



Paving Report For 2013

This report outlines the paving and pavement preservation work completed in 2012 and 2013 and lists the actual, anticipated, and budgeted expenses for fiscal years '12-13, '13-14.

The Tigard Public Works Department is responsible for the maintenance of 152 miles of paved streets. The maintenance strategy for each street varies depending on the adjoining land use, age, average daily volume, heavy vehicle traffic, and character of that street.

Accomplishments for 2012 and 2013

Pavement projects completed in 2012 and 2013 are summarized in the following table and are shown on the attached maps (Attachments A and B).

Project	2012 Pavement Overlays	2012 Slurry and Crack Seals	2013 Pavement Overlays	2013 Slurry and Crack Seals
Length Completed	3.1 miles	16 miles	3.9 Miles	14 Miles
Area Completed (sf)	540,000	2,700,000	650,000	2,300,000
Cost (Includes Design and Inspection)	\$1,020,000	\$530,000	\$1,220,000	\$480,000
Cost Per Mile	\$329,000	\$33,000	\$316,000	\$34,000
Cost Per Square Foot	\$1.89	20 cents	\$1.88	21 cents

In addition to the recently completed citywide pavement overlay project, the Street Maintenance Fee will also fund a pavement overlay of 92nd Avenue (from Waverley Dr to Cook Park) in conjunction with a sidewalk project being constructed in fall 2013, and an overlay of a small portion of Barrows Road in coordination with the City of Beaverton.

The remaining funds each year are spent sealing cracks in street pavement, and on pavement inspections and inventory (the source of the Pavement Condition Index or PCI).

The Pavement Condition Index (PCI)

Pavement condition is measured by the PCI, with zero being the poorest condition (total pavement failure) and 100 being the best condition (just constructed pavement). PCI factors include pavement condition, cracking, pavement distress, weathering, structural strength, and smoothness of ride.

Tigard Street Network Condition

2012 and 2013 have seen the average PCI of Tigard's city streets increased from 68.9 at the end of 2011 to 69.3 at the end of 2012 to and 70.0 at the end of 2013. This was better than our projected PCI of 68.7 at the end of 2012 and 'holding the line' to keep the 68.7 PCI at the end of 2013. Two factors were significant contributors this improvement:

1. Successful completion of large slurry seal projects in southern Tigard in 2012 and central Tigard in 2013. The 2012 slurry seal project was the largest in Tigard's history.
2. City street crews completed many 'digout' repairs of small areas of failed pavement around valve boxes and in the wheel paths etc. This was coordinated with the work of the private contractor to slurry seal some streets that would otherwise have been in too poor condition to do so effectively.

Previous Council Action and the Street Maintenance Fee

Pavement maintenance is primarily funded through the City's Street Maintenance Fee, a monthly user fee dedicated to the maintenance of existing roadways in Tigard. The fee was recommended by a citizen task force and established by Ordinance No. 03-10 in November 2003.

Council revisited the Street Maintenance Fee in 2009 and 2010. Recognizing funding constraints and the difficulties of raising revenue in a recession, Council adopted Resolution No. 10-01 which:

1. Established a long-term Pavement Condition Index (PCI) goal of 72 to 75. Based on cost estimates, the Council quickly recognized that the level of adopted funding would not be adequate to get to a PCI of 75 and set an interim goal to "hold the line" by maintaining an average PCI of at least 67. Beyond this point, streets require more extensive reconstruction prior to paving, which results in substantially higher street maintenance costs.
2. The ordinance also directs that the fee be adjusted for inflation. Fee amounts are adjusted based on the methodology originally adopted in Ordinance 10-01, updated in Ordinance 13-06 to a composite of 85% of the Engineering News Record (ENR) Construction Cost Index for Seattle, which measures general construction and labor cost, and 15% of the Oregon Monthly Asphalt Cement Material Price, which measures asphalt prices and parallels fuel prices. These percentages approximate the percentage cost of a typical project that matches the labor or material price measured by the index. This inflation adjustment will increase the fee by 4.9% on January 1, 2014.

Current street maintenance fees, as they appear in the City's 2013-2014 Master Fees and Charges Schedule, are as follows:

Effective Dates	2012	2013	2014
Residential (Per House or Unit)	\$5.45	\$5.56	\$5.83
Commercial and Industrial (Per Required Parking Space)	\$1.23	\$1.25	\$1.31

Note that the fee for commercial and industrial properties is calculated based on the number of parking spaces that would be required by TMC 18.765 if that building were constructed today (as an approximation of the traffic generation of the site), which is often different from the number of spaces in the existing parking lot.

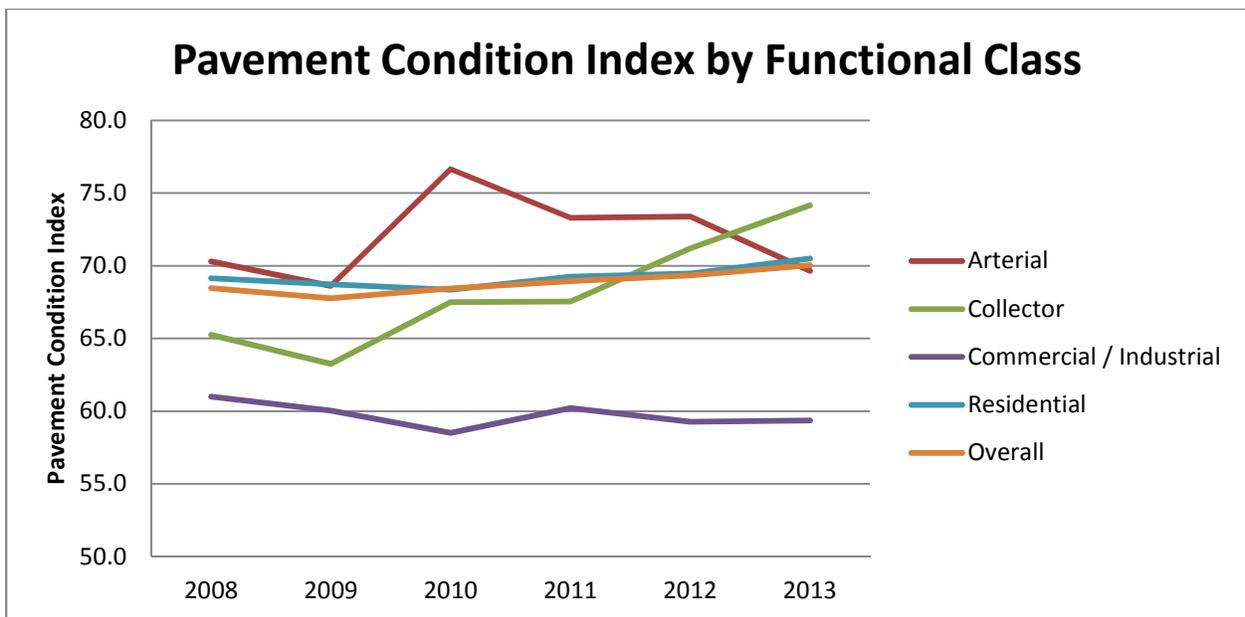
Recent Paving History

Attachment C is a map showing the paving projects that have been completed in the past five years, which illustrates that more than half of Tigard's City Street network have been paved or slurry sealed (pavement overlays on 16 miles of streets, and slurry seals on 64 miles of streets).

In order to maintain the overall street network in the best possible overall condition, street maintenance work has focused on three main priorities:

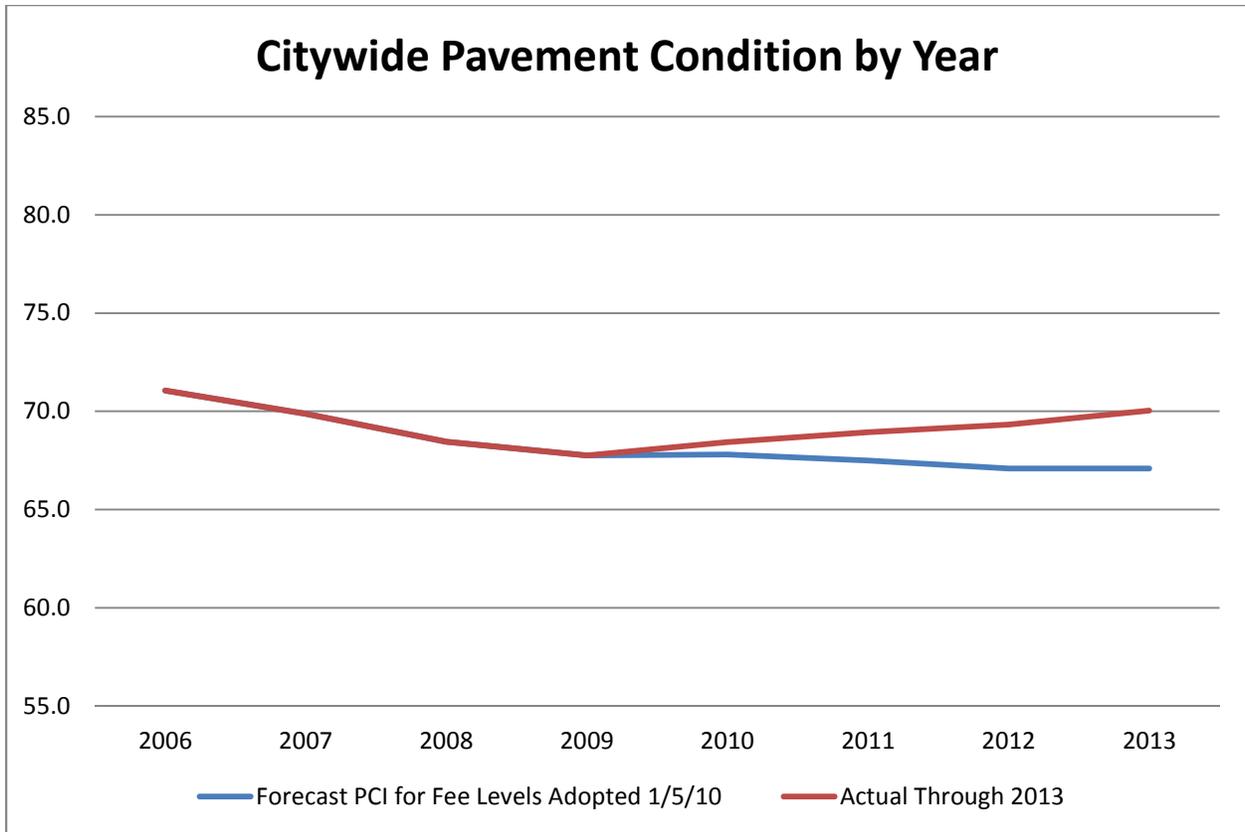
1. Pavement overlays on major corridors. Approximately \$2.24 million (including staff costs) is being spent in fiscal years 12-13 and 13-14 constructing pavement overlays on 7 miles of important through routes.
2. Crack seals and slurry seals on residential streets. Approximately \$1 million has been spent in fiscal years 12-13 and 13-14 placing slurry seals on 30 miles of residential streets. All of the Tigard City Streets that are good candidates for slurry seal projects have been slurry sealed.
3. Crack sealing along arterials and collector streets. Approximately \$90,000 is spent in the spring each year sealing cracks along major streets to preserve the existing pavement.

These priorities are reflected in the following Graph:



Tigard's Arterials and Collectors have an average condition of 70 or higher.

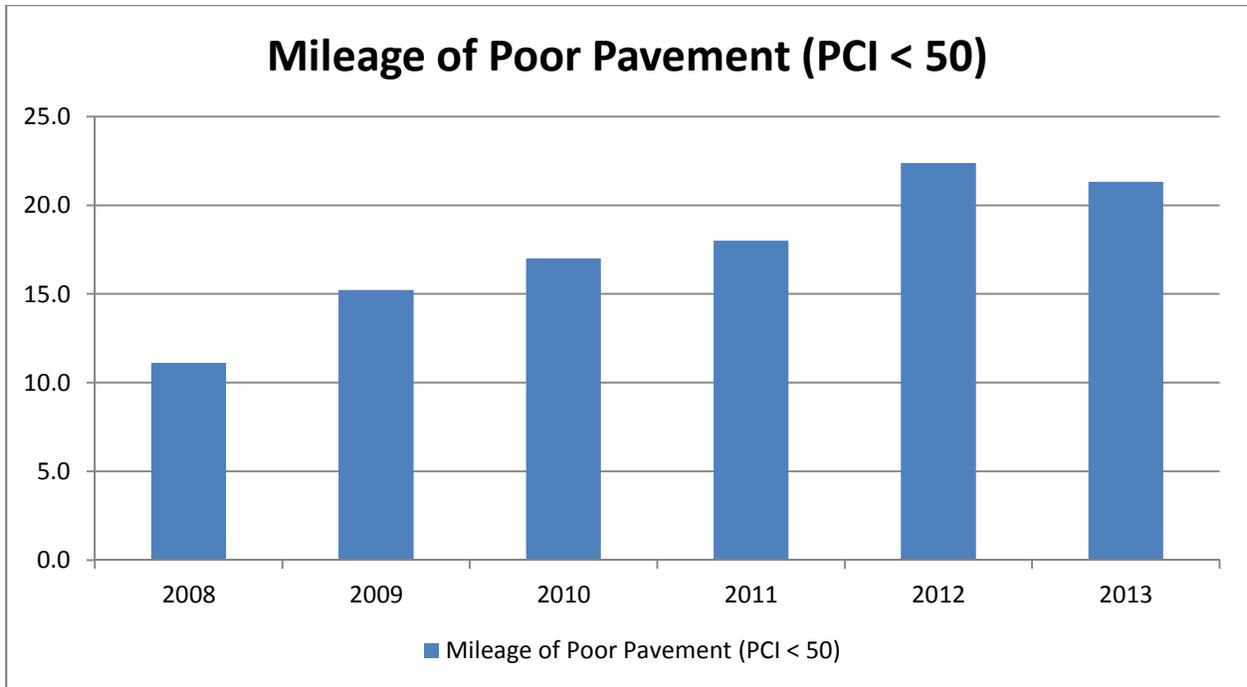
The graph below shows Tigard's systemwide average Pavement Condition Index (PCI) at the end of each paving season, and compares the actual PCI to those forecast when the Street Maintenance Fee changes were adopted in 2010.



The PCI at the end of the 2013 paving season is 70.0, which is better than the forecast of 67.1.

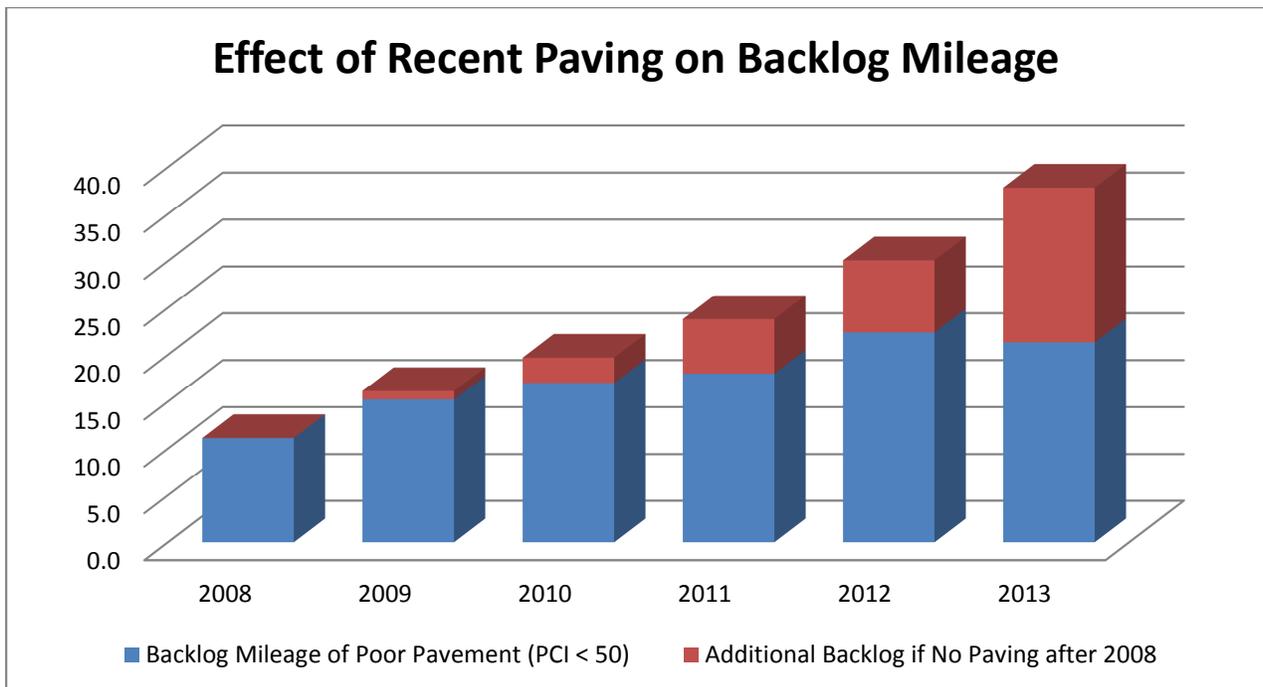
Paving Backlog

There are many local streets (both residential and commercial) in Tigard on which the pavement condition has deteriorated beyond the level at which most preventive maintenance treatments can be effective. These streets need more extensive repairs such as pavement overlay and rehabilitation. In pavement management terms, these are called ‘backlog’ streets. The table below shows how this backlog has grown in recent years:



There are approximately 21 miles of these ‘backlog’ streets on the Tigard city street system that need paving. This is approximately 14% of our total street mileage. The cost to pave these streets would be approximately \$10 million.

The graph below shows the current backlog of streets in poor pavement condition, and the additional miles that would be in poor condition if the last five years of paving had not been completed.



It is anticipated that the amount of this backlog will remain at about this level now that Street Maintenance Fee revenue is fully phased in, assuming that revenues and asphalt prices remain relatively consistent. Additional funding would be necessary to restore these streets to good pavement condition.

Finance Director’s Findings

The Finance Director has reviewed this report and future pavement maintenance funding requirements as identified in the Pavement Management Program (PMP). Data has not changed significantly from what the Council considered after the 2009 paving season.

Actual revenue collections for fiscal year 2012 and 2013 were analyzed and they were sufficient to meet the annual funding level set from the street maintenance plan along with the FY 2011-2012 and FY 2012-2013 Adopted Budgets. Completion of the street maintenance fee phase-in, along with an inflationary adjustment(s), is expected to generate sufficient revenue to fund the PMP in the coming years. The 2014-2018 CIP PMP approved budget is as follows:

Fiscal Year	2014	2015	2016	2017	2018
PMP	\$1,660,000	1,800,000	1,800,000	1,800,000	1,800,000

Additionally, the split between customer types was analyzed to determine if costs were equitably split when compared to revenues collected. The allocation of the costs of the five-year plan is set in TMC 15.20.050 and is summarized as follows:

Road Type	Percentage of Residential Allocation	Percentage of Non-Residential Allocation
Arterial	62%	38%
Local Commercial/Industrial	0%	100%
Collector	50%	50%
Neighborhood/Local	100%	0%

It is important to realize the fee is based on a five-year plan and that there will be variance from one year to the next where one customer group may subsidize another in any given year; the important thing is that the program costs reflect the revenues collected by customer type over the five-year period. If they do not, the TMC instructs the Finance Director to make recommendations based on this review. The following tables summarize my findings:

Customer Class	Total 2012 PMP Expense Related to Street Maintenance Fee	Percentage of Total 2012 Expense per TMC	Percentage of Revenue Collection	Share of Expenses Based on Revenue Collected	Variance
Residential	\$623,829	62%	65%	\$654,014	(\$30,185)
Non-Residential	\$382,347	38%	35%	\$352,162	\$30,185
Total	\$1,006,176			\$1,006,176	

Customer Class	Total 2013 PMP Expense Related to Street Maintenance Fee	Percentage of Total 2013 Expense per TMC	Percentage of Revenue Collection	Share of Expenses Based on Revenue Collected	Variance
Residential	\$1,240,855	75%	67%	\$1,108,457	\$82,720
Non-Residential	\$413,560	25%	33%	\$545,957	(\$82,720)
Total	\$1,654,414			\$1,654,414	

Tigard incurred \$1,006,176 in FY 2011-12 in the PMP expenses related to the street maintenance fee. Based on the types of roads, (arterial, collector, etc.), that received pavement maintenance through the PMP, \$623,829 (62 percent) of the PMP expenses should have been born by residential customers and \$382,347 (38 percent) of the PMP expenses should have been born by non-residential customers.

The actual revenues collected in FY 2012 have a slightly different split. Sixty-five percent of the revenues came from the residential sector and 35 percent of the revenues came from the non-residential sector. Based on the size of the PMP and the way revenues were collected, a more equitable split would have been for \$623,829 to come from the residential sector and for \$382,347 to come from the non-residential sector. During the last year, the residential sector subsidized the non-residential sector by \$30,185, or three percent of the total PMP.

The actual revenues collected in FY 2013 reversed the trend of residential customers subsidizing non-residential. Sixty-seven percent of the revenues came from the residential sector and 33 percent of the revenues came from the non-residential sector. Based on the size of the PMP and the way revenues were collected, a more equitable split would have been for \$1,025,737 to come from the residential sector and for \$628,677 to come from the non-residential sector. During the last year, the non-residential sector subsidized the residential sector by \$82,720, or five percent of the total PMP. When the reports for FY 2010 and FY 2011 are taken into account to provide a four year picture, non-residential customers have subsidized residential customers by 4%. The Finance Director does not find this difference to be material enough to necessitate a recalculation.. In the long term, engineering staff estimates that the actual paving expenses will be consistent with the residential/non-residential revenue split.

Attachment A

2012 Paving Projects

-  Pavement Overlay
-  Slurry Seal

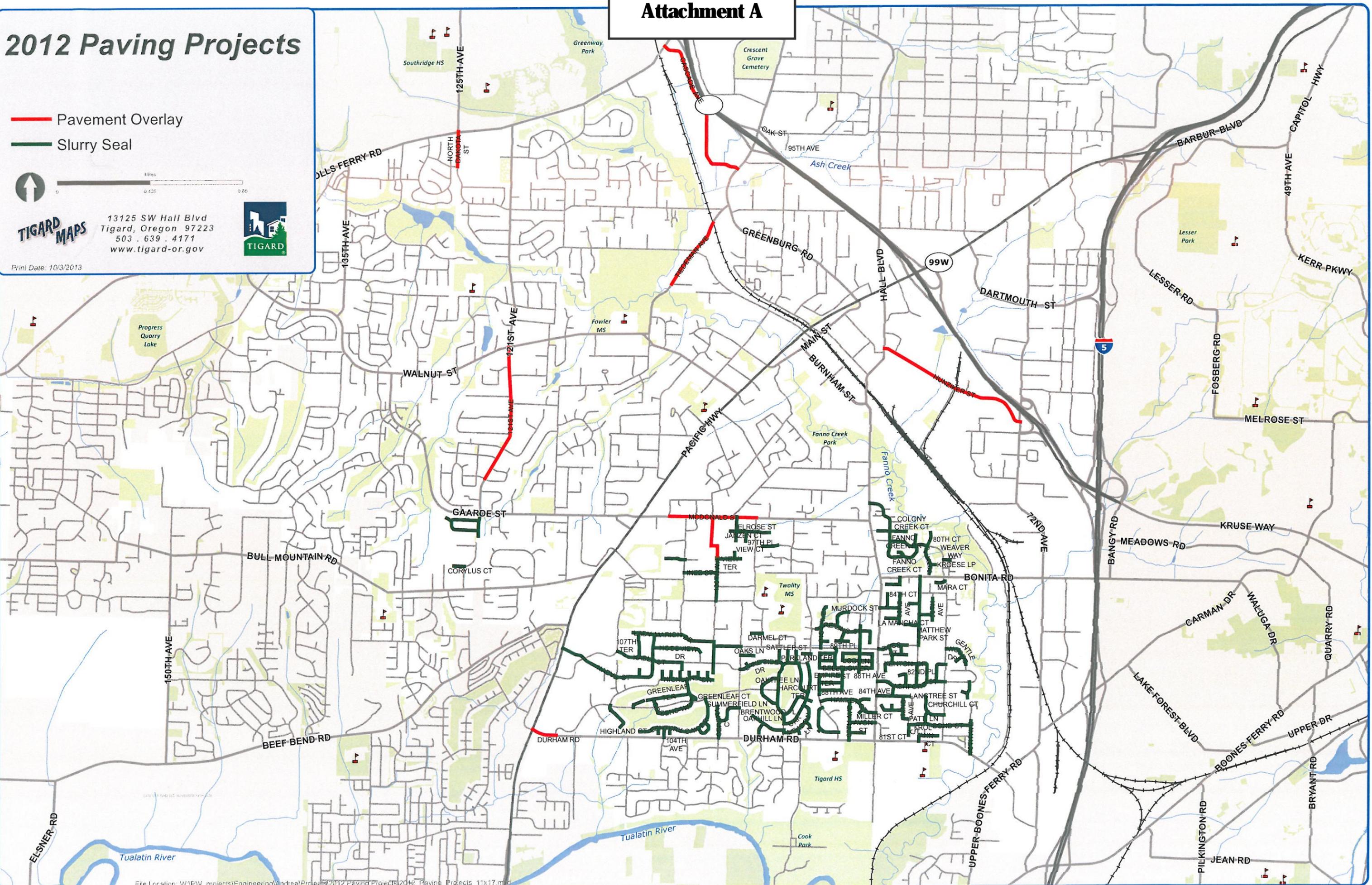


TIGARD MAPS

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Attachment B

2013 Pavement Management Projects

- Asphalt Overlay
- Slurry Seal & Crack Seal

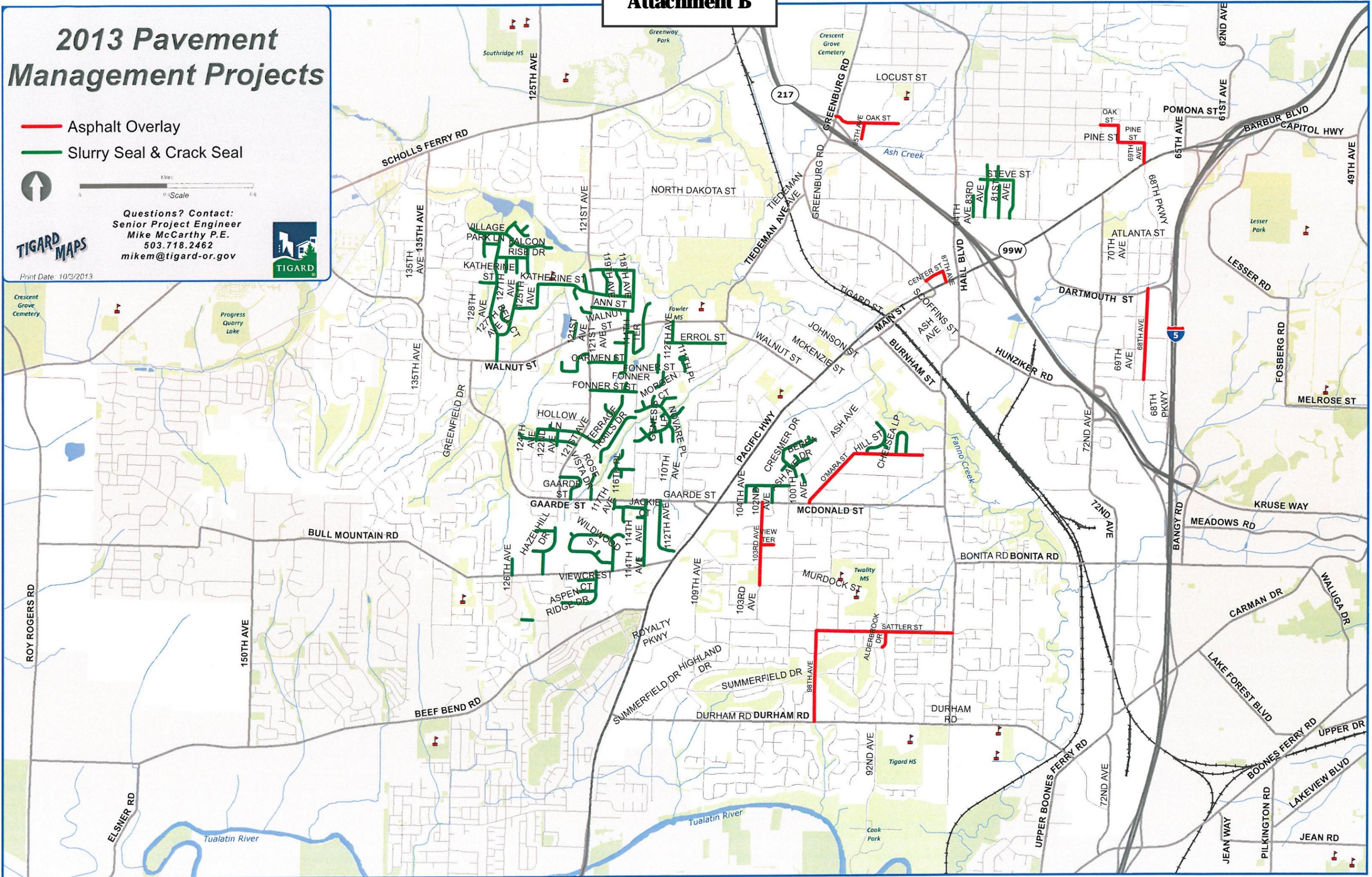


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TIGARD MAPS

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Attachment C

