



City of Lawrence
PUBLIC WORKS



END OF YEAR REPORT

2015



Charles F. Soules, P.E.
Public Works Director



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Letter from the Director



The divisions of Public Works provide core services vital to the growth, health, safety, comfort and quality of life for our community. The annual report highlights the meaningful contributions made by

the employees and divisions of the Public Works Department to achieve the overall mission of the City of Lawrence.

MISSION: We are committed to providing excellent city services that enhance the quality of life for the Lawrence community.

VALUES

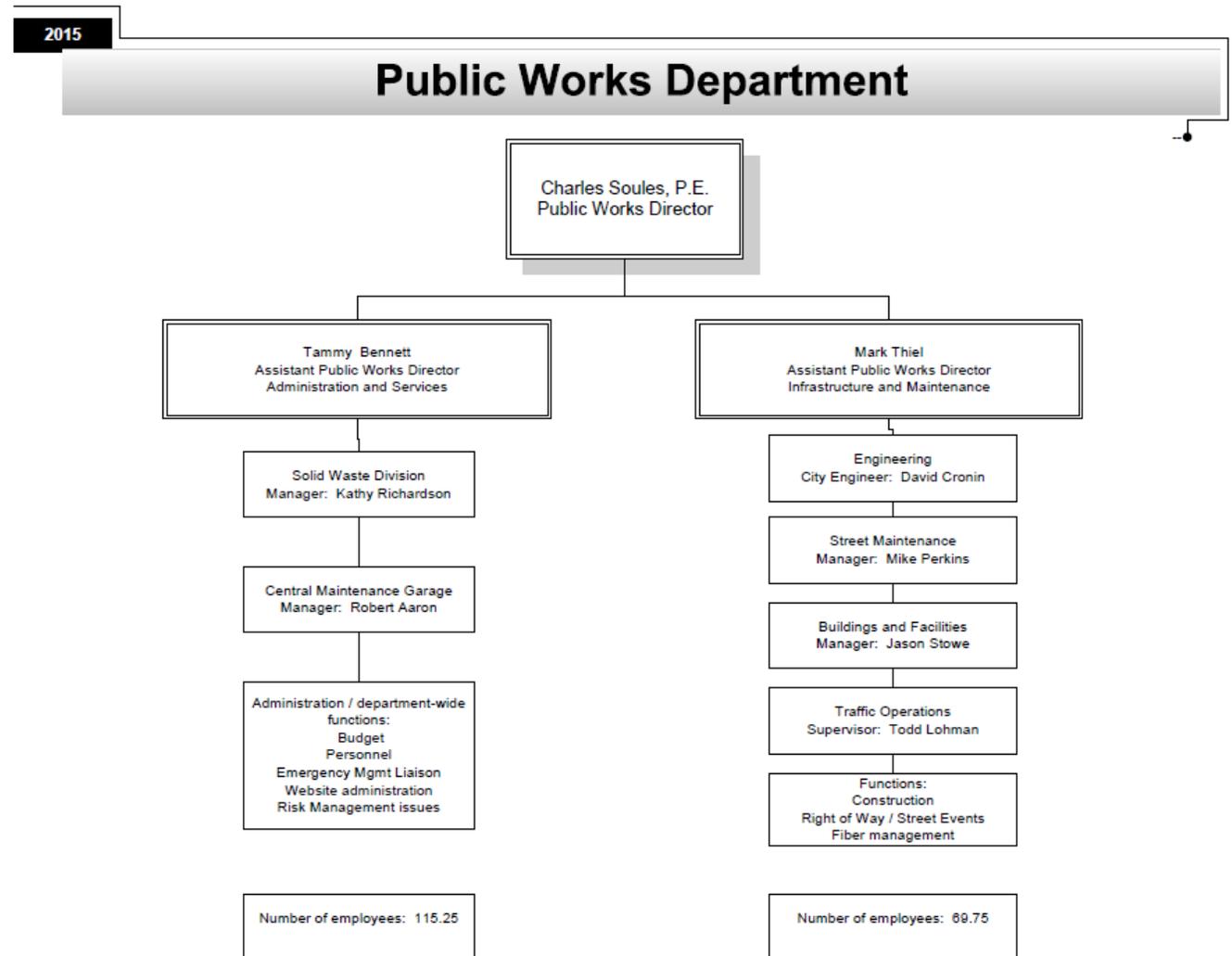
- We are committed to these basic principles:
 - Integrity
 - Courtesy
 - Fairness
 - Honesty
- How we get the job done is as important as getting the job done.
- Our interaction with the community will be professional, responsive, direct, personal, caring and appropriate.
- We will promote teamwork, employee satisfaction, and professional development in order to provide innovative, cost effective, efficient service.

We want our citizens, clients, and customers to have high expectations of government service and we will do our best to meet and exceed those expectations.

Thank you for investing some of your time to read about the work put forth by the men and women of Public Works. We look forward to continuing to provide exceptional services for the Lawrence community.

GENERAL ADMINISTRATION

The Public Works Department is organized by core services: administration and services, infrastructure and maintenance. A summary organizational chart is included below for quick reference.



The administrative function of Public Works provides professional support for all divisions and employees in areas such as budget and finance, personnel administration, risk management issues, policy and program development and website administration.

Personnel functions: There were 189.5 authorized positions in the Public Works Department. In 2015, the department recruited for 30 vacant positions, including promotional opportunities.

Budget administration: The Public Works Department is responsible for budget development and administration for all divisions listed below. Revenue and expenditure numbers reported

below reflect those reported in the accounting system at the beginning of January and have not been audited or adjusted.

EXPENDITURES						
Fund	Division	Description	2013	2014	2015	
001	3000	Street Maintenance	\$ 2,957,228	\$ 3,265,498	\$ 2,994,167	
001	3010	Engineering	\$ 946,054	\$ 1,005,419	\$ 992,173	
001	3020	Traffic Engineering	\$ 677,154	\$ 723,893	\$ 775,781	
001	3030	Airport	\$ 200,629	\$ 193,686	\$ 135,100	
001	3040	Building Maintenance	\$ 850,479	\$ 870,355	\$ 868,679	
001	3060	Street Lights	\$ 726,009	\$ 870,073	\$ 777,732	
001	3070	Levee	\$ 140,067	\$ 193,987	\$ 183,524	
001	2500	Health Department	\$ 978,818	\$ 1,006,096	\$ 1,003,536	
214	3800	Gas Tax Fund	\$ 2,296,171	\$ 2,544,917	\$ 2,478,329	
502	3515	Solid Waste Division	\$ 9,439,079	\$ 9,472,467	\$ 10,345,205	
502	3530	Waste Reduction / Recycling	\$ 918,127	\$ 1,233,443	\$ 944,614	
503	2330	Public Parking / Public Works	\$ 187,498	\$ 253,590	\$ 212,451	
504	3210	Central Maintenance Garage	\$ 3,958,847	\$ 3,997,492	\$ 3,377,181	
504	3899	Stormwater	\$ 2,726,126	\$ 2,864,871	\$ 2,703,759	
604	3400	Farmland Remediation	\$ 647,513	\$ 403,336	\$ 1,340,590	
Total Public Works			\$ 27,649,800	\$ 28,899,123	\$ 29,132,821	
REVENUES						
214		Gas Tax Fund	\$ 2,491,425	\$ 2,575,911	\$ 2,668,468	
502		Solid Waste Division	\$ 11,049,547	\$ 11,681,969	\$ 12,988,497	
504		Central Maintenance Garage	\$ 3,832,990	\$ 3,756,894	\$ 3,442,991	
505		Stormwater Utility	\$ 2,978,326	\$ 3,025,147	\$ 3,055,493	
			\$ 20,352,288	\$ 21,039,921	\$ 22,155,449	

Risk management function: Statistics are collected by the Risk Management office, which tracks all workers' compensation incidents requiring medical attention, auto accidents including claims against the City for damage to private vehicles as a result of street conditions such as potholes, and general liability claims. Details for Public Works are reported below.

	2013	2014	2015	2013	2014	2015	2013	2014	2015
	Workers' Comp			Vehicle accident			General liability		
Building Maintenance	2	0	2	2	0	0	0	1	0
Central Maintenance Garage	1	3	4	2	1	0	1	0	0
Engineering Division (& traffic)	2	1	1	0	1	0	6	0	1
Solid Waste Division	27	26	31	9	18	16	3	28	1
Street Division (& storm ops)	3	4	5	3	10	5	5	9	9
Total Public Works	35	34	43	16	30	21	15	38	11

BUILDING and STRUCTURES

The Buildings and Structures Division is responsible for maintenance for municipal buildings except where such services are provided contractually. This division provides maintenance, repair and some small renovation projects and services for over 40 buildings and structures. The division is comprised of 8 full time employees. A Building and Structures Manager, Facility Supervisor, an electrician, HVAC technician, custodian and 3 other Senior Maintenance Level workers who assume responsibilities for the parking garages, Airport and Community Health facility.



Buildings and facilities		
City Hall	Community Health Facility	Court Services
Lawrence Arts Center	Riverfront Mall office annex	Computer Training Room annex
Airport Terminal	Airport Hangar A, B, and C	Maintenance Hangar
Airport (G.U.T.S)	Community Hanger	Runway 3-33
Aiport Taxiways	Douglas County Senior Center	Runway 1-19
Street Maintenance facility	Solid Waste facility	Solid Waste Annex, North
Fire / Med Station 1	Fire / Med Station 2	Fire / Med Station 3
Fire / Med Station 4	Fire / Med Station 5	Fire / Med Training
Fire / Med Investigations	Public Safety - Stonebarn Terr	Parking Control offices
Central Maintenance Garage	ITC building	Solid Waste, Kresge Road
New Hampshire Parking Structure	Downtown Lighting	Building demolition
Riverfront Parking Structure	Traffic Engineering	HHW buildings
Vermont Street Parking Garage	Transit office	1920 Moodie Road

Building maintenance: Much of the work completed by the Building Maintenance Division staff is through work order requests and response to nuisance situations. Many services provided by this division are provided by contractors. The Building and Structures Manager is responsible for allocating staff between competing demands, selecting contractors, administering contracts, and monitoring the work performed. Contracts for elevator maintenance, HVAC service and custodial are major contracts administered by this division. The Field Supervisor oversees the day to day operations of the staff and vendors utilized to conduct preventative and emergency maintenance needs. In addition to maintenance work, the division completes snow removal for three parking structures, around numerous buildings, and the runways / taxiways at the Lawrence Municipal Airport. They also respond to issues with the Pinckney and Broken Arrow pedestrian tunnels. Work order statistics are shown in the table below.

Highlights of the work effort for Buildings and Structures in 2015 include:

- Upgrade of lighting in the truck bay at Fire Medical #5.
- Built new supervisor offices at Traffic operations.
- Installed new chain link fence panels and gate on the exterior staircase at FM

- Replaced A.C. condenser unit and air handler unit at Douglas county senior center. Picture attached.
- Removed old plumbing and a wall at ITC to make room for PD evidence storage.
- Rewired levee shed at Street Division facility.
- Installed security cameras in the New Hampshire parking garage.
- Replaced and upgraded exterior lighting at Willow Domestic Center.
- Converted downstairs vending area to a mail room and converted mail room to City Hall employee break area.
- Upgraded electrical in the Streets Maintenance shop area.
- Carpet and hearing loop installation in the City Commission Room and lobby at City Hall.
- Community Health Building access control upgrade.
- Water diversion at Fire Medical #5
- Roof and gutter repairs to Lawrence Arts Center.

Work order system: Repair and maintenance requests are submitted through a work order system accessed through the intranet. There are four types of work orders (scheduled, emergency, preventive, and demand) and six priority classifications.

Below is a summary of key statistics monitored through the year.

Facility management	2013	2014	2015
Work order system reporting			
Priority / Response Goal			
0: 2 hours	84%	50%	75%
1: 24 hours	78%	83%	86%
2: 2-3 days	81%	84%	85%
3: one week	85%	78%	70%
4: one month	92%	91%	89%
5: on list	93%	67%	57%
Total work Orders			
0: 2 hours	19	6	8
1: 24 hours	246	222	155
2: 2-3 days	1,011	1,181	1,377
3: one week	238	160	206
4: one month	345	339	373
5: on list	239	237	321
Total work Orders	2098	2145	2,440

Includes functions with dedicated staff: Community Health, Airport, Parking Garages

Lawrence Municipal Airport: The Lawrence Municipal Airport is operated by a Fixed Base Operator. The official Airport Manager is the Public Works Director. Mowing adjacent to runways is completed by the Street Maintenance Division. All other facility management is the responsibility of the Buildings and Structures Division.

Lawrence Municipal Airport projects:

- Overgrown brush removal
- Weed control, mowing

- Installation of Wind sock and REIL lighting
- Replaced A.C. condenser unit on the Gutworks building at the airport.

Parking structures: The City owns three multi-level parking structures. The Riverfront Parking garage has a total of 510 parking spaces on two levels. Springhill Suites by Marriott leases 110 parking spaces on the upper deck for sole use by the hotel. The remainder of the upper level parking is free two-hour parking. The lower level parking is paid per day using two walk-up self-pay stations. The New Hampshire Parking garage has a total of 492 parking spaces on four levels and is served by two elevators and five stairwells. The New Hampshire structure has fire sprinkler protection on ground level. This structure also offers free two-hour parking areas and pay per day spaces using a self-pay system. The Vermont Street Garage opened in 2014 with 320 spaces. The Vermont Garage has one elevator, two stairwells, and two pay stations. Professional engineering services are used to evaluate the parking structures and recommend repairs as needed.

Highlights of projects completed in the parking structures include:

- Upgraded electrical distribution at River Front Garage
- Replaced rusted pipes on fire system lines in New Hampshire Parking Garage
- Began installation of cameras at River Front
- Installed security cameras in the New Hampshire parking garage.

Downtown projects: This division supervises one staff person responsible for maintaining the appearance of the parking structures and other downtown areas, as well as assisting with snow removal and building maintenance projects. Other building maintenance staff members assist on special projects, as needed. Downtown lots were re-striped, as time and weather allowed.



Electrical / camera project in Riverfront Garage

Energy Management: The division assists the Sustainability Coordinator with review of energy management for significant buildings. When feasible and prudent, lighting is changed to more economical options. Below are statistics for the three major buildings managed by Public Works:

Energy consumption	2013	2014	2015
Key buildings			
City Hall	36,000 sq.ft.		
Electricity (kilowats)	847,166	884,883	878,805
Electricity costs	82,474	94,506	90,323
Electricity usage per sq. ft.	23.5	24.6	24.4
Electricity costs per sq. ft.	2.3	2.6	2.5
Natural gas (thermos)	1,962	1,472	1,110
Natural gas costs	1,698	1,364	1,039
Natural gas usage per sq. ft.	0.054	0.041	0.03
Natural gas cost per sq.ft.	0.047	0.038	0.03
Community Health facility	86,474 sq.ft.		
Electricity (kilowats)	1,018,322	1,010,959	927,368
Electricity costs	110,901	115,760	107,567
Electricity usage per sq. ft.	11.78	11.69	10.72
Electricity costs per sq. ft.	1.282	1.339	1.24
Natural gas (thermos)	25,442	20,266	16,273
Natural gas costs	18,207	14,973	11,623
Natural gas usage per sq. ft.	0.294	0.234	0.18
Natural gas cost per sq.ft.	0.211	0.173	0.13
Arts Center	40,000 sq.ft.		
Electricity (kilowats)	631,024	667,711	681,095
Electricity costs	64,043	74,321	73,080
Electricity usage per sq. ft.	15.76	16.69	17.02
Electricity costs per sq. ft.	1.601	1.858	1.83
Natural gas (thermos)	31,165	24,095	19,974
Natural gas costs	22,233	17,756	14,052
Natural gas usage per sq. ft.	0.779	0.602	0.50
Natural gas cost per sq.ft.	0.556	0.444	0.35

Building and Structures Division pictures in 2015:



Condenser replacement Douglas County Senior Center



City Hall Custodial staff



Drainage problem at Fire Station 5



Commission room carpet and Hearing loop



City Hall Employee break room



City hall mail room



Carpet planning conference room

ENGINEERING

The Engineering Division is responsible for the review and approval of all public improvement plans for streets, sidewalks, rights of way, driveways and storm sewers. The division administers designs and inspects these projects. The division evaluates pavement condition and contracts for major pavement restoration and replacement. The Engineering Division solicits grants and other funding for major reconstruction or new construction projects.

In addition to project management, Engineering includes work groups for Stormwater Engineering, Traffic Engineering, Bridge inspection, Levee inspection / monitoring, Surveying, sidewalks, driveways, right-of-way permits and supports services, including providing mapping and GIS functions for public information. The Engineering Division is responsible for the VenturePark redevelopment project including remediation efforts of ground water and future development as industrial site.

Major project management

Including Capital Improvement projects, maintenance projects and new street construction, the Engineering Division oversaw approximately \$17.4M in construction work during 2015. Staff has also been involved in the planning and construction of the \$130M South Lawrence Trafficway and the recently completed \$18M K-10/Bob Billings Parkway interchange.

Below is a summary of major projects managed in 2015:

Major infrastructure projects	Infrastructure Cost
31st Street Extension	\$ 4,000,000
Maple Street Pump Station	\$ 5,937,632
Bob Billings reconstruction - Foxfire to Wakarusa	\$ 962,036
KLINK - Mill & overlay of Iowa from 6th to 21st St.	\$ 794,910
Bob Billings & George Williams Way Intersection	\$ 690,753
CDBG Sidewalk Gap Program	\$ 177,368
Haskell Rail Trail	\$ 189,430
Breezedale Monument Restoration	\$ 115,422
Venture Park Regional Detention Pond	\$ 860,000
31st Street Reconstruction at Menards	\$ 261,769
Bob Billings center turn lane at Corpus Christi	\$ 219,508
Yankee Tank Addition	\$ 572,033
Kellyn Addition	\$ 1,556,107
Americare Addition - Spring Hill Dr.	\$ 118,512
Fox Chase Addition Phase E	\$ 364,596
Fairfield Farms East Addition 3 & 4	\$ 599,439



31st Street - Haskell to O'Connell



Bob Billings Pkwy & George Williams Way Signal



KLINK - Iowa mill & overlay



31st & Louisiana



Haskell Rail Trail



Breededale Monument - 23rd & Mass St.



Bob Billings Reconstruction

Infrastructure and pavement management

The pavement management program is an on-going effort to evaluate pavements, apply the right preventive maintenance at the right time, and manage the contracts to complete that work.

The Pavement Management System provides the Public Works Department a tool to maintain an inventory of street pavement, respective maintenance and condition history, and the ability to identify needs and impacts associated with preservation strategies and asset management. Streets are rated once every four years. By applying this tool and with the continued support of the program, the City has seen the implementation of a wide range of maintenance techniques from preventive maintenance measures to major rehabilitation and reconstruction impacting overall Pavement Condition Index (PCI) and pavement deterioration.

Ratings and conditions	2013	2014	2015
Average PCI rating (overall, end of year)	75.54	75.58	75.52
% of pavement w/ PCI rating of acceptable or above			
Arterial	66.51%	68.06%	71.64%
Collector	75.84%	79.22%	80.92%
Residential	86.48%	86.75%	88.14%
% of curb and gutter rated as			
Good	64.72%	64.18%	64.77%
Fair	27.21%	27.06%	27.05%
Poor	8.07%	8.77%	8.17%

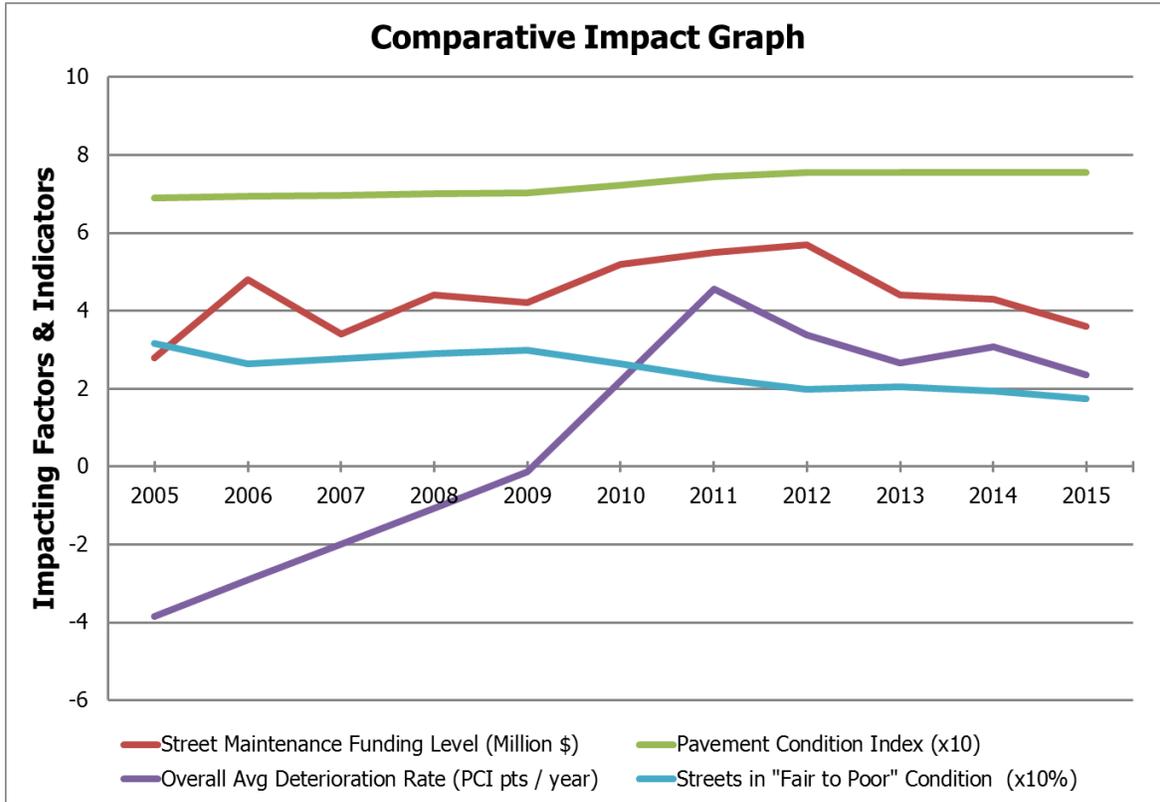
A street segment is considered to be in “unacceptable” condition when the PCI drops below 65 for arterials, 60 for collectors, and 55 for residential streets. (Unacceptable streets generally are not good candidates for preventive maintenance work. They are more likely to require rehabilitation and possibly complete reconstruction.) The Pavement Management System showed 17.5% of street segments were rated as unacceptable at the end of 2015, compared to 19.5% in 2014, 20.6% in 2013 and 19.8% in 2012.

Contracts are bid annually for the major components of the street maintenance programs. Typically, there are at least four types of maintenance work contracted:

- Microsurfacing (including patch work)
- Overlay and concrete rehabilitation
- KLINK (partially funded by KDOT for pavement rehab of state highways)
- Pavement marking

Work Type	2013	2014	2015
Mill & Overlay (lane miles)	7.5	11.95	17.01
Microsurfacing/ Patching (lane miles)	9.7	29.74	14.05
Concrete Pavement Patching (sq yds)	5,402	3,464	3,314
Curb & Gutter (linear feet)	12,966	15,622	20,775
ADA Access Ramps (each)	15	20	36

Below is a comparative impact graph of funding, pavement condition index, and deterioration rates as presented to the City Commission:



Louisiana Street Mill & Overlay



Overlay program

Pedestrian and Bicycle Facility Improvements

The Engineering Division actively contributes to non-motorized methods of transportation by ensuring pedestrian and bicycle facility improvements are included in projects, or are constructed as stand-alone projects.

Pedestrian and Bicycle Improvements	2013	2014	2015
Sidewalk (new) -- linear feet	1,436	14,200	7,407
Sidewalk (new) -- project cost	\$ 37,425	\$ 219,182	\$ 121,400
Sidewalk (repairs) -- linear feet	1,469	8,254	6,484
Sidewalk (repairs) -- project cost	\$ 25,158	\$ 168,026	\$ 119,481
Ramps (new)	11	25	26
Ramps (repairs)	40	87	100
Ramp costs (new and repairs)	\$ 49,650	\$ 114,345	\$ 111,248
Bike Lanes -- linear feet	21,556	21,301	18,120
Bike Lanes -- project cost	\$ 142,500	\$ 560,500	\$ 625,600
Shared Use Path -- linear feet	5,740	9,750	25,443
Shared Use Path -- project cost	\$ 176,200	\$ 650,000	\$ 873,400



CDBG Sidewalk Gap Project

Pedestrian Bicycle Issues Task Force

In June 2015 staff began assisting the pedestrian bicycle issues task force with their meetings and efforts to review bike/ped issues in the community. The task force met twice a month to discuss and review documents and studies while receiving feedback from citizens. A public open house was held at the East Lawrence Rec Center to engage the community and the task force's final report is expected in Spring 2016.



Open house meeting held at East Lawrence Rec Center

Safe Routes to School

Engineering Division staff worked with the Lawrence-Douglas County Health Department staff and Lawrence School District staff to develop routes for all public elementary and middle school students to walk to school. The safe routes program also works to promote and educate students and parents on walking and biking to school safely.



Safe Routes to School: Walk to School Day 2015

Right of Way Management / Street Events

Right-of-way (ROW) and street event permits are now issued through the Public Works Department in City Hall. Changes in 2014 created a centralized "one stop shop" for submitting ROW and street event applications. Public Works coordinates an event review team for the street events and submits applications that need City Commission approval through the agenda process. No parking signage and meter bags are handled in the same location.

ROW management	2014	2015
ROW permits issued	345	381
Street event permits issued	56	54
Street events with CC approval	39	47

Stormwater maintenance and administration

Staff from the Stormwater Utility continued to focus on the implementation of the community's comprehensive stormwater management plan. This involved managing the water resources of each of the watersheds within and crossing the city limits to prevent future flood damages, solving existing flood/drainage problems, preserving the natural and beneficial functions of the natural drainage system and preserving and enhancing stormwater quality.

The stormwater maintenance crew is responsible for the maintenance and reconstruction of existing storm sewer infrastructure. Examples include curb inlet replacement, channel reconstruction projects, debris removal and storm sewer line installation. The stormwater maintenance crew statistics and information is reported with the Street and Stormwater Maintenance Division.

Outreach, education, and enforcement: The water festival was once again held in conjunction with Earth Day. The division is also working to promote the benefits of Rain Gardens and Rain Barrels in the community. In addition to outreach and education, the Environmental Technician is responsible for enforcing and implementing the Stormwater Pollution Prevention ordinance.

Stormwater infrastructure: In an effort to analyze the existing condition of the City's storm sewer infrastructure an inventory and inspection program was launched in 2007. Each curb inlet, area inlet and junction box will ultimately be photographed and inspected. Field work will include verification of structure dimensions, location and material type. Progress on the project is related to staffing and other priorities, so the work effort can be variable. The following tables summarize the progress to date:

		2012	2013	2014	2015
Infrastructure inspection	curb	148	5	39	15
inlets, area inlets, junction boxes					

Stormwater System Enhancements: The calendar year 2015 saw the letting of the first stormwater capital improvement project to be let since 2005. The \$6M Maple Street Pump Station project began in the fall and is currently on schedule to be finished by its scheduled completion date of July 1, 2016. The progress of the project at the end of January 2016 saw the completion of the installation of the casing pipe underneath the railroad, the majority of the 54" diameter storm sewer gravity main south of the pump station installed and approximately 60% of the pump station itself completed.



South wall of Maple Street Pump Station

The stormwater maintenance crew was also responsible for completing the following projects:

- New storm sewer installation along the Southwest corner of 11th & Mississippi Streets
- Armoring of the riparian area adjacent to a sanitary sewer line in the Orchards Golf Course
- Rerouting of surfacing ground water along the 700 block of 7th Street that was rendering the multi-use slick and mossy.
- Replaced an existing storm sewer line that was past its design life along the south side of 10th Street between Ohio & Tennessee Streets

Lawrence VenturePark

In 2015, two of the last large environmental projects on the former Farmland Nitrogen Plant Site were completed. These projects, *Interceptor Trench* and the *RCRA Site Remediation*, were completed by King Construction Co., Inc. for the amounts of \$306,958.00 and \$363,631.00 respectfully. The third and final remediation project was the start of construction of the *Regional Detention Basin*. R.D. Johnson Excavating Company was awarded the bid in the amount of \$649,919.50. Change Order No. 1 in the amount of \$210,343.00 by the City Commission at its June 2, 2015 meeting.



RCRA Site Remediation



Interceptor Trench construction

Traffic Engineering and Operations

The Traffic Engineering Division reviews plats and site plans, street plans, analyzes traffic data, and provides professional and technical data to the Traffic Safety Commission. The group designs, installs, and maintains the Intelligent Transportation System. Field crews provide signal maintenance, fiber optic network oversight, signal timing, street signs, pavement markings, city-owned street-lighting and assist in emergency operations. The Traffic Engineer works with community and neighborhood groups to address specific concerns.

Traffic maintenance operations	2013	2014	2015
Number of Traffic Signals Maintained	83	84	99
Number of Mid-Block Pedestrian Signals Maintained	2	2	2
Number of Pedestrian Hybrid Beacons Maintained	9	10	12
Number of School Beacons Maintained	43	43	43
Number of Traffic Signal Service Calls	605	625	582
Number of Traffic Signal Preventive Maintenance Inspections	73	25	68
Number of Electronic Traffic Counts	201	136	187
Number of Manual Traffic Counts	74	47	62
Number of New Signs Installed	255	208	258
Number of Signs Upgraded	59	95	61
Number of Signs Repaired	1282	1559	1582
Lineal Feet of Pavement Markings Painted	323,292	209,196	280,198
Number of School Crosswalks & Stop Lines Painted	11	2	1
Number of Pedestrian Crosswalks & Stop Lines Painted	220	0	19
Number of Pavement Marking Arrows Painted	0	3	20
Square Feet of Pavement Marking Material Installed	133.5	218	5693
Total miles of Fiber Optic Installed	12	25	41



Traffic Operations Center



Signal crosswalk



Fiber conduit



Fiber

The Traffic Division plays an integral part in the development and maintenance of the city owned and maintained fiber optic network. The Traffic Division works closely with the Information Technology group to design and field check new projects, this group also provide the critical inspection component, and the ongoing maintenance of the system. The past year has seen rapid growth within the system with three (3) ITS projects and several other miles of fiber optics for internal communication, services to other local agencies, and connections for partners utilizing the fiber leasing program. As an underground utility the City of Lawrence is responsible for locating the utility within the Right of Way, in the past year the Traffic Division has performed 764 locates citywide in response to Dig Safe locate requests. This new utility has seen rapid growth from 12 miles in 2013 to over 40 miles at the end of 2015 and will swell to well over 50 miles by the end of 2016.

FLEET SERVICES / Central Maintenance Garage

The Central Maintenance Division provides maintenance and repair services for the city's vehicles and equipment. Central Maintenance also provides fuel management and billing for the city's fuel sites, one at 11th and Haskell and the Wakarusa fuel site. The Central Maintenance Garage mission is to provide managed, cost effective, and timely repairs of the fleet. The fleet plays a critical role in operations and meeting the needs of our citizens. The City of Lawrence has to rely on a fleet to conduct daily operations associated with providing the services that the public depend on for a high quality of life in our city. Vehicles such as fire apparatus and law enforcement vehicles supply the services in emergency situations that citizens rely on. Public works vehicles help provide safe streets and sanitation services for a clean city. Utility fleets support efforts to supply our fresh water and sanitary sewer functions. Parks vehicles help keep our city's parks neat and clean for our citizens can have a high quality of recreation. The City cannot provide any of these services without a safe operating fleet.

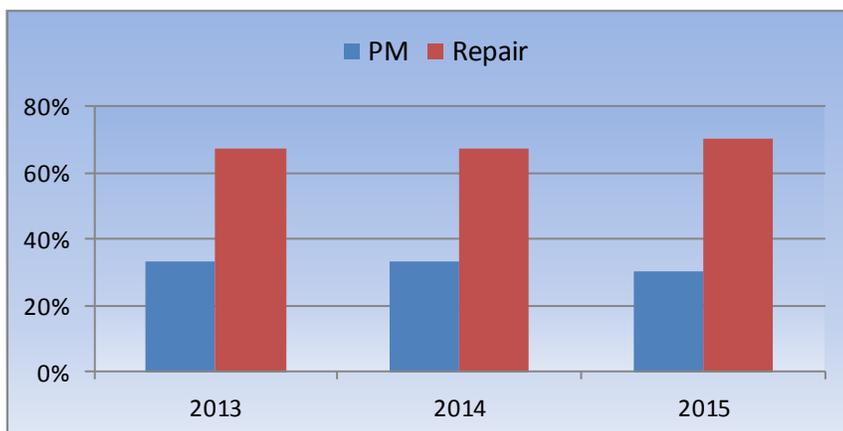
Repairs and Maintenance

Central Maintenance repair and maintenance productivity is examined from a number of different perspectives – total number of work orders, the ratio of preventive maintenance and repair services and service calls due to breakdowns in the field.

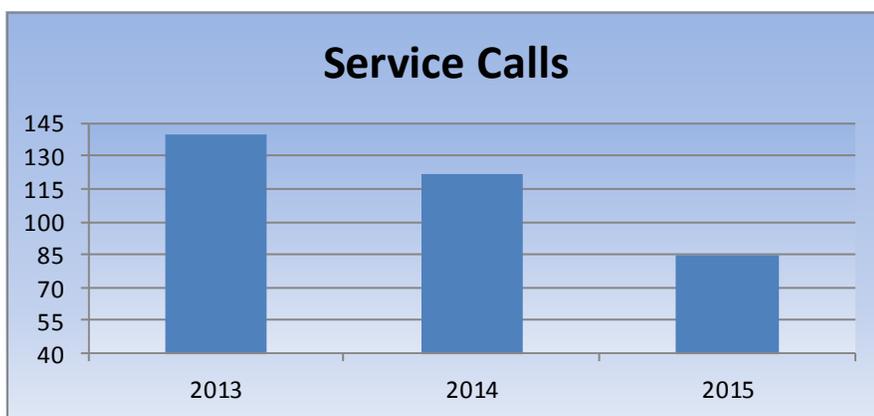
Number of repair orders: Repair orders remained very close to 2014 numbers. This can be affected by both new and older equipment. With new equipment, the additional complexity of equipment (with more operating systems), can have the potential for increased system failures. With older equipment, deterioration and age contribute to failures. The total number of repair orders processed by technicians will vary annually due to size of fleet, age and condition of fleet, and the complexity of work needed in any particular year.



Preventive maintenance and repairs: Preventative maintenance is a prime factor in vehicle and equipment uptime. Ideally, a fleet goal would to achieve over 50% of its repair orders as a preventive maintenance order. Preventative maintenance tickets declined over 2015 as compared to the 2014 year. Only 30% of the tickets were preventative maintenance and repair orders increased to 70%. Although this is a slight fluctuation, the move to preventative maintenance continues to be one of the goals of Central Maintenance.



Service calls: Central Maintenance has seen its second year in declining service calls. With in-house focus on preventative maintenance, Central Maintenance staff makes every effort in identifying and repairing equipment before issues arise in normal operation of equipment in the field. The Central Maintenance reduced on-call operations to control costs to the overall operation. With collaborative communication with all divisions in which Central Maintenance services, the Central Maintenance staff developed a plan of action for afterhours situations. This plan had very little utilization to date, showing once again that preventive measures are proving to be effective in city operations.



Size and Age of Fleet

The City of Lawrence fleet is extremely diverse, and aging. There are approximately 750 units in the fleet with an average age exceeding 10 years. Some vehicle classes average much less than ten years, but in some instances, this can be deceiving in the condition of these classes. For example, police sedans look very good as a class, but these vehicles receive extended use and accumulate high mileage and even more engine hours very quickly. When determining how detrimental the age of vehicles poses on city operations, many factors will have to be considered. Utilization, critical function, operational costs, parts availability, how effective the unit is in its supporting role, replacement costs, and replacement funding are factors to be evaluated with equipment replacement.

Equipment Vehicle Class Average Age					
Class Code	Class Description	Start Year	End Year	Eq. Avg. Age	Eq. Count
1	LIGHT VEHICLE CLASS 1	1995	2015	11.0	156
1P	POLICE SEDANS	2000	2015	5.0	83
2	3/4 TON VEHICLE CLASS 2	1995	2014	13.7	28
3	1 TON VEHICLE CLASS 3	1990	2015	10.5	42
4	1-1/4 TON VEHICLE CLASS 4	1996	2013	11.8	12
5	1-1/2 TON VEHICLE CLASS 5	1999	2016	4.3	19
6	2 TON VEHICLE CLASS 6	1997	2015	8.9	19
7	2-3/4 TON VEHICLE CLASS 7	1955	2015	12.2	18
8	3 TON PLUS VEHICLE CLASS 8	1992	2016	6.9	78
A	NON HIGHWAY UNIT	1984	2015	11.2	180
B	BOAT	1990	1990	26.0	1
M	MOUNTED ATTACHMENT	1971	2002	22.5	4
S	STATIONARY MOUNTED EQUIPMENT	2008	2008	8.0	1
T	TRAILER	1969	2014	16.7	61
TE	TRAILER W/ MOUNTED EQUIPMENT	1975	2014	16.6	48

As classes of vehicles increase in average age, additional down time can be expected. Parts availability can play a major roll in a fleet to maintain its operational availability. Increasing age can also pose increased failure of components due to age and use. Replacement schedules and vehicle needs will be a continuing focus to make sure city services continue with minimal downtime to ensure quality community services.

Fuel Operations

The Central Maintenance Garage operates three fueling sites, two conventional fuel sites and one alternative fuel site (CNG). Central Maintenance, tracks and bills internal departments for fuel use. Transit buses do not fuel at the City facilities. Central Maintenance purchased 200,112 gallons of unleaded and 297,288 gallons of diesel for city operations. The city had a 2% increase in total gallons used compared to 2014. Even with increased usage, the city has seen considerable savings in petroleum market prices relating to a 32% reduction in costs compared to 2014. Market projections show these savings to continue through the 2nd quarter of 2016, but as a reminder, the petroleum markets have proven to have unstable trends and are highly affected by global markets. The city does utilize alternative fuel vehicles in its fleet. Currently there are four CNG vehicles with three of them consisting of bi-fuel and one dedicated CNG unit. The city also has four hybrid gas electric units and two hybrid aerial trucks.

Central Maintenance Projects

Central Maintenance is charged with fuel station maintenance, reporting, and compliance with local and federal authorities. Station maintenance can be a costly expenditure. Items such as pump maintenance and/or repair, integrity testing of components, inventory control measures, spill prevention, fuel tracking and billing hardware and software, and fuel island dispenser maintenance all add to fueling expense management. In 2015, the division completed major maintenance to above ground tanks at 1901 Wakarusa fuel site. Surface rust and scaling had to be addressed with rust removal and painting of these tanks.



Central Maintenance was tasked with finding a solution for growing demands for DEF (Diesel Exhaust Fluid). The 2010 diesel exhaust emissions requirements by the EPA have additional operational costs for fleet operations. Additional emissions components require DEF to control nitrogen oxides in tail pipe emissions. Issues to consider, DEF will freeze, it is a consumable that needs to be tracked for billing and diagnostic purposes, and has considerable savings when purchased in bulk. With the 1140 Haskell fuel site encountering the most fueling, it only makes sense to start with a bulk operation at this site. The 1140 site also had a unique opportunity to utilize an existing structure for his consumable fluid. Central Maintenance also secured costly equipment by utilizing an RFP for a service provider to supply and maintain the dispensing equipment. Tracking is now handled through our fuel management system and can be monitored and billed accordingly.

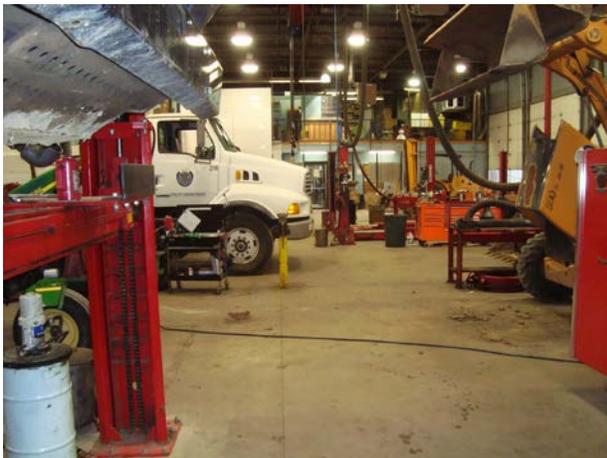


Central Maintenance staff was instrumental in fire administrative staff vehicle equipment installation in 2015. Staff installed lighting, console, siren, and specialty equipment in seven administrative first responding vehicles. This provided considerable savings compared to previous methods utilized by other installation companies.



Training

With vehicles and equipment requiring more stringent emission and safety compliance, vehicles have continued to become more complex. This complexity will continue and compound with the advancement of vehicle emission and safety systems. Combine the technically advanced systems and the environment of the equipment used in city operations, training will continue to be a necessity with Central Maintenance Staff. Central Maintenance staff attended ASA Vision conference in 2015. Staff attended HEAT training to increase their skills and knowledge. Classes included Allison transmission and service training and Detroit diesel maintenance and familiarization training. Staff continued to utilize training from CARQUEST Technical institute and O'Riellys sponsored training. Growing training demands and growing costs will provide Central Maintenance with unique training challenges in the future.



Crowded shop with diverse equipment



FLEET STATISTICS	2013	2014	2015
Miles driven			
Police Department	1,024,301	1,012,986	1,003,254
Public Works	815,849	900,493	929,858
Fire Medical	344,251	330,609	341,712
Utilities Department	271,841	283,344	313,160
Parks and Recreation	238,902	226,443	237,528
Miscellaneous (admin., BI, plan., etc)	144,443	145,297	152,036
Total miles	2,839,587	2,899,172	2,977,548
Off road equipment usage (hours)	25,936	26,978	29,808
Operations			
Repair orders completed	2,691	2,995	2,988
Preventive maintenance orders completed	892	975	911
Billing			
Total number of hours billed	15,466	16,221	12,981
Total labor (in \$\$)	729,865	738,850	649,091
Total parts (in \$\$)	1,237,582	1,155,052	1,110,685
Commercial (sublet) (in \$\$)	155,096	208,478	163,979
Miscellaneous	19,896	21,230	21,288
Total dollars billed for repairs	2,142,439	2,123,610	1,987,837
Fuel system			
Total fuel sold for year (gallons)	469,786	489,679	497,401
Total diesel fuel sold (in dollars)	989,849	1,000,893	684,580
Total unleaded gasoline sold (in dollars)	652,823	635,541	435,595
Total fuel sales (in dollars)	1,642,672	1,636,435	1,120,176
Total Operational Billing	3,785,111	3,760,045	3,108,013

Performance measures: The performance measurement system provides additional tools to evaluating and reporting fleet operations.

performance measures	2013	2014	2015
Average operational fleet readiness			
fire department	98.1%	97.3%	98.7%
police department	97.4%	97.4%	96.4%
all other heavy duty equipment	95.7%	96.2%	94.3%
all other light duty equipment	98.4%	97.5%	98.5%
Average days to complete work order			
heavy duty preventive maintenance	9.41	7.54	6.14
heavy duty repair	2.35	2.51	2.38
light duty preventive maintenance	2.85	3.60	2.42
light duty repair	1.92	2.19	1.85
Avg percent mechanics hours billed			
Average fuel cost per 1000 miles driven			
heavy equipment / vehicle	965.68	924.12	598.45
light equipment / vehicle	331.97	303.84	219.95
Number of repeat repair orders	23	38	31
Fuel storage system tests completed	255	250	252

SOLID WASTE DIVISION

The Solid Waste Division represents an enterprise fund, or utility, created for the purpose of managing solid waste for the City of Lawrence. Comprehensive solid waste services are provided for residential, commercial, and industrial customers. Services include collection, disposal, recycling, and technical assistance.

Solid Waste Services

Residential customers

- Solid Waste (trash) collection weekly
- Single-stream recycling collection every-other-week
- Yard waste collection weekly (March - December)
- Bulky item collection upon request
- Tire collection (5 per household per year)
- Household hazardous waste drop-off by appointment
- Sorted recycling drop-offs (glass, cardboard, etc)
- Brush drop-off area (Saturdays, March - December)
- Compost and woodchips for sale (Saturdays, March - December)

Commercial / Industrial / Institutional

- Trash dumpster services (front or rear load)
- Roll-off services
- Qualified business hazardous waste drop-off by appointment
- Cardboard collection for recycling

Special events

- Earth Day Parade and Celebration in the park (April)
- Electronic Recycling Events (two per year)
- Holiday Toy Drive (employee-initiated)

The following chart provides a brief comparison for all services combined:

Tons collected	2013	2014	2015
Tons solid waste collected for disposal	61,051	61,556	64,096
Tons single-stream recycling*	n/a	1,227	5,372
Tons (est.) collected for composting and recycling (drop-off and curbside)	12,577	14,187	21,381

*single-stream residential recycling began October 21, 2014

The Solid Waste Division services 30,884 residential accounts (includes both single-family and multi-family residences) and 1,545 commercial accounts.

2015 highlights for the Solid Waste Division included:

- Construction of the new Household Hazardous Waste Facility at 2201 Kresge Road, the new City property purchased for the purpose of re-locating Solid Waste Division operations and the Household Hazardous Waste Facility (note: development of the property will occur in multiple phases over the next few years).



- Awarded \$40,000 in grant funds from the Kansas Department of Health and Environment to purchase supplies for the new Household Hazardous Waste Facility.

Other 2015 highlights for the Solid Waste Division:

- In March, installed new trash and recycling bins for pedestrian use along Massachusetts Street at the intersections of 7th, 8th, 9th, 10th, and 11th Streets.



- Conducted a variety of outreach initiatives from May through August to increase public awareness of waste reduction and recycling tips throughout the "move-out season". There was increased communication with Lawrence apartment complexes including a pilot project at Meadowbrook Apartments.



- Received the Excellence In Program Operations Award for Solid Waste Management Program: Public Engagement, Automation and Recycling at the 2015 American Public Works Association (APWA) Kansas Chapter Conference in Manhattan, Kansas in May.



Collected 5,317 tons of single-stream recyclable material in first year

- From the start of the new residential single-stream recycling program in October 2014 through September 2015 (first year of collection), the city's Solid Waste Division collected 10,634,000 pounds, equivalent to 5,317 tons, of single-stream recyclable material from single-family and multi-family residences including apartments. Single-stream recyclable material was also collected from public and private schools and city facilities. The recyclable material was dropped off at the Hamm Material Recovery Facility (MRF), a single-stream processing facility that receives, sorts, processes, stores and transports the material as well as provides marketing of the recyclable material.



- To celebrate the one year anniversary of the single-stream recycling program and America Recycles Day, the City of Lawrence in partnership with the University of Kansas hosted a fun, family event on Friday, November 13, 2015 at Sports Pavilion Lawrence. The event included hands on activities, games, and a photo booth with Big Jay.



- Launched "Recycling Tips" video to highlight what is acceptable in the City's single-stream recycling blue cart and what is not (and why). Knowing what items are acceptable to recycle and those that are not is essential to the success of the recycling program.

CURB IT WITH BLUE
Recycling Tips Video



Residential Collection

The number of housing units grew slightly in 2015. Residential growth has a direct impact on our residential services. Thirteen crews pick up residential trash and six crews pick up residential recycling. The trash crews also pick up all rear-load commercial trash dumpsters along their residential routes. These same crews pick up yard waste on Mondays only, March through mid-December.

A look at residential trash cart size at single-family households (percent breakdown by size):



Cart size	Units	% of households
35 gallon	2,389	9.73%
65 gallon	13,564	55.25%
95 gallon	6,835	27.84%

The chart below highlights some of the residential collection activity.

	2013	2014	2015
Bulk items collected	2,597	2,926	3,288
Tires collected	1,671	1,805	1,812

Notes on the services mentioned above: Bulky items, including refrigerators and air conditioners, are collected by appointment. The division is required by Federal law to recover Freon from refrigerators and air conditioners that are collected. Freon was recovered in-house by certified technicians from Maintenance Operations. Tires are collected by appointment at no cost to residents (limit of 5 tires per household per year). Whole tires are not permitted to be disposed in the landfill. The tires were picked up from the Solid Waste facility by private companies and then shredded and monofilled or recycled.

Residential crews also performed alley litter collections on Fridays (or as needed) on a rotating basis among neighborhoods with alleys. Downtown alleys were patrolled for litter as well. Several neighborhood cleanups were performed at the request of and in coordination with neighborhood associations.



Waste reduction and recycling efforts: The chart below highlights some of the waste reduction and recycling programs of the Solid Waste Division.

	2013	2014	2015
Single-stream residential recycling	-	1,227	5,372
Grass, leaves, and brush collected	9,125	9,686	13,236
Avoided disposal costs in \$\$ (yard waste)	238,710	261,909	369,814
Christmas trees collected (tons)	14	11	13
Household haz waste participants served	2,757	2,873	3,188
Business haz waste participants served	114	103	108
Product reuse participants	594	597	618
Metal scrap & freon containing items (tons)	88	46	41
Old Corrugated Cardboard OCC (tons)	1,445	1,530	1,704
Average price per ton generated on OCC	107.85	91.79	71.59
Old Newspapers ONP (tons)	341	260	189
Mixed Paper MIX (tons)	443	371	340
Sorted Office Paper SOP (tons)	26	39	35
Glass (tons)	1,197	1,075	492

Yard waste collection and compost program: The community achieved a 99.8% compliance rate with preferred yard waste container set outs (cans, city trash/yard waste carts and compostable paper bags). Community-wide collection of yard waste on a single day remains challenging for solid waste crews, but the high compliance with preferred container requirements makes the collection process safer and much more efficient, as well as improving the final quality of the compost. Compost and woodchip sale events continue to be very popular and a valuable way of returning this resource to the community. Compost and woodchip material was also made available for purchase on Saturdays (self-load) during public drop-off hours 10 a.m. to 4 p.m.

	2013	2014	2015
Preferred YW container compliance	99.7%	99.9%	99.8%
Vehicle visits during sale events	3,137	956	1,353
Tons of material distributed	1,834	671	2,083

Household hazardous waste (HHW) and business hazardous waste (BHW) programs: The HHW and BHW programs are important components of solid waste services in reducing the potential toxicity of the materials taken to the landfill. The amount of hazardous waste dropped off at the HHW Facility increased by 2.5% compared to the prior year. Participation by households (HHW) increased by 6.7%. There was no increase in participation by businesses (BHW). The majority of the households participating were from Lawrence but 15% were Douglas County residents living outside the Lawrence city limits.

In 2015, a new Household Hazardous Waste Facility was constructed at 2201 Kresge Road, the new City property purchased for the purpose of re-locating Solid Waste Division operations and the Household Hazardous Waste Facility (note: development of the property will occur in multiple phases over the next few years). The new Household Hazardous Waste Facility will open to the public in 2016.

Drop-off recycling program: The Solid Waste Division offers recycling drop-off bins for cardboard, newspaper, mixed paper, and glass with the support of property owners (see locations below). There was a consistent amount of fibers dropped off at these bins even after a year of residential curbside recycling.



	2013	2014	2015
Fiber programs recovery (tons)	2,255	2,200	2,267
Fiber program revenue (\$\$)	\$200,427	\$175,043	\$147,805

CITY OPERATED RECYCLING DROP-OFF SITES					
		newspaper	cardboard	mixed paper	glass
Brandon Woods	1501 Inverness Dr.			X	
Checkers Food Store	2300 Louisiana St.	X	X	X	
Dillon's Food Store	6th & Wakarusa Dr.	X	X	X	X
Hillcrest Shopping Center	9th & Centennial Dr.	X	X	X	X
Hobby Lobby	1801 W. 23 rd St.	X	X	X	
Hy-Vee Food Store	3504 Clinton Pkwy.	X	X	X	X
North Lawrence	740 N. 2 nd St.	X	X		
On The Rocks	1818 Massachusetts St.				X
Westlake Ace Hardware	6th & Kasold Dr.	X			

Special events and public outreach / education: Public outreach and education remained a strong component of the Solid Waste Division activities.

- Electronic Recycling Events (spring / fall): The division continued to host two collection events per year to collect electronic waste.
- Compost and Woodchips Sale Events (spring / fall): There were three sale events for compost and woodchips in 2015 in which the division loaded trucks and trailers. The material was also available for sale every Saturday between March and mid-December (self-load only).
- Earth Day Celebration (April): Staff organized the annual Earth Day Celebration in the Park, in conjunction with a parade.
- America Recycles Day (November): America Recycles Day Event is another opportunity for educating the public and raising awareness for recycling. The event in 2015 included a 1-year anniversary celebration of the city's residential curbside recycling program.



Commercial Collection

Growth in the commercial sector continued. The Division reviews site plans for accessibility, location of refuse containers, and type of service required and makes comments to the Planning Department as necessary.

Maintenance Operations maintains existing containers, prepares new containers for service, and delivers containers to new locations. They also do routine maintenance on collection vehicle packer bodies and other equipment used within the Division.

Roll-off solid waste services are an important part of our commercial service delivery. The chart below highlights roll-off activity:

	2013	2014	2015
Roll-off service calls	6,049	6,399	7,652
Permanent accounts	67%	64%	52%
Revenue from roll-off service	\$1,024,139	\$975,252	\$1,279,058
Tons of solid waste from roll-offs	20,179	19,720	22,856
Compactor units in service	31	31	31

The Division continued the rate audit of downtown businesses. Periodic rate reviews are necessary in the downtown area due to the changing businesses. Also many businesses use shared containers located on city-owned right-of way or parking lots. Those rates are determined by square-footage of the business and type of business.

In addition to trash services, the Division provides corrugated cardboard and office paper collection for recycling for small to medium-sized businesses. In 2015, City facilities and Lawrence schools received single-stream recycling collection service. This program will expand to other businesses in 2016.



STREET MAINTENANCE DIVISION

The Street Maintenance Division is responsible for the routine maintenance of the City's streets, alleys, curbs, and gutters. The division is responsible for 852 lane miles with 36 employees. The work force is divided into 4 crews -- asphalt, concrete, levee/ sweeping/ alleys and storm water.

The Street Maintenance Division provides a wide range of services for our citizens, for transportation maintenance and for community events. Normal activities include pot hole patching, curb and gutter repair, City owned sidewalks and wheel chair ramps, crack sealing, street sweeping, snow removal and storm drain and pipe cleaning. These are the activities visible in the community every day.

The division maintains the Kansas River Levee system. The levee covers 2600 acres and is about 19.6 miles long. The Levee protects North Lawrence and a large portion of farm land in Douglas County from the Kansas River and Mud Creek. The river levels are monitored by our staff year round and are the first to respond to rising water levels. There are also 8 miles of the levee top for recreation, a popular place for walking, jogging and bike riding.

The stormwater crew takes care of 250 miles of open drainage, many of which are in remote areas of the City. The crew takes care of three storm water pump stations in North Lawrence. These pumps keep the underpass on North 2nd street dry and remove up to 22,000 gallons of water per minute from the low lying areas every time it rains.

The Street Division provides traffic control devices for special events, all emergencies such as fires or major traffic accidents and as needed throughout the community. All members of the Division have received training for natural disasters such as tornadoes or floods and are experts at debris management and removal. The division often assists other City Departments with heavy construction projects that involve earth moving, concrete and asphalt work. It is safe to say that no matter what happens in Lawrence, the Street Division is there providing service.

The winter season of 2015 has been was a bit unusual with extreme cold weather and frequent ice events and weekend storms. Snow and Ice events numbered 12 recorded events and several other small ice or patrol events. But that only tells part of the story; 2015 continued a pattern of small but pesky storms followed by extreme cold weather that taxed employees, equipment and resources.

Pot holes calls for this year from the Pot Hole Hot Line and from the web site e-mail form has gone from 573 in 2014 to 213 in 2015. Although the number of calls for pothole decreased the actual road deterioration rate appears to be increasing. Calls and inquires for curb and gutter repairs nearly doubled the pothole numbers reaching 379. Because of the increased weather related road deterioration the need for internal pavement repairs sky rocketed. The number of potholes patched remained constant with 9874 in 2014 and 8891 in 2015. This increased need was seen in all phases of the system with increased deterioration of asphalt (3977 Yards) and concrete pavements (48991 Sq Ft.) and curb and gutter (4110). Despite the fact that more time was devoted to surface patching, the division was still able to maintain our crack seal program. By targeting both streets that are on the normal rotation of streets and those that have recent contract maintenance actions this approach provided for more than 40.3 miles of crack sealing.

The Street Division supported several major events not related to street repairs last year. They were the St. Patrick's Day Lawrence Parade, the Lawrence Color Run and the annual Lawrence Old Faison Horse Parade. These special events, along with numerous runs, walks, sidewalk sales, require putting up signs and placing barricades, extra sweeping and general assistance to other departments.

Highlights and accomplishments:

The majority of work completed by the division is routine maintenance and small projects that are not cost effective to contract. The details of the maintenance work are listed in the table later in this section. Other notable projects included:

STREET MAINTENANCE PROJECTS 2015	
	(in addition to routine maintenance)
1	Patching on Kasold from 8 th St to Bob Billings Pkwy
2	Graded all alleys in the City 2 times
3	Swept all City streets 2 times and all major streets three times
4	Swept the downtown 8 times
5	Swept the University area 3 times
6	Swept airport aprons monthly
7	Had 12 snow and ice events
8	Responded to 213 pothole, and 379 curb and gutter complaints
9	Mowed the entire levee 4 times
10	Mowed approx. 4,086 acres of right-of-way, City property and drainage ditches
11	Installed over 2666' of new storm water culvert
12	Completed repairs to west airport apron
13	Repaired maintenance items from USACE periodical inspection
14	Installed Rip Rap on the Levee system as required by the USACE
15	Repaired/replaced curbs (4110 ft).
16	Concrete patching and pavement rehabilitation (48991 sq. yds.)
17	Repaired sidewalk and steps at Bert Nash Building
18	Crack sealed more than 40.3 miles of streets
19	Emergency repair of culverts on Alabama
20	Replaced collapsed storm water system on W 10 th St
21	Installed new storm water system in conjunction with the HERE project
22	Patching on Bob Billings Parkway from Kasold to Monterey Way
23	Repaired numerous and replaced catch basins
24	Repair of the compost facility yard
25	Street restoration for in house utility cuts



Work on Kansas River Levee



Work on Kansas River Levee

STREET MAINTENANCE STATISTICS	2013	2014	2015
Paving projects			
Tons of asphalt placed	402	3,546	3,977
Cubic yards of concrete placed	889	1,027	1,709
Patching pot holes / pavement			
Reports to Pot Hole Hot Line / On-line form	274	537	213
Tons of patch material placed	601	315	336
Number of potholes/locations patched	6,127	9,874	8,891
Concrete work			
Concrete pavement (square feet)		27,670	48,991
Lineal feet of curb replaced	3,934	4,909	4,110
Street Sweeping			
Lane miles completed	7,886	7,251	8,398
Tons of debris collected	7,228	7,316	7,888
Crack sealing			
Pounds of material used (by street division)	109,930	67,643	82,551
Mowing activities			
Right of way and drainage area acres	2,992	3,912	4,086
Levee acres mowed	2,600	2,600	2,600
Snow removal			
Number of storms (winter season, e.g., 13-14)	8	13	12
Inches of snowfall for season	29.6	29.7	9.4
Tons of material spread			
Salt tons	3,462	4,428	4,741
Sand tons	1,886	4,054	1,922
Liquid Brine gallons	53,185	68,536	78,873

Stormwater Infrastructure Maintenance: Routine maintenance of the existing stormwater network includes the cleaning of ditches, storm sewer pipes, inlet throats and catch basins. Stormwater operations crews are managed under the Street Maintenance Division. The following summarizes the work completed in 2015:

STORMWATER MAINTENANCE	2013	2014	2015
Ditches cleaned (feet)	2,617	2,526	2,619
Stormsewer pipe installed (feet)	1,485	2,027	2,666
Curb inlets (throat) cleaned	1,205	1,872	1,859
Curb inlets rebuilt	15	23	47
Stormsewer pipe rodded / cleaned (feet)	620	1,142	1,125
Catch basins checked	0	24	51
Catch basins vacuumed	5	15	23





27th raised crosswalk



K-10 and O'Connell



Shot put construction downtown



Franklin Road



Alley repair



Crossgate intersection



14th Street



Kasold Dr

What's happening in 2016

To conclude the 2015 Public Works Annual Report, here are some highlights for what is upcoming in 2016:

Major projects planned for 2016 include:

- Completion of Maple Street Pump Station
- Traffic signal installation at 6th & Champion Dr.
- Bob Billings Corridor Improvements from Kasold to K-10
- KLINK mill/overlay of Iowa Street from 24th to 29th Street
- CDBG Sidewalk Gap project
- Completion of the K-10 South Lawrence Trafficway

Solid Waste Division:

- New Household Hazardous Waste Facility will open at 2201 Kresge
- Solid Waste Facility at Kresge Road Phase 2 planning, including architectural plans
- Business and commercial recycling options will be presented for consideration

Street Maintenance Division:

- USACE rip rap on Kansas River Levee
- New stormwater improvements at 11th and Mississippi
- Crack sealing, pavement preservation
- Downtown brick sidewalk repair / replacement
- Curb, patching, and sidewalk rehab in conjunction with 2016 street maintenance program
- Strong Ave. pavement rehabilitation
- Alley rehabilitation, Rhode Island, 9th to 10th
- Curb and gutter repair on Bob White
- On-going traffic programs – pavement marking, crosswalks, fiber installation, GPS fiber backbone and handholds