

SENATE No. 2274

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:	
<i>Michael O. Moore</i>	<i>Second Worcester</i>	
<i>John J. Cronin</i>	<i>Worcester and Middlesex</i>	<i>2/1/2023</i>
<i>David F. DeCoste</i>	<i>5th Plymouth</i>	<i>2/1/2023</i>
<i>John H. Rogers</i>	<i>12th Norfolk</i>	<i>2/1/2023</i>
<i>Angelo J. Puppolo, Jr.</i>	<i>12th Hampden</i>	<i>2/1/2023</i>
<i>Michael J. Finn</i>	<i>6th Hampden</i>	<i>2/1/2023</i>
<i>James Arciero</i>	<i>2nd Middlesex</i>	<i>2/2/2023</i>
<i>Paul K. Frost</i>	<i>7th Worcester</i>	<i>2/8/2023</i>
<i>Daniel M. Donahue</i>	<i>16th Worcester</i>	<i>2/8/2023</i>
<i>Brian W. Murray</i>	<i>10th Worcester</i>	<i>2/22/2023</i>
<i>Ryan C. Fattman</i>	<i>Worcester and Hampden</i>	<i>2/28/2023</i>
<i>Jonathan D. Zlotnik</i>	<i>2nd Worcester</i>	<i>3/2/2023</i>

SENATE No. 2274

By Mr. Moore, a petition (accompanied by bill, Senate, No. 2274) of Michael O. Moore, John J. Cronin, David F. DeCoste, John H. Rogers and other members of the General Court for legislation relative to life cycle costs for long term pavement solutions. Transportation.

[SIMILAR MATTER FILED IN PREVIOUS SESSION
SEE SENATE, NO. 2358 OF 2021-2022.]

The Commonwealth of Massachusetts

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

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:

1 SECTION 1. Chapter 6C of the General Laws, as appearing in the 2020 Official Edition,
2 is hereby amended by inserting after section 77 the following 2 sections:-

3 Section 78. (a) the following definitions shall apply for the purposes of this section:

4 “Life-cycle cost”, the total cost of the initial project plus all anticipated costs for
5 subsequent maintenance, repair, or resurfacing over the life of the pavement.

6 “Plain jointed cementitious concrete”, cement concrete pavement with no reinforcement
7 and proper joint placement.

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

10 in part, with state funds. The department shall design each project in both “Hot Mix Asphalt”
11 (HMA) and “Plain Jointed Cementitious Concrete” (PJCC), and award paving projects utilizing
12 the 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 pavement
19 management system, the department may use either of the following as a substitute for the
20 requirements listed in subsection (a):

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

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

29 Section 79. (a) Notwithstanding section 77, the department shall design and construct a
30 minimum of 4 PJCC Demonstration Projects per year for a minimum of 10 years, for the purpose
31 of generating historical information that can be utilized in the life cycle cost analysis, with at

32 least one of these projects annually using thin concrete overlay, which may require synthetic
33 fiber reinforcement to extend the life and performance of the pavement.

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

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

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

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

42 (c) Each demonstration project shall include measurable goals and objectives for
43 determining the success of that project, and the department shall measure the interim success of
44 each project and prepare an annual report that compares the cost effectiveness and performance
45 of the materials and designs to the departments standard selection process. The report shall be
46 provided to the department, the speaker of the house of representatives, and the president of the
47 senate.