF:

NAME:	DISTRICT/ADDRESS:
Michael O. Moore	*Second Worcester*

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SENATE . . . . . No. 2122

By Mr. Moore, a petition (accompanied by bill, Senate, No. 2122) of Michael O. Moore for legislation relative to life cycle costs for long term pavement solutions. Transportation.

[SIMILAR MATTER FILED IN PREVIOUS SESSION
SEE SENATE, NO. *1966* OF 2017-2018.]

The Commonwealth of Massachusetts

In the One Hundred and Ninety-First General Court
(2019-2020)

An Act relative to life cycle costs for long term pavement solutions.

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

SECTION 1. Chapter 6C of the General Laws, as appearing in the 2014 Official Edition, is hereby amended by adding at the end thereof the following new sections:-

Section 77. (a) the following definitions shall apply for the purposes of this section:

"life-cycle cost," the total cost of the initial project plus all anticipated costs for subsequent maintenance, repair, or resurfacing over the life of the pavement,

"plain joined cementitious concrete," cement concrete pavement with no reinforcement and proper joint placement

(b) the department shall develop and implement a life-cycle cost analysis for each project for which the estimated total pavement costs exceed $1,000,000.00, funded in whole, or in part,

10 with state funds. The department shall design each project in both “Hot Mix Asphalt” (HMA)
11 and “Plain Jointed Cementitious Concrete” (PJCC), and award paving projects utilizing the
12 material having the lowest Life Cycle Cost

13 (c) Except as otherwise provided in this section, life-cycle cost shall compare equivalent
14 designs, and shall be based upon Massachusetts actual historic project maintenance, repair, and
15 resurfacing schedules and costs as recorded by the Department pavement management system,
16 and shall include estimates of user costs throughout the entire pavement life.

17 For pavement projects for which there are no relevant Massachusetts actual historic

18 project maintenance, repair, and resurfacing schedules and costs as recorded by the
19 pavement

20 management system, the Department may use Either of the following as a substitute for
21 the requirements listed in subsection (a)

22 1. actual historical and comparable data for reasonably equivalent designs from states
23 geographic locations with similar climates, soil structures, or vehicle traffic

24 2. the department may determine appropriate estimated maintenance, repair, and
25 resurfacing shcedules for a project by using preliminary results from a demonstration project
26 described in section that is underway at the time of the project. The schedules described in this
27 subdivision shall be determined using the appropriate engineering analysis techniques and shall
28 be approved by the chief engineer of the department. The temporary schedules described in this
29 subsection shall be superseded by actual performance data as it is developed

30 Section 78. (a) notwithstanding section 77, the department shall design and construct a
31 minimum of 4 PJCC Demonstration Projects per year for a minimum of 10 years, for the purpose
32 of generating historical information that can be utilized in the life cycle cost analysis, with at
33 least one of these projects annually using thin concrete overlay, which may require synthetic
34 fiber reinforcement to extend the life and performance of the pavement

35 (b) demonstration projects shall be selected by the department in consultation with
36 representatives of the Massachusetts Concrete and Aggregate Producers Association, and shall
37 meet at least one of the following criteria

38 1. Pavement designs intended to increase pavement life-expectancy in a manner that
39 results in lower life cycle costs

40 2. Pavement designs intended to improve performance, including but not limited to,
41 friction, surface stress, reduction of noise, and improvement of ride quality

42 3. Pavement designs intended to compare the performance of various types of pavement

43 (c) each demonstration project shall include measurable goals and objectives for
44 determining the success of that project, and the department shall measure the interim success of
45 each project and prepare an annual report that compares the cost effectiveness and performance
46 of the materials and designs to the departments standard selection process. The report shall be
47 provided to the department, the Speaker of the House of Representatives, and the President of the
48 Senate