



Legislation Text

File #: AT2015-61, **Version:** 1

ADMINISTRATIVE TRANSMITTAL

DATE: February 19, 2015

TO: Mayor Margolis
Vice Mayor Greene
Councilman Willhite
Councilwoman Gerwig
Councilman McGovern

FROM: Mitch Fleury

THRU: 
Paul Schofield

CC: Senior Staff
Legal
Awilda Rodriguez

RE: Pavement Management Plan

In an effort to extend the pavement life cycle of the Village's roadways, Public Works is reviewing its roadway pavement management program.

The program includes the consideration of crack sealing as a means of reducing the amount of water intrusion into the pavement. South Florida's sub-tropical climate, fluctuating water table, landscape irrigation, and finished roadway elevations allow little to no time for the pavement to recover (dry out), allowing water to enter the pavement. Water can enter through the smallest of cracks, eventually making its way to the sub structure (base & sub base) and becoming trapped. This keeps the sub structure continually moist. This, along with traffic loads and questionable base materials can shorten the pavement life cycle.

Referencing or using an average pavement life cycle for all roadways would be a gross generalization as many variables can affect the pavement life cycle. Some neighborhood roads, due to low traffic volume and varying roadway elevations may not require any pavement rehabilitation or repair until several years past its

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projected life cycle (15-20 years).

To date, approximately 9.8 lane miles of asphalt pavement have been crack sealed. This process fills cracks and restricts water penetration into pavement, base and sub base layers, thus slowing the deterioration of the pavement. This pavement maintenance application has been a common practice in Florida and throughout the country for decades and can extend the service life of pavement for 3 to 5 additional years (collector/arterial roads). Favorable results have been observed in areas where this treatment has already been applied in the Village. Over time and compared to other pavement maintenance applications (resurfacing), crack sealing can be one of the most cost-effective methods to temporarily extend pavement life.

Pavement Management Estimated Cost for One (1) Lane Mile

Crack Sealing	\$ 5,000
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Mill & Resurface 1 ½" Thick (min.)	\$ 70,000
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*An additional \$10,000 to \$20,000 to replace Thermo Plastic Markings removed during milling operations

Recondition existing base and install new 2" thick asphalt surface	\$ 300,000
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Reconstruct existing base, subgrade and install new 2" thick asphalt surface	\$ 500,000
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Options

- 1) Reestablish an asphalt crack sealing program in combination with milling and overlaying of pavement sections (patching); all patching would be completed in a manner that would minimize aesthetic concerns (full lane widths).

Utilizing this program over the next 3-5 years should allow us to budget an annual allocation of \$600,000 to \$800,000 for milling and resurfacing and keep our roadways at an above average rating.

- 2) Continue with the current mill (1.5" thick min.) and overlay program with an annual budget allocation of \$1,400,000 for the next 3-5 years. Although there are several factors, such as rain events, traffic counts, surrounding soils, drainage and roadway elevations that can affect the life cycle of any particular roadway section, we should be able to average a pavement surface life of between 8-10 years at an above average rating.

This will allow for approximately 70-80 lane miles to be resurfaced in the next 3-5 years. Those roads resurfaced during this time should average a pavement surface life of between 8-10 years.

- 3) Reconditioning: removal of all existing asphalt and recondition the existing base to meet current FDOT specifications (LBR 100) and install 2" thick asphalt surface.

This method is less intrusive than total reconstruction but the key factors as stated in the reconstruction option (below), should also be considered with this option.

- 4) Reconstruction: complete removal of all existing base, recondition sub base, install 8-10" of new base

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and install 2" thick asphalt surface.

This method will produce a roadway section that is built to current FDOT specifications and should last between 15-20 years.

Cost, scheduling, maintenance of traffic (MOT), and resident inconvenience are key factors when considering Options 3 & 4.

*These cost estimates are based on our current (2012-2015) paving contract with Ranger Construction.

We are scheduling a discussion of these issues with Council as a workshop item in March.