



Eugene City Council

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EUGENE CITY COUNCIL AMENDED AGENDA

March 14, 2018

**12:00 p.m. CITY COUNCIL WORK SESSION AND
MEETING OF THE URBAN RENEWAL AGENCY
Harris Hall, 125 East 8th Avenue
Eugene, Oregon 97401**

**Meeting of March 14, 2018;
Her Honor Mayor Lucy Vinis Presiding**

Councilors

Mike Clark, President
Greg Evans
Emily Semple
Jennifer Yeh

Betty Taylor, Vice President
Chris Pryor
Claire Syrett
Alan Zelenka

**12:00 p.m. CITY COUNCIL WORK SESSION AND
MEETING OF THE URBAN RENEWAL AGENCY
Harris Hall, 125 East 8th Avenue**

Mayor: *I call the March 14, 2018, meeting of the Urban Renewal Agency to order.*

**A. EXECUTIVE SESSION:
Pursuant to ORS 192.660(2)(e)**

Mayor: *The Eugene City Council will now meet in Executive Session held pursuant to ORS 192.660(2)(e) to discuss the negotiation of a real property transaction.*

Representatives of the news media and designated staff shall be allowed to attend the executive session. All other members of the audience are asked to leave the room. Representatives of the news media are specifically directed not to report on any of the deliberations during the executive session, except to state the general subject of the session as previously announced. No decision may be made in executive session. At the end of the executive session, we may return to open session and welcome the audience back into the room.

Mayor adjourns the meeting of the Eugene Urban Renewal Agency and convenes a meeting of the Eugene City Council.

B. WORK SESSION: Review of 2017 Implementation of Bond Measure to Fix Streets and 2018 Pavement Management Report

City Council President: *Move to authorize the additional streets shown on Attachment C to the list of streets to be repaired with bond measure proceeds.*

Call for vote.

Adjourn.

The Eugene City Council welcomes your interest in these agenda items. This meeting location is wheelchair-accessible. For the hearing impaired, an interpreter can be provided with 48 hours' notice prior to the meeting. Spanish-language interpretation will also be provided with 48 hours' notice. To arrange for these services, contact the receptionist at 541-682-5010. City Council meetings are telecast live on Metro Television, Comcast channel 21, and rebroadcast later in the week.

El consejo de la Ciudad de Eugene agradece su interés en estos asuntos de la agenda. El lugar de la reunión tiene acceso para sillas de ruedas. Se puede proveer a un intérprete para las personas con discapacidad auditiva si avisa con 48 horas de anticipación. También se puede proveer interpretación para español si avisa con 48 horas de anticipación. Para reservar estos servicios llame al 541-682-5010. Las reuniones del consejo de la ciudad se transmiten en vivo por Metro Television, Canal 21 de Comcast y son retransmitidas durante la semana.

<p>For more information, contact the Council Coordinator at 541-682-5010, or visit us online at <i>www.eugene-or.gov</i>.</p>
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EUGENE CITY COUNCIL AGENDA ITEM SUMMARY



Work Session: Review of 2017 Implementation of Bond Measure to Fix Streets and 2018 Pavement Management Report

Meeting Date: March 14, 2018
Department: Public Works
www.eugene-or.gov

Agenda Item Number: B
Staff Contact: Jenifer Willer
Contact Telephone Number: 541-682-6036

ISSUE STATEMENT

This work session is an opportunity for City Council to review the implementation of Measure 20-197, the 2012 bond measure to fix streets. To facilitate this review, two documents were prepared in compliance with the City Council resolution placing the bond measure on the ballot: the Citizen Street Repair Review Panel 2017 Report and the independent accountant's report by Isler CPA. This work session will also review the 2018 Pavement Management Report.

The City Council is also requested to authorize the addition of the streets shown on Attachment C to the list of streets to be repaired with bond measure proceeds. The estimated cost of the additional streets is \$3,360,000. The list of additional streets was endorsed by the Street Repair Review Panel at its January 31, 2018, meeting.

BACKGROUND

Council Action History

Following considerable study and discussion, including forming a Council Committee on Transportation Funding and convening an ad hoc citizen Street Maintenance Task Force, council approved Resolution 4953 on July 28, 2008, calling a city election on a measure authorizing the issuance of \$35.9 million of general obligation bonds to fund street preservation projects. On November 4, 2008, Eugene voters approved Measure 20-145, the 2008 bond measure to fix streets. Beginning in April 2010 and continuing through February 2014, council received annual reports from the Street Repair Review Panel and the independent accountant regarding implementation of the 2008 bond measure.

On July 9, 2012, council approved Resolution 5063, calling a city election on a measure authorizing the issuance of \$43 million of general obligation bonds to fund street preservation projects as well as bicycle and pedestrian projects. In November 2012, Eugene voters overwhelmingly approved Measure 20-197 that continues the City's road repair program for another five years. The new bond measure promises to fix 76 more streets and provide an average of \$516,000 per year for bicycle and pedestrian projects. The bond measure took effect in 2014 and continues the bond-funded pavement preservation program that was first approved by local voters in 2008.

The 2012 bond measure to fix streets continued the requirements related to accountability. The City Council resolution and the information provided to voters specified:

- In order to promote accountability in the use of bond proceeds, the City Manager will contract with an outside auditor to prepare an annual written report on the use of the bond proceeds. The auditor will ascertain and report on whether the bond proceeds were used for the authorized purposes and in compliance with the restrictions set forth above. The City Manager will provide the report to the Council and make the report publicly available. (Resolution 5063, Section H)
- To further promote accountability and citizen involvement in street preservation projects, the City Manager will convene the citizen street repair review panel. The citizen street repair review panel will prepare an annual report, separate and distinct from the report prepared by the outside auditor, documenting the City's use of the bond proceeds and noting whether the bond proceeds were used in compliance with the terms of this Resolution. The City Manager will provide the SRRP's [Street Repair Review Panel] report to the Council and make the report publicly available. (Resolution 5063, Section I)

Street Repair Review Panel

In October 2009, a citizen group was initially formed to review the implementation of the 2008 road bond measure and report whether the bond funds were used in compliance with the council resolution. The citizen member Street Repair Review Panel, including three founding members, reconvened in December 2017 to review the ongoing implementation of Measure 20-197. The 11 community members serving on the 2017 SRRP were: John Barofsky (chair), Janet Calvert, Mel Damewood, Allen Hancock, Jim Mender, John Quilter, Matt Roberts, Dan Rodriguez, Ollie Snowden, Gary Wildish and Sue Wolling. During the past year, the committee met three times over a three-month period in preparation of the report, which included a physical inspection of the projects completed in 2017.

The Street Repair Review Panel in February unanimously approved its annual report (Attachment A), focusing on the fourth year of implementing the 2012 bond measure to fix streets, which included the following conclusion:

Based on this limited review and all materials presented to us, we unanimously conclude that the bond proceeds were used for the authorized purposes and in compliance with the limitations and restrictions outlined in Council Resolution 5063.

The 2017 Street Repair Review Panel report recognized the progress made on fixing Eugene's streets. The projects funded in 2017 resulted in the reconstruction or resurfacing of 14 streets totaling more than 14.5 lane miles. The 2012 bond also allocated funding for bicycle and pedestrian projects guided by the Pedestrian and Bicycle Master Plan, City staff and the Active Transportation Committee (formally known as the Bicycle and Pedestrian Advisory Committee). In 2017, significant safety improvements for people who walk and bike included the installation of sidewalk ramps, additional pedestrian crossing beacons, improved bicycle lanes, and new school zone signage.

The report from the SRRP highlighted the City's sustainability achievements. Eugene was recognized for its use of recycled asphalt pavement, reducing the mining and production of virgin rock and asphalt materials. The continued use of warm mix asphalt also saves on energy and emissions (as detailed in the attached report), and offers an excellent example of the department's commitment to sustainability efforts, especially following the approval of the Climate Recovery Ordinance.

In addition to helping achieve sustainability goals, the bond measure projects are designed to improve safety and result in complete streets that are safe for people of all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments. This ties into the council's "Vision Zero" strategy, a resolution which calls for eliminating traffic-related deaths or serious injuries on city streets. The improvements funded through the bond enhance safety for all road users, including those who drive, walk or bike.

A website tracking the bond measure implementation has been established at www.eugene-or.gov/gobonds. The panel's 2017 report has been placed on the internet and links to the report will be included in the weekly community bulletin and provided to other community and business organizations.

Independent Accountant's Report

The accounting firm of Isler CPA, who also performed the annual audit of the city's Fiscal Year 2017 financial statements, was contracted to perform sufficient agreed-upon procedures in order to determine whether the expenditure of general obligation bonds were made in accordance with the purposes and limitations outlined in the street repair bond resolution—namely, that expenditures were:

1. used only for costs related to street preservation projects, bicycle and pedestrian projects, and payment of bond issuance costs, and not to expand the motor capacity of the street system; and also,
2. limited to projects included in Exhibit A to the resolution, unless upon completion of all of the projects listed in Exhibit A, the Council adds other street preservation projects to the list in order to utilize unspent bond proceeds.

The accountant's procedures were performed for expenditures incurred from January 1, 2017, through December 31, 2017, and were conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The independent accountant expenditure testing concluded:

All tested expenditures were recorded in the proper account, fund and period and were spent on street projects included in Exhibit A of City Council Resolution No. 5063 or other street preservation projects approved by City Council, as permitted under Resolution 5063. No exceptions were noted.

Further, it was the summary conclusion of the independent accountant that, "Based on our limited testing, we noted that the City followed the purpose and limitation of the City Council Resolution 5063." The Isler CPA report is included as Appendix D to the SRRP 2017 Report (Attachment A).

Pavement Management Report

The annual Pavement Management Report is produced to update information and data regarding the City of Eugene's transportation system including improved streets, unimproved streets and off-street, shared-use paths. Currently, Public Works manages 1,356 lane miles (543 centerline miles) of streets, and approximately 45 miles of off-street shared-use paths within the city limits. The report includes a breakdown of the street transportation system in terms of pavement type, level of improvement, and functional classification.

The 2018 Pavement Management Report (Attachment B) reviews current treatment programs and costs and projects future treatment needs using 2017 rating and inventory data. The 2018 Pavement Management Report shows progress has been made on the condition of Eugene's Arterial and Collector streets, but more work is needed to reduce the backlog of needed repairs of the complete street system. Based on the 2017 ratings, the calculated backlog of repairs on improved asphalt streets was \$79.8 million. As of the end of 2016, the current backlog has been calculated to be \$92 million. A significant component of the backlog is the declining condition of residential streets. Annually, a number of residential streets are falling into a more costly treatment category due to lack of funding to repair them. Both the 2008 and the 2012 bond measures primarily focused on the City's arterial and collector street system.

The report also details how the pavement management system is used to inspect and rate pavement surfaces, explains Eugene's pavement preservation program, and includes updated information about treatment types and costs. The 2018 Pavement Management Report is viewable at www.eugene-or.gov/DocumentCenter/View/31068.

Remaining Funds from the 2012 Bond Measure

Resolution 5063 for the Bond Measure to Fix Streets stated:

The use of bond proceeds for street preservation projects will only be used for street preservation projects included in the list of projects attached as Exhibit A to this Resolution. If all of projects listed in Exhibit A are completed and there are bond proceeds remaining, the council may add other street preservation projects to the list.

Due to project savings and a favorable bidding climate, project costs for the first four years of the 2012 were \$3.7 million lower than originally anticipated. Based on preliminary project estimates for 2018 construction, a remaining balance of \$2.5 - \$3 million is projected.

The Resolution for the Bond Measure to Fix Streets also included the following language regarding the identification of the 76 streets included in the bond measure:

The criteria for choosing bond projects included:

- a) use of the most current engineering and cost-benefit information about needed street rehabilitation and reconstructions;*
- b) citizen input with respect to prioritizing major streets in need of reconstruction;*
- c) geographic distribution throughout the community to ensure all areas of the City benefit from the bond proceeds.*

City staff used the above criteria in identifying additional projects to be constructed with remaining bond proceeds. The first criterion applied was to include a major street that through opportune timing can be prevented from deteriorating into needing a reconstruction treatment. The second criterion was to review the list with the Street Repair Review Panel, noting that several streets had been previously identified by the SRRP for repairs. The third criterion was to distribute the funding geographically to assure that additional projects were identified in multiple council wards.

The Street Repair Review Panel unanimously supported the streets shown in Attachment C.

RELATED CITY POLICIES

The City Council continues to support initiatives to adequately fund the transportation system for people who drive, walk, and ride bicycles, including maintenance and preservation and capital reconstruction.

COUNCIL OPTIONS

This work session is informational regarding the Street Repair Review Panel and Pavement Management Reports; no action is requested.

Regarding the Request for Additional Streets, the council may:

1. Authorize the additional streets shown on Attachment C to the list of streets to be repaired with bond measure proceeds.
2. Add or delete from the additional streets shown on Attachment C and authorize the amended list.
3. Take no action.

CITY MANAGER'S RECOMMENDATION

The City Manager recommends that the City Council authorize the additional streets shown on Attachment C to the list of streets to be repaired with bond measure proceeds.

SUGGESTED MOTION

Move to authorize the additional streets shown on Attachment C to the list of streets to be repaired with bond measure proceeds.

ATTACHMENTS

- A. Citizen Street Repair Review Panel 2017 Report, including Auditor's Report
- B. 2018 Pavement Management Report
- C. Memorandum Proposal for Use of Remaining Funds from 2012 Bond Measure to Fix Streets

FOR MORE INFORMATION

Staff Contact: Jenifer Willer, Principal Civil Engineer

Telephone: 541-682-6036

Staff E-Mail: Jenifer.M.Willer@ci.eugene.or.us

Memorandum

Date: February 21, 2018
To: Jon Ruiz, City Manager
From: Street Repair Review Panel
Subject: 2017 Report of the Street Repair Review Panel

It is our pleasure to present the 2017 annual report of the Street Repair Review Panel, focusing on the fourth year of implementing the 2012 bond measure to fix streets. This panel was initially formed in 2009 to review the implementation of the 2008 street repair bond. This report was written in response to the accountability provisions in Measure 20-197, the 2012 bond measure to fix streets.

The 11-member panel met three times over a three-month period in preparation of this report, which included a physical inspection of the projects completed in 2017. We reviewed and accepted the report prepared by the City's external auditor (Appendix D) with respect to the City's use of the bond proceeds through December 31, 2017.

Based on this limited review and all materials presented to us, we unanimously conclude that the bond proceeds were used for the authorized purposes and in compliance with the limitations and restrictions outlined in Council Resolution 5063. We are also providing a detailed report, prepared at our request and with our approval, from the Public Works staff on the bond projects constructed in 2017.

Highlights from our review of the 2017 street bond projects include the following:

- **Progress** –2017 was another successful year of completing projects. Additionally, Eugene's voters passed a third 5-year bond measure in November to continue this work and increase the work focused on active transportation and safety. This will allow the City to continue to reduce the preservation backlog.
- **Current Conditions** - The projects funded in 2017 by the 2012 voter-approved bond measure resulted in the reconstruction or resurfacing of 14 streets and totaled more than 14.5 lane miles. The backlog of street repair projects in 2017 decreased to \$79.8 million, a drop from \$92 million in 2016. As noted in previous reports, the 2007 Pavement Management Report projected the anticipated backlog for rehabilitation needs would reach more than \$282 million in 2016 if steps were not taken to reduce the backlog. That's a difference of approximately \$202 million. In terms of miles, since the implementation of the 2008 bond, more than 145 lane miles of street work has been completed using bond funds. Currently, just over 420 lane miles of the total 1,247 lane miles that make up the improved street system are in need of some level of treatment at this time.
- **Vision Zero** – In recognition of Council's Vision Zero resolution, which calls for eliminating traffic-related deaths or serious injuries on city streets, the improvements funded through the bond enhance safety for all road users. Specific examples include the modified design on 30th Avenue, enhanced pedestrian crossings, and increased buffer zones for bicycle lanes.
- **Active Transportation** - The 2012 measure allocated funding for bicycle and pedestrian projects guided by the Pedestrian and Bicycle Master Plan, City staff and the Bicycle and Pedestrian Advisory Committee. In 2017, significant improvements for people who walk and bike continued, including the installation of sidewalk ramps and enhanced pedestrian crossings, improved bicycle lanes, and new school zone signage.
- **Cost Savings** – Due to project savings resulting from value engineering by staff and a favorable construction climate, project costs for the first four years were \$3.7 million lower than originally

anticipated. We project a remaining balance of \$2.5 - \$3 million at the end of the final year. We recommend that the remaining balance be assigned to the additional projects proposed by staff.

- **Collaborating with Partners and Leveraging Bond Funds** – Eugene’s Pavement Preservation Program requires strong coordination with internal and external utility stakeholders to schedule and coordinate the street work with any needed upgrades and repairs to the nearby streets and utility facilities to avoid emergency repairs. The 2017 projects created opportunities to repair underground utilities including the water, wastewater and stormwater systems. We also appreciate the ability to leverage bond funds with other sources of revenue.
- **Communicating with Citizens and Businesses** – Construction, by nature, is disruptive. City staff work with residents and stakeholders to minimize inconveniences. We continue to encourage the department to coordinate projects and look for new and better ways to proactively coordinate communications and minimize impact to the public, impacted businesses and residents.
- **Achieving Sustainability Goals** –The City’s paving program is designed to extend the life of city streets before they fall into the reconstruct category. This helps to extend the life of the streets, and when combined with recent paving techniques, greatly reduces the City’s environmental footprint. Eugene is a leader using reclaimed asphalt materials, reducing the mining and production of virgin rock and asphalt materials. The continued use of warm mix asphalt saves energy, reduces emissions, and is an excellent example of the department’s commitment to sustainability efforts, consistent with the City’s Climate Recovery Ordinance.
- **Understanding the Process for Selecting Projects** – SRRP members often are asked what process is used to select streets for repairs. The streets chosen for bond funding were selected using the criteria listed on page 3 of the attached report. The selection of bicycle and pedestrian projects is guided by the Pedestrian and Bicycle Master Plan, City staff and the Active Transportation Advisory Committee. The memo in Appendix C explains in more detail how these safety improvement projects are selected.
- **Recognizing the Continued Economic Value of Street Bond Projects** – A functioning transportation system is important for the community and economy. The bond is essential to maintaining the City’s infrastructure. Based on the Oregon Department of Transportation Highway Division jobs multiplier model, the bond measure projects completed in 2017 conservatively sustained approximately 67 full-time equivalent jobs during the period of construction.
- **Bottom Line** – We believe the community is getting a good return for its investment in street repairs, and the bond funds are being used wisely to meet the objectives of Ballot Measure 20-197. An upfront investment in repairing and maintaining Eugene’s streets saves the community significant money.

We appreciate how staff responded to the untimely loss of Kurt Corey. We feel Public Works staff are doing an excellent job designing and constructing bond measure projects. We appreciate the support they have given us in the course of our review. The committee also continues to express its appreciation to the voters and taxpayers of Eugene for their ongoing support of the bond measures that have made our community a better place to live and do business.

Additional information about the Street Repair Review Panel can be found at www.eugene-or.gov/gobonds. Please feel free to contact any of us for additional information.

SRRP Members

John Barofsky	John Quilter
Janet Calvert	Matt Roberts
Mel Damewood	Dan Rodriguez
Allen Hancock	Ollie Snowden
Jim Mender	Gary Wildish
	Sue Wolling

City of Eugene Staff

Sarah Medary	Eric Johnson
Michelle Cahill	Brian Richardson
Cinimint Harper	Mark Schoening
Katie Marwitz	Tammy Smith
Lacey Risdal	Jenifer Willer

Citizen Street Repair Review Panel

2017 Report

Implementation Update for Measure 20-197 Bonds to Fix Streets



2017 Report to the Citizen Street Repair Review Panel

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Cover photos from 2017 projects: Completed 30th Ave paving at night (left); Completed Paving on E. Amazon (upper right); Striping changes on 24th Ave (lower right)

INTRODUCTION

BACKGROUND

This report has been compiled for use by the Street Repair Review Panel (SRRP). It is intended to provide background on projects included in the 2012 voter-approved Bond Measure 20-197, the schedule for construction of these projects, and the details of bond projects constructed in 2017. The street repair measure approved \$43 million in bonding authority over a five-year period, with construction of bond-funded projects starting in 2014 and completing in 2018.

KEY TERMS

Bond - Bond Measure 20-197, Bonds to Fix Streets, approved by Eugene voters in November 2012.

Inlay – An inlay treatment consisting of removing a specified depth of the existing pavement surface and repaving that same depth with a new pavement surface. This treatment works well where the pavement distress is isolated to the removed portion of the pavement. At times, the inlay treatment needs to be supplemented with an “overlay,” which is when an additional thickness of pavement is placed over the inlaid pavement. An overlay is used when engineering analysis shows that the existing structure does not have sufficient strength to accommodate the projected traffic volume. The term “overlay” is commonly used to describe both the inlay and overlay practices.

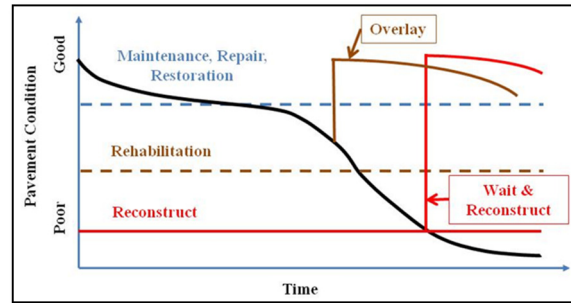


Paving on Best Ln

One of the benefits of performing an inlay treatment is that the new pavement surface will match existing adjacent structures and not increase the street cross grade. Another benefit of an inlay is that in the removal of the existing pavement, contractors grind up the old pavement and stockpile the material to be recycled into new pavement.

In-Place Cement Treated Base (ICTB) – A reconstruction treatment that utilizes and reuses existing road base materials. The existing surfacing is removed and cement slurry is added to strengthen the existing base. The base is pulverized to a specified depth and allowed to cure for 18-48 hours. Once cured, the roadway is repaved. This treatment works well on roadways where the existing base is primarily aggregate. Two of the benefits of performing an ICTB treatment are the savings in resources from reusing existing materials and the reduction in the duration of impact for the surrounding neighborhood.

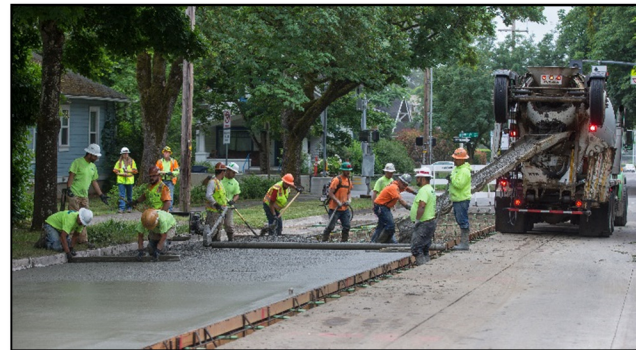
Pavement Preservation Program (PPP) - This is the current capital project program to preserve Eugene's improved street system. A priority for this program is to preserve streets that have not yet degraded to a point where reconstruction is required. Preserving a street through overlay or similar treatment is four to five times more cost effective than waiting to repair a street until after it requires reconstruction. This program was initiated in 2003 and, until passage of the 2008 and 2012 street repair bonds, was predominately funded with local fuel tax revenue and the reimbursement fee component of transportation system development charges.



**Pavement Life Cycle – City of Eugene
Transportation Service Profile Presentation**

Reclaimed Asphalt Pavement (RAP) - Reclaimed asphalt pavement is the grindings from the existing pavement during the inlay process described above. The most common and effective use of this material is to supplement virgin materials used to make new asphalt pavement and reduce the use of costly asphalt binder. In Oregon, it is common to specify up to 30 percent of asphalt pavement can be made up of reclaimed asphalt pavement. Other reclaimed asphalt materials, such as shingles, can also be used to replace virgin asphalt binder in pavements. Reclaimed asphalt materials can be used as base rock. In 2017 the method of reusing RAP on-site as road base was used on several low volume residential streets. See below for more details.

Reconstruction – Once the street has deteriorated to the point that it can no longer be repaired with an inlay or overlay, it is repaired by reconstructing the pavement and underlying base. Traditional reconstruction involves digging up the existing pavement, any existing base rock, and subsurface soils to the depth that will accommodate a new pavement structure. As discussed above, in-place recycling may sometimes be used as an alternative to



Placing Concrete Pavement – Jefferson St

traditional reconstruction. Reconstruction is the most expensive of the repair options, which is why the City prioritizes preserving streets before they reach the point of needing reconstruction. Reconstruction may be four to five times more expensive than an inlay treatment.

Warm Mix Asphalt - Warm mix asphalt pavement is identical to conventional hot mix asphalt pavement, except that through a special mixing process it is produced at a temperature approximately 50 to 100 degrees cooler than conventional hot mix asphalt. In Eugene, all asphalt concrete producers have retrofitted their plants to produce warm mix asphalt using a water-foaming process. The foaming process allows temperature reductions of approximately 50 degrees. This reduction in temperature has several advantages:

1. It reduces energy consumption to produce asphalt concrete, lowering costs and greenhouse gas emissions.

2. It reduces off-gassing (smoke) of asphalt concrete by keeping the temperature under the boiling point of “light oils” in the liquid asphalt, benefiting construction workers and the public.
3. Because the light oils are not boiled off, the liquid asphalt coating the rock particles is slightly thicker, which slows the aging process of the asphalt.
4. It reduces the oxidation caused during high temperature production that causes premature aging of the asphalt, which should provide a longer life product.

The use of warm mix asphalt pavement is specified for all City of Eugene paving projects.

SRRP MISSION

Per Resolution No. 5063 the SRRP “will prepare an annual report, separate and distinct from the report prepared by the outside auditor, documenting the City’s use of the bond proceeds and noting whether the bond proceeds were used in compliance with the terms of this Resolution.”

CRITERIA FOR PROJECT SELECTION AND SCHEDULING

STREET PROJECTS

Street projects to be financed by the bond were specifically listed in the Bond (see Appendix A). All street projects were identified by the Public Works Maintenance Pavement Management System as priorities for repair. In addition, the following criteria were used to select streets for the bond measure:

1. Citizen input with respect to prioritizing major streets in need of reconstruction.
2. Scientific information about needed street rehabilitation and reconstruction from the pavement management system.
3. Geographic distribution throughout the community to ensure all areas of the City receive a benefit from the bond proceeds.

The City has a longstanding policy to use capital preservation funds on the improved street system. An improved street has been designed for the type of soils and traffic use of the street and includes a storm drainage system. Curb and gutter is the traditional mark of a storm drainage system, but can include roadside swales and planters. The bond measure street list consisted of improved streets in need of preservation as identified in the pavement management system.

The list of the street bond projects, with their estimated repair cost from the Pavement Management System and the year constructed or planned year of construction, is included in Appendix A of this report. In scheduling the street repair projects, the priorities were preserving streets prior to their needing reconstruction, grouping projects by location for cost savings, and coordinating with utility work. The list includes a comparison of programmed costs to actual costs with any difference noted. Differences in total project costs on individual projects may affect the funding available for future projects.

BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECTS

The 2012 bond measure stated that the City will allocate an annual average of \$516,000 to support bicycle and pedestrian projects, also known as active transportation projects. These projects were not named in the bond measure; rather, the selection of the projects would be guided by the Pedestrian and Bicycle Master Plan, City staff and the Active Transportation Committee. In 2017, the practice continued to add pedestrian and bicycle improvements to several paving projects and to complete a stand-alone project. These improvements are further described in the project details, below, and included in Appendix C of this report.

COMPLETE STREETS AND USE OF OTHER FUNDS IN CONJUNCTION WITH STREET BOND FUNDS

The use of street-repair bond funds is limited to the overlay or reconstruction of the driving surface of streets as well as to preserve existing integral elements of the street such as curbs, gutters, sidewalks, on-street bike lanes, traffic signals, street lights, medians, traffic calming devices, and other integral parts of a street preservation project. In addition, the City will allocate an annual average of \$516,000 of the bond proceeds over a period of five years to fund bicycle and pedestrian projects. (Resolution 5063, Section D).

However, there is often a need or an opportunity to complete additional work as part of the construction contracts for street preservation. The additional work may be funded by wastewater and stormwater utility funds, local gas taxes, transportation system development charges, or state and federal grants.

Wastewater and stormwater utility funds are typically used to repair and rehabilitate the existing wastewater and stormwater systems, respectively, that underlie much of the city's street system. Making these repairs in coordination with the street bond projects is a cost-effective way to accomplish the work and precludes emergency repairs in the future that would require cutting new pavement.



Stormwater Planter on Jefferson St.

Local gas taxes have been used to include adjacent streets in the street bond project contracts.

In 2017 the City added Public Works Maintenance (PWM) to the list of collaborative funding sources. During the rehabilitation of a cluster of small neighborhood streets, engineering staff coordinated with PWM to include a maintenance overlay of an unimproved section of roadway adjacent to the project area. The inclusion of the work as part of an existing contract enabled the work to be completed in a timely and cost effective manner.

Transportation system development charges (SDCs) are often used to upgrade existing signal systems during pavement preservation projects. The work typically includes installing new conduit under the pavement to connect the traffic detection loops to the signal controllers and installing audible pedestrian devices for pedestrian crossing signals.

MAXIMIZING VALUE IN LOCAL STREET PROJECTS

One of the 2017 PPP contracts included work on seven low volume residential streets in the Harlow area neighborhood. This contract was a great example of the work engineering staff does to deliver projects to the public that are appropriate in scope and fiscally responsible by utilizing a variety of treatment and rehabilitation techniques.

The initial project scoping called for the costly reconstruction of four of the seven project streets and an overlay of the remaining three.

The final project design included four different treatment techniques and no traditional reconstruction. The rehabilitation techniques included traditional inlay and overlay as well as RAP base and ICTB on the busiest street segment. RAP Base is a process Eugene is using and refining for low volume residential streets. Instead of removing and hauling away the existing asphalt surfacing during the milling process, the recycled material is left on site and reused



Compacted RAP Base on Pioneer Ct.

as a base material that is reshaped, compacted, and paved over. The process adds strength to the existing roadway structure and helps provide a new roadway surface that is cost effective and appropriate for the low volume use of local neighborhood streets. Eugene first used this RAP Base technique in 2016 for a pair of local fuel-tax funded streets. The process was refined for use in 2017 and we anticipate its continued use in 2018 and beyond.

Another positive aspect of this contract was the extensive coordination and collaboration of funds used to deliver the project. The project was primarily Bond funded but it also included funds from the stormwater and wastewater utilities, gas-tax for an improved street segment adjacent to the project, and funds from Public Works Maintenance for the overlay of an adjacent unimproved street.

VISION ZERO

In November of 2015, the Eugene City Council joined a growing number of cities around the country in adopting a Vision Zero Resolution that states “no loss of life or serious injury on our transportation system is acceptable.” Vision Zero is a data-driven approach to educate the community and enable the City to prioritize resources based on evidence of the greatest need and impact.

The City regularly combines Vision Zero principles with ongoing pavement preservation projects. Cost effective intersection enhancements such as countdown pedestrian signals and audible pedestrian signals will continue to be a priority and standard practice on future projects. Enhanced pedestrian crossings have been implemented on a number of recent projects. Currently the City is undertaking large-scale corridor wide improvements on the Amazon corridor. The City is partnering the Bond funds used to pave East and West Amazon Drive, with Federal funds to improve the corridor by adding a cycle track, Amazon Creek crossings and

enhanced pedestrian street crossings. ODOT has shown that the inclusion of these types of enhancements can significantly reduce fatal and life-changing injury crashes.

ADA Transition Plan

As part of Title II of the Americans with Disabilities Act (ADA) of 1990, the City of Eugene conducted an evaluation of its public rights-of-way, and developed a transition plan that outlines in detail how the organization will ensure safe access to all of its facilities for all individuals. Public Works collected detailed data on over 15,000 ramps and 250 pedestrian signals to develop transition schedules specific to these facilities. The Public Works Director approved the ADA Transition Plan for the Public Rights-of-Way by Administrative Order in July 2015. All capital rehabilitation projects are evaluated for access compliance and potential improvements during scoping and preliminary design.

As part of the 2017 capital paving projects, the City upgraded 235 sidewalk ramps and three pedestrian islands.

Sustainability and Gains through Technical Developments

In 2010, Eugene created the Community Climate and Energy Action Plan (CEAP), joining a growing list of forward-thinking cities around the world that are addressing climate change and energy challenges by planning with vision and creativity. The Climate Recovery Ordinance (CRO), adopted in 2014 and updated in 2016, is our community's next step toward fulfilling these efforts. The 2016 update established the goal of reducing the 2010 levels of community fossil fuel use by 50 percent by the year 2030. Eugene is on a path to reach this goal.



The City of Eugene continually strives to improve the quality, environmental footprint, and cost efficiency of its projects. In 2017, Eugene continued to use warm mix asphalt pavement and increased use of reclaimed binder to meet these sustainability criteria.

Warm mix asphalt continued to be specified for all the paving projects in 2017 in place of conventional hot mix asphalt; approximately 29,000 tons of warm mix asphalt pavement was placed on capital paving projects in 2017. As explained in the Key Terms section of this report, warm mix asphalt provides environmental and human health benefits as well as a potentially longer lasting product. The National Cooperative Highway Research Program (NCHRP) estimates that there is a CO₂ savings of 12 pounds per ton of pavement when using warm mix as compared to traditional hot mix asphalt. The NCHRP also estimates that the use of warm mix asphalt reduces the energy used in the asphalt batch plant by about 30 percent compared to hot mix asphalt.

Reclaimed asphalt pavement (RAP) has been used in Eugene for more than 20 years. Like the State of Oregon, Eugene's current standard specification allows up to 30 percent RAP, by weight, to be used in new asphalt pavement mixes. For several years, local asphalt producers have supplied mixes that maximize the allowed RAP content.

Increasing the amount of reclaimed asphalt binder in pavement mixes potentially impacts the quality and longevity of the asphalt pavement, so increasing the allowed reclaimed asphalt binder in mixes needs to be done with consideration as RAP contents greater than 20 to 30 percent is an emerging technology without much research conducted on long-term impacts to the pavement quality. Nationally, multiple organizations are experimenting with increasing the reclaimed asphalt binder content, and Eugene provided pavement samples for research to the Asphalt Pavement Association of Oregon in 2013.

In Eugene, typical RAP materials result in a one-to-one replacement of the virgin asphalt cement needed for a typical dense graded asphalt pavement used on residential and collector streets in Eugene. Since the asphalt cement generally makes up about a quarter of the cost of asphalt pavement, reducing the amount of virgin asphalt cement used has the potential to decrease materials costs as well as conserving virgin resources.

Based on positive test results on pilot projects constructed in 2013 to increase RAP usage, Eugene will continue to select projects to increase the reclaimed binder in asphalt pavements. The Eugene specifications allows flexibility for the contractors to meet the increased binder replacement value using RAP or a combination of RAP and reclaimed asphalt shingles (RAS) depending on the availability of materials and capabilities of the plant.

By its nature, reclaimed asphalt binders are stiffer and pavements that contain higher contents of reclaimed asphalt binders are more susceptible to cracking. To compensate for this potential, the grade of virgin asphalt binder typically used for Eugene paving with higher than 30 percent binder replacement was replaced with a “softer” binder that should better resist cracking.

Eugene Public Works continues to test the limits and increase the percentage of reclaimed binder content in city streets. While staff are on the forefront of this technology, they’re proceeding with caution and choosing projects on a case-by-case basis. Typically they choose streets with lower traffic volumes in order to minimize the chances of unintended consequences.

Nearly 8,200 tons of RAP was used on 2017 capital paving projects, reducing the need for nearly 490 tons of asphalt cement and 7,800 tons of aggregate to be mined, refined, processed and subsequently shipped to the pavement producers. Using warm mix asphalt with typical reclaimed asphalt pavement content resulted in an estimated reduction of 675 MT CO₂e compared to using hot-mix asphalt pavement with no reclaimed pavement on 2017 capital paving projects.

Funding Status and Forecast

In 2012, project costs were estimated for each street for the purpose of selecting streets to be included in the bond measure. These cost estimates were based on the overall surface condition of each street as described in the City’s Pavement Management System. A unit cost was assigned to each street based on whether the street rehabilitation treatment was assumed to be a reconstruct or an overlay. Approximately 18 months prior to construction, more detailed pavement testing is conducted to determine specific treatments to each street based on the existing pavement structure, subgrade soil conditions and traffic loading. Actual rehabilitation treatments may be different than the original assumptions, requiring more, less or a combination of rehabilitation techniques.

For the streets scheduled for 2017 construction, the 2012 estimated cost with inflation was \$9,383,000. As of January 3, 2018, although not all project contracts have been closed out, the projected actual cost for the 2017 bond projects is \$7,656,000; a net difference of \$2,088,000 below the costs projected in 2012. We have continued to see a steady increase in construction costs but not to the degree that we originally projected resulting in a large remaining balance. We expect this trend to continue through the last year of this Bond. Details on an annual project-by-project basis are provided in the following pages and summarized in Appendix A. As construction is completed each year, Appendix A will be updated and included in future reports to track the funding status of the overall bond funds.

The 2012 bond measure also allocated an average of \$516,000 for pedestrian and bicycle improvements each year. In 2017, the project expenditures on all pedestrian and bicycle improvements funded by the bond are estimated at \$297,000. Due to expenditures to date, approximately \$200,000 is available for the final year of the Bond.

2017 Bond Construction Projects

The following pages are reports on individual projects. The total costs for each project listed are estimated as not all of the 2017 construction-related costs have been finalized as of January 1, 2018.



Completed Paving on Jefferson Street

1st Avenue and 2nd Avenue Paving

Project Description: This project consisted of rehabilitation of two streets in the Whitaker Community Council neighborhood in Council Ward 7:

- 1st Avenue from Blair Boulevard to the west end
- 2nd Avenue from Blair Boulevard to Garfield Street

Treatment Methodology:

- 1st Avenue was reconstructed by removing the existing asphalt and concrete pavement, reconditioning the existing aggregate base, and placing 9 inches of concrete surfacing.
- 2nd Avenue was reconstructed by removing the existing asphalt pavement, reconditioning the existing aggregate base, and repaving with 8 inches of asphalt.

Costs: Total project costs, from all funding sources, are estimated at \$1,423,664.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$1,803,000
Total Projected/Actual Paving Bond Funds Used =	\$1,347,670
<hr/>	
Difference =	\$455,330

Additional Sources of Funding: Stormwater utility funds, wastewater utility funds, EWEB funds, Signal Improvement funds, and Bike/Ped Bond Funds.

Bicycling and Pedestrian Improvement funds were used for the addition of bike legends on 2nd Avenue.

Project Photos



Completed Paving on 1st Avenue



Completed Paving on 2nd Avenue

30th Avenue Paving

Project Description: This project consisted of rehabilitation of one street in the Southeast Neighbors neighborhood in Council Ward 2:

- 30th Avenue from the Spring Blvd Overpass to Agate Street

Treatment Methodology:

- 30th Avenue was rehabilitated by removing and replacing the worn layers of existing pavement. The pavement rehabilitation depth varied between 2 inches and 7 inches. The entire road width also received a 2 inch pavement overlay.

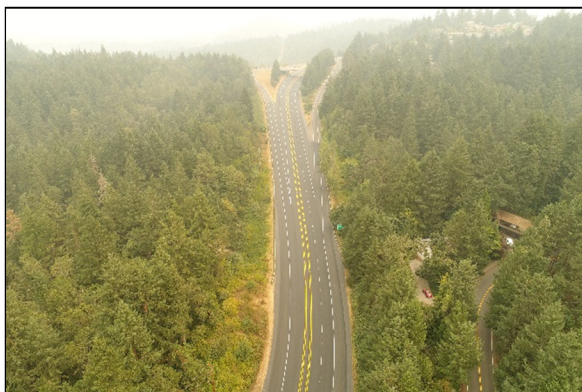
Costs: Total project costs, from all funding sources, are estimated at \$525,887.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$2,871,000
Total Projected/Actual Paving Bond Funds Used =	\$525,887
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Difference =	\$2,345,113

During design, it was found that the existing roadway could be rehabilitated and meet City design standards for significantly less cost than the originally anticipated reconstruction treatment.

Additional Sources of Funding: None

Project Photos



Aerial view of completed paving on 30th Ave



Completed 30th Ave Paving

Best Lane and lone Avenue

Project Description: This project consisted of rehabilitation of two streets in the Harlow Neighborhood in Council Ward 4:

- Best Lane from Willakenzie Road to Kentwood Drive
- lone Avenue from Best Lane to Adkins Street

Treatment Methodology:

- Best Lane was rehabilitated by removing and replacing the existing 6" asphalt surfacing.
- lone Street was rehabilitated by removing and replacing the top layer of worn asphalt surfacing. The roadway also received a 2" pavement overlay.

Costs: Total project costs, from all funding sources, are estimated at \$375,058.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$234,000
Total Projected/Actual Paving Bond Funds Used =	\$351,303
<hr/>	
Difference =	\$(117,303)

Additional Sources of Funding: Stormwater and wastewater utility funds and EWEB funds.

Project Photos:



Completed Paving on Best Lane



Completed Paving on lone Avenue

Calvin Street, Leigh Street, Lydick Way, Pioneer Court, Satre Street, Tomahawk Lane, and Western Drive

Project Description: This project consisted of rehabilitation of seven streets in the Harlow Neighbors neighborhood in Council Ward 4.

- Calvin Street from Western Drive to Harlow Road
- Leigh Street from North End to Western Drive
- Lydick Way from Tomahawk Lane to Harlow Road
- Pioneer Court from Pioneer Pike to North End
- Satre Street from Bailey Lane to Western Drive
- Tomahawk Lane from Harlow Road to 580' North of Harlow Road
- Western Drive from Calvin Street to West End/Monroe Middle School

Treatment Methodology:

- Calvin Street was rehabilitated by milling and repaving the top 2 inches of asphalt surfacing.
- Leigh Street, Lydick Way, and Tomahawk Ln were reconstructed by milling the existing asphalt and using the milled material as a base that was then overlaid with new pavement.
- Pioneer Court was rehabilitated by milling and repaving the top 3 inches of asphalt surfacing.
- Satre Street was reconstructed utilizing the ICTB process and was re-paved with a 4 inch asphalt pavement surface.
- Western Drive was rehabilitated utilizing a combination of methods including milling and repaving, and reconstruction using in place recycled millings as a base course and overlaying with a new pavement surface.
- These streets are popular for walking to school. The intersection at Western and President was reconfigured to create a safer, more visible crossing by reconstructing the sidewalk ramps to comply with accessibility requirements, shortening the crossing distance, and reducing the corner radius to slow traffic.

Costs: Total project costs, from all funding sources, are estimated at \$1,146,274.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$1,906,000
Total Projected/Actual Bond Funds Used =	\$1,056,754
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Difference =	\$859,246

The original budget anticipated traditional reconstruction of several of these streets. Due to the existing materials, they were able to be rehabilitated rather than reconstructed, significantly reducing the cost of the project.

Additional Sources of Funding: Local gas-tax for non-bond street paving, stormwater utility funds, wastewater utility funds, and Public Works Maintenance operations funds.

Project Photos:



Completed Paving on Tomahawk Ln



Completed Paving on Calvin St

East Amazon Drive Paving

Project Description: This project consisted of rehabilitation of one street in the Southeast Neighbors neighborhood in Council Ward 2:

- East Amazon Drive from Hilyard Street to Dillard Road

Treatment Methodology:

- East Amazon Drive was reconstructed using the ICTB process and repaving with 8 inches of asphalt pavement surface.

Costs: Total project costs, from all funding sources, are estimated at \$1,765,177.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$1,322,000
Total Projected/Actual Paving Bond Funds Used =	\$1,545,042
Difference =	\$(223,042)

Additional Sources of Funding: Stormwater and Wastewater utility funds, Stormwater and Transportation system development charges funds, and EWEB funds.

Project Photos:



Completed Paving on E. Amazon Drive

Jefferson Street Paving

Project Description: This project reconstructed one street in the Jefferson Westside Neighbors neighborhood in Council Ward 1:

- Jefferson Street from 8th Avenue to 18th Avenue

Treatment Methodology: Jefferson Street was reconstructed using 9" and 10" thick reinforced Portland cement concrete.

Costs: Total project costs, from all funding sources, are estimated at \$3,022,425.

Preliminary Estimate based on Pavement	
Management System (PMS) Surface Evaluation =	\$1,237,000
Total Projected/Actual Paving Bond Funds Used =	\$2,586,800
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Difference =	\$(1,349,800)

The programmed budget for the project was not sufficient to cover the scope and scale of the full reconstruction of the concrete street, causing a large budget overrun.

Additional Sources of Funding: Stormwater and Wastewater utility funds, Stormwater SDC funds, and EWEB funds.

Bicycling and Pedestrian Improvement funds were used for signage at three enhanced pedestrian crossings.

Project Photos:



Completed Paving on Jefferson St.



Completed Paving on Jefferson St.

2017 Pedestrian and Bicycle Improvement Projects

Project Description: In addition to the pedestrian and bicycle improvements incorporated into paving projects, pedestrian and bicycle improvements were constructed at six locations in 2017:

- Installed sidewalk ramps and Pedestrian Island on Royal Ave at Throne Drive.
- Installed sidewalk ramps, median and rectangular rapid flashing beacon on Irvington Dr.
- Installed street signs on the West Bank Path.
- Installed sidewalk ramps and Pedestrian Island on Country Club Road.
- Installed new ramps and buffered bike lane striping on 24th Ave.
- Installed school zone signage and hardware on Willamette Street north of 35th Avenue.
- The project also included constructing traffic calming in three locations.

Costs:

Total Project Cost, from all funding sources = \$664,900

Bond Funds Used = \$294,500

Additional Sources of Funding: Traffic Operations Improvement Funds, Traffic Calming Funds, Parks SDC, and 4J Funds.

See the Memo in Appendix C for additional projects that included bond funds for pedestrian and bicycling improvements.

Pedestrian and Bicycle Improvements Fund Forecast: The 2012 bond measure allocated a total of \$2,580,000 for pedestrian and bicycle improvements. The average total amount per year is \$516,000 over the five year bond. Over the first four years expenditures on all pedestrian and bicycle improvements funded by the bond have totaled approximately \$2,371,500. The remaining available funds for pedestrian and bicycle improvements in 2018 are \$208,000.

Project Photos:



Country Club Crossing



Buffered Bike Lane on 24th Ave

5-Year Street Bond Project List - Costs and Forecast

Project Map #	Street name	From	To	Ward(s)	Proposed Treatment	Programmed Cost (2012) plus inflation	Projected / Actual Cost	Difference
Construction Year 2014								
1	1st Avenue (C)	Washington St	Van Buren St	7	Overlay	\$ 544,000		
55	Madison Street (L)	1st Ave	8th Ave	1, 7	Reconstruction	\$ 969,000	\$ 2,154,000	\$ (95,000)
58	Monroe Street (L)	1st Ave	Blair Blvd	1, 7	PCC panel replacement	\$ 546,000		
8	13th Avenue (C/A)	Washington St	Garfield St	1	Reconstruction/Overlay	\$ 2,392,000	\$ 2,109,000	\$ 283,000
9	13th Avenue (C)	Bertelsen Rd	Commerce St	8	Reconstruction/Overlay	\$ 169,000		
44	Interior Street (L)	north end	south end	8	Reconstruction/Overlay	\$ 319,000	\$ 410,000	\$ 78,000
21	43rd Avenue (C)	North Shasta Lp	Dillard Rd	2	Pavement Removal and Replacement	\$ 165,000		
40	Firland Blvd (C)	Spring Blvd	Agate St	2	Reconstruction	\$ 97,000	\$ 1,319,000	\$ (618,000)
59	North Shasta Loop (C)	Firland Blvd	North Shasta Lp	2	Reconstruction/Overlay	\$ 439,000		
25	Broadway (C)	Mill St	Pearl St	1, 3	Overlay	\$ 184,000		
33	Coburg Road (A)	south end of Ferry Street Bridge	north end of viaduct	3, 7	Pavement Removal and Replacement	\$ 188,000	\$ 854,000	\$ (482,000)
43	Goodpasture Loop (C)	Goodpasture Island Road		5	Overlay	\$ 1,103,000	\$ 925,000	\$ 178,000
Construction Year 2014 Totals =						\$ 7,115,000	\$ 7,771,000	\$ (656,000)
Construction Year 2015								
10	15th Avenue (L)	Fairmount Blvd	Agate St	3	Reconstruct	\$ 1,020,000	\$ 1,908,000	\$ (235,000)
11	17th Avenue (L)	Fairmount Blvd	Agate St	3	Reconstruct	\$ 653,000		
12	19th Avenue (L)	Fillmore St	Chambers St	1	Pavement Rem/Overlay	\$ 85,000		
13	22nd Avenue (L)	Friendly St	Polk St	1	Pavement Rem/Overlay	\$ 181,000	\$ 701,000	\$ 162,000
39	Fillmore Street (L)	19th Ave	24th Ave	1	Pavement Rem/Overlay	\$ 597,000		
14	25th Avenue (C)	Hawkins Ln	Brittany St	8	Overlay	\$ 231,000		
32	City View Street (L)	28th Ave	29th Ave	8	Reconstruct	\$ 278,000	\$ 958,000	\$ (23,000)
67	Timberline Drive (C)	Warren St	Wintercreek Dr	8	Reconstruction/Overlay	\$ 426,000		
19	39th Avenue (C)	Willamette St	100' East of Densmore	2	Overlay	\$ 215,000		
20	40th Avenue (C)	Hilyard St	Donald St	2	Overlay	\$ 169,000	\$ 836,000	\$ 63,000
24	Brae Burn Drive (C)	39th Ave	Willamette St	2	Overlay	\$ 515,000		
22	Avalon Street (L)	Echo Hollow Rd	Juhl St	6	Reconstruct	\$ 298,000		
30	Cascade Drive (L)	Avalon St	Juhl St	6	Reconstruct	\$ 170,000		
37	Elizabeth Street (L)	Knoop Ave	Royal Ave	6	Overlay	\$ 120,000	\$ 627,000	\$ 199,000
48	Juhl Street (L)	north side of address 1424	south end	6	Reconstruct	\$ 160,000		
49	Knoop Avenue (L)	Echo Hollow Rd	Elizabeth St	6	Overlay	\$ 78,000		
56	Mahlon Avenue (L)	Garden Way	Honeysuckle Ln	4	Pavement Rem/Overlay	\$ 232,000	\$ 75,000	\$ 157,000
Construction Year 2015 Totals =						\$ 5,428,000	\$ 5,105,000	\$ 323,000
Construction Year 2016								
4	5th Avenue (L)	Bertelsen Rd	west end	8	Reconstruct	\$ 664,000		
5	6th Avenue (L)	Bertelsen Rd	Commercial St	8	Overlay	\$ 166,000	\$ 992,000	\$ 931,000
6	7th Avenue (L)	Bertelsen Rd	Oscar St	8	Reconstruct	\$ 863,000		
34	Commercial Street (L)	5th Ave	south end	8	Overlay	\$ 230,000		
15	27th Avenue (L)	Columbia St	south end	3	Overlay	\$ 117,000		
28	Capital Drive (L)	Spring Blvd	50' north of Crest De Ruta	3	Reconstruct	\$ 418,000	\$ 1,068,000	\$ 598,000
62	Potter Street (L)	24th Ave	29th Ave	3	Reconstruct	\$ 847,000		
66	Spring Boulevard (L)	Fairmount Blvd	Capital Dr	3	Overlay	\$ 150,000		
70	Van Ness Street (L)	23rd Ave	27th Ave	3	Overlay	\$ 134,000		
31	Centennial Loop (L)	MLK Jr Blvd		4	Reconstruct	\$ 678,000	\$ 347,000	\$ 331,000
38	Fairfield Avenue (C)	Hwy 99	Royal Ave	7	Reconstruct	\$ 701,000		
46	Jacobs Drive (L)	Hwy 99	Fairfield Ave	6, 7	Reconstruct	\$ 840,000	\$ 1,430,000	\$ 111,000
53	Lincoln Street (L)	5th Ave	13th Ave	7	Overlay	\$ 392,000		
71	Washington Street (A)	8th Ave	13th Ave	1	Reconstruct	\$ 751,000	\$ 1,210,000	\$ (67,000)
75	Willamette Street (L)	10th Ave	13th Ave	1	Reconstruct	\$ 613,000	\$ 434,000	\$ 179,000
Construction Year 2016 Totals =						\$ 7,564,000	\$ 5,481,000	\$ 2,083,000
Construction Year 2017								
2	1st Avenue (L)	west end	Blair Blvd	7	Reconstruct	\$ 548,000	\$ 1,347,670	\$ 455,330
3	2nd Avenue (C)	Garfield St	Blair Blvd	7	Reconstruct	\$ 1,255,000		
16	30th Avenue (A)	Spring Blvd overpass	Agate St	2, 3	Reconstruct	\$ 2,871,000	\$ 525,887	\$ 2,345,113
36	East Amazon Drive (A)	Hilyard St	Dillard Rd	2	Reconstruct	\$ 1,322,000	\$ 1,545,042	\$ (223,042)
23	Best Lane (L)	Willakenzie Rd	Kentwood Dr	4	Overlay	\$ 157,000	\$ 351,303	\$ (117,303)
45	Ione Avenue (L)	Best Ln	Adkins St	4	Overlay	\$ 77,000		
47	Jefferson Street (C)	8th Ave	18th Ave	1	Reconstruct	\$ 1,237,000	\$ 2,586,800	\$ (1,349,800)
27	Calvin Street (L)	Western Dr	Harlow Rd	4	Reconstruct	\$ 273,000	\$ 1,056,754	\$ 859,246
52	Leigh Street (L)	Western Dr	north end	4	Reconstruct	\$ 184,000		
54	Lydick Way (L)	Tomahawk Ln	Harlow Rd	4	Overlay	\$ 87,000		
60	Pioneer Court (L)	Pioneer Pike	north end	4	Reconstruct	\$ 112,000		
64	Satre Street (C)	Bailey Ln	Western Dr	4	Overlay	\$ 714,000		
68	Tomahawk Lane (L)	Harlow Rd	580' north of Harlow	4	Overlay	\$ 92,000		
73	Western Drive (L)	Calvin St	west end	4	Reconstruct	\$ 454,000		
Construction Year 2017 Totals =						\$ 9,383,000	\$ 7,413,456	\$ 1,969,544
Construction Year 2018								
7	7th Place (C)	Hwy 99 (7th Ave)	Bailey Hill Rd	1, 7, 8	Reconstruct	\$ 3,417,000		\$ -
17/18	30th Avenue (L)	Willamette Street	Ferry Street	2	Reconstruct	\$ 437,000		\$ -
26	Buff Way (L)	Woodside Dr	Forrester Wy	4	Reconstruct	\$ 179,000		\$ -
29	Carmel Avenue (L)	Minda Dr	400' south	5	Reconstruct	\$ 132,000		\$ -
35	Corydon Street (L)	Forrester Wy	Tandy Turn	4	Reconstruct	\$ 41,000		\$ -

5-Year Street Bond Project List - Costs and Forecast

Project Map #	Street name	From	To	Ward(s)	Proposed Treatment	Programmed Cost (2012) plus inflation	Projected / Actual Cost	Difference
41	Forrester Way (L)	Coburg Rd	west side of driveway 1033	4	Reconstruct	\$ 248,000		\$ -
42	Garfield Street (C)	Roosevelt Blvd	6th Ave	7	Reconstruct	\$ 1,891,000		\$ -
50	Larkspur Avenue (L)	Norkenzie Rd	604' west	5	Reconstruct	\$ 211,000		\$ -
51	Larkspur Loop (L)	Norkenzie Rd		5	Reconstruct	\$ 171,000		\$ -
57	Mill Street (L)	30th Avenue		2	Reconstruct	\$ 49,000		\$ -
61	Piper Lane (L)	Chasa St	Fir Acres Dr	5	Reconstruct	\$ 196,000		\$ -
63	Roland Way (L)	Oakway Rd	Cal Young Rd	5	Reconstruct	\$ 216,000		\$ -
65	Sharon Way (L)	Coburg Rd	east side of driveway 1023	4	Reconstruct	\$ 376,000		\$ -
69	Tulip Street (L)	Crescent Ave	Holly Ave	5	Reconstruct	\$ 118,000		\$ -
72	West Amazon Drive (A)	Hilyard St	Fox Hollow Rd	2	Reconstruct	\$ 1,463,000		\$ -
74	Willamette Street (A)	24th Ave	29th Ave	1, 2	Reconstruct	\$ 1,232,000		\$ -
76	Woodside Drive (L)	Cal Young Rd	Sharon Wy	4	Reconstruct	\$ 423,000	\$ -	\$ -

(x) Street Classification Key: (L) = Local; (C) = Collector; (A) = Arterial

Construction Year 2018 Totals = \$ 10,800,000 \$ - \$ -

Total Programmed Costs = \$ 40,290,000 \$ 25,770,456 \$ 14,519,544

Pedestrian and Bicycle Improvements Project List

Projects			Average Annual Allocation \$516,000	Projected / Actual Cost	Difference
Construction Year 2014					
2014 Pedestrian & Bicycle Repairs				\$ 410,000	
Acorn Park Sidewalks				\$ 128,000	
1st, Madison, Monroe				\$ 92,000	
13th Avenue (Washington to Garfield)				\$ 25,000	
Goodpasture Island Loop Pedestrian Signals				\$ 29,000	
Roosevelt Blvd Pedestrian Signals and Sidewalk Infill				\$ 58,000	
Construction Year 2014 Pedestrian & Bicycle Repairs Total =				\$ 742,000	\$ (226,000)
Construction Year 2015					
2015 Pedestrian & Bicycle Improvement Project				\$ 349,000	
15th and 17th Avenues Markings				\$ 38,000	
Fillmore and Friendly Streets Markings				\$ 10,000	
Donald Street Crossing				\$ 19,000	
Garden Way and Willakenzie Markings				\$ 20,000	
Valley River Way Pedestrian Signal Upgrades				\$ 20,000	
South Willamette Street Improvements				\$ 12,700	
Tugman Bridge and Sidewalk Improvements				\$ 12,500	
Construction Year 2015 Pedestrian & Bicycle Repairs Total =				\$ 481,200	\$ 34,800
Construction Year 2016					
2016 Pedestrian & Bicycle Improvement Project				\$ 683,000	
Fairfield Avenue Sidewalk Infill				\$ 44,000	
Willamette Street Markings & Sidewalk Improvements				\$ 71,000	
Lincoln Ave Bike Buffer				\$ 12,000	
Construction Year 2016 Pedestrian & Bicycle Repairs Total =				\$ 810,000	\$ (294,000)
Construction Year 2017					
2017 Pedestrian & Bicycle Improvement Project				\$ 290,531	
1st & 2nd Ave Paving Bike Legends				\$ 1,042	
3rd Ave Paving Sharrow Markings				\$ 2,969	
Jefferson St Paving Signage				\$ 3,364	
Construction Year 2017 Pedestrian & Bicycle Repairs Total =				\$ 297,906	\$ 218,094

Construction Year 2018 \$ 248,894

Total Pedestrian and Bicycle Improvement Project Costs = \$ 2,580,000 \$ 2,331,106 \$ 248,894

Summary of Bond Costs

Total Street Projects in 2012 Dollars with inflation = \$ 40,290,000

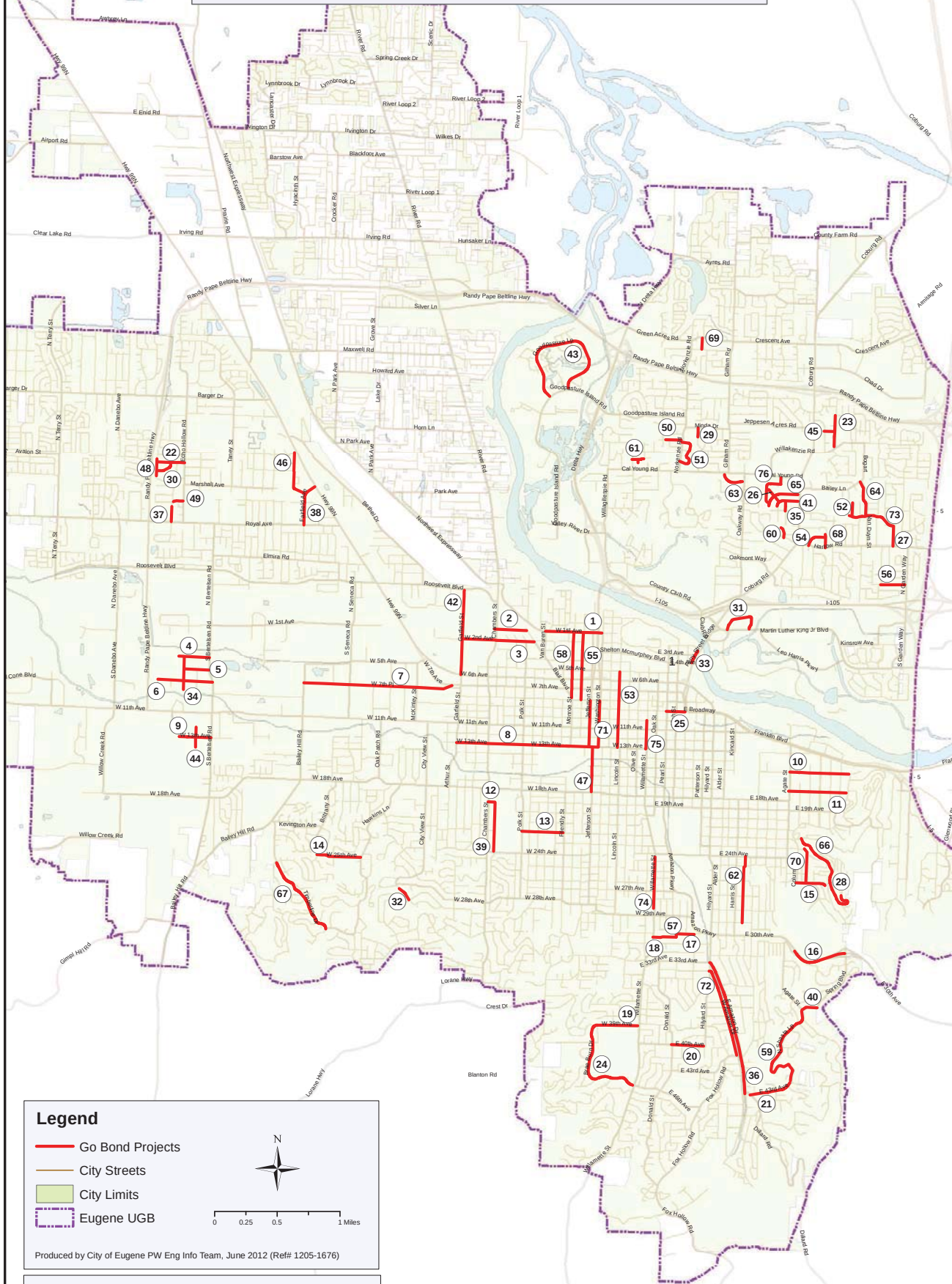
Total Pedestrian & Bicyclist Improvements = \$ 2,580,000

Bond Issuance Costs = \$ 130,000

Total Bond Costs = \$ 43,000,000

Eugene Street Preservation Projects

Project Map for 2012 Bond Measure to Fix Streets



Project List for 2012 Bond Measure to Fix Streets

Map #	Street Name	Limits
1	01ST AVE	WASHINGTON ST - VAN BUREN ST
2	01ST AVE	BLAIR BLVD - WEST END
3	02ND AVE	BLAIR BLVD - GARFIELD ST
4	05TH AVE	BERTELSEN RD - WEST END
5	06TH AVE	BERTELSEN RD - COMMERCIAL ST
6	07TH AVE	BERTELSEN RD - OSCAR ST
7	07TH PL	7TH AVE/HWY 99 - BAILEY HILL RD
8	13TH AVE	WASHINGTON ST - GARFIELD ST
9	13TH AVE	BERTELSEN RD - COMMERCE ST
10	15TH AVE	FAIRMOUNT BLVD - AGATE ST
11	17TH AVE	FAIRMOUNT BLVD - AGATE ST
12	19TH AVE	FILLMORE ST - CHAMBERS ST
13	22ND AVE	FRIENDLY ST - POLK ST
14	25TH AVE	HAWKINS LN - BRITTANY ST
15	27TH AVE	COLUMBIA ST - SPRING BLVD
16	30TH AVE	SPRING OVERPASS - AGATE ST
17	30TH AVE	MILL ST (WEST) - FERRY ST (EAST)
18	30TH AVE	MILL ST - WILLAMETTE ST
19	39TH AVE	WILLAMETTE ST - 100' EAST OF DENSMORE RD
20	40TH AVE	HILYARD ST - DONALD ST
21	43RD AVE	N SHASTA - DILLARD RD
22	AVALON ST	ECHO HOLLOW RD - JUHL ST
23	BEST LN	WILLAKENZIE RD - KENTWOOD DR
24	BRAE BURN DR	39TH AVE - WILLAMETTE ST
25	BROADWAY	MILL ST - PEARL ST
26	BUFF WAY	WOODSIDE DR - FORRESTER WAY
27	CALVIN ST	WESTERN DR - HARLOW RD
28	CAPITAL DR	SPRING BLVD - 50' N OF CRESTA DE RUTA ST
29	CARMEL AVE	MINDA DR - 400' SOUTH OF MINDA DR
30	CASCADE DR	AVALON ST - JUHL ST
31	CENTENNIAL LP	MLK, JR BLVD (EAST) - MLK, JR BLVD/CLUB RD
32	CITY VIEW ST	28TH AVE - 29TH AVE
33	COBURG RD	SS FERRY ST BRIDGE - 50' S OF EWEB ON/OFF RAMP
34	COMMERCIAL ST	5TH AVE - SOUTH END
35	CORYDON ST	FORRESTER WAY - TANDY TURN
36	EAST AMAZON DR	HILYARD ST - DILLARD RD
37	ELIZABETH ST	KNOOP AVE - ROYAL AVE
38	FAIRFIELD AVE	WS HWY 99 - ROYAL AVE
39	FILLMORE ST	19TH AVE - 24TH AVE
40	FIRLAND BLVD	SPRING BLVD - AGATE ST
41	FORRESTER WAY	COBURG RD - WS DRWY 1033
42	GARFIELD ST	ROOSEVELT - 6TH AVE
43	GOODPASTURE LOOP	GOODPASTURE IS RD (EAST INTERSECTION) - GOODPASTURE IS RD (WEST INTERSECTION)
44	INTERIOR ST	NORTH END OF CUL DE SAC - SOUTH END OF IMPROVED SECTION

Map #	Street Name	Limits
45	IONE AVE	BEST LN - ADKINS ST
46	JACOBS DR	HWY 99N - FAIRFIELD AVE
47	JEFFERSON ST	8TH AVE - 18TH AVE
48	JUHL ST	NS ADDR 1424 - SOUTH END
49	KNOOP AVE	ECHO HOLLOW RD - ELIZABETH ST
50	LARKSPUR AVE	NORKENZIE RD - 640 FEET WEST OF NORKENZIE RD
51	LARKSPUR LOOP	NORKENZIE RD (N) - NORKENZIE RD (S)
52	LEIGH ST	NORTH END - WESTERN DR
53	LINCOLN ST	5TH AVE - 13TH AVE
54	LYDICK WAY	TOMAHAWK LN - HARLOW RD
55	MADISON ST	1ST AVE - 8TH AVE
56	MAHLON AVE	GARDEN WAY - HONEYSUCKLE LN
57	MILL ST	30TH AVE (NORTH) - 30TH AVE (SOUTH)
58	MONROE ST	1ST AVE - BLAIR BLVD
59	NORTH SHASTA LOOP	FIRLAND - 43RD AVE
60	PIONEER CT	PIONEER PIKE - NORTH END
61	PIPER LN	CHASA ST - FIR ACRES DR (INCL CUL-DE-SAC)
62	POTTER ST	24TH AVE - 29TH AVE
63	ROLAND WAY	OAKWAY RD - CAL YOUNG RD
64	SATRE ST	BAILEY LN - WESTERN DR
65	SHARON WAY	COBURG RD - ES DRWY 1023
66	SPRING BLVD	FAIRMOUNT BLVD - CAPITAL DR
67	TIMBERLINE DR	WARREN ST - WINTERCREEK DR
68	TOMAHAWK LN	HARLOW RD - 580' NORTH OF HARLOW RD
69	TULIP ST	CRESCENT AVE - HOLLY AVE
70	VAN NESS ST	23RD AVE - 27TH AVE
71	WASHINGTON ST	8TH AVE - 13TH AVE
72	WEST AMAZON DR	ES HILYARD - SS FOX HOLLOW
73	WESTERN DR	CALVIN ST - WEST END/MONROE MIDDLE SCHOOL
74	WILLAMETTE ST	24TH AVE - 29TH AVE
75	WILLAMETTE ST	10TH AVE - 13TH AVE
76	WOODSIDE DR	CAL YOUNG RD - SHARON WAY

January 2018

Street Repair Review Panel,

This memo summarizes the process for determining street characteristics for people who walk and bike and how the Pavement Bond Measure (PBM) is used to enhance the environment for active transportation modes. In addition, project summaries for 2017 and a look ahead to 2018 have also been provided.

Background

The 2012 Pavement Bond Measure includes the following language, "...Council determined that an annual average of \$516,000 should be allocated over a period of five years to support bicycle and pedestrian projects guided by the Pedestrian and Bicycle Master Plan, City staff, and the Bicycle and Pedestrian Advisory Committee." Transportation Planning staff works with the Active Transportation Committee (formerly BPAC) to develop a list of bicycle and pedestrian projects for review. The projects include additions to pavement projects and stand-alone improvements for people who walk and bike.

Where do the Walking and Biking Projects Come From?

In 2012, City Council accepted the Pedestrian and Bicycle Master Plan as a resource for network improvements related to walking and bicycling. In 2017, the PBMP was assimilated into the city's Transportation System Plan (TSP). The TSP is the city's transportation policy document and long-term vision for transportation resources.

For pavement preservation projects city staff consult the TSP to determine what network improvements should be made based on long-term system needs. Pavement projects present an opportunity to implement some improvements, such as bike lane striping, because striping will be entirely replaced as part of the pavement project.

There are also projects developed based on community input (ATC, etc.), coordination with 4j and Bethel Safe Routes to School programs, and through site investigations by city staff. The Vision Zero Action Plan is also used to evaluate project locations to improve safety outcomes for walking and bicycling.

What Bike/Ped Projects Were Built in 2017 Using the PBM?

Some of the walking and bicycling projects occur on streets where there is a pavement project while others do not. Projects developed in 2017 are listed below. Pictures for some projects are located at the end of this memo.

Projects Occurring with Pavement Projects

- 2nd Avenue (Blair to Garfield): existing bike lanes on 2nd Avenue from Blair to Chambers were widened. New bike lanes were added from Chambers to Garfield.
- East Amazon (Hilyard to Dillard): there is federal funding to develop a two-way protected bike lane on the west side of East Amazon in 2018. Temporary striping was used to replace the existing bike lane and centerline stripe until the permanent bikeway facility is constructed in 2018. A temporary bump out was created on East Amazon at Potter as a placeholder for an enhanced pedestrian crossing that will occur in 2018.
- Jefferson (8th to 18th): raised intersection and crosswalks were added on Jefferson/15th Avenue. Curb extensions were added Jefferson/12th Avenue. Crosswalks were added to Jefferson/Broadway.
- 3rd Avenue (Lincoln to Washington): shared lane markings were added. During construction, local property owners and Eugene Parking Services collaborated to add several additional facilities for walking

and bicycling. These include curb extensions on 3rd/Lincoln, a mid-block raised crosswalk near the REI entrance, and an on-street bike corral.

Discretionary Projects

- Pedestrian Island/Crossing (Royal at Throne): a pedestrian crossing island and crosswalk was added across Royal Avenue near Throne Drive. The location connects housing south of Royal to Candlelight Park on the north side. The crossing is also co-located with LTD bus stops.
- RRFB (Irvington at Revell): a rectangular rapid flashing beacon (RRFB) was added to the existing crossing island on Irvington Drive near Revel Street. The crossing connects housing on the north side of Irvington Drive to Spring Creek Elementary on the south.
- Path Signs (West Bank Path): street signs were added to the West Bank Path at three accessways: Merry Lane, Hillcrest Drive, and Hilliard Lane.
- School Speed Zone Flashers (Willamette Street): school speed zone flashers were added to the school zone on Willamette Street from 35th Avenue to 33rd Avenue. (PIC #1)
- Buffered Bike Lanes (E 24th Avenue): parking was removed from the south side of E 24th Avenue from Amazon Parkway to Hilyard to install buffered bike lanes on both sides of 24th Avenue. This project also included a new crosswalk near Roosevelt Middle School. 4j School Bond money was used to pay for the crosswalk. (PIC #2)

What Projects are you Exploring for 2018?

The annual expenditure was estimated to average \$516,000 throughout the life of the bond. Due in part to higher than expected bid prices, the high demand for walking and bicycling projects, and timing, spending was higher than \$516,000 in the first years of the bond for walking and bicycling projects. While there were some surprises in the bid estimates received by contractors, city staff knowingly spent more money in the first years of the bond. This is due to upcoming state-funded walking and bicycling projects that are scheduled for 2018 and the limited capacity for city staff to design and manage additional projects. State-funded projects include:

- Jessen Path: construction of a shared use path through Golden Gardens Park from the Beltline Path to Ohio Street.
- Active Amazon Corridor: installation of a two-way protected bikeway on East Amazon Drive from Dillard to Hilyard. Installation of 3 pedestrian bridges across the Amazon Creek.
- Northeast Greenways: development of “neighborhood greenways”, or streets that are optimized for walking and bicycling, in the neighborhoods of Cal Young, Harlow, and Northeast. This includes wayfinding signage, pavement markings, and enhanced pedestrian crossings of arterial streets.

Remaining Pavement Bond Measure funds will most likely be used to augment projects already scheduled for 2018. For example, the addition of bike lanes is anticipated to require some additional funding on 7th Place when it is repaved in 2018. There are also additional pedestrian crossing needs for the Active Amazon Project that are currently being studied.

If you have any questions about planning for walking and bicycling projects, or use of PBM funds to deliver these projects, please contact me: reed.c.dunbar@ci.eugene.or.us, (541) 682-5727.

Sincerely,
Reed Dunbar, AICP
Associate Transportation Planner (Bicycle and Pedestrian Planner)

PIC #1: School Speed Zone Flashers (Willamette Street)



PIC #2: Buffered Bike Lane (E 24th Avenue)





INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING AGREED-UPON PROCEDURES

To Jon Ruiz, City Manager
City of Eugene
Eugene, Oregon

1976 Garden Ave.
Eugene, OR 97403
541.342.5161
www.islercpa.com

We have performed the procedures enumerated below, which were agreed to by the City of Eugene ("City"), solely to assist you in connection with the determination of whether expenditure of the 2012 general obligation bond funds approved for issuance through voter's approval of Ballot Measure 20-197 were expended in accordance with the purposes and limitations outlined in City Council Resolution No. 5063; namely that such expenditures were: a) used only for costs related to street preservation projects, fund bicycle and pedestrian projects and payment of bond issuance costs and not to expand the motor vehicle capacity of the street system; and, b) limited to projects included in Exhibit A to the Resolution unless upon completion of all of the projects listed in Exhibit A the Council adds other street preservation projects to the list in order to utilize unspent bond proceeds. Management is responsible for the accounting records pertaining to the use of the bond proceeds. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

All procedures were performed for expenditures incurred from January 1, 2017 through December 31, 2017. All procedures we performed were limited to documentation and information supplied to us by the City, as follows:

- An Excel spreadsheet detailing all charges allocated and/or invoices received by the City for expenditures related to the use of the bond proceeds
- Copies of Resolution No. 5063 and Ballot Measure 20-197
- Copies of bids and contracts issued by the City for any projects to be completed using the bond proceeds
- Copies of supporting documentation including, but not limited to, invoices, cancelled checks, payroll records, certifications of payments and bank statements; and
- Copies of the City's general ledger detail for the bond fund accounts.

The procedures we performed and the associated findings are as follows:

- (1) *Expenditure testing.* From January 1, 2017 through December 31, 2017, total expenditures for the projects funded by the 2012 bond proceeds were \$8,386,719 per the City's general ledger. We tested \$4,504,181 or 54% of those expenditures. All tested expenditures were supported by appropriate documentation such as vendor invoices, certifications of payment, payroll records, signed contracts, and photographs of the work in progress. All tested expenditures were recorded in the proper account, fund and period and were spent on street projects included in Exhibit A of City Council Resolution No. 5063 or other street preservation projects approved by City Council, as permitted under Resolution 5063. No exceptions were noted.

- (2) We reviewed bids and contracts related to two of eight new construction projects during 2017. The bidding and contracting process for the two projects complied with the City's procurement policies and procedures.
- (3) We recalculated the amount of unspent bond proceeds and compared that amount to the actual amount of bond proceeds remaining. The following is a summary of the 2012 bond proceeds and project expenditures from inception of the Street Bond project to December 31, 2017:

	Issuance to 12/31/2014	1/1/2015 12/31/2015	1/1/2016 12/31/2016	1/1/2017 12/31/2017	Total
Bond proceeds	\$ 8,500,000	6,289,700	6,690,000	\$ 8,750,000	\$ 30,229,700
Project expenditures	8,445,638	6,355,849	6,378,148	8,386,719	29,566,354

As of December 31, 2017, the City had \$1,000,000 outstanding on the line of credit facility. From January 1, 2017 through December 31, 2017, the City received \$8,750,000 in bond proceeds and was charged interest of \$25,425; the City repaid \$9,275,425 during the same period. At December 31, 2017, the City had \$12,770,300 in authorized borrowing remaining on the bonds (\$43,000,000 authorized less \$30,229,700 in proceeds received to date).

Based on our limited testing, we noted that the City followed the purpose and limitation of the City Council Resolution 5063.

We were not engaged to and did not conduct an audit, the objective of which would be the expression of an opinion on the financial records. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the City Manager of the City of Eugene, and is not intended to be and should not be used by anyone other than this specified party.

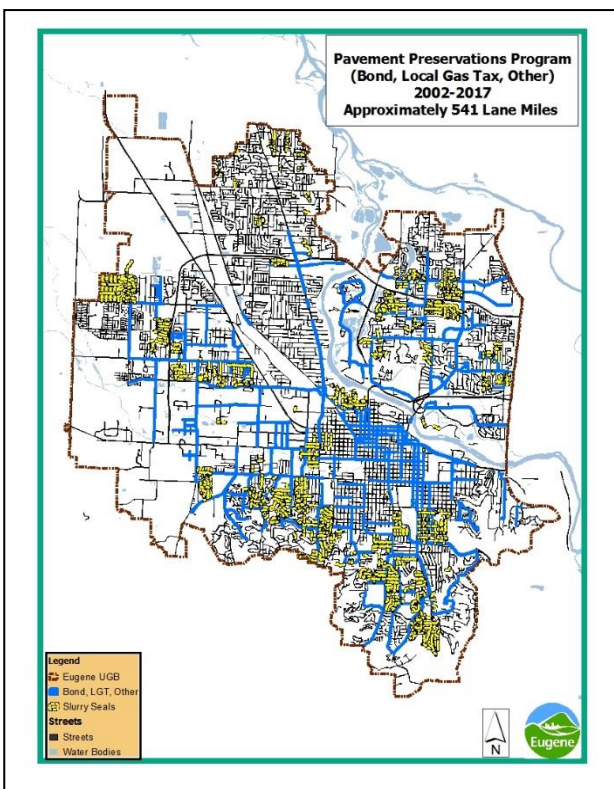
Isler CPA



Eugene, Oregon
January 31, 2018

2018 PAVEMENT MANAGEMENT REPORT

An Update on Asphalt Pavement Conditions and Programs
(2017 Rating & Inventory Data)



NOV. 8, 2017

For 3rd time, Eugene voters approving street repair bond

For the third time, Eugene voters OK'd paying more property taxes so the city can continue repairing cracked and aging city streets. Voters approved the \$51.2 million bond with 62 percent of the vote, according to election returns late Tuesday night. While the bond drew less support from a similar measure five years ago, it surpassed the margin for the initial 2008 bond. Voters approved those two measures with 64 percent and 57 percent of the vote, respectively. The bond will pave and make other repairs to about 88 lane-miles of streets over five years. A lane-mile is a 5,280-foot ...

Prepared by:
Public Works Maintenance
Surface Technical Team
1820 Roosevelt Blvd.
Eugene, OR 97402



Cover Photos (top left – clockwise): GO BONDS, Maintenance Division performing street repair. Register Guard headline for bond approval, 11/8/2017, Map of all Pavement Preservations 2002-2017

EXECUTIVE SUMMARY

The annual Pavement Management Report is produced to update information and data regarding the City of Eugene's transportation system including improved streets, unimproved streets and off-street shared-use paths. This report provides surface descriptions and associated mileage, reviews current treatment programs and costs, and projects future treatment needs based on several funding scenarios.

The transportation system is a significant public asset. This asset is typically described in lane miles and/or centerline miles. Currently, Public Works manages 1365 lane miles (549 centerline miles) of streets, and approximately 45 centerline miles of off-street shared-use paths within the City limits. This report includes a breakdown of the street transportation system in terms of pavement type, level of improvement, and functional classification.

Street (and off-street shared-use paths) condition data is collected by Public Works Maintenance staff through on-site inspections. Pavement distress information is collected and a Pavement Condition Index (PCI) score is generated. Formulas and methodology within the software helps establish efficient treatment recommendations and identify financial implications of various response strategies. The Pavement Management System (PMS) also provides a detailed street inventory and condition trends using street condition data collected since 1987.

The City appreciates Eugene residents for approving the 2017 Bond Measure for street preservation, bicycle and pedestrian improvements. Of the \$51.2 million bond, 91 road projects will be completed with \$5 million dollars going towards safety and infrastructure improvements for pedestrians and bicyclists.

A local gas tax was established in 2003 for a Pavement Preservation Program (PPP) since street repair funding was not at a level to keep pace with rehabilitation needs. Even with the local gas tax in place, it was reported in 2007, the anticipated backlog for rehabilitation needs would reach more than \$282 million by 2016 (2007 Pavement Management Report). In 2008, a \$35.9 million, five-year bond measure was approved by voters and an additional five-year bond for \$43 million was approved by voters in 2012. With the approval of the 2017 five-year bond measure more than 204 streets in Eugene have been or are identified to be repaired by 2023. The revenues from the local gas tax and the bond measures have helped reduce the backlog of street repair projects over the last 14 years. The current calculated backlog for repairs on improved asphalt streets at the end of 2017 is \$79.8 million, in 2016 the reported backlog was \$92 million.

In addition to funding from the current street repair bond ending in 2023 and rising constructions costs, other factors contribute to current and future backlogs:

- Since the beginning of the Pavement Preservation Program (PPP) in 2002 the primary focus for preservation has been arterial and collector streets. These formerly rehabilitated streets are now showing signs of deterioration beyond what can be addressed using standard maintenance practices.
- It is anticipated that costs will continue to increase at a steady rate. Changes in costs for construction materials and labor will affect long-term backlog estimates.

EXECUTIVE SUMMARY – (continued)

- New construction techniques such as in-place recycling (also known as in-place cement treated base) which strengthens existing roadbed materials for reuse and lowers impacts to the environment have been successfully used in place of conventional reconstruction techniques and resulted in additional cost savings.
- Lane Transit District's (LTD) West Eugene EmX project has increased the number of concrete street lane miles by constructing 12' bus lanes. Many distresses previously reported in these areas were eliminated through this project.

It is also important to note that the backlog estimate does not take into account the repair needs for concrete streets, unimproved streets, sidewalks, off-street shared-used paths, or other elements of the transportation system.

The 2018 report uses three funding scenarios to project treatment needs and costs over a 10-year period. The analyses for all three scenarios use costs updated by Public Works Engineering in 2016 and are adjusted to include a 2 percent inflation factor. Following is a summary of the analyses:

- Based on the projected funding (see table pg. 17), a \$182 million backlog is projected in 10 years. Last year the projected backlog was \$200 million in 10 years. Bond funding will end in 2023, decreasing pavement preservation from an average of \$11.9 million to \$3 million unless additional funding is approved beyond 2023.
- With the approval of the 2017 bond measure, it is projected that arterials and collectors at a reconstruct level are eliminated. By the tenth year, in addition to projected funding \$8.2 million will be needed to prevent arterial and collector streets from falling into a reconstruct range.
- In addition to current and projected funding, \$5 million annually is needed to prevent residential streets from falling into the reconstruct category and to eliminate the reconstruct backlog in 10 years.

SCOPE OF REPORT

This report is made up of four primary sections:

Street Inventory: The street inventory is discussed including improvement status and functional classification definitions.

Pavement Management System (PMS): A brief history and description of the Pavement Management System used by the City, the selection process and conversion to MicroPaver system is discussed. Included in this section are the rating methodology, pavement inspection frequency, pavement conditions described by the Pavement Condition Index (PCI), specific distress definitions and the resulting reports.

Pavement Preservation Program (PPP): The Pavement Preservation Program is highlighted in this report, including Maintenance and Engineering division roles, treatment types and estimated unit costs, project prioritization, sustainable construction, current treatment costs, projected funding, historical and projected funding graphs, unimproved streets, and off-street shared-use paths.

Projects: This section includes completed and future project lists and maps, including a map of the projects identified in the 2017 bond measure.

EUGENE'S STREET INVENTORY

The City of Eugene has jurisdictional responsibility for many different types and classifications of transportation facilities. Many factors such as age, development type, traffic loads, use, and future transportation needs affect the maintenance and rehabilitation planning for the system. The segment inventory component of the PMS allows a reporting of both centerline miles (intersection to intersection) and lane miles of each segment of the system. While commonly used in reporting distance, centerline miles do not relate equally across streets of different widths or different number of lanes. For this report, comparisons typically are shown both in centerline and 12 foot-wide lane miles unless otherwise noted.

Improvement Status

For purposes of establishing budget allocations and rehabilitation priorities, and performing maintenance activities based on established maintenance policies, the City of Eugene divides the street inventory into two distinct categories:

Improved streets are those which have been fully designed for structural adequacy, have storm drainage facilities which include curbs and gutters, and have either an asphalt concrete (AC) or a Portland cement concrete (PCC) surface. Typically, these streets were either fully improved when the area was developed and paid for by the developer, or were improved through a local improvement district (LID) and paid for in part by the abutting property owners. In some cases a street may have been fully improved while under state or county jurisdiction and then surrendered to the City. Improved streets receive the highest level of ongoing maintenance and are eligible for rehabilitation funding through Eugene's Capital Improvement Program (CIP) and (PPP).

Unimproved streets are those with soil, gravel, or asphalt mat surfaces that have typically evolved to their existing state, have not been structurally designed, and have few if any, drainage facilities and no curbs or gutters. Typically, an unimproved street must be fully improved through a local improvement district, funded in part by the abutting property owners before a higher level of service will be provided (see “City of Eugene Street Maintenance Policy and Procedure Manual” for levels of maintenance service). Unimproved streets receive a low level of ongoing maintenance limited primarily to emergency pothole patching (three inches or greater in depth) and minimal roadside ditch maintenance. To address the growing number of potholes on City streets, the City Council augmented the street repair budget with General Fund allocations for a total of \$2.35 million from FY 2009 through FY 2011. Subsequently, Public Works has allocated \$200,000 per year from Road Fund for enhanced street repairs. The Maintenance Division has addressed potholes by either filling individual potholes or by performing maintenance overlays on entire street segments. Since 2008, more than 116 unimproved streets, representing 52 lane miles, have been resurfaced as a temporary treatment. In addition, several unimproved streets have been brought up to full urban street standards through assessment projects, attributable in part to more flexible design standards.

The following tables categorize Eugene’s Improved and Unimproved Street System in centerline miles and 12-foot lane miles by pavement type and by functional class.

IMPROVED SYSTEM	Asphalt (ACP)		Asphalt over Concrete (APC)		Concrete (PCC)		Gravel		Undeveloped		Total	
	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles
Major Arterial	13.97	64.34	0.03	0.18	4.38	6.13	0	0	0	0	18.38	70.65
Minor Arterial	63.19	213.59	2.27	7.51	3.56	11.92	0	0	0	0	69.02	233.02
Major Collector	30.07	92.34	1.15	2.72	3.25	8.87	0	0	0	0	34.47	103.93
Neighborhood Collector	23.87	61.85	0.45	1.23	1.60	4.48	0	0	0	0	25.92	67.56
Residential	311.84	720.75	2.28	5.92	21.15	53.89	0	0	0	0	335.27	780.56
Total	442.94	1152.87	6.18	17.56	33.94	85.29	0	0	0	0	483.06	1255.72

UNIMPROVED SYSTEM	Asphalt (ACP)		Bituminous Surface (BST)		Concrete (PCC)		Gravel		Undeveloped		Total	
	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles	Miles	12' Lane Miles
Major Arterial	0	0	0	0	0	0	0	0	0	0	0	0
Minor Arterial	1.69	3.15	0	0	0	0	0	0	0	0	1.69	3.15
Major Collector	3.25	7.34	0	0	0	0	0	0	0	0	3.25	7.34
Neighborhood Collector	4.13	8.32	0	0	0	0	0	0	0	0	4.13	8.32
Residential	38.90	64.23	4.36	6.89	0.03	0.03	8.89	12.96	4.69	5.91	56.87	90.02
Total	47.97	83.04	4.36	6.89	0.03	0.03	8.89	12.96	4.69	5.91	65.94	108.83

Functional Classifications

The quantity and associated vehicle weight of traffic using streets is a critical factor affecting the rate at which pavement and roadbeds deteriorate. Eugene divides streets into five categories called functional classifications (FC), each representing a different volume and type of vehicular usage. The MicroPaver terminology for functional classification/section rank is identified as follows:

Major Arterial (FC-1) - (A): Major Arterials are usually four or more lanes and generally connect various parts of the region with one another within the city and with the “outside world”. They serve as major access routes to regional destinations such as downtowns, universities, airports, and similar major focal points within the urban area. Major Arterials typically carry an average of more than 20,000 vehicles per day. Major Arterials receive high priority maintenance.

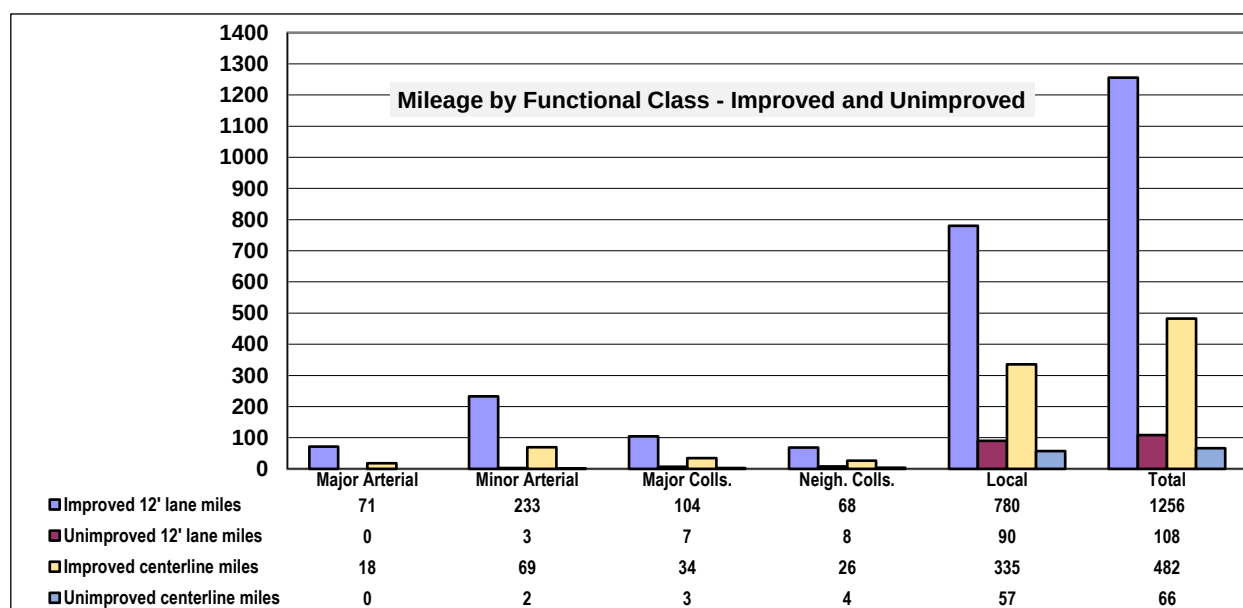
Minor Arterial (FC 2) - (B): Minor Arterials are typically two or three lanes. These streets provide the next level of urban connectivity below major arterials. In most cases their main role tends to be serving intra-city mobility. Minor Arterials carry between 7,500 and 20,000 vehicles per day. Minor Arterials receive priority maintenance.

Major Collector (FC-3) - (C): Major Collectors can be found in residential, commercial, and industrial areas. They typically carry between 2,500 and 7,500 vehicles per day. Major Collectors have a higher priority for maintenance than local streets.

Neighborhood Collector (FC-4) - (D): Neighborhood Collectors are found only in residential neighborhoods and provide a high degree of access to individual properties in a neighborhood. They typically carry between 1,500 and 2,500 vehicles per day.

Local (FC-5 - (E): Local streets provide access to individual properties along the roadway. They are narrow, slow-speed, and low-volume service facilities. They typically carry fewer than 1,500 vehicles per day, and receive low priority maintenance. Local streets are also referred to as Residential streets.

The following graph illustrates both centerline miles and lane miles by improvement type and functional classes.



PAVEMENT MANAGEMENT SYSTEM

A Pavement Management System (PMS) performs analysis of collected rating data and reports on the current and projected conditions of the street system. In addition, it is used to evaluate the effectiveness of planning and funding priorities, and provides guidance in the decision making process. The goal of the decision making process is to prevent pavement failures through judicious maintenance.

City of Eugene implemented MicroPaver in 2013. MicroPaver combines visual field inspection ratings, compiled under strict criteria, with computer tracking and condition analysis. Beginning in 2010 the rating methodology was revised to the WDOT's Extended (WSEXT) method, collection of deterioration values by area, lineal footage thus keeping the program consistent with industry standards. This also allowed for smoother transition to MicroPaver with the ability to migrate three years of rating data with some modifications. With this migrated condition data, rating the entire asphalt street system the last three years plus construction history we are able to perform an analysis with rational accuracy to report financial needs and road conditions. There will be some variation in the outcomes of the analysis due to slight differences in rating and calculation methodology but overall the data is consistent.

Pavement Inspection Frequency

Two predominant work efforts required to maintain the PMS are updating the street inventory and performing the annual inspection of surface conditions.

City streets are divided into segments based on their Functional Classification (FC), pavement type, and geometric design. Segments are the basic unit for evaluating streets and surface conditions. A segment is defined as a portion of a street with a beginning and ending description. Changes in geometric features are used as a guide for determining segments. Examples of geometric differences are surface type, segment width, surface age, and extent of past rehabilitations.

Field inspections are conducted by pavement raters who walk each individual street segment evaluating the pavement surface for signs of distress. City arterial and collector streets are inspected annually; residential streets inspections are completed in a three-year cycle; and off-street shared-use path inspections are completed in a two-year cycle.

Staff performed inspections on the entire street system using MicroPaver for the first three years, 2013-2015 providing an accurate baseline for analysis. Staff returned to the annual inspection cycle in 2016. This year, 2017, staff inspected 157 miles of arterial and collector streets, 100 miles of local streets in the University and Danebo/Bethel areas, plus 44 miles of off-street bike paths.

Pavement Condition Index (PCI), Deduct Values, and Distresses

Pavement distresses are dependent on pavement type and are rated by severity and extent. MicroPaver provides a numerical value calculated internally based on deduct values for the distresses rated per street segment. MicroPaver defines this value as Pavement Condition Index (PCI) which will be the term used throughout this report.

A street with a PCI of 100 represents a new or recently rehabilitated street. This PCI value is the basis used to analyze the surface treatment needs. Distress data are collected using Tablets and then uploaded to the pavement management software. MicroPaver method rates severities and all their extents for up to 20 different distresses. As the condition of a streets' surface begins to deteriorate, the PCI decreases. Asphalt distresses typically observed are alligatoring, longitudinal and transverse cracks, rutting, and raveling. Distresses in concrete streets typically observed and rated include cracks per panel, raveling, joint spalling, faulting, and crack sealing. Descriptions of some common distresses are shown below:

Alligator Cracking: When the asphalt begins to crack in all direction it is called alligator cracking.



Longitudinal Cracking/Transverse Cracking: These are cracks that run parallel to the roadway centerline (longitudinal) and perpendicular to the roadway center line (transverse). These distresses usually divide the piece into different sections and which are caused by repeated traffic loading. The low-severity cracks are not considered serious to the overall function and safety of the road. Medium to high-severity cracks are usually caused by heavy traffic loads and environmental factors and can become very serious distresses. The picture below shows longitudinal cracking.



Rutting: When the traffic of the street becomes heavy for long periods of times the asphalt begins to sink into the wheel path of the vehicles causing a rut. When there is a rut it is usually along the length of the road and is one to two feet wide and there are almost always two ruts, one for each wheel path of the vehicle. The severity of the rut is rated on the average rut depth from $\frac{1}{4}$ " to more than $\frac{3}{4}$ " in depth.



Joint Spalling: Spalling is the deterioration of the edges of a concrete slab within two feet (0.6m) of the joint. The edges get chipped off concrete slabs causing spalling. Spalling is caused by heavy traffic loads and environmental factors.



Raveling: The roads, mainly asphalt, over time become worn out and rough not smooth as when they were first put in, often due to age and the effects of UV rays. Raveling measures the severity of the roughness and coarseness of the top layer of the street.



Faulting: Faulting is the difference in elevation across the slab. One side may be leaning up more over the other side. Causes are soft foundations, heavy traffic, poor construction, and environmental damage.



How Pavement Management System Information is Used

The primary purpose of maintaining a PMS is to collect and analyze information relating to street system condition and deterioration trends. With this vital information public works managers ensure the most cost-effective maintenance or rehabilitation strategies are identified and performed at the optimum time.

Each year the PMS is used to generate several reports requested by other agencies as well as statistical data requested within our own agency. The following is a sample of reports produced with PMS data:

- Pavement Preservation Project List
- Crack Seal Program
- Five-Year Surface List – five-year moratorium for street cutting
- ODOT Oregon Mileage Report
- City of Eugene Public Infrastructure Table
- Annual Insurance Marketing Report
- Transportation Service Profile

PAVEMENT PRESERVATION PROGRAM

Street preservation and rehabilitation, capital improvements, off-street shared-use path projects, and maintenance efforts make up Eugene's PPP. Additionally, the City has budgeted funding for Maintenance Operations to repair portions of the unimproved street system through the Enhanced Street Repair Program. Both PW Maintenance and PW Engineering divisions have important roles within the PPP.

PW Maintenance Roles

Maintenance Division Surface Technical team completes the pavement rating, budget and street life analysis, resulting in a proposed list of projects which is forwarded to Engineering for field testing and final grouping. Surface Technical staff is responsible for producing this report. Operations staff is responsible for the preventative maintenance of all City streets (including concrete streets) and off-street shared-use paths. Preventative maintenance designed to extend the life of the transportation asset is of highest priority. Fully improved asphalt streets receive the highest level of maintenance. Maintenance activities are performed to mitigate hazardous conditions and to extend the useful life of the street. The goal of preventative maintenance is to prevent a street's PCI from slipping from preventative maintenance or minor rehabilitation into a reconstruction category.

PW Engineering Roles

The Engineering Division typically receives projects proposed for preservation from the Maintenance Division three years in advance of the planned construction. Engineering then performs field investigations to confirm the need for treatment, and reviews historic data on construction and maintenance of the streets. Streets are then prioritized for detailed pavement testing and design recommendations based on the available funding and the assessed condition of the streets. The pavement testing and design reports identify whether a street needs to be reconstructed or rehabilitated (overlaid) and the range of treatment options available. If a street is determined to be a full reconstruct, it is typically deferred until funding is identified and available, such as street repair bond measures.

The Engineering Division is responsible for capital project management including design, stakeholder coordination and communication, contract administration, and construction management. For analysis and reporting of projected backlogs, the Engineering Division has provided construction costs based on historic and current road projects.

Treatment Types and Estimated Costs

For the purpose of reporting projected backlogs the Engineering Division provides construction costs based on historic and present road projects. Treatments reflected in the backlog analysis are limited to three types; slurry seal, overlay, and reconstruction and reporting is based on a system wide approach, not at the project level performed by Engineering. Each functional class has an estimated unit cost for overlay and reconstruction treatments. For local streets (FC-5) an additional maintenance option, slurry seal, is considered.

Slurry Seal: The slurry seal option allows for a cost-effective treatment to seal the surface and restore the skid resistance of local street segments, which do not carry high traffic loads. This treatment is not used on streets which require strengthening or reconstruction. Typical slurry seal costs include street cleaning, removal of vegetation, minor base repairs (dig-outs), sealing of cracks, and application of an emulsified asphalt aggregate mixture to the entire paved surface. Associated costs include replacement of striping and pavement markings, and other work needed to return the street to normal operation.

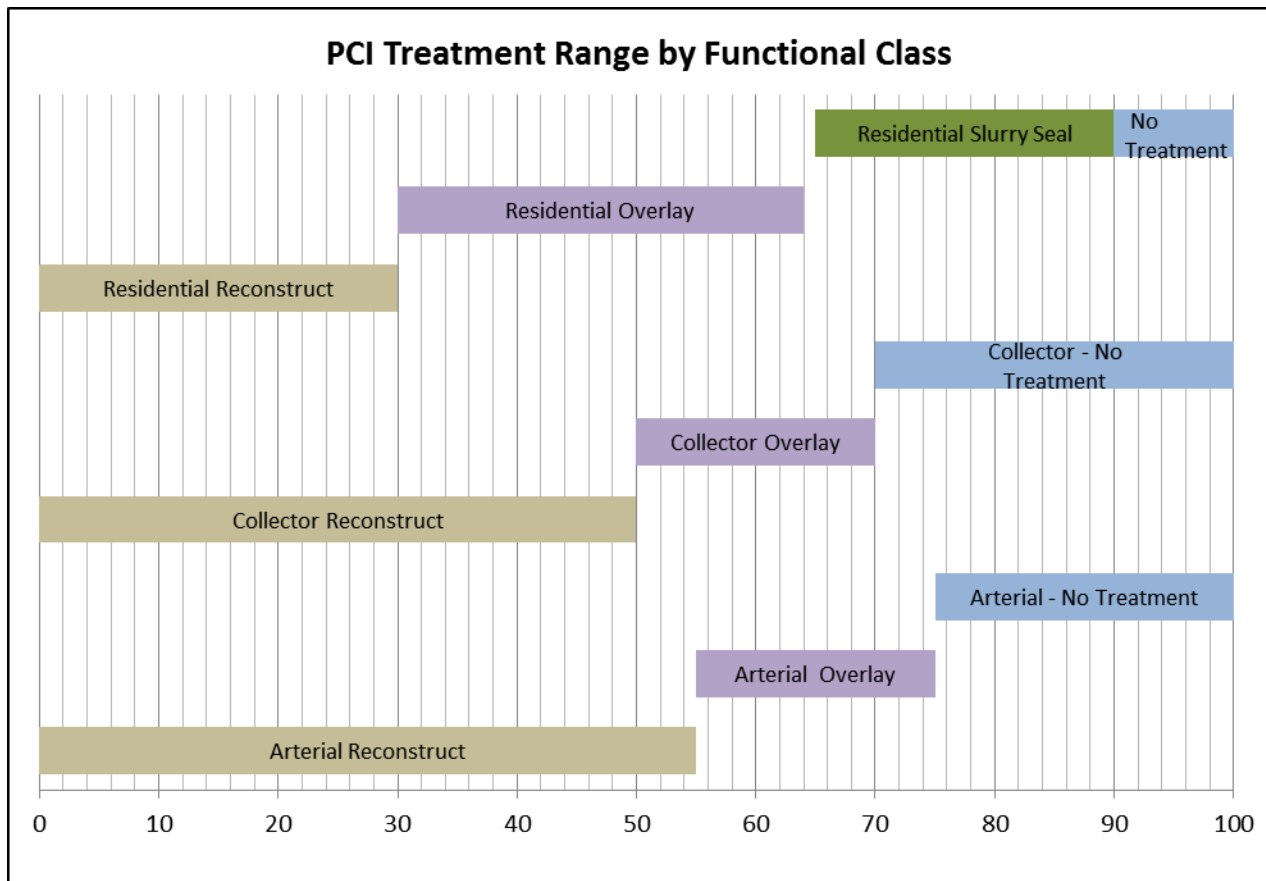
Overlay: Typical overlay rehabilitation costs include milling of existing pavement to a moderate depth to remove existing cracking and increase strength of the structural section. Isolated areas of severely distressed pavement are removed and replaced including a new aggregate base. Associated costs include replacement of striping and pavement markings, adjustment of manholes, and other work needed to return the street to normal operation.

Reconstruct: Typical street reconstruction costs include removal of the existing pavement and base structural section and replacement with a new structural section which will meet a 20-year design life. Isolated areas of curb and gutter are replaced where they would not be suitable to contain new paving or have severe drainage problems.

The following table identifies the estimated costs for the various treatment types including costs to upgrade curb ramps to comply with The American with Disabilities Act (ADA). The slurry seal treatment is exempt from ADA requirements. Beginning in 2016, construction costs will be updated on a bi-annual basis.

Treatment – Functional Class Improved System	12' Lane Mile Cost		
	Updated Eng. 2006 cost	Updated Eng. 2011 cost	Updated Eng. 2016 cost
Overlay - FC 1 & 2	\$215,000	\$243,000	\$336,000.00
Overlay - FC 3 & 4	\$184,000	\$214,000	\$311,000.00
Overlay - FC 5	\$169,000	\$195,000	\$255,000.00
Re-Const - FC 1 & 2	\$765,000	\$724,000	\$892,000.00
Re-Const - FC 3 & 4	\$677,000	\$679,000	\$884,000.00
Re-Const - FC 5	\$505,000	\$505,000	\$649,000.00
Slurry Seal - FC 5	\$19,000	\$25,000	\$44,000.00

The following graph identifies the trigger points (PCI) for each treatment based on Functional Class.



Project Prioritization

Selecting streets or street segments for treatment is done through a process involving analysis, testing, and staff experience. Using the data produced by MicroPaver, and combining this information with estimated revenues allows staff to approximate backlogs and group potential street segments for consideration for treatment under the Pavement Preservation Program.

Streets are not prioritized on a “worst first” basis. Public Works’ main objective is to keep street segments from slipping into the reconstruction category, which typically costs four to five times more per lane mile than rehabilitation. By rehabilitating (overlaying) a street before it significantly deteriorates, 15 to 20 years of useful life can be added to a street at a substantial cost savings over reconstruction. Once a street has deteriorated to the point that it must be reconstructed, the opportunity for preventive street maintenance (overlay) is lost. For these reasons, streets that are categorized as overlay projects receive the highest priority for corrective treatment. If at some point in the future there are additional funds available, or if the majority of overlay projects have been addressed, reconstruction projects will be scheduled.

A prioritized list of 32 street repair projects to be funded by a local bond measure was approved by Eugene voters in 2008. The list, approved by City Council, was developed by staff based on citizen input, information about needed street rehabilitation and reconstruction from the pavement management system, and equitable geographic distribution of projects throughout the

community. Subsequently, a 12 member Street Repair Review Panel (SRRP) was formed to document the use of the bond proceeds. In 2011, City Council approved the addition of 22 streets selected in the same manner and recommended by the citizen review panel to be repaired.

In 2012, a second five-year bond measure was approved by Eugene voters with a prioritized list of 76 street repair projects (Exhibit A) and additional funding to support bicycle and pedestrian improvement projects. The list was developed using the same criteria as above and approved by City Council.

In 2017, a third five-year bond measure for street preservation, bicycle and pedestrian improvements was approved by Eugene voters. Of the \$51.2 million bond, 91 road projects will be completed with \$5 million going towards pedestrian and bicycle infrastructure, and safety improvements.

Sustainable Construction

Since 2008, Eugene has been in the forefront of sustainable construction and paving practices, some of which include paving with warm mix asphalt (WMA), using reclaimed asphalt pavement (RAP), and full depth reclamation (FDR). Production of warm mix asphalt is a “green” solution for the environment with noticeable reduced energy consumption and greenhouse gas emissions. Exposure to fuel emissions, fumes, and odors are reduced for asphalt producers, construction workers and the public. Benefits of paving with WMA are the ability to extend the paving season in colder weather, longer haul distances, and better road performance. Warm mix asphalt is identical to conventional hot mix asphalt, except that through a special mixing process it is produced at a temperature approximately 50 to 100 degrees cooler than conventional hot mix asphalt. This mixing process for asphalt aids in compaction during paving, assists in preventing premature aging and slows the aging process of asphalt. In Eugene, all asphalt producers have retrofitted their plants to produce warm mix asphalt.

Council set goals in 2011 for waste reduction by requiring that the quantity of materials placed in landfills be reduced. In addition to using WMA, Public Works conducted two pilot projects specifying that reclaimed asphalt shingles (RAS) be used as a binder in the asphalt mix, thereby keeping this material from entering the waste stream. The City continues to use warm mix asphalt and in-place recycling techniques to improve the quality, environmental footprint, and cost efficiency of the street bond projects. Key terms in sustainable construction practices:

In-Place Recycling: A process in which a large piece of equipment called a reclaimer pulverizes and mixes the existing base rock and a portion of subgrade soils with dry cement and water to create a cement-treated base. This process greatly reduces the use of virgin materials and trucking that are needed using conventional remove-and-replace construction techniques.

Full Depth Reclamation: When applicable, partial or full-depth reclamation (FDR) is used as a cost and time-saving alternative to traditional reconstruction. Associated costs include replacement of striping and pavement markings, adjustment of manholes, and other work needed to return the street to normal operation.

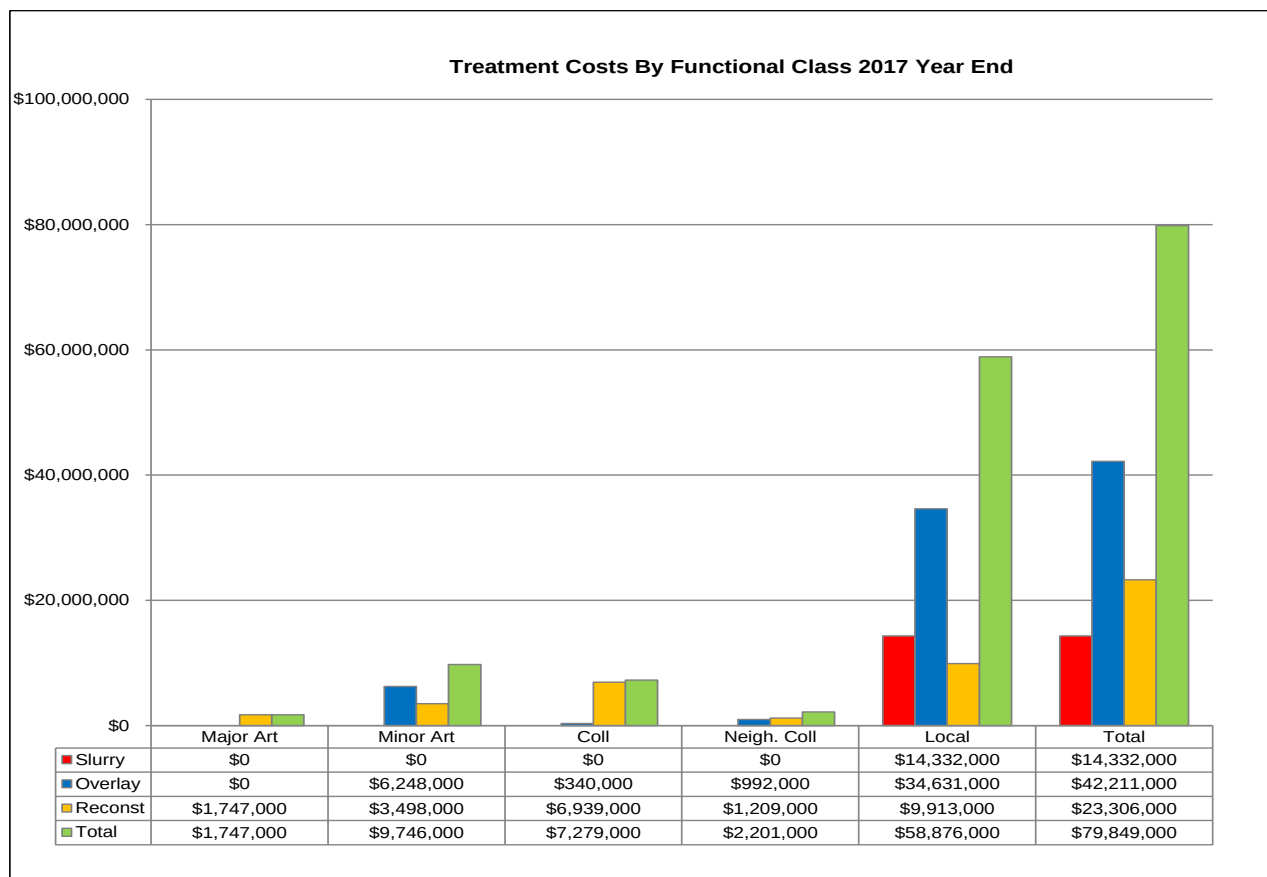
Crack Seal: Placing specialized materials into cracks in unique configurations to keep water and other matter out of the crack and the underlying pavement layers. Crack sealing can be used for two different reasons in pavement maintenance. One is a treatment to seal the cracks in order to prevent moisture intrusion into the pavement. The other is preparatory work for other treatments, such as overlays, and slurry seals.

Reclaimed Asphalt Pavement (RAP): The term given to removed and/or reprocessed pavement materials containing asphalt and aggregates. These materials are generated when asphalt pavements are removed for reconstruction, resurfacing, or to obtain access to buried utilities. When properly crushed and screened, RAP consists of high-quality, well-graded aggregates coated by asphalt cement that can be reused as a substitute for a portion of virgin materials in asphalt and aggregate base.

Recycled Asphalt Shingles (RAS): A primary reason for the high potential value of recycled shingles is that they contain ingredients that hot mix asphalt (HMA) producers purchase to enhance their paving mixtures including asphalt cement (or AC “binder”) and mineral aggregate. Asphalt shingles also contain a fibrous mat made from organic felt (cellulose) or fiberglass that can also be valuable as fiber in some asphalt paving mixes.

Current Treatment Costs

This chart provides detail of the current cost for treatment of the entire improved system excluding concrete streets at the end of the 2017 rating period. The total estimated treatment cost backlog at the end of 2017 is \$79.8 million down from \$92 million reported in 2016.



Projected Funding for Pavement Preservation Program FY16 through FY23

From the inception of the Pavement Preservation Program (PPP), Eugene has been faced with the challenge of securing adequate, sustainable funding for this program. Currently there are several sources that contribute funding for pavement rehabilitation and reconstruction projects. The primary source of ongoing revenue is the City's local motor vehicle fuel tax ("gas tax"), which is currently levied at 5 cents per gallon. The reimbursement component of Transportation System Development Charges (SDCs) have historically generated close to \$800,000 per year for PPP projects. The cumulative effect of these factors is that PPP annual revenues, which were once projected at \$4.2 million per year, are now projected to level out at approximately \$3.3 million per year.

In 2008, voters approved a \$35.9 million dollar bond measure dedicated to 32 street preservation projects and shared-use path rehabilitation work. Based on numerous economic factors construction bids were significantly less than anticipated allowing 22 streets to be added to the original 32 streets approved by voters.

In 2012, voters approved a second \$43 million bond measure dedicated to 76 street preservation projects plus \$516,000 annually to support bicycle and pedestrian projects. The measure will generate approximately \$8 million annually for FY14 through FY18. Projects funded through this bond are anticipated to be completed in 2018.

In 2017, a third five-year bond measure for street preservation, bicycle and pedestrian improvements was approved by Eugene voters. Of the \$51.2 million bond, 91 road projects will be completed and will include \$5 million going towards pedestrian and bicycle infrastructure, and safety improvements.

Projected Funding Sources Pavement Preservation Projects FY16 through FY23

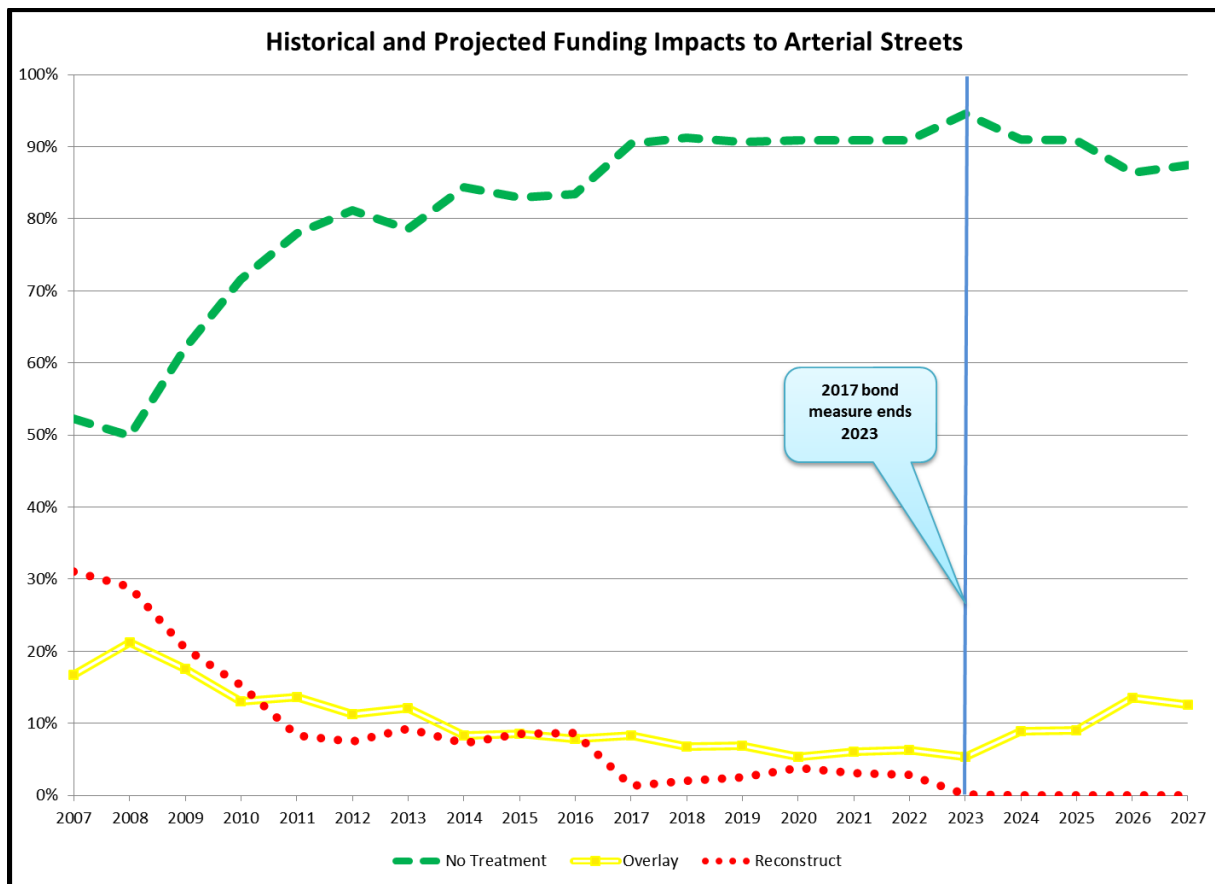
Fiscal Year	Local Gas Tax Note 1	SDC Note 2	Bond Note 3	Other Note 4	Total Funding
FY16 (actual)	\$3,050,845	\$501,878	\$6,934,842	\$62,755	\$10,550,320
FY17 (actual)	\$3,081,192	\$474,812	\$8,600,000	\$44,962	\$12,200,966
FY18 (est)	\$3,000,000	\$316,300	\$8,900,000	\$23,000	\$12,239,300
FY19 (est)	\$3,000,000	\$300,000	\$6,220,000	\$23,000	\$9,543,000
FY20 (est)	\$3,000,000	\$300,000	\$8,448,000	\$23,000	\$11,771,000
FY21 (est)	\$3,000,000	\$300,000	\$8,808,000	\$23,000	\$12,131,000
FY22 (est)	\$3,000,000	\$300,000	\$9,178,000	\$23,000	\$12,501,000
FY23 (est)	\$3,000,000	\$300,000	\$9,968,000	\$23,000	\$13,291,000

Notes:

- 1) Local Motor Vehicle Fuel Tax (gas tax) revenues are assumed at the 5-cent level throughout the forecast period.
- 2) SDC reimbursement revenue is projected to maintain low level of activity through the forecasted period.
- 3) November 2017 voters passed a 3rd 5 year bond. November 2012 voters passed a second five year bond measure starting FY15.
- 4) "Other" revenue generally includes investment interest, permit fees and other miscellaneous resources. The estimated fiscal years do not include reimbursements from other agencies.

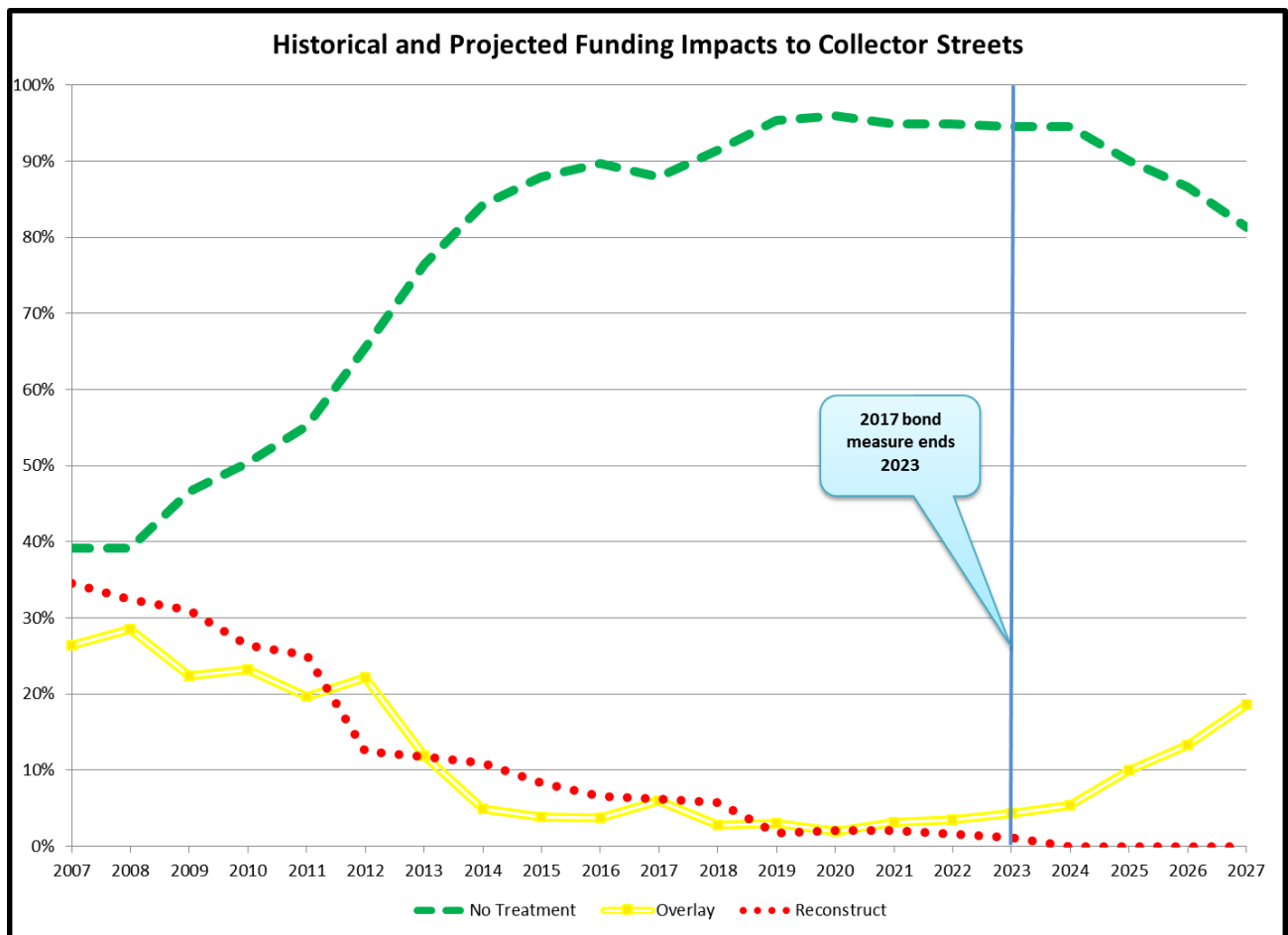
Historical and Projected Funding Outcomes

Using the PMS software, an analysis for a 10-year period (2017 through 2027) has been completed based on the current funding, including the 2017 bond measure. The PMS software evaluates the deterioration of each segment based on individual PCI ratings. The software then projects when to apply the necessary treatment at the proper time. When possible, the system applies a less expensive treatment earlier in the degradation curve to prevent the street from falling into an overlay or reconstruct range. In the following four graphs this projected evaluation includes historical data to present a more comprehensive view of the street system. The graphs show the impact of past and current funding over a 20-year period (2007 to 2027). Each graph indicates the **percentage** of streets that fall within a specific treatment range (reconstruct, overlay and no treatment). Plotting the percentages of streets within a treatment range over time visually demonstrates the overall condition of streets within that class. This is useful when deciding how to allocate funds in future years.

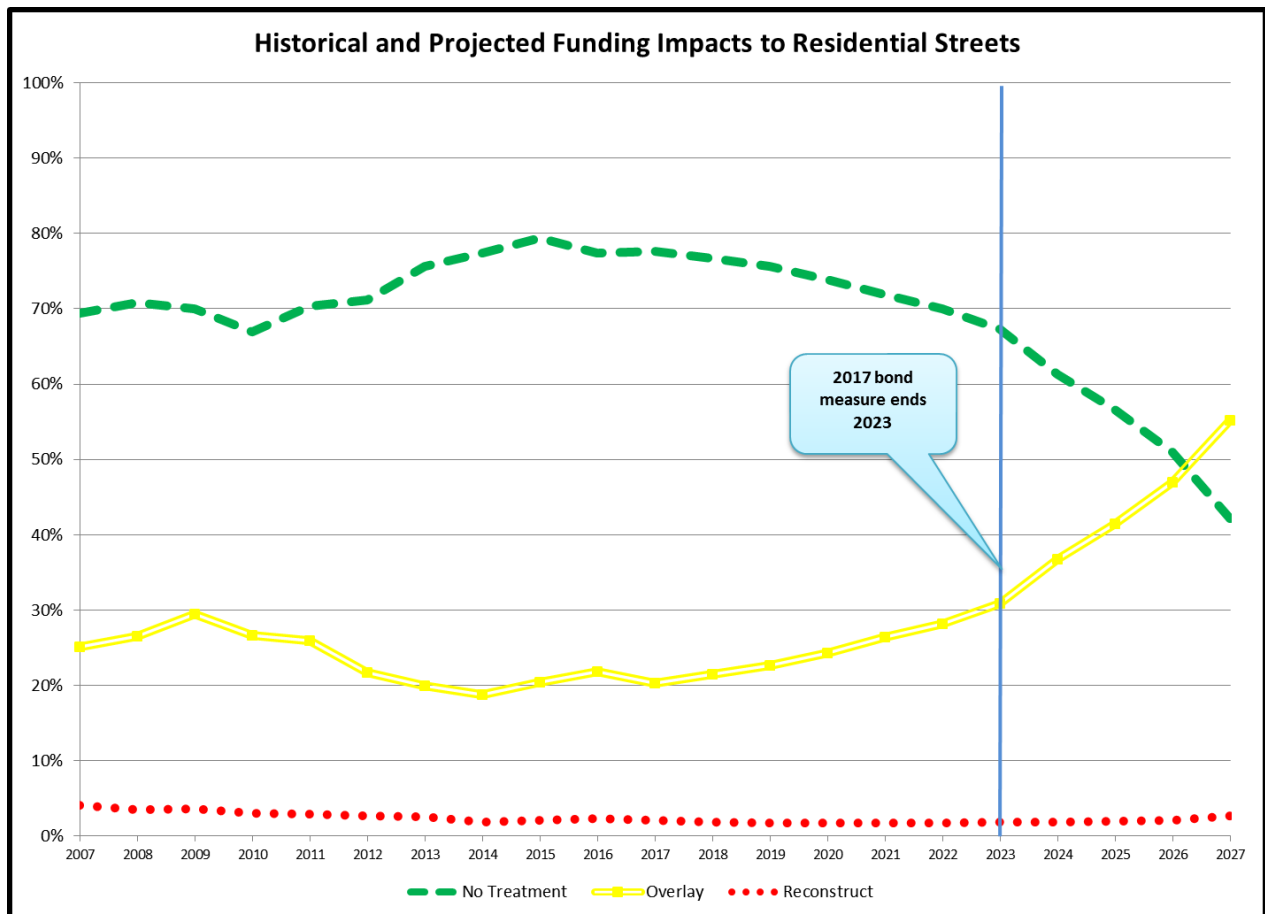


Arterial streets have been a major focus of the PPP since 2002; as a result, the percentage of arterial streets within the reconstruct treatment range will steadily decline and be eliminated by the end of the 2017 bond measure (2023). In the same year we see a slight increase in the overlay range due to streets nearing the end of their useful life.

Prior to the 2017 bond measure, stabilization of the arterial system provided an opportunity to redirect funds to the collector system with a small portion dedicated to the residential system.

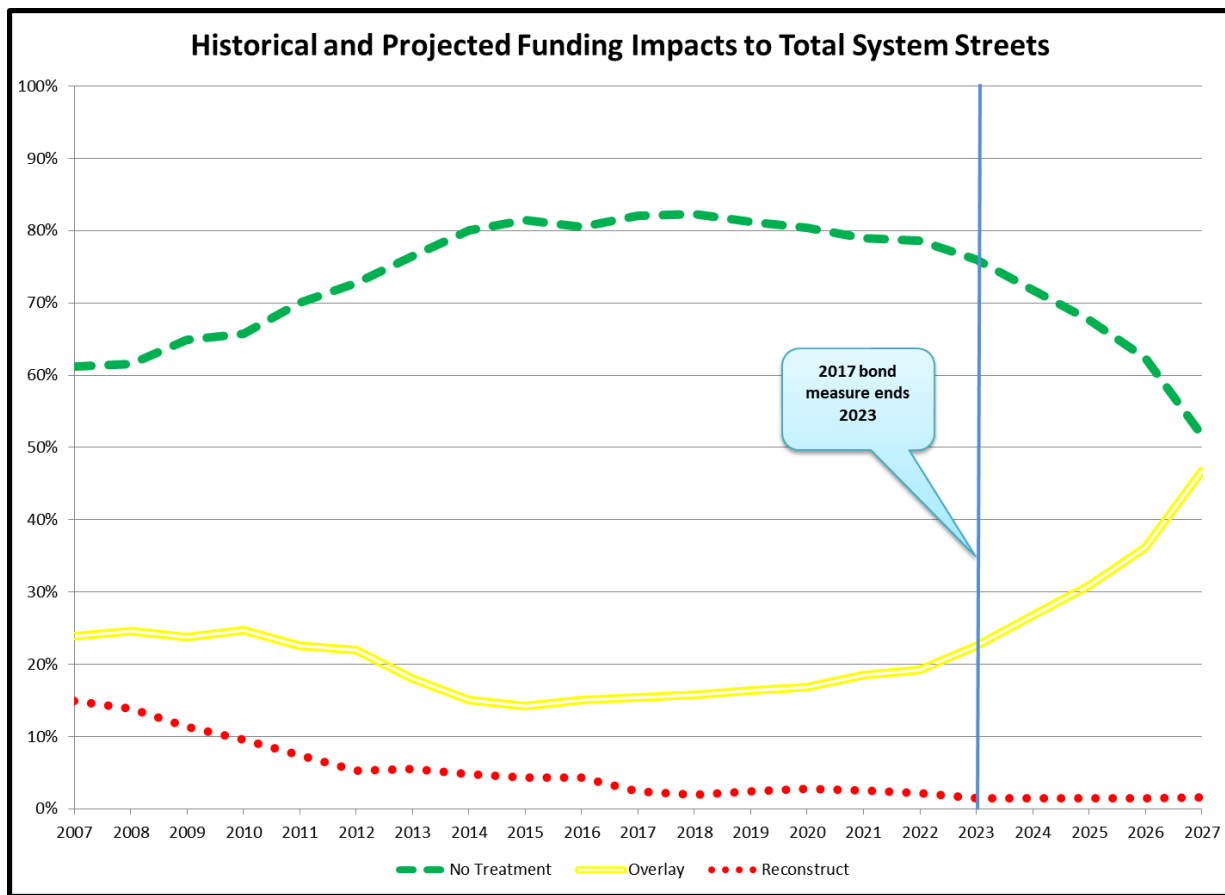


Similar to arterial streets, reconstruction and overlay treatment needs have decreased since 2008 as a result of completed and upcoming projects. Analysis indicates a stable collector system with reconstruct treatments eliminated and an increase in overlays. As with the arterial system, once the bond ends in 2023 it is projected that streets which have previously been treated will begin to show deterioration.



Residential (Local) streets will make up 83 percent of the total street system backlog in 10 years. To date, residential streets have not been adequately funded for preservation. Between the three bond measures approximately 31 centerline miles have or will receive repair, less than 10 percent of the residential street system. The percentage of streets within the overlay treatment range continues to increase. Looking back, the percentage of residential streets within the no-treatment range has been dropping and is projected to continue so that by 2027, over 57 percent of residential streets will require treatment.

The primary treatment for residential streets to date, 190 lane miles (81 centerline miles), has been slurry seals which are included in the no treatment category. Slurry seal treatment may increase the life by five to seven years, and increase the PCI condition. Following this time period these same streets will typically fall into the mid to low end overlay treatment category.



This graph of the combined arterial, collector and residential streets reflects the recommended treatment needs for the overall street system and indicates the insufficient funding for residential streets. The percentage of streets needing “no treatment” declines, while streets requiring an “overlay” treatment increases.

The projected \$182 million backlog in 10 years represents a majority of streets in the high-end overlay ranges. Arterial, collector, and residential streets benefitting from past rehabilitations may only require minimal work such as a thin-lift overlay; much lower in cost than overlay costs used for the current analyses.

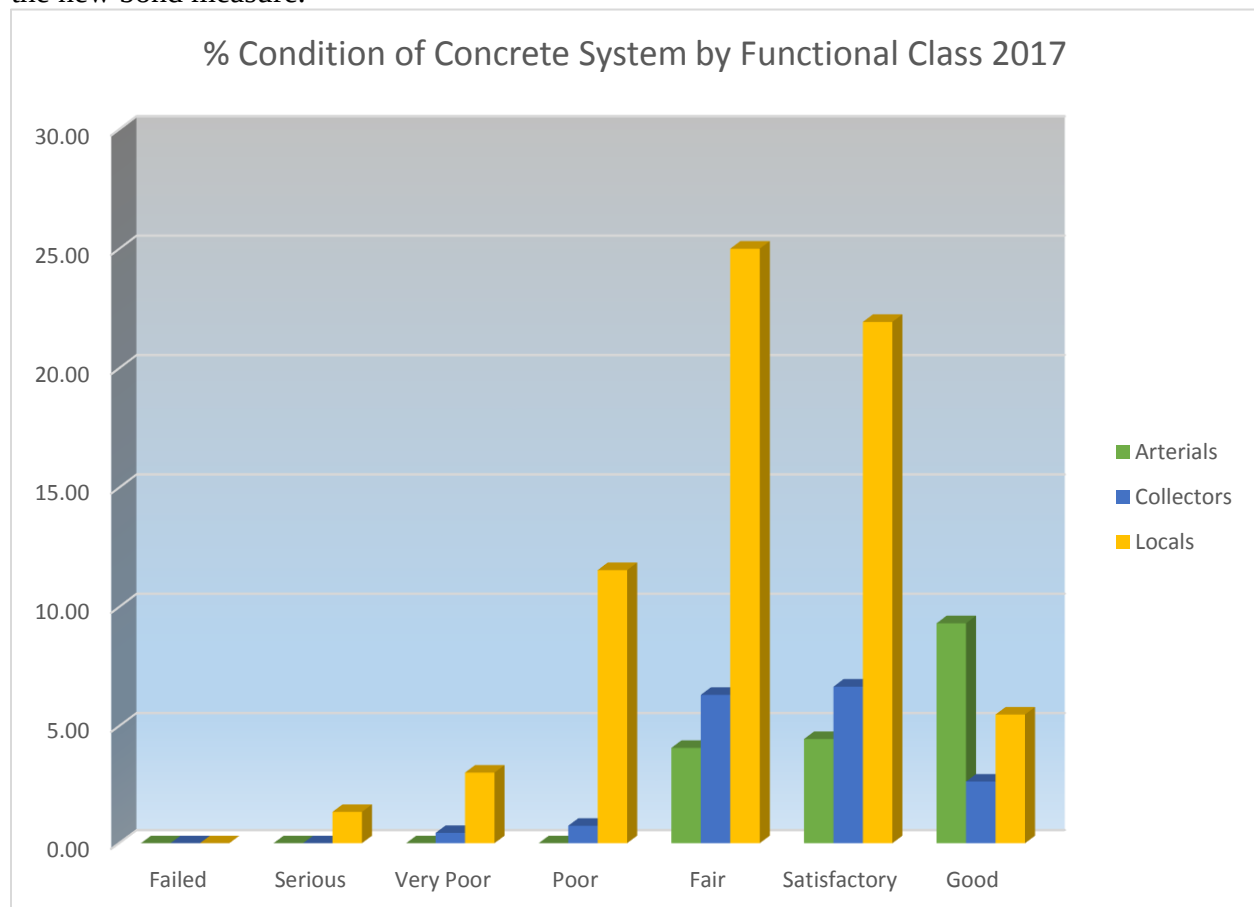
Concrete Improved Street System

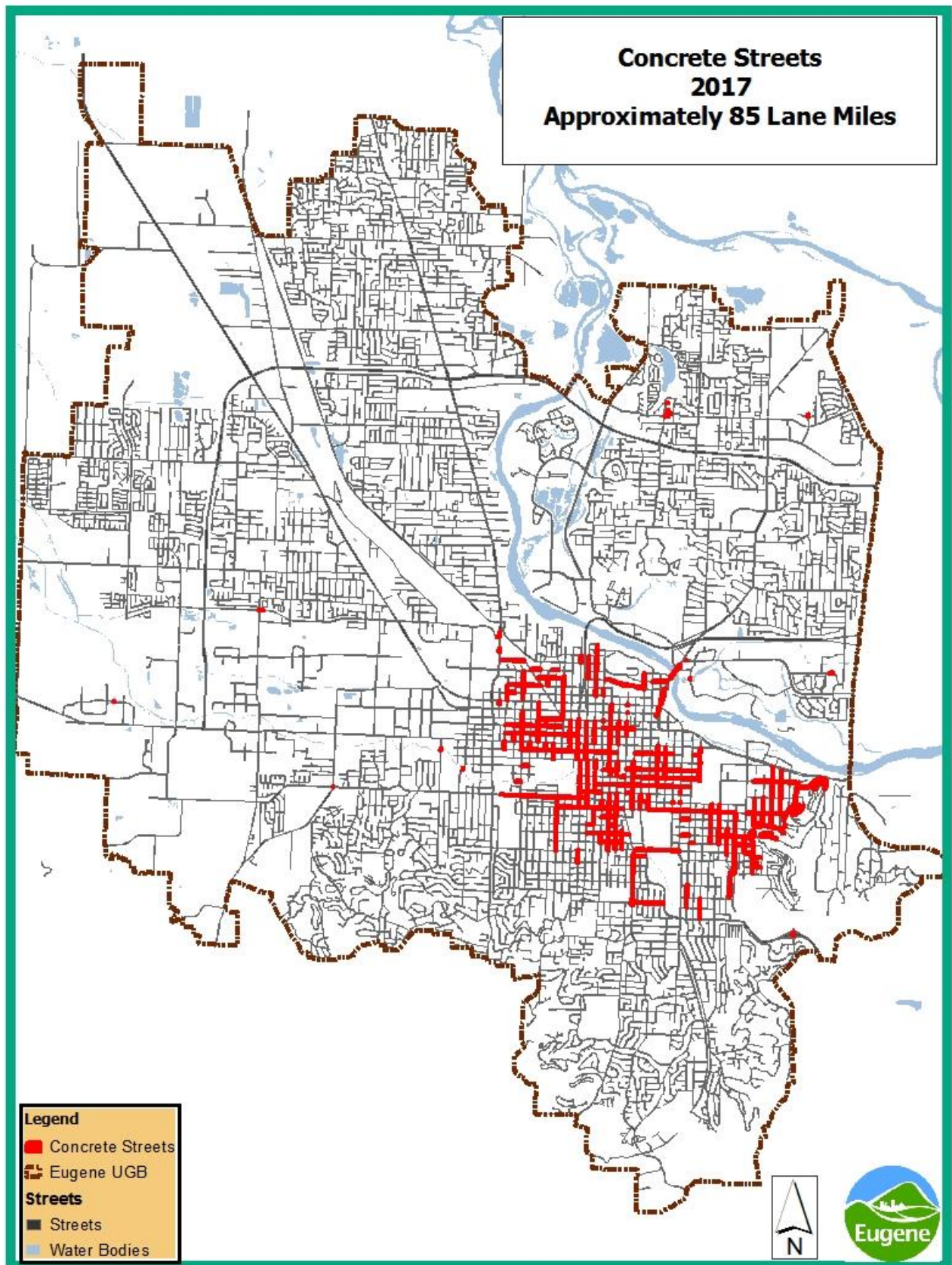
Of the 549 centerline miles of streets 34 centerline miles (85 lane miles) are concrete. In 2015 staff were able to refine concrete street inventory data so condition inspections could be completed. Unlike asphalt streets, concrete streets require panel counts plus an average width and length of the panel for the calculation of PCIs. Concrete segments are best evaluated when defined as a city block. Historical concrete designs for typical city blocks contained 66 panels, three columns of panels within a block length, or 33 panels with two columns.

Concrete streets like bike paths are built for a life of 50 or more years until complete reconstruction. Deterioration of concrete streets occur within individual panels with many panels in a street not requiring repair. Due to these unique factors for concrete streets, analyses which predict future needs of this system tend to be less accurate than asphalt surfaces. However like unimproved streets and bike paths we can provide a current condition of this system.

Past repair for these streets were primarily provided by City maintenance crews which consisted of panel replacements for the worst deteriorated panels. Historical construction data indicate that 60 percent of concrete streets are over 70 years in age. Based on past maintenance repairs these streets over time may have had a majority of panels replaced.

By the end of the 2017 Bond Measure (2023), approximately 17 lane miles (six centerline miles) of concrete streets will have been rehabilitated from the past and current funding sources. An estimated \$5 million will be spent on approximately seven lane miles of concrete streets through the new bond measure.





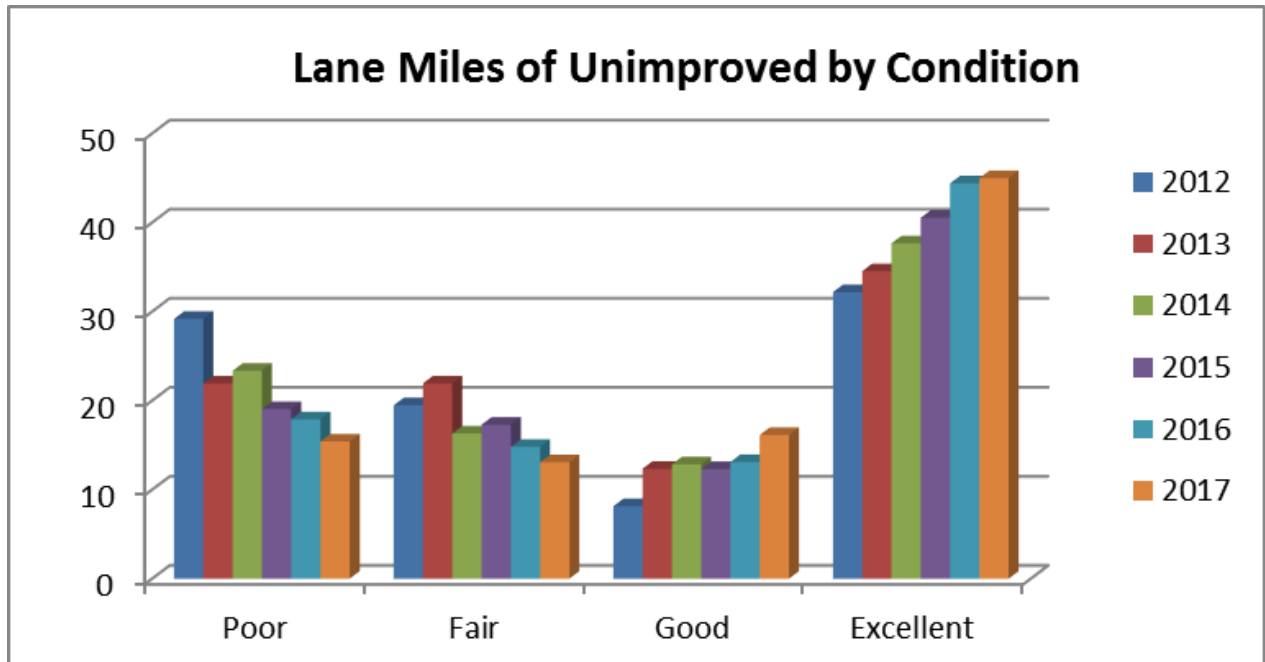
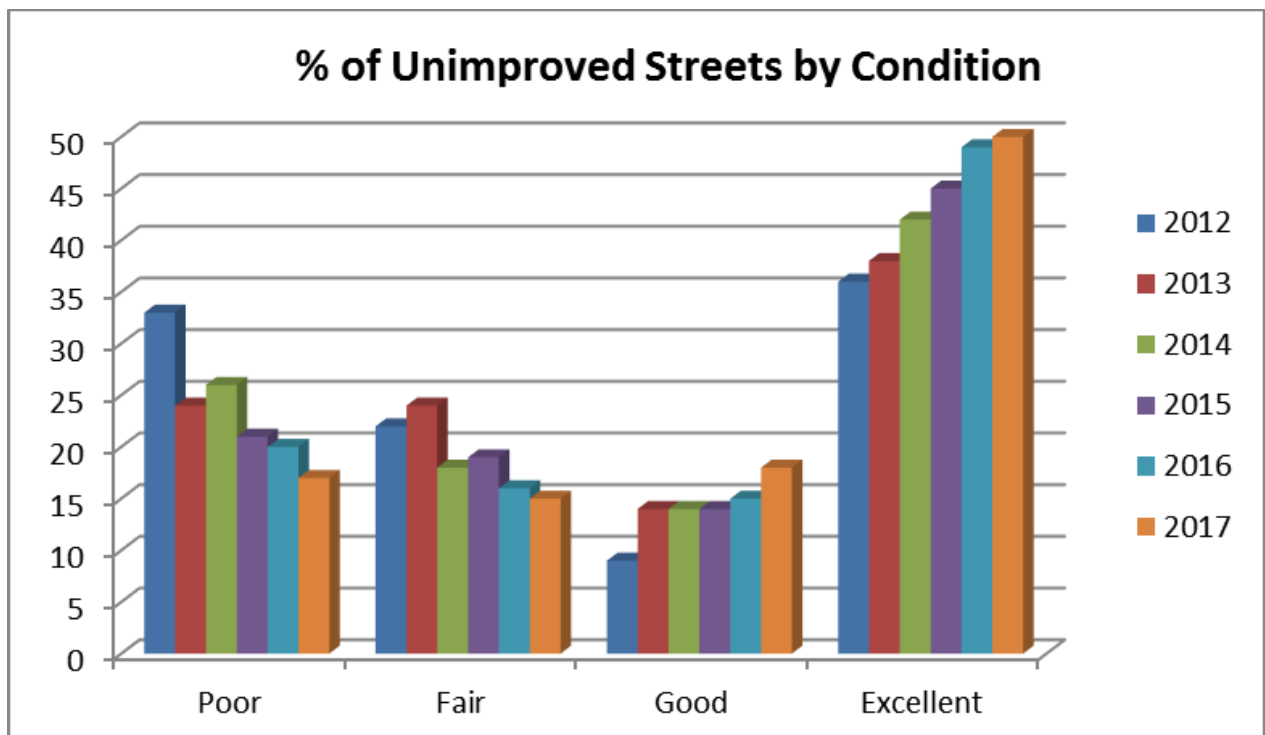
Unimproved Street System

The City's transportation system consists of 549 centerline miles of improved and unimproved streets. The unimproved portion of this total includes 52 centerline miles (90 lane miles) of asphalt and bituminous surface streets. This section of the report is intended to describe the overall condition of unimproved asphalt streets, potential treatment needs, associated rehabilitation costs, along with a projected backlog repair cost for addressing this classification of street. It is important to note that any treatment short of being brought up to full urban street standards should be considered temporary. The estimated cost to improve this classification to meet the urban street standards is approximately \$60 million. In addition, the following backlog figure is separate from the improved street backlog figure.

Based on 2017 rating data of the unimproved street system there is a backlog of temporary repair projects, typically maintenance overlays, totaling an estimated \$3.10 million, down from \$3.62 million reported in 2016. The following charts and graphs indicate that 68 percent of the system falls into a no treatment category, up from 64 percent reported in 2016, due in large part to recent maintenance overlay and FDR treatments completed over the past several years. Approximately 116 unimproved streets have benefited from full or partial treatment since 2008. Seventeen percent of the system falls into the "poor" category. As funding allows, Public Works Maintenance plans on spending \$200,000 annually to address a portion of these streets.

2017 Unimproved Asphalt Street Condition and Rehabilitation Report (2017 Rating Data)						
PCI	Lane Miles	% of System	Condition	Rehabilitation Cost	Unit Cost/SQFT *	Treatment **
0-10	0.8	0.8%	Poor	\$144,461	\$3.00	FDR
11-20	5.1	5.7%	Poor	\$809,424	\$2.50	FDR or 2"AC
21-30	9.5	10.6%	Poor	\$905,731	\$1.50	1.5"-2" AC
31-40	4.8	5.3%	Fair	\$451,440	\$1.50	1.5"-2" AC
41-50	5.2	5.8%	Fair	\$491,357	\$1.50	1.5"-2" AC
51-60	1.2	1.4%	Fair	\$117,850	\$1.50	1.5"-2" AC
61-65	1.9	2.1%	Fair	\$181,526	\$1.50	1.5"-2" AC
66-70	4.2	4.7%	Good	\$0	\$0.00	No Treatment
71-80	2.9	3.3%	Good	\$0	\$0.00	No Treatment
81-85	9.0	10.1%	Good	\$0	\$0.00	No Treatment
86-90	9.3	10.3%	Excellent	\$0	\$0.00	No Treatment
91-100	35.7	39.9%	Excellent	\$0	\$0.00	No Treatment
			Total Rehabilitation	\$3,101,789	* Unit cost based on recent project costs	** Example treatments. Actual treatment would need further analysis.
	89.6	100.00%				

The following graphs are a visual representation of the information provided on the preceding page.



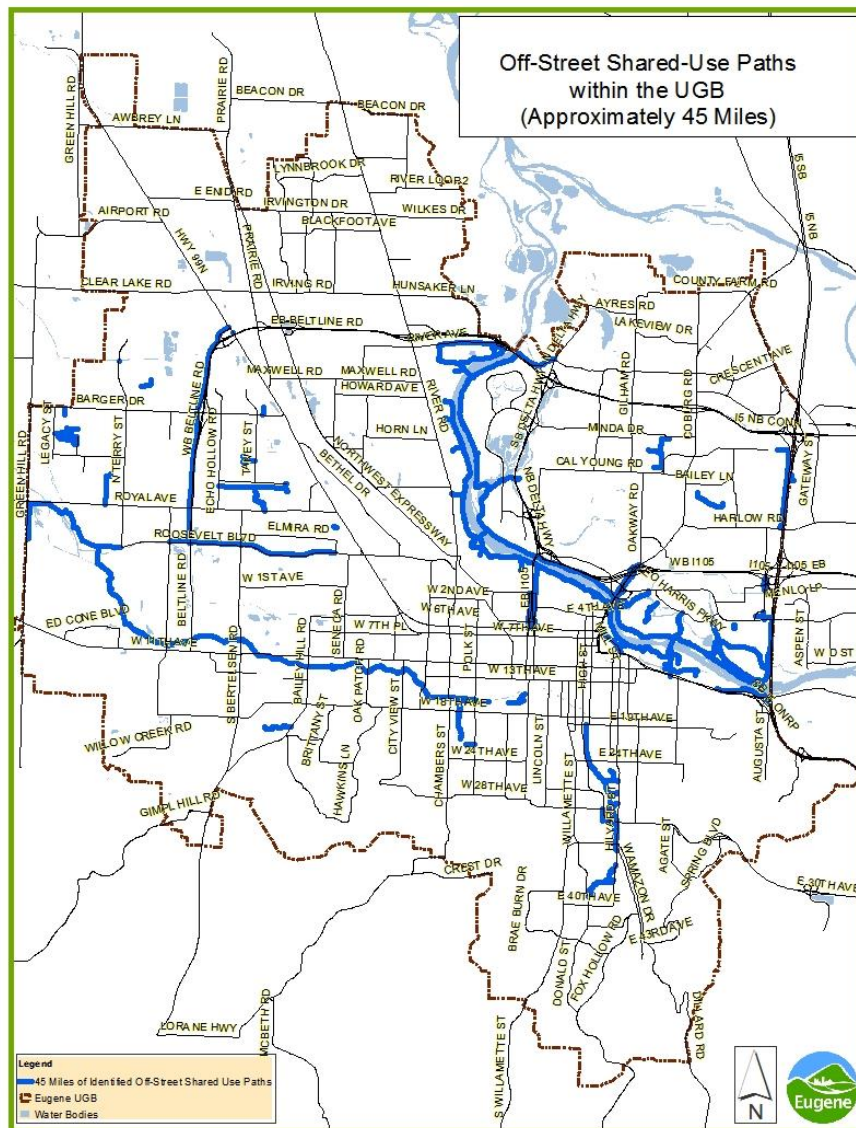
Off-Street Shared-Use Paths

Shared-use paths are used by a variety of non-motorized users including; pedestrians, cyclists, skaters, and runners. Shared-use paths are typically wider than an average sidewalk and paved (asphalt or concrete).

There are approximately 45 miles of shared-use paths within UGB. In 2017, staff rated 45 miles of shared-used paths. In 2015 approximately 30 miles of shared-use paths were in a PCI condition of 90 or above. In 2017 this dropped to 23 miles.

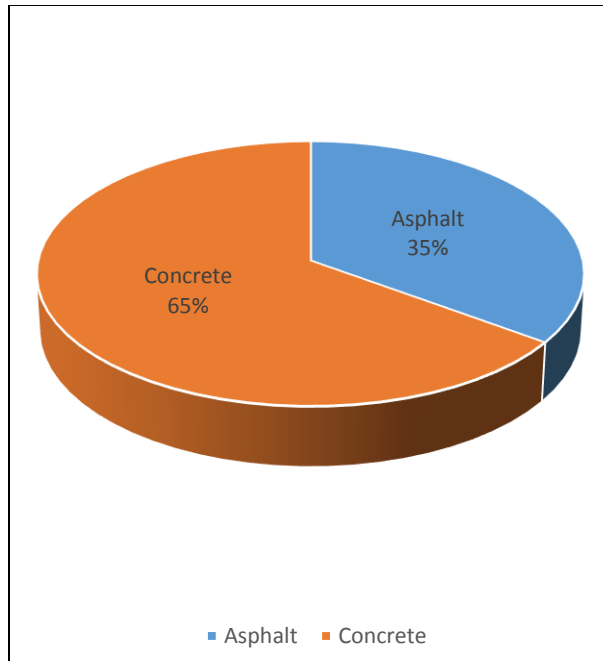
The City standards for shared-use paths require a concrete structure no less than six inches deep and 12 feet wide. Paths designed, constructed or reconstructed to current standards are expected to have a 50 year life.

Of the \$51.2 million 2017 bond, \$5 million will go towards pedestrian and bicycle infrastructure, and safety improvements.

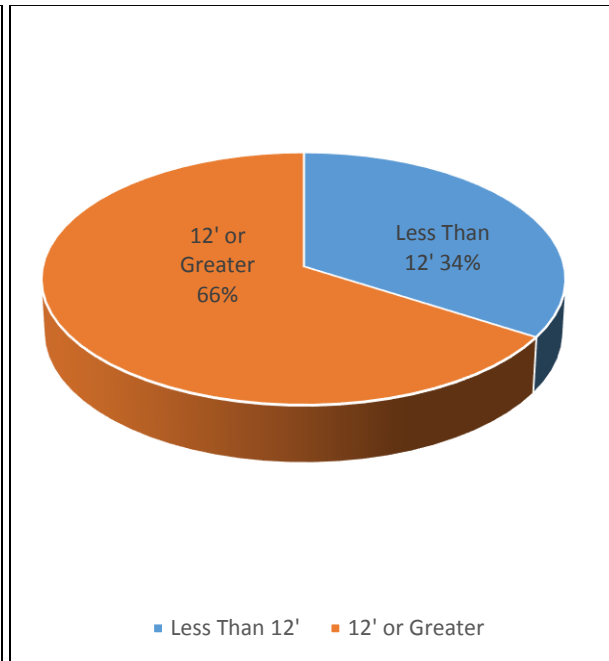


The following graphs show the division of surface types and widths within the system as of 2017.

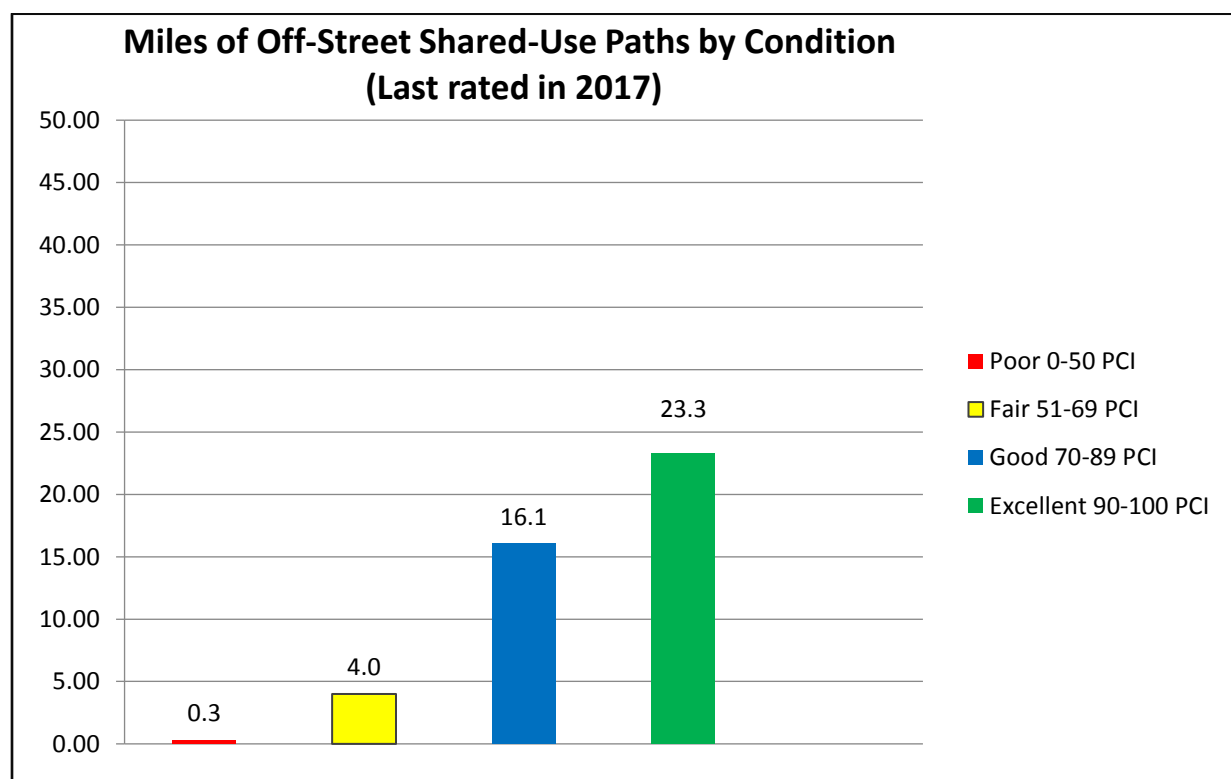
Off-Street Shared-Use Path Surface Type:



Off-Street Shared-Use Path Existing Widths:



The following graph shows the path condition in 2017 for the system.



Shared-use path projects have been historically funded by state and federal grants and more recently by voter-approved bond measures. There is currently no long-term funding identified specifically for shared-use paths. The following is a list of completed and current projects, including shared-use paths funded by the bond measures.

Name	Fiscal Year	Funding
Fern Ridge Chambers - City View	2004	STP-U
Garden Way Bike Path	2005	STP-U
Monroe Bikeway	2006	STP-U
N Bank Path Club Rd 3000'W	2006	STP-U
West Bank Trail	2007	Transportation Enhancement (TE) Funds
Delta Ponds Bridge	2007	Various Federal and Local Funds
Amazon: SEHS - 31st Bike Path	2009	PBM
Fern Ridge Path Rehab/Westmoreland Connector	2010	PBM
South Bank Path Rehab	2011	PBM
West Bank Trail Extension	2011	STP-U/TE
Fern Ridge: Chambers - Arthur	2012	ODOT Rapid Readiness Funds
W Bank: Greenway - Copping	2012	PBM
Amazon/Willamette River Path Connectors	2012	State Urban Trail Funds
North Bank Path: DeFazio Bridge to Leisure Ln.	2012	STP-U
Fern Ridge: Terry - Greenhill	2013	STP-U/TE
South Bank Path - Riverplay to DeFazio Bridge	2013	PBM
South Bank Path - Knickerbocker Bridge to Franklin Blvd	2015	N/A
Fern Ridge Path - Commerce to Connector Path	2016	LGT
Jessen Multi-Use Path – BeltLine Hwy to Ohio St.	2018	TE

Project Funding Abbreviations

PBM – Paving Bond Measure

LGT – Local Gas Tax/SDC/Other

STP-U – Surface Transportation Funds-Urban (Federal)

TE – Transportation Enhancement (Federal)

Scheduled Street Projects for 2018

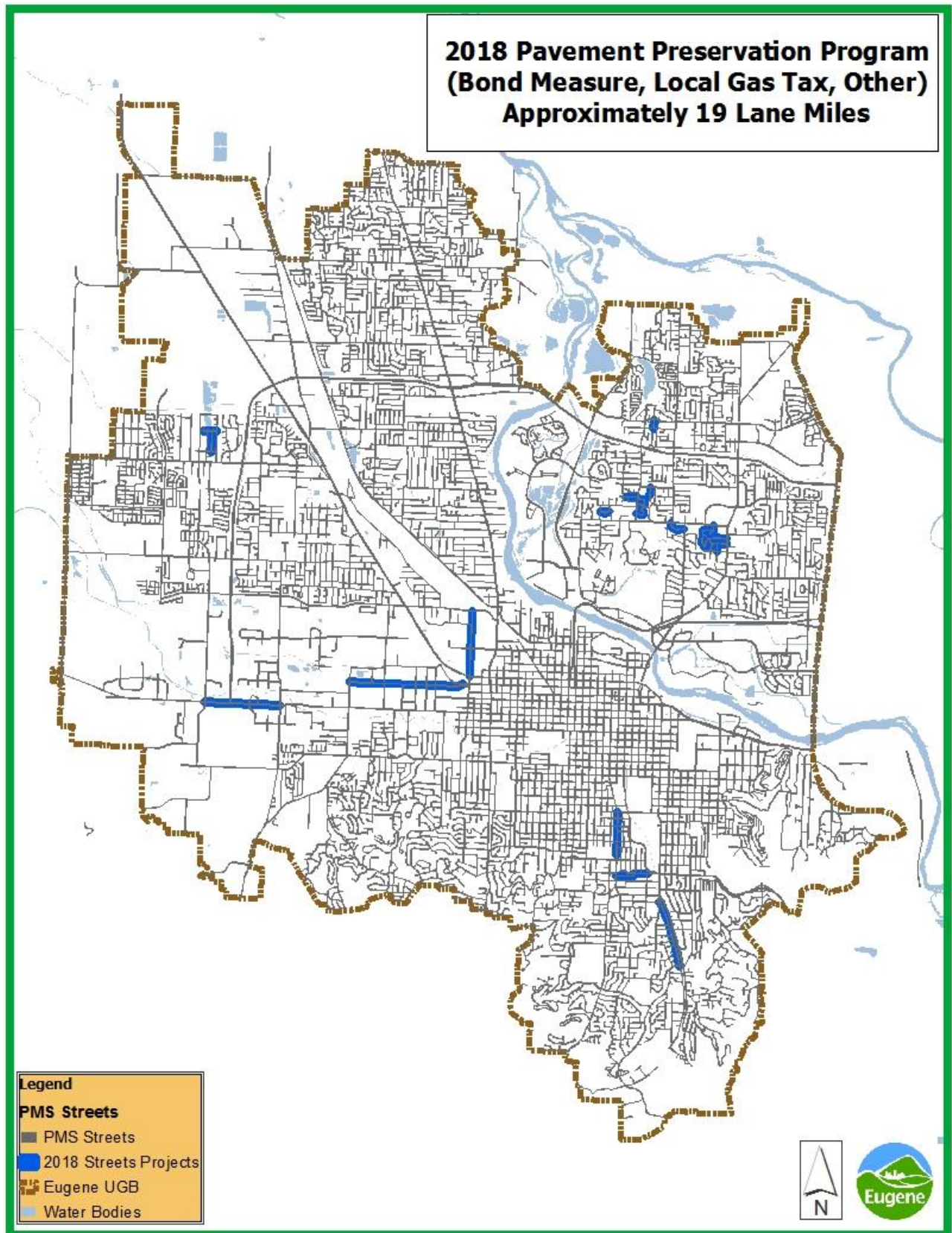
<i>2018 Project Name and Limits</i>	<i>Lane Miles</i>	<i>Funding</i>
7th Place (7th Ave/Hwy 99 to Bailey Hill Rd)	4.01	PBM
11th Avenue (Danebo St to Bertelsen Rd)	5.05	LGT
30th Avenue (Willamette St to Ferry St)	0.69	PBM
Buff Way (Woodside Dr to Forrester Wy)	0.28	PBM
Carmel Avenue (Minda Dr to 400' S. of Minda Dr)	0.21	PBM
Cody Avenue (Golden Gardens to Blue Heron)	3.10	PBM
Corydon Street (Forrester Way to Tandy Turn)	2.30	PBM
Danebo Ave (Cody to Burnett)	0.44	LGT
Forrester Way (Coburg Rd to Drwy 1033)	.039	PBM
Garfield Street (Roosevelt Blvd to 6th Ave)	2.30	PBM
Larkspur Avenue (Norkenzie Rd to 640' W of Norkenzie NNorkenzie Rd)	0.33	PBM
Larkspur Loop (Norkenzie Rd (N) to Norkenzie Rd (S))	0.61	PBM
Mill Street (30th Ave (N) to 30th Ave (S))	0.05	PBM
Piper Lane (Chasa St to Fir Acres Dr)	0.31	PBM
Roland Way (Oakway Rd to Cal Young Rd)	0.334	PBM
Sharon Way (Coburg Rd to Drwy 1023)	0.60	LGT
Tulip Street (Crescent Ave to Holly Ave)	0.19	LGT
West Amazon Drive (Hilyard St to Fox Hollow Rd)	2.01	LGT
Willamette Street (23rd Ave to 29th Ave)	1.36	LGT
Woodside Drive (Cal Young Rd to Sharon Wy)	0.56	LGT

Project Funding Abbreviations

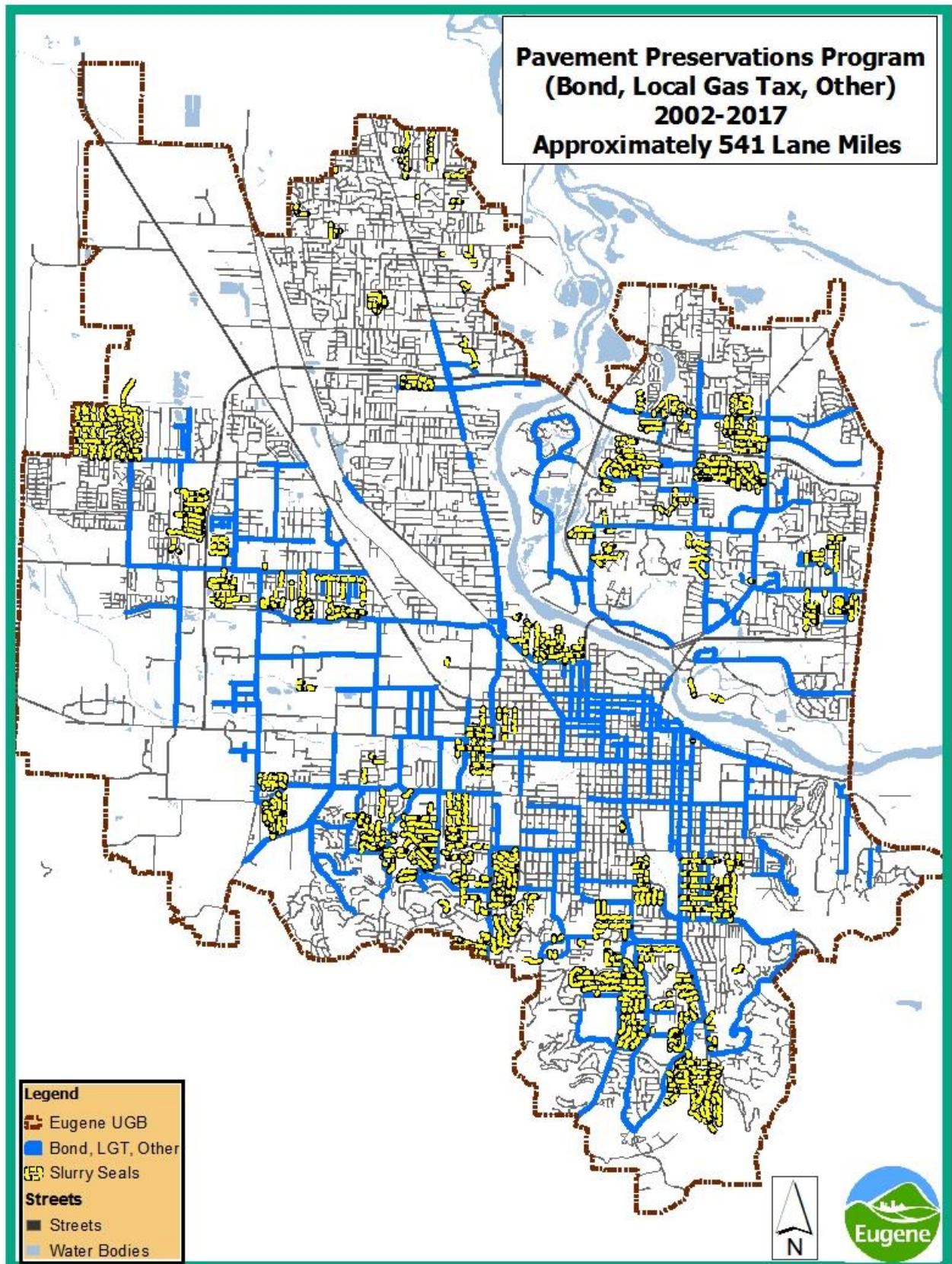
PBM – Paving Bond Measure

LGT – Local Gas Tax/SDC/Other

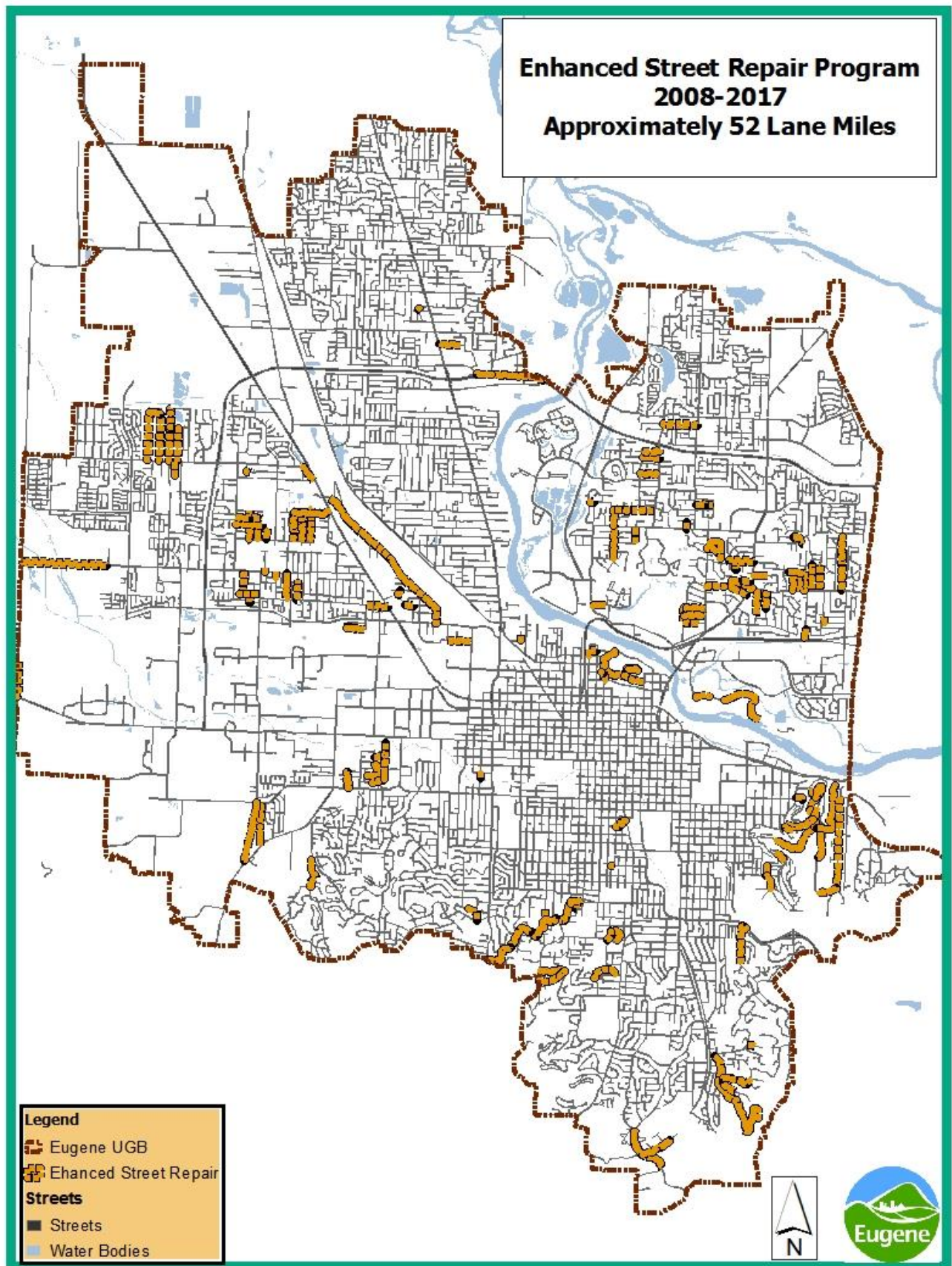
The following map illustrates the Pavement Projects scheduled for 2018.



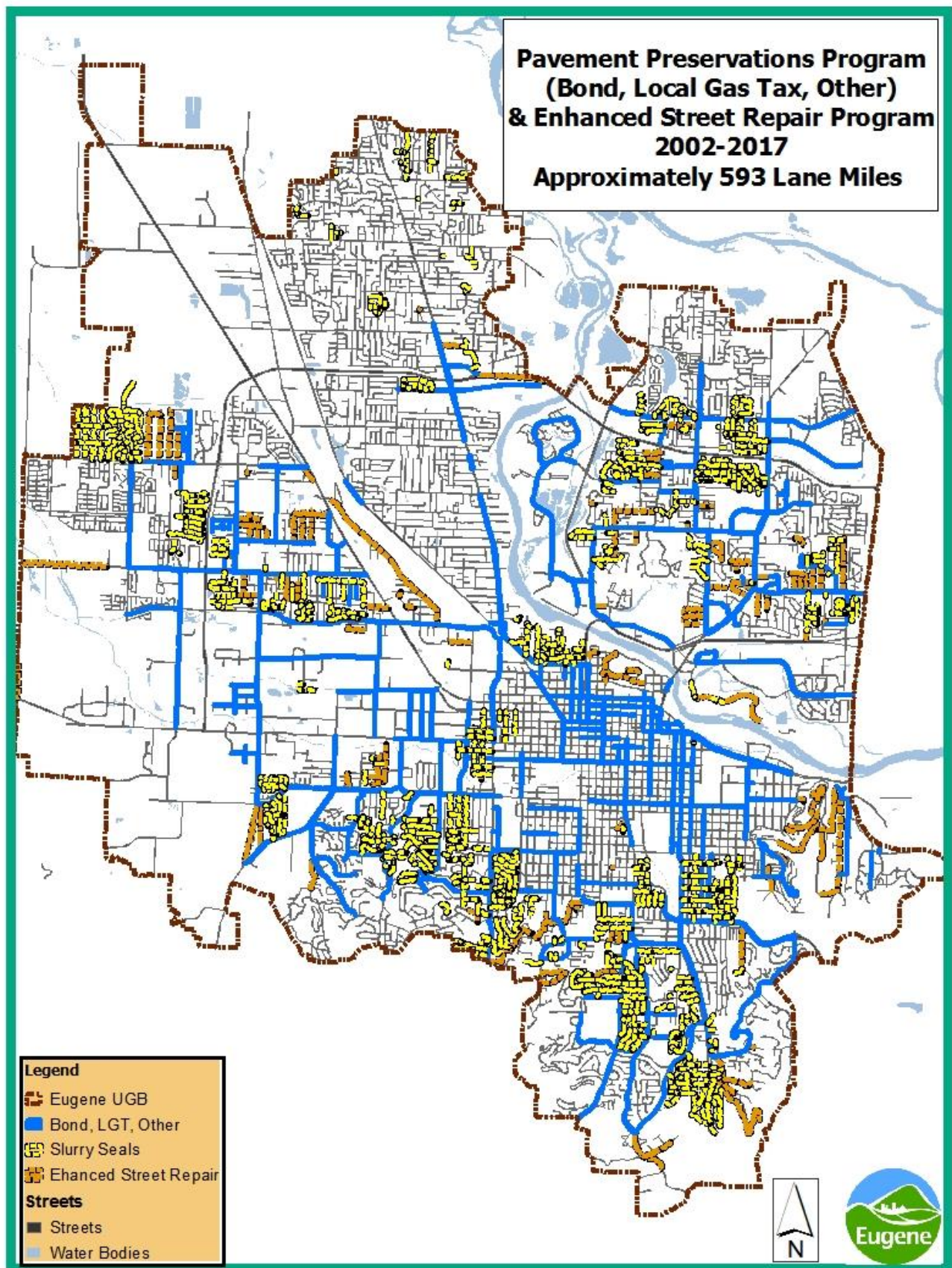
The following map illustrates Pavement Preservation Projects since inception of the program 2002 - 2017.



The following map illustrates the Enhanced Street Repair Program 2008-2017.



The following map illustrates Pavement Preservation Projects and Enhanced Street Repair Program since inception of the programs 2002 - 2017.



Eugene Street Preservation Projects

Project Map for 2012 Bond Measure to Fix Streets

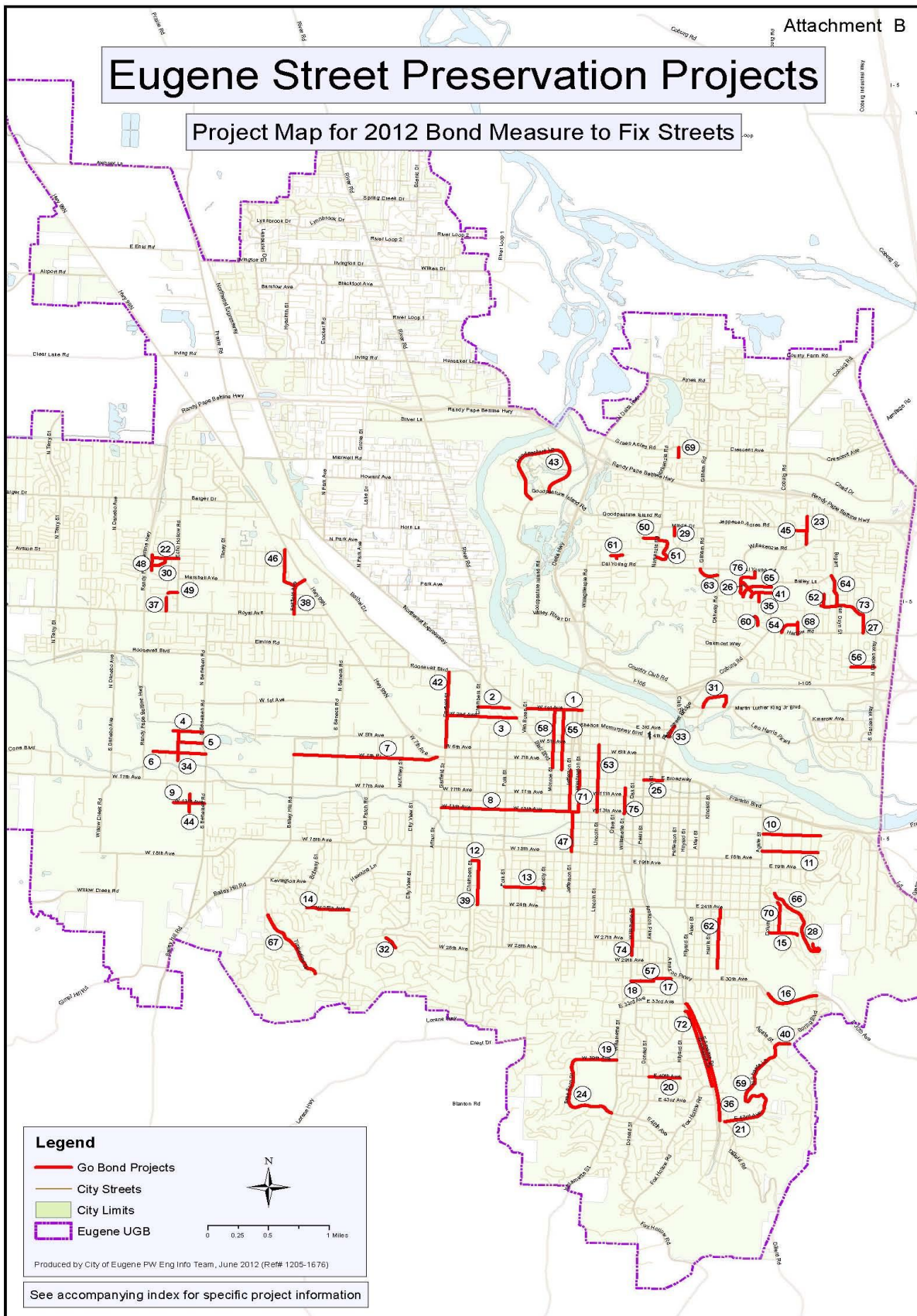


Exhibit A**Project List for 2012 Bond Measure to Fix Streets**

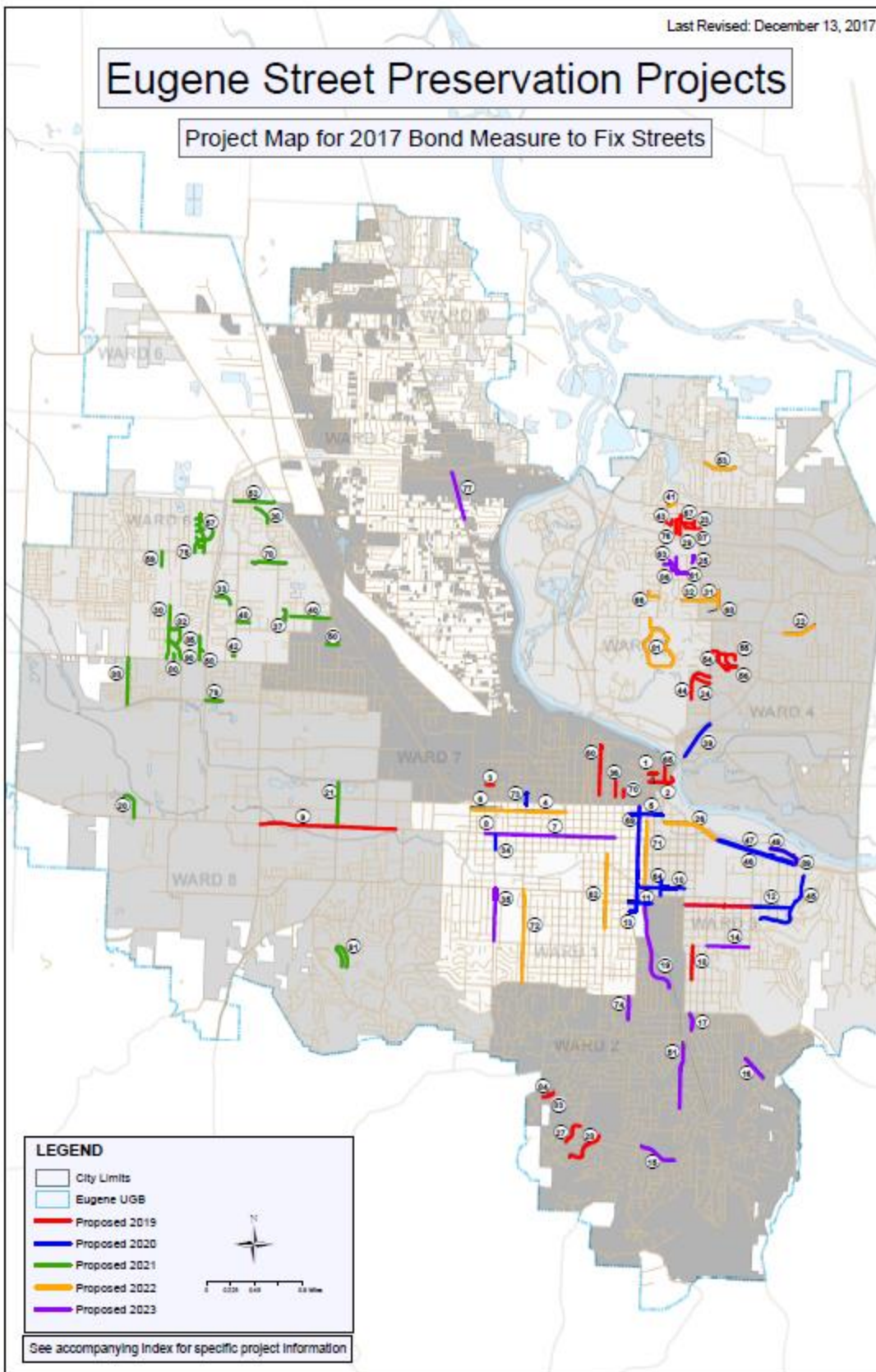
Map #	Street Name	Limits
1	01ST AVE	WASHINGTON ST - VAN BUREN ST
2	01ST AVE	BLAIR BLVD - WEST END
3	02ND AVE	BLAIR BLVD - GARFIELD ST
4	05TH AVE	BERTELSEN RD - WEST END
5	06TH AVE	BERTELSEN RD - COMMERCIAL ST
6	07TH AVE	BERTELSEN RD - OSCAR ST
7	07TH PL	7TH AVE/HWY 99 - BAILEY HILL RD
8	13TH AVE	WASHINGTON ST - GARFIELD ST
9	13TH AVE	BERTELSEN RD - COMMERCE ST
10	15TH AVE	FAIRMOUNT BLVD - AGATE ST
11	17TH AVE	FAIRMOUNT BLVD - AGATE ST
12	19TH AVE	FILLMORE ST - CHAMBERS ST
13	22ND AVE	FRIENDLY ST - POLK ST
14	25TH AVE	HAWKINS LN - BRITTANY ST
15	27TH AVE	COLUMBIA ST - SPRING BLVD
16	30TH AVE	SPRING OVERPASS - AGATE ST
17	30TH AVE	MILL ST (WEST) - FERRY ST (EAST)
18	30TH AVE	MILL ST - WILLAMETTE ST
19	39TH AVE	WILLAMETTE ST - 100' EAST OF DENSMORE RD
20	40TH AVE	HILYARD ST - DONALD ST
21	43RD AVE	N SHASTA - DILLARD RD
22	AVALON ST	ECHO HOLLOW RD - JUHL ST
23	BEST LN	WILLAKENZIE RD - KENTWOOD DR
24	BRAE BURN DR	39TH AVE - WILLAMETTE ST
25	BROADWAY	MILL ST - PEARL ST
26	BUFF WAY	WOODSIDE DR - FORRESTER WAY
27	CALVIN ST	WESTERN DR - HARLOW RD
28	CAPITAL DR	SPRING BLVD - 50' N OF CRESTA DE RUTA ST
29	CARMEL AVE	MINDA DR - 400' SOUTH OF MINDA DR
30	CASCADE DR	AVALON ST - JUHL ST
31	CENTENNIAL LP	MLK, JR BLVD (EAST) - MLK, JR BLVD/CLUB RD
32	CITY VIEW ST	28TH AVE - 29TH AVE
33	COBURG RD	SS FERRY ST BRIDGE - 50' S OF EWEB ON/OFF RAMP
34	COMMERCIAL ST	5TH AVE - SOUTH END
35	CORYDON ST	FORRESTER WAY - TANDY TURN
36	EAST AMAZON DR	HILYARD ST - DILLARD RD
37	ELIZABETH ST	KNOOP AVE - ROYAL AVE
38	FAIRFIELD AVE	WS HWY 99 - ROYAL AVE
39	FILLMORE ST	19TH AVE - 24TH AVE
40	FIRLAND BLVD	SPRING BLVD - AGATE ST
41	FORRESTER WAY	COBURG RD - WS DRWY 1033
42	GARFIELD ST	ROOSEVELT - 6TH AVE
43	GOODPASTURE LOOP	GOODPASTURE IS RD (EAST INTERSECTION) - GOODPASTURE IS RD (WEST INTERSECTION)
44	INTERIOR ST	NORTH END OF CUL DE SAC - SOUTH END OF IMPROVED SECTION

Exhibit A

Map #	Street Name	Limits
45	IONE AVE	BEST LN - ADKINS ST
46	JACOBS DR	HWY 99N - FAIRFIELD AVE
47	JEFFERSON ST	8TH AVE - 18TH AVE
48	JUHL ST	NS ADDR 1424 - SOUTH END
49	KNOOP AVE	ECHO HOLLOW RD - ELIZABETH ST
50	LARKSPUR AVE	NORKENZIE RD - 640 FEET WEST OF NORKENZIE RD
51	LARKSPUR LOOP	NORKENZIE RD (N) - NORKENZIE RD (S)
52	LEIGH ST	NORTH END - WESTERN DR
53	LINCOLN ST	5TH AVE - 13TH AVE
54	LYDICK WAY	TOMAHAWK LN - HARLOW RD
55	MADISON ST	1ST AVE - 8TH AVE
56	MAHLON AVE	GARDEN WAY - HONEYSUCKLE LN
57	MILL ST	30TH AVE (NORTH) - 30TH AVE (SOUTH)
58	MONROE ST	1ST AVE - BLAIR BLVD
59	NORTH SHASTA LOOP	FIRLAND - 43RD AVE
60	PIONEER CT	PIONEER PIKE - NORTH END
61	PIPER LN	CHASA ST - FIR ACRES DR (INCL CUL-DE-SAC)
62	POTTER ST	24TH AVE - 29TH AVE
63	ROLAND WAY	OAKWAY RD - CAL YOUNG RD
64	SATRE ST	BAILEY LN - WESTERN DR
65	SHARON WAY	COBURG RD - ES DRWY 1023
66	SPRING BLVD	FAIRMOUNT BLVD - CAPITAL DR
67	TIMBERLINE DR	WARREN ST - WINTERCREEK DR
68	TOMAHAWK LN	HARLOW RD - 580' NORTH OF HARLOW RD
69	TULIP ST	CRESCENT AVE - HOLLY AVE
70	VAN NESS ST	23RD AVE - 27TH AVE
71	WASHINGTON ST	8TH AVE - 13TH AVE
72	WEST AMAZON DR	ES HILYARD - SS FOX HOLLOW
73	WESTERN DR	CALVIN ST - WEST END/MONROE MIDDLE SCHOOL
74	WILLAMETTE ST	24TH AVE - 29TH AVE
75	WILLAMETTE ST	10TH AVE - 13TH AVE
76	WOODSIDE DR	CAL YOUNG RD - SHARON WAY

Eugene Street Preservation Projects

Project Map for 2017 Bond Measure to Fix Streets



Project List for 2017 Bond Measure to Fix Streets

MAP #	Street Name	From	To
1	03RD AVENUE	HIGH ST	PEARL ST
2	04TH AVENUE	COBURG RD	PEARL ST
3	05TH AVENUE	CHAMBERS ST	GRANT ST
4	08TH AVENUE	CHAMBERS ST	MONROE ST
5	08TH AVENUE	WILLAMETTE ST	MILL ST
6	08TH AVENUE	GARFIELD ST	CHAMBERS ST
7	11TH AVENUE	CHARNELTON ST	CHAMBERS ST
8	11TH AVENUE	CHAMBERS ST	GRANT ST
9	11TH AVENUE	TYINN ST	BERTELSEN RD
10	17TH AVENUE	HILYARD ST	OAK ST
11	19TH AVENUE	WILLAMETTE ST	HIGH ST
12	19TH AVENUE	HILYARD ST	FAIRMOUNT BLVD
13	20TH AVENUE	WILLAMETTE ST	OAK ST
14	24TH AVENUE	HARRIS ST	AGATE ST
15	46TH AVENUE	FOX HOLLOW RD	DONALD ST
16	AGATE STREET	N 163 BLACK OAK RD	FIRLAND ST
17	ALDER STREET	30TH AVE	32ND AVE
18	ALDER STREET	24TH AVE	27TH AVE
19	AMAZON PARKWAY	19TH AVE	2693 S OF E 24TH
20	ARROWSMITH STREET	TERRY ST	11TH AVE
21	BAILEY HILL ROAD	5TH AVE	11TH AVE
22	BAILEY LANE	BOGART LN	LUELLA ST
23	BALFOUR STREET	TERRA AVE	NORTH END
24	BEDFORD WAY	OAKWAY RD	FAIR OAKS DR
25	BREWER AVENUE	BREWER AVENUE	SOUTH END
26	BROADWAY	MILL ST	11TH AVE
27	BROOKSIDE DRIVE	BRAE BURN DR (NORTH)	ADDR 999
28	BROOKSIDE DRIVE	BRAE BURN DR (SOUTH)	MONTARA WAY
29	CALGARY STREET	HOLLY AVE	ELANCO AVE
30	CANDLELIGHT DRIVE	AVALON	ROYAL
31	CARMEL AVENUE	GILHAM RD	NORWOOD ST
32	CARMEL AVENUE	DIANE ST	GILHAM RD
33	CATALINA STREET	JUHL ST	WILLHI ST
34	CHAMBERS STREET	11TH AVE	13TH AVE
35	CHAMBERS STREET	18TH AVE	24TH AVE
36	CHARNELTON STREET	4TH AVE	6TH AVE
37	CHASE STREET + CDS	500' NORTH OF MARSHALL	NORTH END
38	CLAREY STREET	BEAN ST	1071' S OF BEAN ST
39	COBURG ROAD	FERRY STREET BRIDGE	OAKWAY RD
40	CONCORD STREET	BERNTZEN RD	JACOBS DR
41	CRCENT AVENUE	NORKENZIE RD	ADDRS 1670
42	ECHO HOLLOW CDS	WEST END (CDS) (880-960)	ECHO HOLLOW RD
43	ELANCO AVENUE + 1 CDS (NORTH)	NORKENZIE RD	END OF NORTHERLY CDS
44	FAIR OAKS DRIVE	OAKWAY RD	FAIRWAY LP

MAP #	Street Name	From	To
45	FAIRMOUNT BOULEVARD	15TH AVE	COLUMBIA ST
46	FRANKLIN BOULEVARD EB	WALNUT ST	11TH AVE
47	FRANKLIN BOULEVARD WB	WALNUT ST	11TH AVE
48	FULLER AVENUE	ECHO HOLLOW RD	JAY ST
49	GARDEN AVENUE	MOSS ST	WALNUT ST
50	HAWTHORNE AVENUE	WEST END	FAIRFIELD AVE
51	HILYARD STREET	W AMAZON DR	40TH AVE
52	JESSEN DRIVE	ELIZABETH ST	HWY 99
53	LAKEVIEW DRIVE	207' E OF SARAH LN	GILHAM RD
54	LARIAT DRIVE	OAKWAY RD	LARIAT DR
55	LARIAT MEADOWS DRIVE	LARIAT DR	EAST END
56	LARIAT MESA	LARIAT DR	EAST END
57	LAURELHURST DRIVE + 5 CDS	MELROSE LP	BARGER DR
58	LAURELHURST DRIVE + SHEFFIELD CT CDS	HARRIET AVE	ROYAL AVE
59	LAVETA LANE	BARGER DR	SOUTH END
60	LAWRENCE STREET	DRWY 36	6TH AVE
61	LEMMING AVENUE	TARPON ST	SHILO ST
62	LINCOLN STREET	13TH AVE	22ND AVE
63	LINNEA AVENUE + 1 CDS	NORKENZIE RD	TARPON ST
64	MILL STREET	16TH AVE	18TH AVE
65	MILL STREET	2ND AVE	4TH AVE
66	MONTEREY AVENUE	NORKENZIE RD	LARKSPUR AVE
67	MONTREAL AVENUE	CALGARY ST	BALFOUR ST
68	NORWOOD STREET	MONTEREY ST	MARLOW ST
69	OAK STREET	7TH AVE	20TH AVE
70	OLIVE STREET	5TH AVE	6TH AVE
71	PEARL STREET	BROADWAY	17TH AVE (AMAZON BRIDGE)
72	POLK STREET	18TH AVE	28TH AVE
73	POLK STREET	67' N OF 6TH AVE	72' S OF 7TH AVE
74	PORTLAND ST	29TH AVE	31ST AVE
75	PRIMROSE STREET + 1 CDS	BARGER RD	100' N OF PARKER PL (S)
76	QUEBEC STREET	CALGARY ST	ELANCO ST
77	RIVER ROAD	MAXWELL RD	BELTLINE RD
78	ROBIN AVENUE	200' EAST OF RUSKIN ST	396' EAST OF TANEY ST
79	ROOSEVELT BLVD	BELTLINE	APPROX 800' EAST OF BELTLINE
80	ROYAL AVENUE CUL DE SAC	ROYAL AVE	N END CDS
81	SPYGLASS DRIVE	CAL YOUNG RD	LOOP AROUND BACK TO SPYGLASS DR
82	STAGECOACH ROAD	CANDLELIGHT DR	SURREY LN
83	SUNDANCE STREET	SUNDIAL RD	EAST END
84	SUNDANCE STREET CDS	NORTH END	SUNDANCE ST
85	SURRY LANE	STAGECOACH	WELCOME WY
86	TARPON STREET + CUL-DE-SAC	BREWER AVE	LEMMING AVE
87	TERRA AVENUE	MONTREAL AVE	GILHAM RD
88	TERRY STREET	ROYAL AVE	ROOSEVELT BLVD
89	WALNUT STREET	FRANKLIN BLVD	GARDEN AVE
90	WELCOME WAY	CANDLELIGHT DR	ROYAL AVE
91	WINDSOR CIRCLE EAST/WT	WILSHIRE LN	WILSHIRE LN



Memorandum

Date: March 14, 2018
 To: City Council
 From: Katie Marwitz, Pavement Preservation Program Manager
 Jenifer Willer, Principal Civil Engineer
 Subject: Proposal for use of remaining funds from 2012 Bond Measure to Fix Streets

Following the completion of the 2017 construction season it is anticipated that there will be approximately \$2.5 to \$3 million of Bond proceeds remaining at the completion of the five year bond in 2018. See Appendix A of the 2017 SRRP Report for details of costs to date.

The 2012 Street Bond Resolution states (section G) *if all projects listed in Exhibit A are completed and there are bond proceeds remaining, the Council may add other street preservation projects to the list.*

We propose the addition of the following street preservation projects to be added to the 2012 Bond Measure Project List.

<u>Street</u>	<u>To</u>	<u>From</u>	<u>Council Ward</u>	<u>Lane Miles</u>
Jerry Street	Richard Ave.	Royal Ave.	7	0.12
Louis Street	Hawthorne Ave.		7	0.50
Richard Avenue	Fairfield Ave.	Hwy 99	7	0.52
Barger Drive	100 feet east of Altimont	Primrose	6	3.26
Villard Street	Franklin Blvd.	North side of 15 th Ave.	3	1.18
19th Avenue	Jefferson St.	Tyler St.	1	0.73
		Total Lane Miles =		6.31
		Total Estimated Cost =		\$3.36M

We reviewed this list with the SRRP at their January 31, 2018 meeting and they supported this list based on the following considerations:

- Jerry Street, Louis Street, and Richard Avenue in Ward 7 were on the list of street projects to be considered during the evaluation of the 2017 Pavement Bond Measure. They were part of the Tier 2 group of streets that were eliminated when the bond funding amount was set.
- Barger Drive is a minor arterial in Ward 6. The proposed project section is situated between two segments that have both been rehabilitated in the last 10 years. The proposed section (3.26 lane

[Type text]

miles) is the largest of the three sections and the street condition is falling rapidly and will likely fall into the reconstruction category in the next several years without rehabilitation.

- Villard Street is in Ward 3 and is a key roadway in and out of the university district. Scoping and design work have already begun funded using local gas taxes, making this a project that can be delivered on a short timeframe. If there are not enough bond funds to construct this project, local gas taxes will be used to fully fund the project.
- 19th Avenue is in Ward 1. Like Villard, design work is in progress funded using local gas taxes. The project is currently at the 60% design phase, making this a project that can be delivered on a short timeframe. If there are not enough bond funds to construct this project, local gas taxes will be used to fully fund the project.