



**WORK SESSION MEETING
AMENDED AGENDA
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
MARCH 9, 2015
6:00 PM**

CALL TO ORDER

ROLL CALL

DISCUSSION ITEMS

- 1. Work Session Minutes Dated February 23, 2015**
- 2. Capital Equipment Replacement**
Summary: Presentation and discussion on Capital Equipment Replacement Program
- 3. FY2016 Pavement Maintenance Program Staff Report**
Summary: City staff proposes to address pavement and sidewalk issues through the City's annual pavement maintenance programs.

Pursuant to Section 610.022 RSMo., the City Council could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or communications from the City Attorney as provided under Section 610.021(1) RSMo. and/or personnel matters under Section 610.021(13) RSMo. And/or employee matters under Section 610.021(3) RSMo. and/or real estate matters under Section 610.021(2) or other matters as permitted by Chapter 610.

Posted: _____ posted 03/6/2015
Deborah Ryan, MPCC
City Clerk



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Debbie Ryan
City Clerk
(314) 872-2517
www.creve-coeur.org/

Meeting: 03/09/15 06:00 PM

DOC ID: 1250

COUNCIL MINUTES (ID # 1250)

Work Session Minutes Dated February 23, 2015



**WORK SESSION MINUTES
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
FEBRUARY 23, 2015
6:00 PM**

Present: Council Members, Scott Saunders, Cynthia Kramer, Ellen Lawrence, Charlotte D'Alfonso, David Kreuter, AJ Wang and Robert Kent.

Creve Coeur Staff present: City Administrator Mark Perkins, Asst to the City Administrator Sharon Stott, City Engineer Matt Wohlberg, Finance Director Dan Smith, Public Works Director Jim Heines, City Attorney Carl Lumley and City Clerk Deborah Ryan.

DISCUSSION ITEMS

1. Approval of Work Session Minutes of January 26 and February 9, 2015

Council Member Lawrence moved, seconded by Council Member Kent to approve work session minutes dated January 26 and February 9, 2015. Passed by unanimous vote.

2. Capital Improvement Program for Fiscal Years 2016 - 2020

Mark Perkins reviewed the CIP goals, criteria, projected revenues and expenditures over the next 10 years and future project lists. (Exhibit A). Mr. Perkins stated by 2020 the ice coolant in the system at the Dielmann Complex must be changed out per unfunded Federal mandates. That will be a large project.

Council Member Kent asked about the number of street segments.

Jim Heines stated we have approximately 700 street segments in our street evaluation program.

Council Member Kent asked if the city has an inventory of the city sidewalks.

Jim Heines stated we have a sidewalk inventory and staff has identified all problem areas in the ADA transition plan.

Mark Perkins reviewed the ten year capital improvement program revenue and expenditure summary FY 2011-2020. (Exhibit B)

Adjourned at 6:56 p.m.

Attachment: WS 02 23 15 minutes (1250 : Work Session Minutes Dated February 23, 2015)



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Debbie Ryan
City Clerk
(314) 872-2517
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Meeting: 03/09/15 06:00 PM

DOC ID: 1252

DISCUSSION ITEM (ID # 1252)

Capital Equipment Replacement



DEPARTMENT OF PUBLIC WORKS OFFICE MEMO

DATE: March 4, 2015

TO: Mark Perkins, City Administrator

FROM: Jim Heines, Director of Public Works

SUBJECT: Fleet Replacement Report FY 2016-FY 2020

Each year Public Works staff evaluates our fleet of vehicle and equipment as a component to the annual Capital Improvement Program update. A number of factors are examined in determining the optimum fleet size and replacement schedule. The criteria used to determine vehicle and equipment life is a national standard promoted by the American Public Works Association (APWA). Key Factors used in determining the vehicle life cycles include:

- The ability to minimize safety risks by driving vehicles with state of the art safety equipment and newer components.
- Reduced downtime for employees driving vehicles that require minimal repair and maintenance
- Enhanced employee morale and organizational public image
- Reduction in the expense incurred to maintain and repair vehicles

In addition to the items listed above the APWA promotes the use of a point system to determine when each vehicle should be considered for replacement. Six factors about each vehicle are evaluated and points are assessed to each category. The replacement factors and point assessments are as follows:

<u>Factor Evaluated</u>		<u>Points Assessed</u>
Vehicle Age		1 point per year
Miles		1 point per 10,000 miles
Reliability		1 to 5 points
Maintenance and repair costs		1 to 5 points
Condition		1 to 5 points
<u>Point Ranges</u>		
Under 18 points	Condition I	Excellent
18-22 points	Condition II	Good
23-27 points	Condition III	Qualifies for replacement
28 points and above	Condition IV	Needs immediate consideration

The attached 5-year CIP projections provide a projected schedule for replacement of our fleet. Below is a description of our major equipment, its uses and projected replacement schedule. Please note that these are projections and all equipment is evaluated annually to determine which pieces of equipment should be replaced.

Two-ton Trucks

These trucks are the base of our operations and the number of two-ton fleet is largely determined by our leaf vacuuming service as well as snow removal services. Over the past 5 years, due to the continued review of our operations and evaluation of our fleet needs, we have gradually reduced the size of our two ton fleet from 14 two-ton trucks down to our recommended optimum of 10 trucks. This in part is due to converting our fleet over time to heavy duty diesel trucks as well as stream lining our operations and trimming the fleet to meet our needs.

Leaf season consumes a substantial amount of manpower and capital resources for several months each year. To provide the level of service expected by our residents we must deploy at least 8 trucks and vacuums with 3-man crews during the peak season. In an effort to keep 8 trucks and leaf vacs on the road, a fleet of 10 trucks is necessary, having 2 in reserve for break downs. Unfortunately, the leaf vacuum trailers are too heavy to pull with the smaller one-ton trucks.

To provide snow removal services we have split our crew into two 12-hour shifts. This allow the city to deploy 6 two-ton plow trucks and, by recruiting drivers from other departments, several one-ton trucks are also part of the snow removal fleet. If we are to continue to provide snow plow service at the current level it is imperative that we have at least two back up, two-ton plow trucks available for drivers to access in the event of break downs which happens quite often during storms.

In the past, when our two-ton fleet had mainly gas motors, hydraulic breaks, and weaker drivelines with spilt speed axles we experienced break downs quite often and needed a number of reserve trucks. Over the past five years we have been transitioning to diesel trucks with heavy duty drivelines and air breaks. Outside of the leaf collection season and snow plow operations, these trucks are used regularly to haul asphalt, rock, mulch, dirt, water tanks, and other materials and supplies to job sites around the city.

Although the APWA reports that the national standard is a ten year replacement schedule for these vehicles, our goal is to rotate the two-ton fleet using a 12 year life cycle. As our diesel trucks age, we will continue to evaluate their condition and better know if the life cycle can be further extended.

Chipper Trucks

Public works has 2 chipper trucks in our fleet to pull the three chippers. Two of these trucks are used on a regular basis and designated for chipping only, containing 25 cubic yard Arbortech Chipper beds mounted to the chassis to maximize load size. A third truck can be accessed from our two-ton fleet above by attaching a 10 cubic yard bolt-on box that slides into the back of the dump bed. This is usually one of our oldest trucks and is used in this capacity for one or two years before it is sent to auction. The backup truck is only utilized in the event of extreme storms in a massive effort for storm damage cleanup

Although the chipper trucks are used for approximately 9 months of the year, we feel that by converting our chipper truck fleet to Diesel, we will be able to get 12 years of service. This will allow the two chipper trucks to fit into the 12 year replacement schedule along with the 10 two-ton trucks above, thus having a twelve year rotation by replacing one of these trucks each year.

Bucket Truck

The city has one bucket truck in our fleet, a 1996 International 2-ton chassis with a 35 ft. Altec boom with a man-bucket and crane hook which was purchased from the city of Clayton in 2007. This truck is necessary for tree removal/ pruning operations as well as servicing the decorative lighting, banners, and holiday decorations on Olive or in parking lots. With proper preventative maintenance, annual safety inspections and certification, we hope to keep the truck in our fleet until FY 2021. At that point, we would plan to look at the used equipment market due to our limited usage and a comparatively high cost of a new bucket truck.

One-ton Trucks

Although Public Works has 9 trucks rated in the one-ton range, 3 of these trucks are committed to specific duties year round such as: concrete foreman's truck which is also a service body truck for concrete tools and equipment, a pothole patch truck which remains on the ready and full of cold patch material year round, and a water tank truck that is also a snow truck in the winter. This leaves 6 one-ton trucks available for day to day operations and projects. These tasks include:

- Asphalt and concrete road repairs
- Sidewalk repairs
- Median and ROW maintenance
- Small stormwater projects
- Dirt and turf repairs
- Tree removals
- Landscape and median planting/mulching
- Parks maintenance

Our one-ton trucks are the heart of our fleet during the construction season. They are used for smaller projects and delivering tools and materials to most job sites especially in hard-to-get-to locations. Although the APWA national average recommended replacement for these trucks is 10 years, we have been replacing one-ton trucks in the 12 to 15 year range. Public Works experiences a significant amount of down time from these trucks so we have recently started changing the one-ton fleet over to diesel power also in hopes to get better reliability from these vehicles. In addition to upgrading the trucks to diesel, staff recommends migrating towards a 10 year replacement cycle to reduce repair costs and increase reliability.

Pick-up Trucks

Over the past 5 years, Public Works staff has trimmed the pickup truck fleet from 9 trucks to 6 trucks in an effort to be more efficient with our fleet. We believe that the 6 trucks that we have now are as lean as our fleet can go. We have combined several duties to some of the trucks in an effort to increase efficiency. Each of these trucks are assigned to specific duties such as:

1. Operation Superintendent truck
2. Park Foreman truck
3. Asphalt Foreman Truck/Flatbed for asphalt tools and supplies
4. Engineering/Inspectors Truck located at City Hall
5. Service body sign repair/replacement truck
6. Small pickup truck used for parts and supply pickup

The APWA national average recommended replacement for these trucks is 7-10 years. Although our oldest pickup truck is 12 years old, Public Works has been fairly successful in maintaining a 10 year replacement schedule. Staff recommends we continue with this effort.

Leaf Vacuum

Over the past 5 years, Public Works staff has been converting the leaf vacuum fleet from gas to diesel power engines. This has helped create a more reliable and powerful fleet. Due to the resulting reduction in breakdowns and downtime, we have been able to reduce the size of our leaf vacuum fleet from 13 to 10.

To be able to provide service to the residents at the expected level, we have 8 vacuums on the street during the peak fall season. Staff recommends the optimum fleet size to be 10 leaf vacuums (8 on the road + 2 in reserve). Although there are no APWA life expectancy standards available for this equipment, from past experiences, a 10-year replacement schedule is recommended for this type of equipment.

Skid Steer

Public Works has 2 skid steers in our fleet. These units are used for a number of operations and at times both units on the same jobsite with different attachments working concurrently. Some uses include:

- Asphalt milling/replacements
- Concrete removals and replacements
- Moving supplies and equipment around the shop yard and jobsites
- Loading trucks
- Grading/Excavating
- Using attachments: augers, trenchers, millers, sweepers, punch bit, pavement breaker, snow box mulch bucket, etc.

The APWA national average recommended replacement for this equipment is 10 years. We had hoped to get up to 15 years from these units, however, we have seen a significant increase in repairs on the 2007 Skid Steer due to vibration and hard use of this equipment while running the miller and other attachments. Staff is recommending a 10 year replacement on these units.

Backhoe

The city replaced a 1986 John Deere Backhoe in 2008 with another John Deere Backhoe. This piece of equipment is used for a number of tasks which include:

- Pavement removals
- Loading trucks on job sites
- Repairing/replacing bridges in parks and golf course
- Small stormwater projects
- Installing drain pipes
- Grading

Although The APWA national average recommended replacement for this equipment is 10 years, through preventative maintenance and storing equipment under cover, staff is anticipating a 20 year service life for the backhoe.

Front Loader

The city replaced a 1992 John Deere Front Loader in 2011 with another John Deere Front Loader. This piece of equipment is used for a number of tasks which include:

- Moving leaf Mulch and wood chips
- Loading trucks on job sites and for snow operations
- Lifting equipment into dump trucks
- Moving pallets of materials and supplies at the shop yard
- Repairing/replacing bridges in parks and golf course
- Placing gabion rock and storm pipe on smaller projects
- Grading

Although The APWA national average recommended replacement for this equipment is 10 years, through preventative maintenance and storing equipment under cover, staff is anticipating a 20 year service life for the backhoe.

Capital Equipment Purchasing

When recommending vehicle and equipment purchases, Public Works staff reviews a number of options before making the final recommendation such as:

- Purchase new from the MoDOT Cooperative Purchase Program for vehicles and equipment
- City bidding specific vehicles and equipment
- Rent/Lease programs
- Used vehicle/equipment purchases.

Over the years we have found that the MoDOT Cooperative Purchase Program has the best pricing for new vehicles and equipment. Generally new equipment purchased from this program are as much as 37% less than MSRP and 20% less than the city bidding out an individual purchase.

When pricing used equipment we have found that cost to purchase a used unit that is a couple of years old with low miles/hours is comparable to the cost of a new unit with a warranty through the State Cooperative Purchase Program.

Although Rent/Lease programs can keep your fleet stocked with newer trucks, it can be a costly option. Past investigations for these programs have revealed that lease payments over a three year period will equal the cost of purchasing a new unit. In addition, staff met with Enterprise Leasing in 2014 to revisit leasing for trucks and found that they did not lease the two –ton trucks. Upon further discussions about one-ton and pickup trucks, they commented that they cannot compete with the state purchase pricing we receive on trucks through the MoDOT State Cooperative Bids.

Conclusion

Although we have used the rotational method in the past to determine replacement schedules as well as identifying which vehicles and equipment are to be replaced we have initiated a method of evaluating vehicles and equipment which is accepted nationwide by APWA organizations. The results is not much different than the rotational method we used before, however we now have a means to evaluate age, condition, miles, repair costs, down time and appearance. The attached CIP 5-year Equipment Replacement schedules are merely guides used for long term planning and strategies.

Although the city does not have a full time mechanic on staff, most preventative maintenance and minor repairs are handled by our part time mechanic hired through a temporary service. Larger repairs are outsourced to either dealerships or independent repair shops.

The Public Works department is in the process of setting up our new Fleet Maintenance program to better track repairs, preventative maintenance, and their associated costs. This will help us in evaluating the factors used to assigns points to determine the condition of our fleet when making decisions on replacement.

The Public Works staff understand that a major investment is made each year on these purchases and an even larger investment has been made over the years on our fleet. Staff utilizes every bit of information available to make wise choices regarding when it is time to replace vehicles and equipment. Although we feel we have optimized the size of our fleet to maximize efficiency while staying within budgeted funding limits, we will continue to look for ways to streamline the fleet and increase efficiency while best meeting service related expectations of the residents.

FY 2016-2020 Public Works Proposed Fleet Replacement Schedule

FY 2016 Public Works Fleet Replacement Schedule		
Item	Cost	Trade/Auction
Two-ton Dump Truck with Plow and Spreader	\$ 123,287.00	2006 Two-ton Dump Truck
One-ton dump Truck with Plow and Spreader	\$ 63,003.00	2003 One-ton Dump Truck
Trailer Mount TMA	\$ 21,000.00	
Leaf Vacuum (Diesel Powered)	\$ 44,615.00	2005 Leaf Vacuum (Gas Powered)
	\$ 251,905.00	

FY 2017 Public Works Fleet Replacement Schedule		
Item	Cost	Trade/Auction
Two-ton Dump Truck with Plow and Spreader	\$ 125,753.00	2007 Two-ton Dump Truck
One-ton dump Truck with Plow and Spreader	\$ 65,202.00	2004 One-ton Dump Truck
3/4 ton Pickup with Plow - Street Foreman	\$ 38,000.00	2005 3/4 ton pickup truck
Leaf Vacuum (Diesel Powered)	\$ 45,953.00	2006 Leaf Vacuum (Gas Powered)
	\$ 274,908.00	

FY 2018 Public Works Fleet Replacement Schedule		
Item	Cost	Trade/Auction
Two-ton Dump Truck with Plow and Spreader	\$ 128,268.00	2008 Two-ton Dump Truck
One-ton dump Truck with Plow and Spreader	\$ 67,158.00	2005 One-ton Dump Truck
Leaf Vacuum (Diesel Powered)	\$ 47,332.00	2007 Leaf Vacuum (Gas Powered)
Skid Steer	\$ 50,000.00	2008 Bobcat Skid Steer
	\$ 292,758.00	

FY 2019 Public Works Fleet Replacement Schedule		
Item	Cost	Trade/Auction
Two-ton Dump Truck with Plow and Spreader	\$ 132,116.00	2008 Two-ton Dump Truck
1/2 ton 4x4 puickup (Operation Superintendent)	\$ 35,000.00	2009 1/2 ton Pickup Truck
Leaf Vacuum (Diesel Powered)	\$ 41,250.00	2008 Leaf Vacuum (Diesel Powered)
Limb Chipper	\$ 55,000.00	2005 Vermeer (Self Feed)
	\$ 263,366.00	

FY 2020 Public Works Fleet Replacement Schedule		
Item	Cost	Trade/Auction
Two-ton Dump Truck with Plow and Spreader	\$ 136,079.00	2009 Two-ton Dump Truck
One-ton dump Truck with Plow and Spreader	\$ 69,172.00	2007 One-ton Dump Truck
Leaf Vacuum (Diesel Powered)	\$ 48,752.00	2009 Leaf Vacuum (Diesel Powered)
	\$ 254,003.00	

Attachment: 2016-2020 CIP Equipment Purchase (1252 : Capital Equipment Replacement Program)



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 03/09/15 06:00 PM
Department: Public Works Department
Category: Report
Prepared By: Matt Wohlberg
Department Head: Jim Heines

STAFF REPORT

FY2016 Pavement Maintenance Program Staff Report

City staff proposes to address pavement and sidewalk issues through the City's annual pavement maintenance programs.



DEPARTMENT OF PUBLIC WORKS STAFF MEMORANDUM

DATE: March 6, 2015

TO: Mark Perkins, City Administrator

CC: Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer
Rich Beran, P.E., Civil Engineer

SUBJECT: Repair Location Recommendations
FY2016 Roadway Maintenance Program

The Department of Public Works proposes the roadway maintenance program outlined below for the 2016 fiscal year, much of which will be completed during the 2015 construction season. The proposed roadway maintenance program continues the City's typical concrete pavement replacement, roadway reconstruction, asphalt resurfacing, micro-surfacing, and sidewalk programs without a significant change from previous years.

Roadway Selection

Several factors influence the decision to include a particular roadway into a repair program. The goals of the repair selection are twofold: 1) to find the most impact for the money spent to perform the maintenance, and 2) to make repairs that improve the lives of the citizens of Creve Coeur.

To achieve the first goal, the number of motorists using the roadway, the cost of the repair, and the condition of the street must be weighed with each decision. The opportunity cost of not doing a repair must also be considered, and this is an important decision factor for roads that are on the verge of deteriorating to a point where a particular repair can no longer be effective, and thus becoming much more expensive to fix. The goal, therefore, is to perform the right repair on the right street at the right time.

The City has adopted a "neighborhood approach" for street repairs in an attempt to achieve the second goal. Where possible, streets within a subdivision are targeted so to improve as much of the pavement in that subdivision as possible within a span of one or several years. While this will mean that some of the streets addressed each year might be in better condition than a few others in the City, it will also mean that repairs are concentrated in an area for a short time rather than having these repairs performed piecemeal each (and perhaps every) year. The intent is to create a condition in which future repair needs are similar throughout each neighborhood, which should make future planning easier and should inconvenience the residents in each area for the least amount of time possible.

Concrete Pavement Replacement

Work involved in this program will include the removal and replacement of failed concrete pavement slabs, curbs, gutters, and sidewalks. New accessible pedestrian curb ramps will also be installed as needed near street repair locations.

The proposed concrete pavement replacement program is listed below, along with the current pavement condition index (PCI) for each street with pavement replacement:

Pavement Slab Replacement

<u>Street Name</u>	<u>Current PCI</u>
Bergerac Drive	83
Petit Royale Drive.....	91
Royal Manor Court	83
Royal Manor Drive	91
Somerton Ridge Drive	86 (average)
Wedgewood Lane	87 (average)

Curb and Gutter Replacement

Corporate Square Drive
Research Boulevard

These streets are proposed for one or several of the following reasons: pavement conditions, previous commitments, support of other projects, and future planning.

Pavement Conditions. City staff reviews the concrete pavement network at the end of each winter to prioritize the repair needs for concrete pavement and curbing. Aging, cracked, and broken pavement and curbing exists throughout the City in quantities that exceed what the City could afford to replace in any given year. Hazardous and potentially hazardous pavement and curbing failures have been given the highest priority in replacement, and all pavement identified as such is included in the proposed program.

Local Failures and PCI. The pavement condition index (PCI) shown for each street represents the average condition for the entire street. One localized failure will lower the street's condition, but it might not make a big impact to the street's PCI. This is most true for longer streets. Local failures are most common on concrete streets where the conditions can vary from one slab to the next.

Pavement slabs on Bergerac Drive and on Wedgewood Lane were found to have sunk enough to be potentially hazardous, and this situation draws attention to the needs for these streets. The proposed program expands beyond these few hazardous slabs to address other priority replacement needs for both of these streets. Wedgewood, in particular, has for years had some pavement issues that have caused a bumpy ride, but these issues were not significant enough to warrant pavement replacement and were temporarily addressed through patching. The proposed pavement replacement will significantly improve the condition of these streets and should eliminate the need for further repairs in the foreseeable future.

Joint Deterioration. Spalling (i.e. deteriorating) joints present another problem for PCI. When patched, joint spalling is a relatively low-severity problem which will not significantly lower a street's PCI, particularly if the rest of the concrete slab is in good condition. Joint spalling along many of the concrete joints on a street can become a problem, not just for the number of slabs

that are affected, but because the failure of one or two joint patches can change the pavement conditions overnight.

Concrete slabs can be in very good condition except for their joints. Joint issues often impact adjacent slabs, spreading out the problem. Spalling can be addressed in several ways, but badly spalled joints should be cut out and replaced. If many of the street's joints have this problem, then the best long-term solution becomes full slab replacement. Unfortunately, the cost to replace much of the street is expensive and will seem disproportionate to the street's PCI.

The pavement of Somerton Ridge Drive is generally structurally sound, but the joint deterioration is widespread and creates an uncomfortable ride. The City's Public Works staff has repeatedly patched these deteriorated joints, but the patches are temporary and need routine attention to preserve the improvement to the ride quality for the street. Significant pavement replacement along Somerton Ridge Drive is proposed for FY2016 to replace the concrete pavement with the poor joints. The proposed work follows sidewalk improvements along Somerton Ridge and similar pavement replacement along Timber Run Drive in FY2015.

Previous Commitments. The City began pavement replacements in the Royal Manor subdivision in 2014 following several years during which the City addressed only emergency concerns in that neighborhood to avoid conflicting with a sanitary sewer project by the Metropolitan St. Louis Sewer District (MSD). The proposed slab replacement along Petit Royale Drive, Royal Manor Drive, and Royal Manor Court will address most of the remaining issues in this neighborhood. Staff expects to continue slab replacement in the Royal Manor neighborhood in FY2017.

Support for Other Projects and Future Planning. The City's concrete pavement replacement program was dominated by the base-repair needs of a few "combination" (concrete base with an asphalt overlay) streets. As much as half of the concrete replacement in past years' programs has been performed on combination streets in support of the asphalt resurfacing program. It is notable, therefore, that no combination streets are included in the proposed resurfacing program.

Curb replacement Research Boulevard and Corporate Square Drive is intended to prepare for future asphalt resurfacing and surface treatment projects on those streets.

Sidewalk Improvements

The City is obligated to develop and enact a sidewalk transition plan that will lead to full compliance with pedestrian accessibility requirements. To date, the City's transition plan focused on making sidewalk updates and improvements in conjunction with adjacent roadway projects. City staff is developing an accessibility transition plan that will document the City's needs and its strategy to create and maintain accessible pedestrian routes in the City.

City staff completed a review of the conditions of all of the City-maintained sidewalks in late 2013. The review catalogued the locations of sidewalk deficiencies and where curb ramps are either not existent or not compliant with today's standards. From this review, staff determined that the City's sidewalk network requires over \$2 million in improvements to comply with today's accessibility standards.

Sidewalk conditions were added to a portion of the sidewalk inventory through inspections in 2014. Staff plans to have conditions documented for all sidewalks in the City by early 2017.

Immediate compliance is not required of the City, but the City must show that it has a plan and that this plan is being implemented. Until the City officially adopts a transition plan, City staff proposes to allocate \$100,000 of the annual pavement maintenance budget to make accessibility improvements. This proposal differs from the City's past practices in that the sidewalk funding is meant to act independently from adjacent roadway improvements. However, the sidewalk improvements are most likely to be completed along streets whose sidewalk deficiencies would need to be addressed prior to planned pavement projects.

Sidewalk improvements are proposed along Laduemont Drive and Corporate Square Drive. The amount of sidewalk work required at the intersections along Laduemont is too great to be included in one annual program, so this will be divided and continued in FY2017. The streets where accessibility improvements will be constructed are:

- Fishel Lane
- Greenville Lane
- Laduemont Drive (Ladue Road to Oakstone Drive)
- Oakstone Drive

Additional sidewalk improvements will be constructed along Coeur de Ville Drive as part of the federally funded grant project for that street. A concept study is also proposed for FY2016 for the development of a continuous sidewalk along Olive Boulevard from Mason Road to the western city limit.

Asphalt Resurfacing

The proposed FY2016 asphalt resurfacing program will focus on addressing Williamsburg Road. Williamsburg Road is a full-depth asphalt street with asphalt curbing that has two sections:

1. The first section is the north-south entrance drive off of Conway Road. This section was last resurfaced in 2005 and remains in very good condition (94 PCI).
2. The second section is the large, rectangular loop that forms the majority of the neighborhood. Microsurface was applied to this section in 2005, but this application has worn out. This pavement in this section is in fair-to-poor condition (67 PCI), and the asphalt curbing is generally failing. This section of Williamsburg has one of the lowest condition ratings of any City street.

The proposed program involves only the loop section. The scope of the project will include grinding off and replacing the top two inches of the pavement, completing base repairs, and replacing the asphalt curbing. The purpose of this project is to replace the aging driving surface of the roadway and the failed asphalt curbing.

Although simply stated, the scope of the project to resurface the loop section of Williamsburg Road will be greater than the City's previous asphalt resurfacing projects that each involved several streets. With a length of over 4,000 linear feet, Williamsburg is approximately the same length as the combined lengths of the four streets involved in the 2013 resurfacing project in the Fernview neighborhood. The difference with Williamsburg, and the reason why this project will be more expensive than past resurfacing programs, will be the amount of pavement rehabilitation required and the need to replace the asphalt curbs. The curbing alone will cost \$60,000 - \$80,000 to replace, which cost is greater than the cost to resurface some streets.

The initial proposal for asphalt resurfacing involved several residential streets that stem off of Olive Boulevard, including Deaver Lane, Sona Lane, Larkin Drive, and others. Staff recommends postponing this project until the 2016 construction season in order to avoid conflicts with a project by the Missouri Department of Transportation to resurface Olive Boulevard in the area of these streets.

Graeser Road Resurfacing Project

Graeser Road will be resurfaced from Ladue Road north to Olive Boulevard as part of the current pavement and sidewalk improvement project. The pavement resurfacing is expected to be complete by the end of spring 2015.

The City has been awarded a federal grant that will reimburse up to \$430,046 of the design and repair costs for the project. Funding for this project is included in the FY2015 budget and will not impact the FY2016 budget. This funding is separate from the annual roadway maintenance program but is mentioned here due to its similar nature to the other maintenance programs.

Coeur de Ville Rehabilitation Project

The City maintains a section of Coeur de Ville Drive between Royal Valley Drive and the Parc Provence retirement community. Much of the pavement in this area has failed and will be replaced through a reconstruction and resurfacing project that will likely begin in the spring of 2016.

Much of the funding for this project will be from a federal grant. This project is included as a separate line item in FY2016 of the proposed capital improvement plan. As with Graeser Road, this funding is separate from the annual roadway maintenance program, but it is mentioned here due to the similar nature of the project to those of the roadway maintenance program.

Roadway Reconstruction

The proposed roadway maintenance program includes fully replacing the pavement of two combination streets with concrete. The asphalt on these streets is in poor condition. Staff feels that recent project experience has provided a reasonable doubt that the asphalt surfaces of these streets can be replaced without significant concrete base repair. The streets proposed for replacement are:

- *Winrock Drive.* The combination section of Winrock Drive has a PCI of 66 and shows significant reflective cracking at the joints in the concrete base pavement. The exposed joints in the adjacent concrete section of Winrock are also failing, and staff is concerned that the joints under the asphalt will require replacement. In addition, staff finds that the pavement condition on Winrock resembles that of nearby Kingshill Drive, where approximately 50% of the concrete base pavement was replaced through the resurfacing project there in 2012.

Winrock Drive was proposed as a second phase for the FY2015 reconstruction project. It appears that this street may not be fully addressed through the FY2015 program and that at least a portion of this work will remain to be completed through the FY2016 program.

- *New Salem Drive.* The principal route through the Westchester subdivision is a street that begins at New Ballas Road as Lakeshore Drive, continues on as New London Drive, and ends as New Salem Drive. All of the streets in this subdivision were constructed with concrete, but the Lakeshore/New London/New Salem route was overlaid with asphalt at some point in an effort to provide a smooth driving surface for the subdivision's main road. This route was micro-surfaced in 2009 as a stop-gap measure to preserve the asphalt surface pavement as long as possible.

The existing pavement along the Lakeshore/New London/New Salem route is currently fragile and deteriorating. Repair needs are evident along the route, but past experience in this neighborhood makes staff wary about trying to address the streets piecemeal. A 13'x50' spot replacement on New London Drive in 2012 became a 26'x200' replacement, as the work vehicles broke the pavement beneath them as they worked.

The current PCI for the Lakeshore/New London/New Salem route is about 77 when averaged across these streets. Given the recent experience with the pavement in this neighborhood, staff expects that the combination sections, particularly of Lakeshore Drive, will deteriorate rapidly as construction traffic uses them to access the initial phases of the repairs.

Staff proposes to begin work in this neighborhood with the FY2016 program. This will require a multi-year commitment spanning three or four years to complete the replacement of the Lakeshore/New London/New Salem route. Once complete, this subdivision will be substantially improved, and one of the longest combination streets in the City will be addressed.

While this program represents a significant investment, staff feels that the City will save little, if any, if the City were to attempt to resurface the asphalt pavement and repair the concrete beneath through the City's other annual pavement maintenance programs.

Micro-Surfacing

The proposed micro-surfacing project will include minor street repairs and the application of a thin asphaltic surface treatment to the entire roadway surface. This surface treatment is typically aimed at roads that are in good condition, and its purpose is to help seal the pavement from water infiltration while providing an improved driving surface.

The proposed micro-surfacing project will focus on the Villa Hill, Broadview Farms, and Mason Forest neighborhoods. Concrete curb replacement was completed in these neighborhoods in 2013 as preparation for the proposed micro-surfacing, and the intent was to include these streets in the FY2015 program. Unfortunately, material costs for the other pavement programs reduced the budget available for the FY2015 program, and its scope of work was reduced to the Belle Coeur neighborhood.

Some preparation work in the Mason Forest Subdivision will be required to reduce the size of the subdivision's two cul-de-sac islands. Reduction in the size of these islands will provide more space for vehicles to navigate each cul de sac and should reduce the amount of damage to the islands from vehicle tires.

The roadways proposed for this project are:

Villa Hill Subdivision

<u>Street Name</u>	<u>Current PCI</u>
Angleterre Drive	88
Carillon Court	89
Rugby Court.....	94
Trammel Court.....	85
Villa Hill Lane	79 (average)

Mason Forest Subdivision

<u>Street Name</u>	<u>Current PCI</u>
Hibler Woods Court.....	84
Hibler Woods Drive.....	88 (average)
Mason Forest Drive.....	92

Broadview Farm Subdivision

<u>Street Name</u>	<u>Current PCI</u>
Broadview Farm Road	88 (average)

As with previous years, the City's Public Works staff will correct many of the deficiencies in the pavement surface to prepare the roads for the microsurface application. By having City crews prepare the pavement, the potential cost of this program will be reduced.

City staff is reviewing a thin asphalt overlay as an alternative to micro-surfacing. This alternative would be more expensive, but would provide more strength than a microsurface and would be more appropriate in certain applications.

Projected Costs

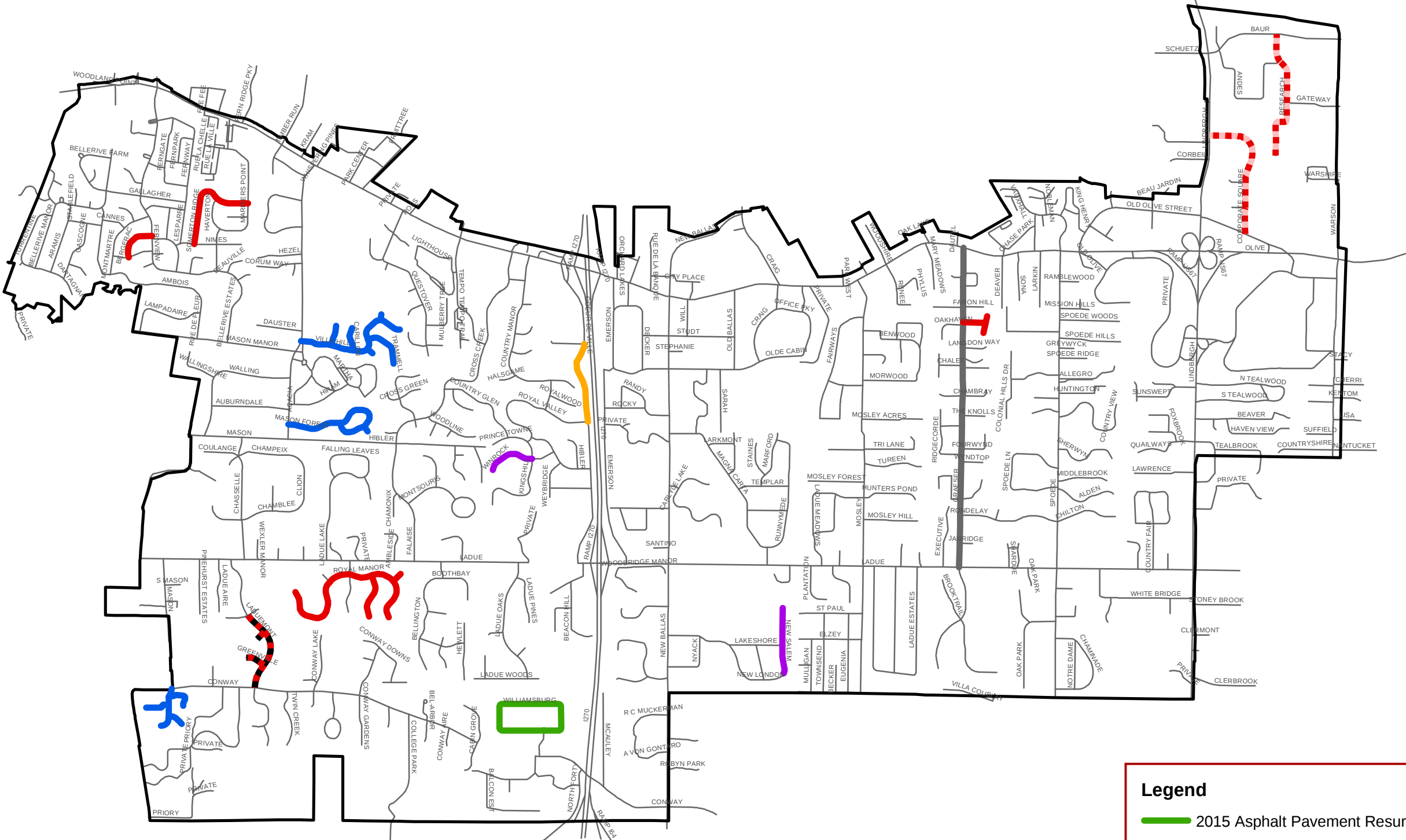
City staff estimates that completion of the proposed FY2016 Roadway Maintenance Program will cost approximately \$ 1,400,000, broken down as follows:

Concrete Pavement Replacement	\$ 450,000
Sidewalk Replacement.....	\$ 100,000
Asphalt Resurfacing.....	\$ 400,000
Micro-Surfacing.....	\$ 100,000
Reconstruction	\$ 300,000
City Work (Patching for Micro-Surfacing, etc.).....	\$ 50,000
Total	\$ 1,400,000

Attachments: Map – Proposed FY2016 Pavement Maintenance Program



Proposed FY2016 Pavement Maintenance Program
City of Creve Coeur, Missouri
March 5, 2015



Legend

- 2015 Asphalt Pavement Resurfacing
- 2015 Concrete Pavement Replacement
- 2015 Concrete Curb Replacement
- 2015 Sidewalk Improvements
- 2015 Micro-Surfacing
- FY2016 Roadway Reconstruction
- Graeser Road Resurfacing
- Coeur de Ville Rehabilitation
- Other Roadways

