



TRANSPORTATION SYSTEM MAINTENANCE ELEMENT

While the *Salem Transportation System Plan* identifies needs for new or expanded transportation infrastructure, an equally important component to the Plan is the establishment of objectives and policies that will preserve the investment already made in transportation infrastructure. Mobility cannot be achieved for our community if its streets, bridges, bicycle lanes, and sidewalks exist in a state of crumbling, disrepair. Likewise, it is not wise to invest in new infrastructure if existing facilities go lacking. The City of Salem must protect its infrastructure investment through prudent and efficient maintenance practices.

Maintenance Programs

In the total array of services provided by the Public Works Department, street maintenance is one of the most costly. Besides being one of the largest expenditures, street maintenance activities are also very visible to the public. Street maintenance programs must be designed to address needs or problems in three categories:

- **Structural Maintenance:** Includes routine and preventive maintenance programs designed to prolong the useful life of pavements, sidewalks, bridges, traffic signals, and traffic signs;
- **Operational Maintenance:** Includes restoration or repair of pavements, sidewalks, bridges, traffic signals, pavement markings, and traffic signs; and
- **Roadside Maintenance:** Includes maintenance on gravel shoulders, vegetation control at intersections for vision clearance, weed abatement mowing, graffiti removal, and removal of litter, dust, and debris from street and sidewalk surfaces.

Street System Inventory

Listed below is an inventory of the primary maintenance categories the Salem Transportation Services Division must maintain to keep all modes of transportation moving safely and efficiently.

Traffic signals	229 (2004)
Signs (regulatory, warning, and information)	19,776
School Zone flashers	183 (2004)
Centerline buttons and reflectors	50,000 (estimate)
Painted striping (centerline, bike lanes, etc.)	1,060 miles
Painted markings (turn arrows, “only,” etc.)	7,600
Streets	535 miles
Bridges	118

Levels of Street Maintenance

Perpetual life maintenance is the optimal repair and replacement of streets so they never wear out. While this is a worthy goal, it is unattainable given the limited financial resources available to the City of Salem. In recognition of this, the City is striving to attain an “adequate” level of street maintenance and operations services to the community. The adequate LOS requires approximately \$1.0 million more per year than was available for street maintenance operations in FY 2006-07. This can be compared to an additional \$8-9 million that would be needed to attain the theoretical perpetual life maintenance service level.



Pavement Management System

Since 1990, the City of Salem has used a computerized pavement management system to help in identifying street maintenance needs and determine how resources will be allocated. The system processes a variety of street condition information to identify cost-effective maintenance applications to address defects or deficiencies on specific street segments. This information is then used by the Street Division in identifying priority street maintenance programs and projects.

CONDITION OF EXISTING STREET SYSTEM

Additional funding needs to be allocated to resurfacing and restoration projects to decrease the growing backlog of street repairs. Investments made at the relatively inexpensive preventive maintenance level prevent the later, significantly more expensive, reconstruction and restoration projects.

Goal, Objectives, and Policies

The City of Salem shall have the following goal, objectives, and policies to guide the preservation and repair of its transportation infrastructure:

GOAL: To provide adequate maintenance to the City of Salem's street, sidewalk, and bikeway system.

OBJECTIVE NO. 1

The City of Salem shall fund and implement a maintenance program, based on available funding, that will sustain safe facilities and prolong service life of pavement surfaces.

Policy 1.1 Pavement Management System

The City shall maintain a current inventory of streets in a Pavement Management System database that rates street condition.

Policy 1.2 Routine Maintenance

The City shall have a routine maintenance strategy that targets good to fair condition streets. It shall include scheduled maintenance activities that focus on isolated surface defects such as crack sealing and isolated pavement and base repairs.

Policy 1.3 Preventive Maintenance

The City shall have a preventive maintenance strategy that targets good to fair condition streets. It shall incorporate general surface treatment over the entire surface of the street (i.e., slurry seals, chip seals, microsurfacing), extending the serviceable life of the street.



Policy 1.4 Response Maintenance

The City shall have a response maintenance strategy that targets streets that are in the final stages of serviceable life. These streets are beyond the point where routine and preventive maintenance will be cost effective. Maintenance will focus on these activities that will keep the street in safe driving condition, such as keeping potholes filled.

Policy 1.5 Pavement Restoration

The City shall have a restoration strategy when the condition of the street begins transition from fair to poor. This strategy usually requires a new asphalt surface and isolated base repairs. Once this work is complete, the street begins a new serviceable life.

OBJECTIVE NO. 2

Consistently clean and safe travel ways.

Policy 2.1 Minimize Airborne Pollutants

The City shall have a street and bike lane cleaning program of sufficient frequency that will reduce dust accumulations.

Policy 2.2 Protect Water Runoff Quality

The City shall have a street cleaning program that uses Best Management Practices (BMPs) to reduce the impact on water quality from street runoff.

Policy 2.3 Minimize impact of dangerous debris accumulation

The City shall have a cleaning program that provides a timely and adequate response to removal of debris from streets and bicycle lanes.

OBJECTIVE NO. 3

Bridges in Salem shall be safe and in good repair for commerce and the traveling public.

Policy 3.1 Bridge Maintenance Plan

The City shall maintain bridges at a safe and usable condition. Periodic inspections shall be performed to identify weaknesses and defects.

OBJECTIVE NO. 4

A safe and clean sidewalk system that encourages its use by Salem's pedestrians.

Policy 4.1 Sidewalk Safety and Repair

The City shall have in place a process to assure that sidewalks are kept clean and maintained to City standards.



OBJECTIVE NO. 5

To provide traffic control devices that are consistently functioning and properly maintained.

Policy 5.1 Inventory Database

The City shall maintain an inventory database of all traffic control devices (i.e., traffic signals, signs, stripings, and markings).

Policy 5.2 Traffic Signals

The City shall facilitate the safe and efficient movement of vehicles by properly maintaining its traffic signal system.

Policy 5.3 Signage

The City shall provide for the proper installation and maintenance of regulatory, warning, and informational signs.

Policy 5.4 Stripings and Markings

The City shall provide for the proper installation and maintenance of travelway stripings and markings.

IMPLEMENTATION STRATEGIES

Effective implementation of Salem's maintenance policies requires adequate funding. To achieve an adequate level of street maintenance and operation will require an additional \$3.5 million per year as compared to the FY 2003-04 funding level. Salem uses almost all of its annual allocation of State Highway Fuel Tax revenue for maintenance operations. Future increases in fuel tax, or other, revenue will be needed to meet the current and future maintenance needs of the Salem transportation system. In recognition of this, the City will pursue a strategy to work towards achieving an adequate LOS by incremental increases in revenue over a ten-year period with the goal of achieving the adequate LOS by FY 2013-14.