



City of Lawrence  
PUBLIC WORKS

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# END OF YEAR REPORT 2007

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Public Works Director

# INTRODUCTION

The divisions of Public Works provide core community 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.

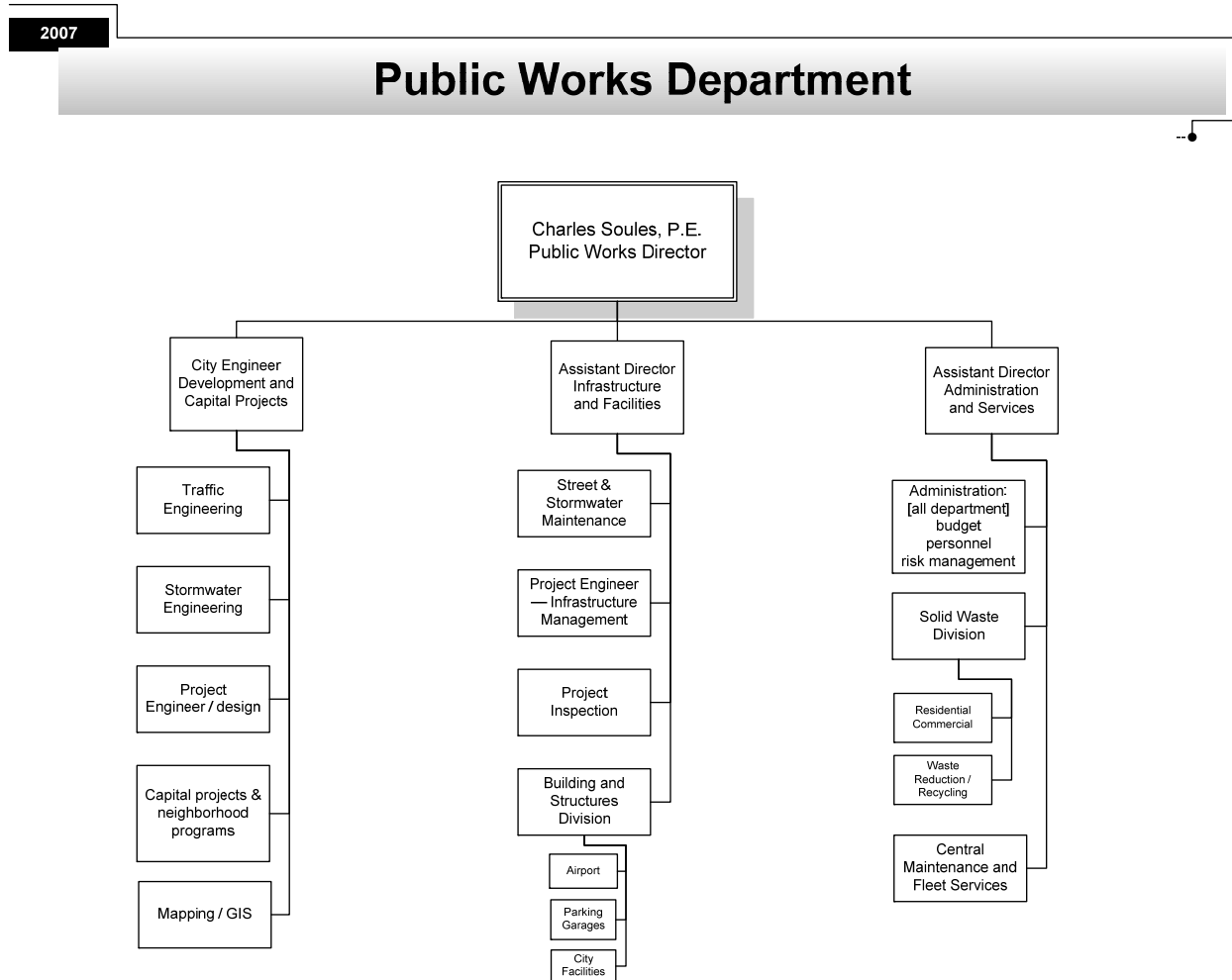
## VALUES

- 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.*

# GENERAL ADMINISTRATION

The Public Works Department is organized by core services: administration and services, infrastructure and maintenance, and engineering. 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 193 authorized positions in the Public Works Department. In 2007, the department recruited for 34 vacant positions. In 2006 and 2005, we filled 42 positions and 29 positions, respectively.

**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.

<b>EXPENDITURES</b>					
Fund	Division	Description	2005	2006	2007
214	3800-578	Gas Tax Fund	\$ 2,418,491	\$ 2,594,695	\$ 2,699,828
001	2500-565	Health Department	\$ 841,083	\$ 932,709	\$ 888,049
001	3000-570	Street Maintenance	\$ 1,969,706	\$ 3,121,727	\$ 2,488,859
001	3100-571	Engineering	\$ 704,880	\$ 728,431	\$ 825,061
001	3200-572	Traffic Engineering	\$ 550,848	\$ 576,593	\$ 577,173
001	3300-573	Airport	\$ 70,574	\$ 85,144	\$ 89,623
001	3400-574	Building Maintenance	\$ 649,832	\$ 840,994	\$ 779,486
001	3600-576	Street Lights	\$ 491,010	\$ 551,240	\$ 539,961
001	3700-577	Levee	\$ 116,903	\$ 111,891	\$ 138,690
502	3510-571	Residential Solid Waste	\$ 4,396,825	\$ 4,637,488	\$ 4,633,256
502	3520-572	Commercial Solid Waste	\$ 3,550,822	\$ 4,189,292	\$ 4,335,666
502	3530-573	Waste Reduction / Recycling	\$ 870,337	\$ 889,148	\$ 722,629
504	3200-579	Central Maintenance Garage	\$ 2,546,417	\$ 2,794,310	\$ 3,066,687
505	3900-579	Stormwater	\$ 10,327,694	\$ 3,308,498	\$ 3,400,920
<b>Total Public Works</b>			<b>\$ 29,505,421</b>	<b>\$ 25,362,159</b>	<b>\$ 25,185,888</b>
<b>REVENUES</b>					
214		Gas Tax Fund	\$ 2,561,489	\$ 2,549,909	\$ 2,669,315
502		Solid Waste Division	\$ 8,624,282	\$ 9,137,590	\$ 9,312,015
504		Central Maintenance Garage	\$ 2,512,128	\$ 2,954,417	\$ 3,019,564
505		Stormwater Utility	\$ 8,082,082	\$ 3,136,622	\$ 2,908,637
			<b>\$ 21,779,981</b>	<b>\$ 17,778,539</b>	<b>\$ 17,909,532</b>

**Risk management function:** Statistics are collected by the Administrative Services Department, Risk Management office tracking 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.

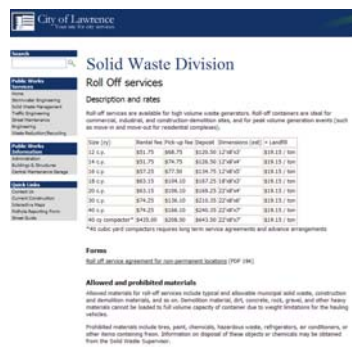
	2005	2006	2007	2005	2006	2007	2005	2006	2007
	Workers' Comp requiring medical attention			Vehicle accident claims			General liability claims		
Building Maintenance	0	1	1	0	0	0	1	0	1
Central Maintenance Garage	4	3	5	0	0	0	0	0	0
Engineering Division (& traffic)	4	3	3	3	0	0	2	1	2
Solid Waste Division	21	31	30	4	1	3	6	7	11
Street Division (& storm ops)	7	8	4	2	3	4	24	12	20
Total Public Works	36	46	43	9	4	7	33	20	34

## Emergency management function:

- May 6, 2007 Flooding and Rain Event: Douglas County received a federal disaster declaration (FEMA 1699-DR-KS) for flooding and rain event May 6, 2007. The Assistant Public Works Director served as the City representative for state and FEMA recovery. The City had \$ 53,895 of eligible expenses, outlined below.

FLOODING / RAIN EVENT, MAY 6, 2007		FEMA-1699-DR-KS
Eligible costs for federally declared disaster		
Emergency services response		
Fire Medical Department		
Public Works: Street Maintenance	\$	8,153
Utilities		
Emergency services response		
Public works levee patrol	\$	623
Utility system		
reconstruction of stream crossing (sanitary)	\$	38,779
Recreational		
Boat ramp repairs and park restoration	\$	6,340
	\$	53,895

**Website administration:** Website enhancements in 2007 included an overhaul of navigation functions and providing additional information frequently requested by customers, such as our roll-off service agreements and engineering technical specifications.



# BUILDING and STRUCTURES

The Buildings and Structures Division is responsible for maintenance for municipal buildings except where such services are provided contractually. This division is responsible for two multi-level parking structures and a variety of project and facility responsibilities at the airport. In addition to maintenance costs, utility costs for some buildings are paid out of this division's budget. The division provides maintenance services and/or technical support for approximately 40 facilities.



<b>Buildings and facilities</b>		
City Hall	Community Health Facility	Carnegie Building
Lawrence Arts Center	Riverfront Mall office annex	Computer Training Room annex
Airport Terminal	Airport Hangar A	Airport Hangar B
Airport Hangar C	Community Hanger	Maintenance Hangar
Airport (G.U.T.S)	Runway 1-19	Runway 15-33
Airport Taxiways	Solid Waste facility	Solid Waste Annex, North
Fire / Med Station 1	Douglas County Senior Center	Fire / Med Station 2
Fire / Med Station 3	Fire / Med Station 4	Fire / Med Station 5
Fire / Med Station 6	Fire and Rescue Training	Street Maintenance facility
Central Maintenance Garage	ITC building	Traffic Engineering
New Hampshire Parking Structure	Downtown electrical (primary)	Building demolition
Riverfront Parking Structure	Transit offices	HHW buildings
Court services annex	Health Care Access	Lawrence Public Library

**Building maintenance:** Much of the work completed by the Building Maintenance Division staff is emergency repair and response to nuisance situations. Many services provided by this division are provided by contractors. The Building Maintenance Manager is responsible for allocating staff between competing demands and selecting contractors, administering contracts, and monitoring the work. A work order system was implemented in 2007. Work order statistics are shown in the table below.

A sampling of projects completed in 2007 include:

- Office renovations (finance department and SWAN facility)
- Generator project for fire stations 2 and 3
- Bus shelter roof rehabilitation at 9<sup>th</sup> and Massachusetts
- Heating renovation at fire station 3 to infrared system
- Temporary stabilization of exterior wall in breezeway downtown

<b>Facility management</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Work order system reporting</b>			
<b>Priority / Response Goal</b>		<b>% completed on time</b>	<b>% completed on time*</b>
0: 2 hours		not available	94%
1: 24 hours		not available	53%
2: 2-3 days		not available	80%
3: one week		not available	83%
4: one month		not available	65%
5: on list		not available	79%
<b>Type</b>		<b>number</b>	<b>number*</b>
Demand repairs		not available	332
Emergency repairs		not available	40
Preventive repairs		not available	216
Routine repairs		not available	318
Scheduled repairs		not available	737
<b>Energy consumption for key buildings</b>			
<b>City Hall</b>			
Electricity (kilowats)	897,200	938,200	901,800
Electricity / square foot	24.9	26.1	25.1
Natural gas (thermos)	3,678	3,212	1,187
Water (gallons)	5,104	6,317	5,114
<b>Community Health facility</b>			
Electricity (kilowats)	1,035,000	1,166,800	1,166,200
Electricity / square foot	12.0	13.5	13.5
Natural gas (thermos)	19,463	16,705	20,540
Water (gallons) -- building	5,320	5,649	5,100
Water (gallons) -- irrigation	6,745	11,713	4,502
<b>Arts Center</b>			
Electricity (kilowats)	728,640	755,840	668,040
Electricity / square foot	18.2	18.9	16.7
Natural gas (thermos)	not available	not available	29,108
Water (gallons)	3,070	3,413	3,135
* data includes March through December 2007 only.			

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

The 2007 - 2008 Airport project consists of enlarging the safety area for Runway 15-33. The project involves relocation of two gas transport lines. One of the gas line relocations was completed in 2007. The project will be completed in 2008.

**Parking structures:** The City owns two 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. Over

25 spaces were reconfigured into the portico drop off area at the hotel entrance. 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. Professional engineering services are used to evaluate the parking structures and recommend repairs as needed.

In 2007, improvements were made to the configuration and number of accessible parking spaces in the New Hampshire Parking Garage. Work was completed on a structural T repair on the Riverfront Garage, as well as warranty work following up on the 2006 maintenance project.

**Downtown projects:** This division supervises one staff person responsible for maintaining the appearance of the two 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-stripped, as time and weather allowed.

**Building and Structures Division pictures in 2007:**



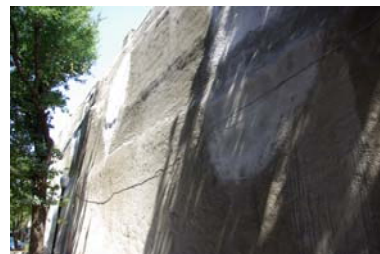
Bus shelter re-roofing project downtown



SWAN facility office construction



Removal of old pipe at 8<sup>th</sup> and Mass



Temporary stabilization of breezeway wall,  
800 block of Massachusetts



# ENGINEERING

The Engineering Division is responsible for the review and approval of all plans for streets, sidewalks, and storm sewers. A very small in-house team is able to design smaller projects. The City Engineer heads this work group, and supervises the stormwater and traffic engineering functions as well.

## **Project design, review, and mapping**

In 2007, a total of 56 plan sets were submitted for review to the Public Works Department. The Department established a centralized review process and location, facilitating the coordinated review of plans by various work groups. All plan reviews were completed within 7 business days of submittal.

<b>In-house design projects</b>
23rd Street Access Management Project El Mezcall / CVS shared access UBS / O'Reilly shared access
Traffic diverter, 18th and Maine
Brick Street project on Ohio
Raised crosswalk at 18th and Louisiana

Major project work in the Engineering Division in 2007 included administration of contracts with consultants on major projects including ITS project, 19<sup>th</sup> and Louisiana reconstruction, 31<sup>st</sup> Street extension, K-10 turn lanes, and the Burroughs Creek Rail Trail grant application.

## **Stormwater maintenance and administration**

The stormwater maintenance crew continued to focus on curb inlet replacement, debris removal, channel reconstruction projects. The stormwater maintenance crew statistics and information is reported with the Street and Stormwater Maintenance Division.

Outreach, education, and enforcement: The water festival was held in conjunction with Earth Day. The division is also working to promote Rain Gardens in the community. A demonstration rain garden project was constructed at the Solid Waste Annex North to correct a chronic drainage problem area.



In addition to outreach and education, the Stormwater Quality 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 March of 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. The following tables summarize the progress to date:

	<b>2007</b>
Infrastructure inspection to date	
curb inlets	4,574
area inlets	384
junction boxes	853
Total Structures	5,811
Structures inspected	1,759

**Stormwater System Enhancements:** The following projects were constructed to improve the flow characteristics of the existing stormwater system or to solve local drainage issues. They are intended to provide a small glimpse of completed projects.

CAMPFIRE CT,  
CAMPFIRE DRIVE



CHANNEL  
CLEANING EAST OF  
MONTEREY WAY



11<sup>TH</sup> AND ILLINOIS



31<sup>ST</sup> AND KASOLD



7<sup>TH</sup> & LAWRENCE  
AVE



## 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. Field crews are responsible for signal maintenance, signal timing, street signs, and pavement markings. The Traffic Engineer also works with community and neighborhood groups to address specific concerns.

Traffic maintenance operations	2005	2006	2007
Traffic Signals Maintained	83	85	87
School Beacons Maintained	27	31	32
Traffic Signal Work Orders Completed	464	406	377
Traffic Sign/Pavement Marking Work Orders Completed	1616	1960	1649
Electronic Traffic Counts Conducted	278	141	66
Manual Traffic Counts Conducted	59	8	77
Number of signal heads converted to LED			107
Traffic signal preventive maintenance inspections completed			9
Number of new signs installed			467
Number of signs upgraded			211
Number of signs repaired			1727



Camera adjustment at 31<sup>st</sup> and Iowa



Wiring right turn arrow at 15<sup>th</sup> and Iowa



Signal controller re-wiring



Final wiring inspection, 15 & Iowa

# INFRASTRUCTURE MANAGEMENT

Infrastructure management spans and coordinates multiple divisions and functions. It includes project administration and construction inspection. The group completes annual cycles of pavement inspection and rating. Major pavement restoration and replacement are managed through this work group, as well as coordination with the street maintenance function internally.

## Infrastructure Management

Coordinated infrastructure management is an on-going priority. Pavement restoration and maintenance is coordinated with pavement management, as detailed below. Contracted repair and maintenance for 2007:

ITEM	2005	2006	2007
Street overlay (in miles)	9.80	12.80	8.70
Microsurfacing (in miles)			12.90
Curb and gutter replacement (in miles)	8.1	10.2	6.6

The chart below summarizes all public infrastructure contracts administered and inspected, including overlay and curb repair, benefit districts, and private projects. Stormwater projects are detailed in the Engineering section.

ITEM	2005	2006	2007
Linear / Lane-feet of Pavement	38,504	42,686	41,495
Linear Feet of Curb & Gutter*	124,873	139,267	75,171
Linear Feet of Storm Sewer	21,330	16,242	8,786
Linear Feet of Sanitary Sewer	53,537	Utility dept	utility dept
Linear Feet of 4" x 5' Sidewalk*	41,352	22,221	8,616
Linear Feet of 4" x 6' Sidewalk*	0	5,387	3,251
Linear Feet of 10' x 6" Rein. Rec. Path	803	4,039	6,266
Linear Feet of Milling	51,766	66,997	46,044
Linear Feet of Asphalt Overlay	51,766	67,586	46,129
Linear Feet of Retaining Wall	570	0	1809
Square Yards of 3.5" White Topping	0	0	0
Traffic Signal	1	1	1
Accessible curb ramps*	245	154	81
<b>TOTAL COST OF PROJECTS</b>	<b>\$15,060,514</b>	<b>\$9,299,267</b>	<b>\$11,729,909</b>

\*new construction and removal / replacement



Two of the major projects completed in 2007 are highlighted below.

**Kasold Reconstruction:** The project involves a total reconstruction of the roadway from 15<sup>th</sup> Street to 22<sup>nd</sup>. The previous roadway consisted of 4 lanes with a center median. The new roadway has a typical section including four 11 ft. lanes, turning lanes at appropriate intersections, an 8 ft. wide sidewalk on the west side of the street, grass median, new water main and storm sewer. The street cross section includes a treated base and 10 in. concrete pavement. The project maintained at least one lane of traffic in each direction during construction. The project was completed early, opening to full traffic in July 2007.



Paving on west side of road



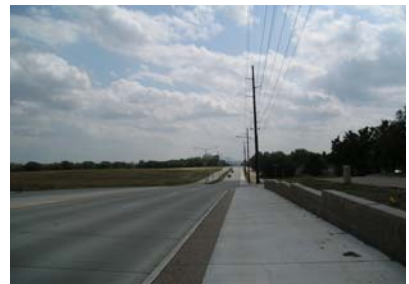
Paving on west side of road



Catch basin construction



Completed section



Completed section, looking south

**North Kasold:** The Kasold North project is the reconstruction of Kasold Drive from Peterson Road to the KTA Bridge. The project reconstructed the existing chip and seal road to a major arterial, including turn lanes at appropriate intersections, two roundabouts, curb and gutter, sidewalks on both sides, and underground storm sewers. The Kansas Department of Transportation funded 80% of the project. Initial construction began in 2006 and was completed in 2007.



Paving in progress



Completed section



Completed round-about

## Pavement Management Program

The Project Engineer for Pavement Management completed the pavement inventory for the entire city in late 2005. A second evaluation and rating of 25 percent of the City's streets (primarily the SE quadrant) was completed in February 2007. Summary data were reported to the City Commission in March regarding street conditions. The overall average PCI for Lawrence streets at the end of 2007 was calculated as 66.2.

*Please note that curb and gutter conditions on the pavement segments surveyed does not impact the PCI for the street.*

Ratings and conditions	2007
% of pavement w/ PCI rating of acceptable or above	
Arterial	62.5%
Collector	75.1%
Residential	75.8%
% of curb and gutter rated as	
Good	57.5%
Fair	31.5%
Poor	11.0%

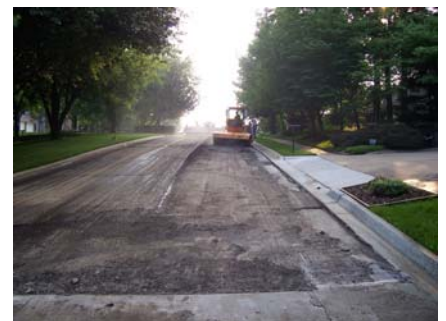
Typically, a street segment is considered to be in "unacceptable" condition when the PCI drops below 65 for arterials, 60 for collectors, and 55 for residential streets. (Unacceptable streets generally are not good candidates for preventive maintenance work. They are more likely to require complete reconstruction.) During the first rating cycle, it was determined that 31.5% of street segments were rated as unacceptable. The 2007 pavement programs included mill and overlay, curb and gutter replacement, microsurfacing, and an aggressive crack-sealing program.



Microsurfacing



Mill and overlay



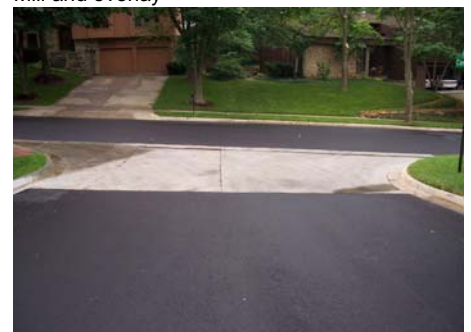
Mill and overlay



Mill and overlay



Mill and overlay



Mill and overlay

## FLEET SERVICES / Central Maintenance Garage

The Central Maintenance Garage operates as an internal service fund to provide fuel, management, and repair services for the City's fleet of vehicles and equipment. The maintenance facility is located at 11<sup>th</sup> and Haskell. Fuel stations are located at 11<sup>th</sup> and Haskell and the Wakarusa Service Center location. In 2006, the garage took over management responsibilities for the fire-medical fleet. In 2007, Fire Medical vehicle operations were centralized at 11<sup>th</sup> and Haskell to improve overall fleet maintenance efficiency. The fleet included 673 active units at the end of 2007.<sup>1</sup>

### Repairs and Maintenance

Productivity: One goal for fleet services is to focus an increasing level of energy on preventive maintenance versus repairs. The intent is to identify and repair more problems while the unit is in for routine maintenance, thus reducing downtime and unscheduled repairs. Fleet Services strives to achieve at least 55% of work as preventive maintenance and less than 45% of work as repairs. In 2007, the ratio fell due to the integration of Fire Medical units into the overall fleet. At the time of integration, there was a backlog of repair work and a shortage of reserve units. Those issues have been addressed systematically over the course of integration. The chart below shows the percentage of repairs versus preventative maintenance based on hours and dollars billed against the two types of work orders.

percentage of work	2005	2006	2007
Repairs	51.6%	53.0%	69.3%
Preventive maintenance	48.4%	47.1%	30.8%

Service calls: Another key goal for the division is to reduce the number of service calls. Some service calls are unavoidable, such as accidents and punctured tires. Generally, a reduction in service calls indicates a higher level of reliability in the fleet. In 2007, there was an increase in the total number of both tire calls and service calls. The increase in service calls is a combination of increasing the fleet by 23 units and deferring replacement of equipment due to budgetary constraints.

Service calls	2005	2006	2007
Tire repairs	66	78	73
Break-downs	182	196	260
Total	248	274	333

<sup>1</sup> Fleet services revised the method of counting active units in 2007. Previous to that year, active unit figures counted components as independent units. For instance, the snow plow attachment for the dump truck would be counted as a separate unit. Total units reported in 2006 were 714. Total units reported in 2007 were 673. The change is a reflection of the method of counting units.



## Highlights and accomplishments:

- **Fire-Medical Fleet Integration:** The integration of the Fire Medical fleet with other fleet maintenance continued to be a priority in 2007. Operations were centralized at 11<sup>th</sup> and Haskell to improve the efficiency of operations and the ability to utilize all mechanics. Evaluation of these changes will continue, but have been highly successful to date. The centralization of these operations strains the limited space available in the shop, which will have to be addressed in 2008.
- **Training:** The mechanics are dedicated to quality training to improve their ability to provide the best services possible for the city fleet.
  - Emergency vehicle repairs and EVT certifications testing: This was the primary training focus in 2007, due to the integration of Fire Medical fleet operations. The Fleet Manager helped form HEAT (Heartland Emergency Apparatus Technicians Association) to bring affordable training to the area. The first training and testing sessions were in October. Three technicians from Lawrence participated in the training and completed the electrical certification tests for fire apparatus and ambulances.
  - Specialized training: Pierce Manufacturing offered specialized training covering aerial testing, command zone multiplexing, Onan generator repair, and Oshkosh Fourtrax suspension systems.
  - ASA Visions Conference: Five technicians participated in the Visions Conference. This is a weekend training session, and the technicians voluntarily attend this training on their personal time.
  - Other optional training events: Other optional training offered in the evenings for fleet technicians were Snap-On Modius diagnostic training and Car Quest Evaporative Emissions Training.

- **Tire lift:** Equipment was added to the tire shop to provide staff the ability to lift large tires with assistance. This tool assists with the efficient storage of tires in a limited space and improves safety for the employee.



- **Recycling:** There continues to be active participation in recycling and the handling of materials in the most environmentally friendly ways feasible for the operations.
  - Used oil products: 1,361 gallons burned in waste oil heater and 4,250 gallons recycling through Midland Clearwater Refinery.
  - Antifreeze: 430 gallons recycled from fleet vehicles. Recycling coolant is environmentally friendly and saves money. The average cost of virgin coolant in 2006 was \$2.00 per quart. Recycling our anti-freeze cost only \$.68 per quart. Savings in 2007: \$568.
  - Air filters: A pilot program was initiated in 2005 to recycle air filters for larger trucks and equipment. A vendor picks up the filters, cleans and pressure tests



tem, then returns them to the garage. In 2007, 86 air filters were reused, saving over \$1092 over purchasing new filters.

- Batteries: All automotive batteries are recycled by Interstate Battery. Flashlight type batteries are recycled through the HHW program.
- In-sourcing: The third year of selling fuel to the Lawrence-Douglas County Housing Authority was completed successfully in 2007, with total sales of \$16,493.

- Motor pool operations: Central Maintenance continues to operate six vehicles and one tow behind air compressor for rental to departments when one of their vehicles is in for service or when a department needs to send a group of people to a meeting or training session. These vehicles are older units and include a seven-passenger van, a fifteen passenger bus, Dodge Intrepid, 1 ton plow truck, and two pickups. The motor pool rentals totaled 243 days this year at an income of \$4920.

FLEET STATISTICS	2005	2006	2007
Miles driven			
Police Department	1,119,047	973,951	1,054,022
Public Works	994,520	977,822	953,213
Fire Medical	284,241	336,997	303,962
Utilities Department	365,937	416,375	303,562
Parks and Recreation	278,334	286,347	286,344
Miscellaneous (admin., BI, plan., etc)	110,246	97,262	146,613
<b>Total miles</b>	<b>3,152,325</b>	<b>3,088,754</b>	<b>3,047,716</b>
Off road equipment usage (hours)	26,699	21,256	21,779
Operations			
Repair orders completed	2,582	2,642	2,987
Preventive maintenance orders completed	1,100	1,111	1,472
Billing			
Total number of hours billed	13,376	14,926	18,679
Total labor (in \$\$)	602,351	746,300	942,040
Total parts (in \$\$)	739,621	837,123	747,579
Commercial (sublet) (in \$\$)	144,034	171,003	97,778
Miscellaneous	25,768	25,440	28,608
Total dollars billed for repairs	1,512,074	1,779,866	1,816,005
Fuel system			
Total fuel sold for year (gallons)	460,868	447,728	466,648
Total diesel fuel sold (in dollars)	531,821	613,219	704,209
Total unleaded gasoline sold (in dollars)	484,983	525,294	550,708
Total fuel sales (in dollars)	1,016,804	1,138,512	1,254,918
<b>Total Operational Billing</b>	<b>2,530,021</b>	<b>2,920,172</b>	<b>3,072,600</b>

**Performance measures:** The performance measurement system implemented in 2007 provides additional tools to evaluating and reporting fleet operations. Some of those measures are reported below:

performance measures	2006	2007
Average operational fleet readiness		
fire department	not available	98.3%
police department	not available	97.6%
all other heavy duty equipment	not available	96.8%
all other light duty equipment	not available	98.4%
Average days to complete work order		
heavy duty preventive maintenance	not available	4.3
heavy duty repair	not available	1.3
light duty preventive maintenance	not available	2.1
light duty repair	not available	1.0
Avg percent mechanics hours billed		82.2%
Average fuel cost per 1000 miles driven		
heavy equipment / vehicle	not available	\$ 700.30
light equipment / vehicle	not available	\$ 250.01
Number of repeat repair orders		31
Fuel storage system tests completed		251



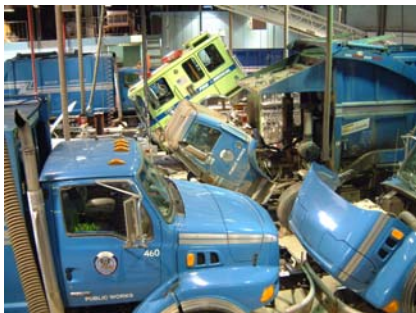
Case / IH tractor transmission repair



Heater core replacement, S-10



Two baby raccoons asleep in the engine



Winter space issues!



Gray portable lift demonstration

# SOLID WASTE DIVISION

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

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

<b>Tons collected</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Tons collected for disposal	71,221	75,361	72,703
Tons (est.) collected for recycling / composting	14,832	15,174	16,900

In 2006, Lawrence achieved a 34% recycling rate which is one of the highest in the state and is higher than the national average for that year. The recycling rate is likely to be similar in 2007. (The Annual Recycling Report will be prepared in the spring when final numbers are available.)

The Solid Waste Division is comprised of three functional divisions: Residential Collection; Commercial Collection (which includes Maintenance Operations); and Waste Reduction and Recycling (WRR).

## Residential Collection

The number of housing units continued to grow, although at a slower pace than has been experienced in recent years. Residential growth has a direct impact on our residential services. Seventeen three-member rear-loader crews pick up the residential waste. These crews also pick up all rear-loader commercial waste along their residential routes as well as the grass and leaves for composting.

The chart below highlights some of the residential collection activity.

	<b>2005</b>	<b>2006</b>	<b>2007</b>
Roll-out carts	6,211	6,948	7,469
Bulk items collected	3,890	3,830	3,200
Freon containing items	455	476	395
Tires collected	2,469	2,469	2,616

Notes on the services mentioned above: Roll-out trash carts allow for automated collection, reducing the potential for injury to the solid waste loaders. 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 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 (65%) or recycled (35%).

Residential crews performed alley litter collections on Fridays on a rotating basis among neighborhoods with alleys. Downtown alleys were patrolled for litter on every Friday.

Several neighborhood cleanups were performed at the request of and in coordination with neighborhood associations. These included the Pinckney and North Lawrence neighborhoods. Most were done on Fridays because the neighborhoods can avoid paying additional costs for Division personnel and equipment, which they must pay if they have us participate on a Saturday.

Residential collection situations



Presentation at Quail Run



Multi-family



KDHE inspection at old landfill





## Commercial Collection

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

Additional inventory of collection containers purchased in 2007 (with total inventory in parentheses) include:

- Rear-loader containers – 25 (2,114)
- Front-loader containers – 29 (597)
- Roll-off containers – 14 (343)

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. A weekly schedule for packer maintenance is followed.

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

	2005	2006	2007
Roll-off service calls	7,004	7,654	7,439
Permanent accounts	68%	62%	67%
Revenue from roll-off service	1,446,771	1,657,950	1,655,200
Compactor units in service	15	18	21

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.

Rear-load dumpster



Front-load dumpster



Roll-off



## Waste Reduction and Recycling

Waste Reduction and Recycling (WRR) expanded on existing collection programs, made program improvements, and added new programs in 2007.

The chart below highlights some of the programs in which the Waste Reduction and Recycling staff is involved. These programs are typically implemented as a partnership between WR/R staff and the operations side of Solid Waste for collection and processing.

	2005	2006	2007
Grass, leaves, and brush collected	12,046	11,964	17,990
Avoided disposal (est) costs in \$\$	269,211	264,921	383,096
Christmas trees collected (tons)	25	32	29
HHW/SQG program collections (lbs.)	167,715	168,742	185,997
HHW participants served	2,751	2,802	3,118
SQG participants served	68	88	92
Old Corrugated Cardboard OCC (tons)	920	939	1,060
Old Newspapers ONP (tons)	1,038	866	844
Sorted Office Paper SOP (tons)	29	33	33
Mixed paper MIX (tons)			49

Yard waste collection and compost program: 2007 was the third year of the “preferred container program,” where yard waste was collected at the curb in cans, carts, or compostable bags. The community achieved a 99.2% compliance rate with preferred container set outs. 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 give-away events continue to be very popular and a valuable way of returning this resource to the community.

	2005	2006	2007
Preferred container compliance	97.8%	98.5%	99.2%
# of give-away event days	6	5	6
Vehicle visits	1,100	1,074	1,866
Tons of material distributed	769	1,230	2,766

Household hazardous waste (HHW) and small quantity generator (SQG) programs: The HHW program is an important component of solid waste services in reducing the potential toxicity of the materials taken to the landfill. The program has matured from a weekend collection event to a standardized service by appointment. Participation by households in HHW and businesses and institutions in the Small Quantity Generator (SQG) collection program increased from 2,890 in 2006 to 3,2100 participants in 2007. Overall, these programs experienced an 11 percent increase in the number of participants and a 10% increase in the pounds of materials recovered.

**Fibers recycling program:** The fibers recycling program consists of business collection services for cardboard and sorted office paper plus drop off boxes for residential uses. The program transitioned operations to the Waste Reduction and Recycling Division in 2007, with the conversion of a vacant position to a Field Supervisor in that work group. The fibers program expanded in 2007 to include a Mixed Paper collection box. Mixed paper boxes will take everything from junk mail to office paper to chipboard. This program was piloted in 2007 and quickly incorporated into normal services. The location and number of mixed paper bins continues to increase. Material recovery data are reported in the chart for WRR. Recycling drop off locations and program details are listed below.



	2005	2006	2007
Fiber programs recovery (tons)	1,987	1,838	1,986
Fiber program revenue (\$\$)	167,764	146,843	220,978

CITY OPERATED RECYCLING DROP OFF SITES		newspaper	cardboard	mixed paper
Brandon Woods	1501 Inverness	X		
Checkers Food Store	2300 Louisiana	X	X	X
Dillon's Food Store	6th & Wakarusa	X	X	
Douglas County Bank	9th and Kentucky	X		
Drury Place	15th and Kasold	X		
Hillcrest Shopping Center	9th and Centennial	X		
Hobby Lobby	1801 W. 23rd	X	X	
Hy-Vee Food Store	3504 Clinton Parkway	X	X	
Hy-Vee Food Store	6th and Monterey Way	X	X	X
North Lawrence	740 N. 2nd	X	X	
Westlake's Ace Hardware	6th and Kasold	X		

**Special events and public outreach:** Public education and outreach remained a strong component of WRR activities.

- Earth Day celebration: Staff organized the annual Earth Day Celebration in the Park, in conjunction with a parade and the April Showers to Water Towers outreach program.
- Home Energy Conservation Fair and Sustainable Homes Tour: The 7<sup>th</sup> Annual Home Energy Conservation Fair and Sustainable Homes Tours was held in October. The venue was changed to Free State High School in 2007.
- America Recycles Day: Typically an opportunity for outreach within the City organization, staff expanded America Recycles Day activities to include outreach at Hy-Vee.
- Conference presentations: Staff presented at various conferences this year including the Kansas Works! Conference and the spring conference of the Kansas Chapter of American Public Works Association.



Compost give-away March 07



Compost give-away, October '07



HHW Facility tour



Earth Day parade



Earth Day celebration in the park



Earth Day parade



April showers to water towers



Home Energy Conservation Fair



Home energy fair outside exhibits



Eagles Day festivities



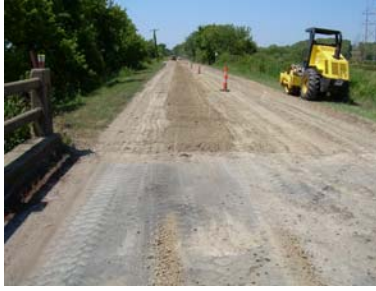
# STREET MAINTENANCE DIVISION

The Street Maintenance Division is responsible for the routine maintenance of the City's streets, alleys, curbs, and gutters. The budget provides funds for concrete, asphalt, sand, rock, and salt for snow and ice control. Additional funds are budgeted for outside firms to assist in removing snow. The work crews require the use of a variety of equipment and vehicles. The cost of equipment maintenance and fuel is in this budget.

## 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:

<b>STREET MAINTENANCE PROJECTS 2007</b>	
<i>represents a <u>sample</u> of projects completed by maintenance crews</i>	
<p><b>Resurfacing</b>            Road at Clinton Lake Spillway            Iowa St. East Frontage Rd. south of W 29th St.            400 &amp; 500 blks of Lincoln St.            500 blk California St.</p> <p><b>Base failure repairs</b>            4100 blk Wimbledon Dr.            W 2nd St - Arkansas St. to Michigan St.            New Jersey St. at E 15th St.            6th &amp; Maine St.            Kasold Dr. &amp; Trail Rd.            W. 31st St. east of Ousdahl Rd.            600 blk E 23rd St. @ overpass            1209 &amp; 1216 E 23rd St.            1541 E 23rd St.            1800 blk E 23rd St.            1400 blk Kasold Dr.            15th &amp; 25th &amp; Iowa St.            Somerset Ct.            1400 blk Crestline Dr.            3300 blk Bob Billings Pkwy</p> <p><b>Valley gutters, intersections</b>            Massachuettas @ 23rd St. south side (I)            Tennessee St. @ W. 11th St. west side (I)            Frontier Rd &amp; Arizona St. (V)            Fireside Dr. &amp; Arizona St. (V)            Frontier Rd &amp; Westridge Ct. (V)            W 3rd St. &amp; Wisconsin St. (V)            4700 Overland Dr. (V)            W 25th Ct. &amp; Ousdahl Rd. (V)            W 25th St. &amp; Cedarwood Ave. (V)</p>	<p><b>Special projects</b>            Rebuilt W 27th St west of bypass to YSI</p> <p><b>Curb repairs &amp; replacement</b>            1600 blk Carmel Dr.            Neider Rd. and on W 33rd St. (Target)            400 blk Illinois St.            1100 blk Crestline Dr.            3100 &amp; 3200 bks Riverview Rd            1700 blk W 3rd St.            111 E. 11th St. (Judicial bldg)            1501-1510 W 25th Ct.            3400 blk Westridge Ct.            1830 Barker Ave.            537 Schwarz Rd.            2810 Trail Rd.            3400 W 6th St            Lowell Dr. &amp; Clinton Pkwy            W 23rd St. &amp; Iowa St. Install Curbs &amp; ramps</p> <p><b>Pedestrian &amp; Sidewalk issues</b>            2043 Ousdahl Rd.            432 N. Crestline Dr.            Wakarusa Dr            900 &amp; 1000 blk Andover St.            641 Tennessee St.            28th Ter. &amp; Haskell Ave.            940 New Hampshire St.            20th St. &amp; Mass.            1266 Oread Ave.            1501 New Hampshire St</p>



<b>STREET MAINTENANCE STATISTICS</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Paving projects</b>			
Number of projects	62	49	21
Tons of asphalt placed	5,380	1,219	1,942
Cubic yards of concrete placed	368	238	417
Lineal feet of pavement replaced	21,560	4,888	not tracked
Labor hours used	6,059	5,195	4,082
<b>Patching pot holes / pavement</b>			
Number of calls to Pot Hole Hot Line	716	392	616
Tons of patch material placed	1,013	542	790
Labor hours used (temporary patches)	2,522	683	2,406
Labor hours used (regular patches)	4,350	1,821	3,320
Number of potholes/locations patched	7,901	5,716	15,070
Percent of potholes filled in 24 hours (arterials)			83%
Percent of potholes filled in 48 hours (non-arterials)			56%
<b>Curb replacement</b>			
Lineal feet of curb replaced	884	2,049	3,265
Labor hours used	300	1,601	3,480
<b>Valley gutter replacement</b>			
Number of projects completed	11	6	7
Cubic yards of material placed	243	189	63
Labor hours used	11,667	1,061	387
<b>Street Sweeping</b>			
Lane miles completed	6,884	8,752	9,112
Labor hours used	4,957	5,051	4,136
Cubic yards collected		10,774	9,894
<b>Crack sealing</b>			
Pounds of material used (by street division)	7,020	31,050	14,070
Lineal feet of cracks sealed (by street division)	24,570	93,150	42,398
Labor hours used (by street division)	566	2,164	1,216
Pounds of material used (by contractor)	75,000	386,580	269,000
Lineal feet of cracks sealed (by contractor)	262,500		549,120
Lane miles crack sealed (contract)		158	104
<b>Guardrail replacment</b>			
Feet of guardrail replaced	75	100	73
Labor hours	88	76	144
<b>Mowing activities</b>			
Right of way and drainage area acres	2,530	2,189	3,120
Labor hours used (ROW and drainage)	598	417	624
Levee acres mowed	14,278	16,720	17,479
Labor hours used (levee)	1,298	1,520	1,589
Aiport acres mowed	7,712	5,789	6,462
Labor hours used (airport)	1,254	1,124	1,175
<b>Snow removal</b>			
Number of storms (winter season,e.g., 06-07)	8	9	6
Number of storms requiring 24-hour operations	2	4	5
Number of storms requiring plow operations	2	1	4
Snow hauled from central business district	1	0	0
Labor hours used	3,511	4,386	7,813
Tons of material spread	3,286	3,487	4,815

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 2007:

<b>STORMWATER MAINTENANCE</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Number of catch basin repairs completed			19
Number of pump station inspections completed			102
Feet of stormwater pipe cleaned			2,279
Feet of stormwater ditch cleaned			7,868
Stormsewer pipe installed (feet)			1,636
Curb inlets (throat) cleaned			1,193
Curb inlets rebuilt			14
Catch basins vacuumed			112