City of Providence

Department of Public Works

A Report to the

Providence City Council

Regarding

Sidewalk Conditions

October 2014

INTRODUCTION

A resolution was introduced to the City Council that recognized the need to make repairs to the sidewalks in the City. (A copy of the resolution is appended to this report.) This report attempts to quantify the severity of the problem and outlines methodology to advance a solution.

THE PROBLEM

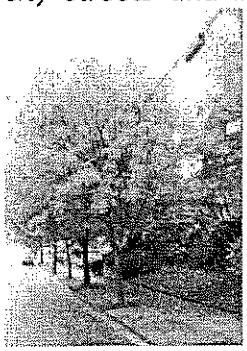
Providence is a city whose neighborhoods and commercial areas are quite old by most standards. Some of the oldest sections of the City still have sidewalks paved with bricks that allegedly where made in England and used as ballast for ships sailing to the colony. Other sidewalks are a mixture of cement concrete, asphalt or undeveloped. Since the City was developed over time, sidewalks were built with not only different types of materials, but different quality of materials, as well.

The public right of way consists of a roadway and two sidewalks. The proportions are typically 60 percent for the roadway and 20 percent for each sidewalk. While our residential streets predominantly have a width of 40 feet; 24 feet is dedicated to the roadway and each sidewalk is 8 feet wide. Other streets of different widths try to maintain these proportions.

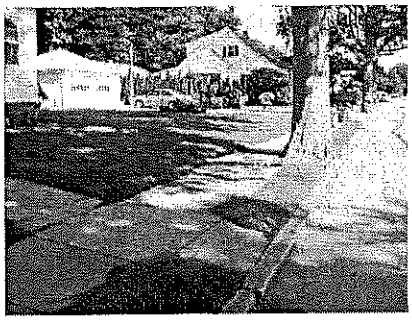
The City has roughly 400 miles of streets. While there is no definitive inventory of all the sidewalks, by observation it would appear that approximately 3/4 of the roads are bound by paved sidewalks. This means we have nearly 600 miles of sidewalks, all in various states of repair.

There are 415,000 trees in the City. The City prides itself on its urban forest. A recent report titled, **"Providence's Urban Forest: Structure, Effects and Values"** states:

Providence's urban forest – the population of public and private trees that grow along city streets and in parks, backyards, institutional property, natural areas, and other places – is vital to the city's environment and quality of life. A healthy tree canopy provides essential ecological functions that can now be quantified. Trees filter the air of pollution; reduce water runoff that affects water quality; moderate urban temperatures in summer; reduce energy consumption and therefore pollution emitted by power plants; and store car-bon in their wood. Trees also provide habitat for wildlife, raise the resale value of homes, and help business by making commercial districts attractive and comfortable for shopping. The urban forest also has a structural value, or



compensatory value, that shows its worth based on its size and composition.



However, as these trees grow and mature, the roots also grow. While our City Forester has identified species of trees more suitable to tour urban environment, there are many trees in the City whose roots cause the sidewalks to heave and create a hazard to pedestrians. This is by far the most serious problem facing the maintenance of our sidewalks.

Sidewalks are also impacted by the frost heaves and the freeze-thaw cycle on our New England climate.

THE DATA

The Department of Public Works maintains a computer database of complaints and requests for new sidewalks. Currently there are over 5000 listing in the database, for both *repaired* and *not repaired* sidewalks. Data input tries to capture pertinent information, along with an overall evaluation of the problem, e.g., fair, good.

CITY OF PROVIDENCE | DEPARTMENT OF PUBLIC WORKS

SIDEWALK REPAIR DATABASE

Details

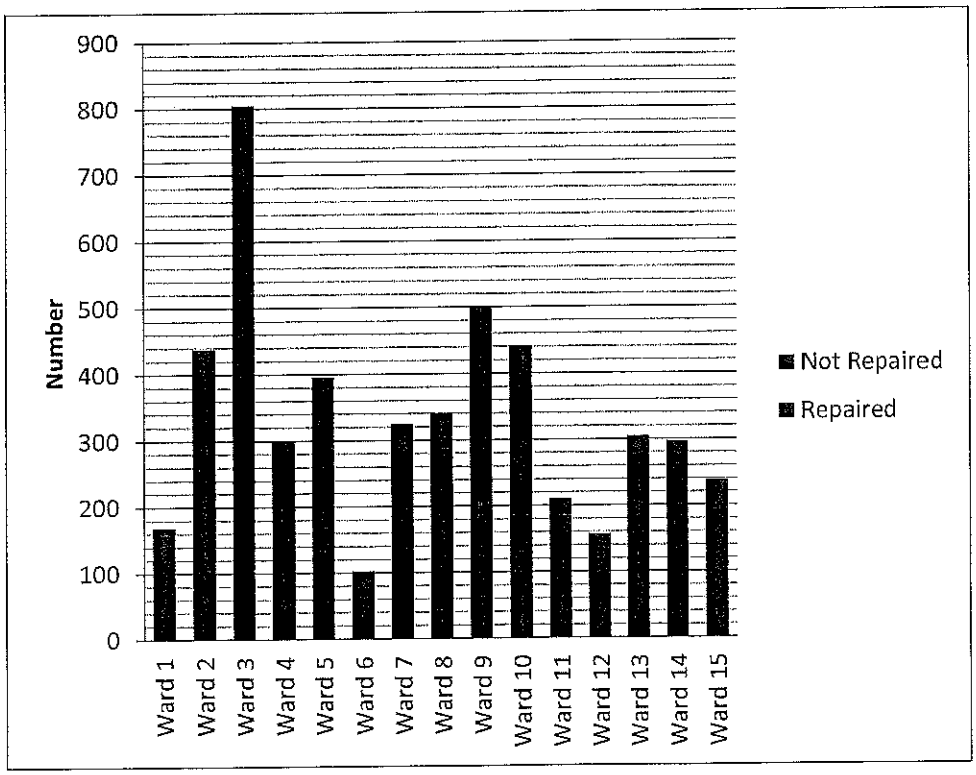
Record Id	136
Ward	3
Street #	118
Street	Jenkins St
City	Providence
State	RI
Comment	poor 8" uplifted insp. July-09 G.A.
Property Owner	
Phone #	
Request Date	20/05/2004
Material	Concrete
Problem	
Deteriorated Panels	Cracked and Displaced
Number of Panels	3
Fault Size	greater than 3
Area	20 x 4
Status	Not Repaired
Area Repaired	
Repaired Date	00/00/0000
Breakout Labor	
Placement Labor	
Cause	
Bond Funded	N

Sidewalk Conditions

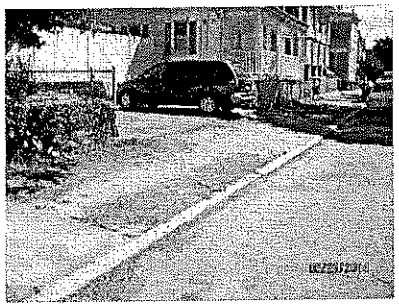
The information in the database is by no means complete. It relies on requests received and does not truly reflect the severity of the problem with the sidewalks throughout the City.

The data is as follows:

Ward	repaired	not repaired
Ward 1	27	142
Ward 2	68	370
Ward 3	237	568
Ward 4	52	247
Ward 5	33	363
Ward 6	4	99
Ward 7	8	317
Ward 8	125	216
Ward 9	312	189
Ward 10	234	207
Ward 11	115	96
Ward 12	54	103
Ward 13	96	209
Ward 14	140	157
Ward 15	117	121



THE COST



As previously indicated, the database is not complete. Based on available records, approximately 7500 sidewalks have been completed since 2002, including work done by both the Highway Department and outside contractors. This includes minor areas, one or two panels to correct a heaving problem, to entire property frontage, with driveway. Costs have ranged from $1,000 to $15,000. Based on costs from contracts completed in the last couple years, the average cost is about $5,200.

If repairs were limited to just those in the sidewalk database maintained by this department, the total cost would be close to $20 million, but that may not capture all of the repairs needed since we believe not all the defective sidewalks are listed in the database.

THE APPROACH

When preparing for the recent $40 million roadway bond, a detailed engineering study was performed to identify those roads in need, which would benefit the most, by a resurfacing program. A similar approach is needed for the sidewalks in the City.

A detailed survey of all the sidewalks in the City is strongly recommended. Commercial areas, school zones, bus stops, arterial roadways and other locations that see a significant amount of pedestrian traffic need to be prioritized for repair. Additionally, grouping sidewalks in close proximity could decrease the costs by as much as 25 percent in comparison to a random approach for selection.

The estimated cost to survey the sidewalks in the City is $150,000. This would include a visual survey, classification of defects, prioritization and a detailed report.