Office of the City Engineer

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RACINE ON THE LAKE

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Legistar Item: 13-9480

To: Alderman Weidner, Chairman
Public Works & Services Committee

From: John C. Rooney
Assistant Commissioner of Public Works/City Engineer

RE: 2013 Pavement Management System Summary Report

This item pertains to the 2013 Pavement Management System Summary Report submitted to the City of Racine in October, 2013. AECOM Technical Services (formerly Earth Tech) was hired by the City of Racine to perform this annual work. Inspections of roads functionally classified as Local occur every four years while roads functionally classified as Highway, Arterial, or Collector occur every two years. Approximately one-fourth (1/4) of the 176.1 miles of Local roads and one-half (1/2) of the 20.9 miles of Collector, 43.8 miles of Arterial, and 13.0 miles of Highway are inspected every year. The pavements are inventoried by pavement type and width, and estimated construction costs are compiled for several rehabilitation strategies used to determine how to best extend the useful life of the pavements. The pavements are also inspected for distresses in accordance with the APWA Pavement Condition Index (PCI) rating system. Current City of Racine policy considers highways, arterials or collectors with a PCI of 35 and locals with a PCI of 25 to be the minimum acceptable service levels.

Today the City of Racine pavement network has an approximate initial investment value (or replacement value) of almost $303 million in 2013 dollars. This compares to $301 and $293 million in 2012 and 2011 dollars, respectively. The PCI rating is used to determine which types of rehabilitation strategies (resurfacing, crack filling, joint replacement, etc.) provides the most cost effective way to extend the useful life of pavements or determine when roads need to be reconstructed. The average PCI for the entire pavement network is currently about 68, and the general trend in PCI rating over time has been slowly upward to a peak of 72 in 2007, and then has seen a slight decrease and plateau. This does fall below the boundary of Very Good to Good pavement ranges. Because of good pavement management practices through maintenance or rehabilitation this is possible, and recent data shows that today similar aged pavements from 10 years ago have higher PCI values. Decreased maintenance will have an effect on average PCI. For example, the latest model shows concrete Collector streets with a predicted useful life of 70 years, where back in 1996 the same pavement functional classification and material type had a predicted useful life of 60 years based on an a minimum acceptable PCI rating of 40.

Of the $303 million in current replacement value, the remaining useful value is estimated at $175 million. This is determined by 100 PCI minus its minimum acceptable PCI. This percentage of remaining value, or $175 million, reveals a pavement system with significant remaining pavement value worth maintaining. Based on estimated deterioration rates of the

age of the pavements, the pavements as a whole are losing about $6 million in value per year. The City of Racine should be investing this amount annually, and this value should be compared with the annual investment consisting of all Capital Improvement Program. In the 2014 proposed budget, the pavement investment is only $3.85 million. A huge component of pavement management is an adequately funded Operations and Maintenance budget as well.

The report becomes a useful budgeting tool in managing the City of Racine pavement assets. The City of Racine's overall story based on historical PCI distribution is the following:

- Increasing numbers of high-performing pavements
- Addressing the backlog of low-performing pavements where feasible
- Preservation of high and mid-performing pavements.

This result is consistent with good asset management practices. It is my recommendation that the committee receives and file the report.