



SAVE OUR STREETS 2011 YEAR END REPORT



O St NE chips ealed as part of the 2011 SOS Program.

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BACKGROUND

ABOUT THE SOS PROGRAM

The City classifies streets based on the type of traffic they are intended to support. Major streets that are intended to support a large amount of traffic traveling to neighboring jurisdictions, to state highways and across the City are typically classified as **arterial streets**. Streets that are intended to support a moderate amount of traffic and connect neighborhoods and industrial/commercial areas to arterial streets or to other neighborhoods and industrial/commercial areas are generally classified as **collector streets**. Streets that are intended to support a low volume of traffic and connect local residences and businesses to an arterial or collector street are generally classified as **local streets**.

The City currently maintains 214 centerline miles of streets, of which 116 centerline miles (or more than half the network) are classified as local streets. In 2004 the public was expressing concern over the condition of these local streets, but funding for local streets had dropped dramatically in the preceding years (see Figure 1) and the City could not afford to make the needed improvements.

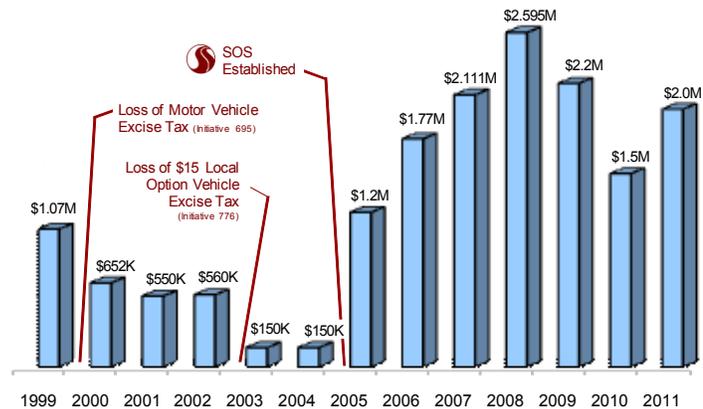


Figure 1: History of Funding for Local Streets

In response to the situation, the City proposed a funding measure which was approved by Auburn citizens in the November 2004 General Election. This funding measure now allows the City's property tax levy to generate additional revenue for a **Dedicated Local Street Fund** which is used solely to fund a local street preservation and improvement program, called the **Save Our Streets (or SOS) Program**.

In 2005, the City had approximately 59 miles of local streets that were in need of repair (this mileage includes streets that were later annexed into the City in 2008). Since 2005, the SOS Program has resurfaced 42 miles of City streets with only an estimated 7 miles of street left to overlay or chipseal and 10 miles of the worst streets left to rebuild (see map on page 7 for the remaining street projects to be done by the SOS Program).

ABOUT AUBURN'S PAVEMENT MANAGEMENT

The City measures pavement condition using the **Pavement Condition Index (or PCI)**. As shown in Figure 2, PCI values represent pavement condition based on a scale from 0 to 100 with 100 being pavement in perfect condition and 0 indicating the pavement has completely failed. The City's goal is to maintain streets so that their PCI values are at or above 70.

PCI values generally indicate the best treatment for pavements in different conditions. For example, pavements with high PCI values typically require relatively inexpensive treatments that simply preserve the existing pavement. Pavements with average to low PCI

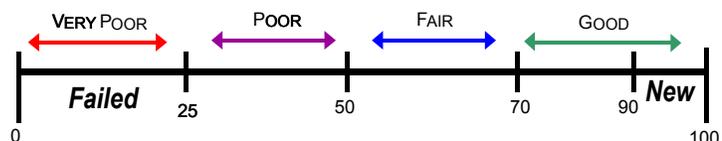


Figure 2: Pavement Condition Index (PCI) Scale

values typically require more expensive rehabilitative treatments. Pavements with really low PCI values are often unsalvageable and have to undergo a very expensive rebuild.

Figure 3 shows the guidelines the City generally follows to select treatments for pavement in different PCI ranges as well as the typical costs of each treatment.

Pavement Condition	Typical Treatment	Typical Life of Treatment*	Typical Cost
PCI 90 - 100 Like-New Condition	No Treatment Needed	Not Applicable	\$0
PCI 70 - 89 Good Condition	Seal Cracks – Cracks are sealed with liquid asphalt to prevent water from penetrating the pavement and weakening the base material that forms the foundation for the pavement.	3 - 5 years	\$0.75 per square yard
PCI 50 - 69 Fair Condition	Patching and Thin Overlay – Broken pavement is replaced (patched) to renew the load carrying ability of the existing pavement. Then the road is overlaid with a thin layer of pavement (1½ inch or less in depth) to preserve the existing pavement and provide a smooth driving surface.	10 - 15 years	\$15.00 per square yard
	Chip Seal – A thin layer of liquid asphalt is sprayed over the entire pavement surface and then covered with a thin layer of aggregates. Chip seals typically do not last as long as a thin overlay nor do they provided a smooth driving surface.	5 - 8 years	\$5.00 per square yard
PCI 25 - 49 Poor Condition	Extensive Patching and Thin Overlay – Same treatment as above only more extensive patching is typically required. (Some streets in this condition require a thicker overlay of 2 inches or greater).	10 - 15 years	\$20.00 per square yard
	Double Chip Seal – A thin layer of liquid asphalt is sprayed over the entire pavement surface and then covered with a thin layer of aggregates, then this process is repeated second time. Based on experience, the City has found that double chip seals typically last longer than single chip seals, especially when the existing pavement is in poor condition.	5 - 12 years	\$7.50 per square yard
PCI 0 - 24 Very Poor Condition	Rebuild Pavement – Existing pavement is completely removed and a new road is constructed.	20 years	\$95.00 per square yard

*Life of treatment will vary based on the traffic volume and type of vehicles that use the street, the strength of the pavement and underlying soil, the age of the existing pavement, and the amount of vehicle turning/stopping movements on the street.

Figure 3: Maintenance Decision Tree for Local Streets

The City regularly surveys Auburn’s entire street system and calculates a PCI value for each street. With the help of **pavement management software**, the City can use the PCI values from the survey and the treatment costs from the decision tree (Figure 3 above) to determine the funding needs of the entire local street system. Since these needs are always a lot more than the City can actually fund in a single year, the City has to prioritize and select a limited number of streets for each years’ SOS programs.

During the initial years of the SOS Program, the City focused almost exclusively on preserving streets in fair to poor condition. The reason for this was two fold; it addressed streets in need of repair and it prevented those streets from deteriorating to the point that a more expensive treatment (such as a total rebuild) would be needed. Since 2009, many streets in fair to poor condition have now been preserved and the City has also begun rebuilding streets in very poor condition.

There are many factors the City must consider when determining which streets in very poor condition to rebuild each year. Many of the utilities that exist under the very poor streets need to be replaced in conjunction with rebuild work (either because the utility is very old and could not withstand the stress of construction work, or because the City already plans to replace the utility in the future and replacing the utility as part of the rebuild work is more economical and disturbs the neighboring residences only once). Therefore one of the most important factors the City considers when choosing which streets to rebuild is the available utility funds to pay for the needed utility replacement work.

Another important factor the City considers when selecting streets to rebuild each year is the amount of ongoing maintenance work that is required by City maintenance staff. Streets that require more attention from City maintenance staff are a higher priority compared to other streets. Streets with significant drainage problems and streets with significant bumps and dips that are beyond what City maintenance staff can repair themselves are also given a higher priority.

The City also considers the number of residents being served by the street, coordination with private utility work, and coordination with private development work when selecting streets to rebuild each year.

2011 SOS PROJECTS

The 2011 SOS Program consisted of the following projects:

2010 LOCAL STREET PAVEMENT PRESERVATION – This project replaced damaged concrete pavement panels on 0.5 miles of local streets in 2010. Due to weather limitations this project continued into 2011 and replaced concrete pavement panels on an additional 0.2 miles of local streets, rebuilt the pavement on 0.1 miles of local streets, overlaid 0.3 miles of local streets, and replaced 0.2 miles of existing water lines and approximately 300 feet of existing storm drainage pipe (see the map on page 6 for the specific streets). Construction was complete in July 2011 at a total cost to the local street fund of \$500,987.



3rd St NE After Overlay



108th Ave SE being rubblized and repaved.

AC MAIN REPLACEMENT PROJECT – This project replaced 0.9 miles of asbestos concrete water main and approximately 350 feet of storm drainage piping on 0.9 miles of local streets in the neighborhood adjacent to 112th St SE (see the map on page 6 for the specific streets). After the utility work was complete, this project rubblized the existing asphalt pavement to form a new road base and a new layer of pavement was installed over the top of this road base. The total cost to the local street fund was \$119,032.

2011 LOCAL STREET PAVEMENT PRESERVATION (PHASE 1) – This project overlaid 2.6 miles of local streets, patched areas of damaged pavement on 1.1 miles of local streets and performed a double chip seal on 3.0 miles of local street throughout the City (see the map on page 6 for the specific streets). Construction began in July 2011 and was completed October 2011 at a total cost to the local street fund of \$1,494,627.



SE 318th Way after overlay.

2011 LOCAL STREET PAVEMENT RECONSTRUCTION (PHASE 2) – This project will rebuild the pavement on 0.5 miles of local streets and overlay 0.1 miles of local streets throughout the City (see the map on page 7 for the specific streets). This project will also replace 0.2 miles of undersized water mains; upgrade 0.3 miles of storm drainage lines; and replace approximately 350 feet of damaged sanitary sewer line. The construction contract for this project was recently awarded and construction on this project is scheduled to begin in March 2012. The total estimate local funds needed for this project are \$840,000.



3rd St SW schedule to be reconstructed.



H St SE schedule to be reconstructed.

IMPROVING PAVEMENT CONDITION OF LOCAL STREETS

Figure 4 shows how the percentage of streets in good, fair, poor and very poor condition have changed over the years since the SOS program was created. As can be seen in the figure, the pavement condition of local streets has been steadily improving as a result of the SOS Program. And even though the percentage of streets in very poor condition has remained fairly constant, the City is anticipating that this number will also start to decline since the SOS Program has begun to rebuild more and more of these failed street pavements.

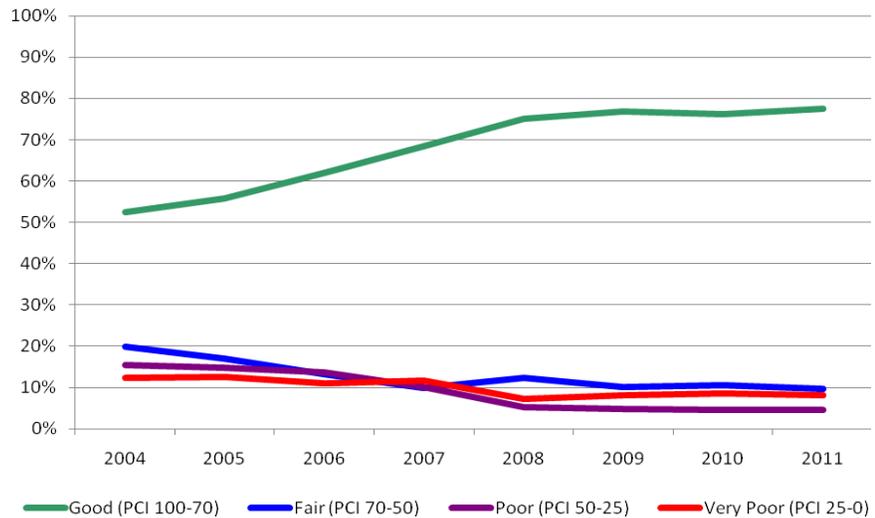


Figure 4: Pavement Condition History of Local Streets

FUTURE SOS PROJECTS

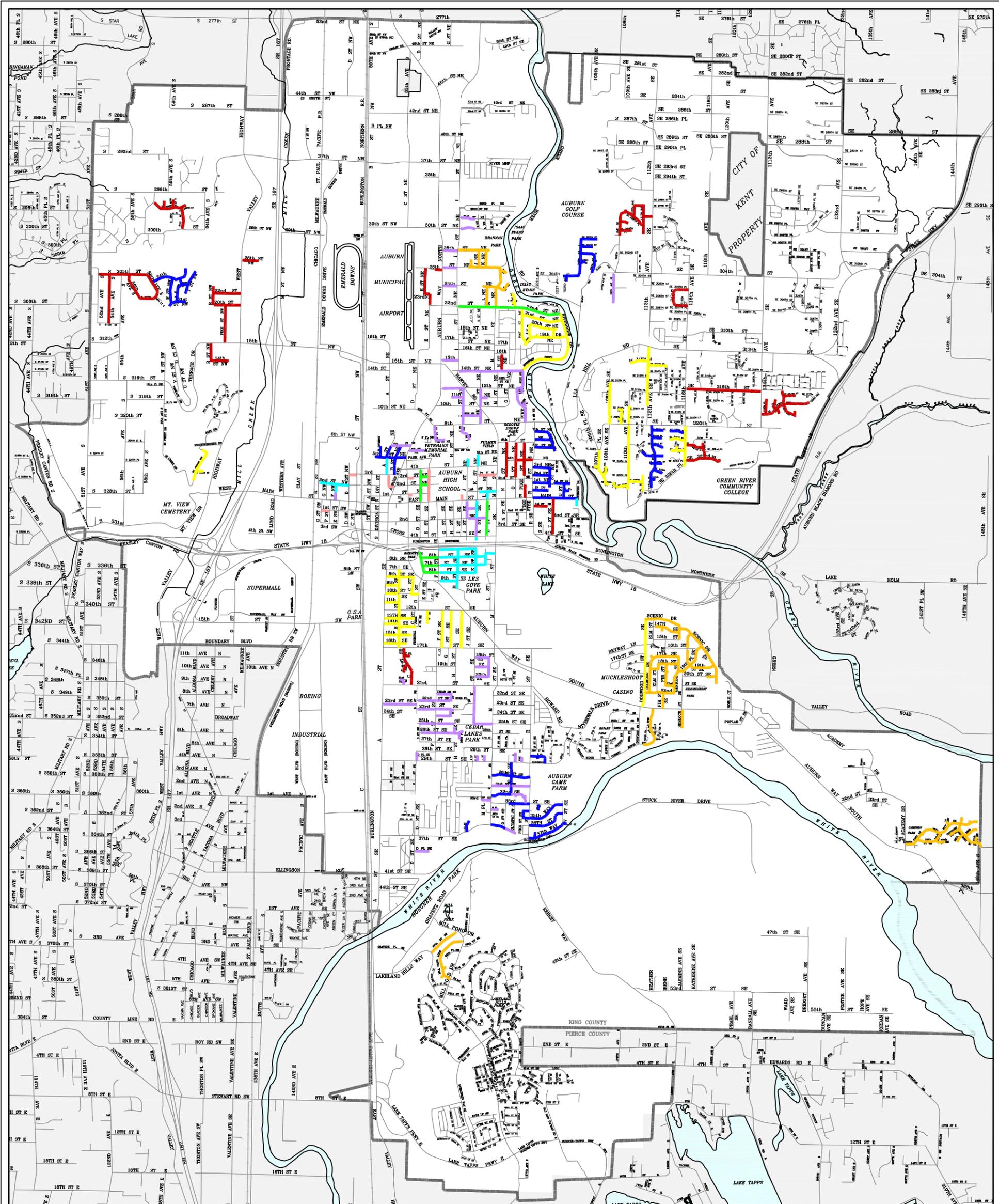
Approximately \$840,000 of the 2011 SOS budget will be carried forward into 2012 to complete the 2011 Local Street Pavement Reconstruction (Phase 2) Project (see map on page 7 for the specific streets that will be improved on as part of this project).



J St SE scheduled to be reconstructed in 2012.

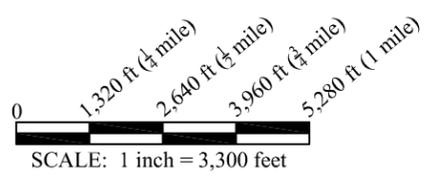
Additionally, \$2,000,000 is budgeted for the 2012 SOS Program. The City plans to continue the strategy of preserving streets in fair to poor condition by using a portion of the available funds to overlay 0.5 miles of streets and chipseal 1.0 miles. The remaining portion of the funds will be used to rebuild 0.6 miles of streets (see map on page 7 for the specific streets that will be improved in 2012). The City chose to rebuild the specific streets shown on the map on page 7 because these streets have some of the poorest pavement in that City that could be rebuilt within the available budget and they required a minimal amount of improvements to underground utilities.

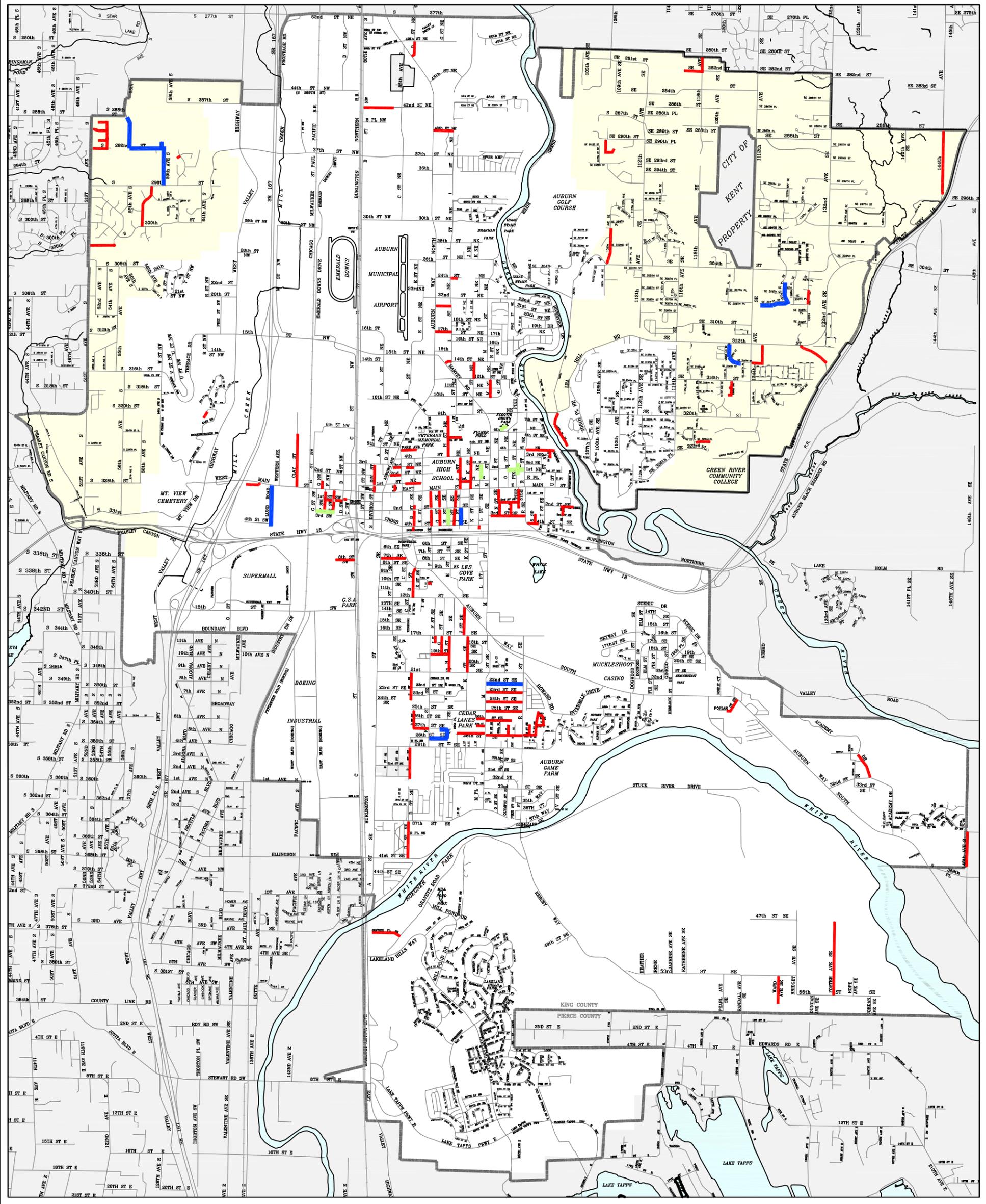
Future SOS streets will be evaluated during the City's annual budgeting process (typically near the end of each year) when the funds available for the future SOS Programs and the utility work that must be accomplished in conjunction with the SOS Programs are better known.



COMPLETED SOS PROJECTS

- █ 2005 PATCHING/THIN OVERLAY COMPLETED (6.7 miles)
- █ 2006 PATCHING/THIN OVERLAY COMPLETED (10.3 miles)
- █ 2007 PATCHING/THIN OVERLAY COMPLETED (6.7 miles)
- █ 2008 PATCHING/THIN OVERLAY COMPLETED (6.6 miles)
- █ 2009 OVERLAY AND REBUILD COMPLETED (3.3 miles)
- █ 2010 OVERLAY, REBUILD, AND CONCRETE PANEL REPLACEMENT COMPLETED
- █ 2011 OVERLAY, REBUILD, AND CONCRETE PANEL REPLACEMENT COMPLETED
(completed as part of the 2010 Local Street Pavement Preservation Project)
- █ 2011 OVERLAY, CHIPSEAL AND REBUILD COMPLETED (7.6 miles)
(completed as part of 2011 Local Street Pavement Preservation - Phase 1 and 2009 AC Watermain Replacement Project)
- AREAS ANNEXED IN 2008





FUTURE SOS PROJECTS

- 2012 OVERLAY AND REBUILD PLANNED (0.6 mile)
(Will be done as part of the 2011 Local Street Pavement Reconstruction - Phase 2 Project)
- 2012 OVERLAY, CHIPSEAL, AND REBUILD PLANNED (2.1 miles)
- LOCAL STREET IN NEED OF WORK AFTER 2012 (~14 miles)
- AREAS ANNEXED IN 2008

