



CITY OF CAMBRIDGE
INTEROFFICE CORRESPONDENCE

To : Mr. Robert W. Healy
City Manager

Date : March 24, 1986

From : Everett R. Kennedy
Commissioner of Public Works *ERM*

Reference

Subject : Council Order No. 2 - Councillor Wolf - 12/30/85
Re: Treatment of Ice on Streets

The questions raised by this Council Order are as follows:

1. Can sand be used, without chemicals, on City streets, and
2. Can use of sodium chloride (salt) be limited to those occasions when necessary for safety?

The use of sand alone is effective in very limited areas and under special weather conditions. Since sand will not melt snow, its effectiveness is demonstrated when icing conditions exist, under near freezing temperatures, to provide traction for vehicles either "stuck" or under road grade conditions where extra traction is necessary. Under snow conditions the effectiveness of an application of sand is quickly lost with no residual remedial conditions. Under severe cold temperatures applications of sand on ice prove less than desirable because the sand has little or no effect on vehicle traction while psychologically providing the driver with a false sense of security. When the sand is "spiked" with one or two parts of salt to ten parts of sand, the overall effectiveness of the mixture is improved because of melting action of the mixture.

In short, sand can be used alone, but with little positive effect on travel conditions. At the present time the sand/salt mixture is used on secondary and side streets, when necessary, to improve conditions for all residents.

The second question is addressed on a storm-by-storm basis. The use of straight salt is limited to primary and arterial streets which handle commuter and city generated "peak" traffic, and special hill conditions; where this traffic requires "bare" pavement.

Mr. Robert W. Healy, City Manager
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During the early stages of any storm it is necessary to apply salt several times to "hold" bare pavements; once the weather has cleared and pavements have dried the resulting white coating is an indication in part of the amount of salt used; the results shown vary obviously by the type and duration of each storm and numbers of application.

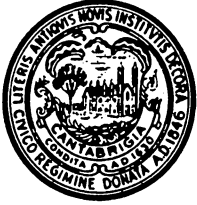
At the present time there is no substitution for sodium chloride which is anyway near as cost effective as a deicing agent; calcium chloride is many times the cost of present salt and is far more difficult to handle in storage and application.

On February 12, 1986, Bill Ryan and I met with the Public Planting Committee to discuss the use of chemicals in Cambridge, the type, amount and impact on vegetation on city streets. To put the Committee's position in writing is to state that the Committee recognizes the necessity for use of chemicals, under controlled conditions, while urging continued supervisory control over amounts of application. The Department of Public Works wholeheartedly supports the position and has assured the Committee that the use of salt will continue as judiciously as possible.

It should be noted that the use of chemicals on street systems in Cambridge has not been identified as a major threat to vegetation; obviously combined with other adverse conditions of temperature, loss of moisture, exhaust fumes etc., any direct salt applications will be detrimental. Incidentally, there is no effect on public water systems in Cambridge by the city's use.

In summary:

The use of rock salt is essential in an urban society to effect "bare" pavements and insure a network of safe and passable roads. The use should be limited to those times when there is no other solution and only then using expertise and equipment to provide the best possible results at the least possible costs.



CITY OF CAMBRIDGE

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EXECUTIVE DEPARTMENT
ROBERT W. HEALY
City Manager

RICHARD C. ROSSI
DEPUTY CITY MANAGER

April 7, 1986

To the Honorable, the City Council:

In response to City Council Order No. 2 of December 30, 1985 regarding the treatment of ice on city streets, I submit the attached report from Everett Kennedy, Commissioner of Public Works.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Robert W. Healy", is written over a horizontal line.

Robert W. Healy
City Manager

Agenda Item No. 6 S-229

Re: treatment of ice on City streets.

In City Council,

April 7, 1986

Placed on file