



# Street Cleaning Plan



**Effective Date:** June 8, 2016

**Sponsor:** Utility & Operations Manager and Street Maintenance Supervisor

**Approved by:**

Randy Witt, PW Director

A handwritten signature in blue ink that reads "Randy Witt".

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## **Purpose**

The purpose of this plan is to communicate the means and methods by which the City of Shoreline provides street sweeping services to its citizens and to articulate the scope, frequency and schedule of the provided services.

## **Introduction**

The Operations and Maintenance Division of the City of Shoreline's Public Works Department is responsible for providing street sweeping services within the City. The program is responsible for sweeping all public arterial and residential streets, bicycle lanes, and parking lots of various municipal facilities like City Hall and Park properties.

One goal of the program is to simply keep the streets free of debris and other materials that could be a hazard or impede the traveling public. Coarse and fine sediment materials left uncollected on the surface of streets can cause greater braking distances, increased risk of skidding, and potential loss of vehicle control. Removing this type of debris from the streets helps enhance user safety of the street network.

An environmental benefit of street sweeping, and another significant goal of the program, is to reduce pollutant loading of the City's storm drainage systems. Heavy metals such as lead, zinc, other metals, and polycyclic aromatic hydrocarbons (PAHs) from vehicle traffic bind onto sediments and in turn are carried off the roadway surface as runoff into storm drainage systems. Other pollutants that are present include grass-clippings, leaves, twigs, lawn fertilizer, and pet waste from adjacent properties. These wastes can often be found on the curb and gutter line. Capturing this material before it enters the storm drainage system is considered a best management practice (BMP). When street sweeping is combined with other BMP's to protect storm drainage systems from sediment and pollutants, improved water quality can result. This pollutant removal is vital in allowing the City to maintain compliance with its National Pollutant Discharge Elimination System (NPDES) Permit.

Another goal of the street sweeping program is to improve local air quality by removing natural and man-made sources of particulate matter that collect on our streets. If this fine particulate matter is not removed, it can become airborne due to vehicle traffic or maintenance activities. If this fine particulate matter is not removed, it can become airborne due to vehicle traffic or maintenance activities and pose a health concern because fine particulate matter can be inhaled into and accumulate in the respiratory system. The City's street sweeper is capable of collecting and removing over 90 percent of the particulate matter from our street surfaces. Our current street sweeper is also PM10 compliant which means it has the latest technology for maximum dust and particulate suppression during sweeping operations. Removing this particulate matter leads to a substantial improvement in our local air quality.

## **Planning and Program Development**

Street sweeping is an especially visible service that the Public Works Department provides to the community, one that the department strives to provide high value to our citizens. The intent of this plan is to articulate the scope, frequency and schedule of street sweeping operations within the City. The

plan then becomes an important guide for City staff to communicate with citizens regarding the department's street sweeping operations.

Customer satisfaction is monitored through oral and written communications received from citizens. Service Requests and complaints regarding street cleaning are received and routed to the Public Works Maintenance Supervisor or designated staff to investigate and follow up with the customer. How satisfied the general public is with Overall Cleanliness of City Streets and Other Public Areas is routinely checked with periodic citizen satisfaction surveys that are conducted every other year by the City Manager's Office. Exhibit A illustrates the results from the most current citizen satisfaction for street cleanliness.

The information and feedback gathered from the citizen satisfaction survey help influence and are a major consideration in determining how the City develops its street sweeping program, assigns levels of service, route frequency, and scheduling, all of which must then be balanced against other Maintenance Division work activities.

### **Service Area Routes**

There are approximately 345 lane miles of paved public streets within the City. The City streets are prioritized based on function, traffic volume, impact on water quality and the environment, and importance to the welfare of the Community. Accordingly, sweeping routes and frequencies are designed to provide the maximum possible benefit to streets with higher traffic volumes, bike and pedestrian routes, and sensitive water quality areas.

The Operations Division has divided the City into 48 maintenance sectors. Maintenance sectors align along both natural and manmade boundaries. The individual maintenance sectors were created to assist staff in organizing and tracking maintenance programs, individual work orders, and service requests.

City streets fall into two main categories: Arterial and Non-Arterial. Arterial streets are designed for greater vehicle carrying capacity, higher speed limits, and to efficiently deliver traffic to and from freeways and movement between urban centers. Each Arterial street is then classified as a principle, minor or collector arterial based on its design and characteristics. Non-Arterial streets provide local access. These streets carry fewer vehicles, have lower speed limits and typically move traffic in and out of neighborhoods. Non-Arterial streets can also be classified as Local Primary or Local Secondary based on how they function. A Streets classification is the primary factor used to determine street sweeping routes and service levels within the City.

The map in Exhibit B shows the current Arterial Sweeping Route and the map in Exhibit D shows the Maintenance Zones and Sectors used for Non-Arterial Sweeping. Sweeping routes are reviewed annually and updated as needed.

The City does not provide street sweeping services on private roads or privately owned property.

## Schedule

Arterial streets carry high volumes of traffic and typically collect the highest concentration of particulate matter, debris, and litter. Because of this, Arterial streets are swept more frequently than Non-Arterial streets. Routine sweeping operations occur mostly during normal hours of operations, but extra and emergency sweeping services are provided infrequently after normal hours of operation. Exhibit C shows the current Street Sweeping Schedule. The schedule is reviewed and updated as required.

## Environmental Compliance

Debris generated from routine Street sweeping is considered street waste and classified as solid waste pursuant to the Solid Waste Management Act ([Chapter 70.95 RCW](#)) and under the Solid Waste Handling Standards ([Chapter 173-350 WAC](#)). To comply with these regulations the City utilizes suggestions provided within **Appendix IV-G – Recommendations for Management of Street Wastes** in the **2012 Stormwater Management Manual for Western Washington** (as amended in December 2014).

Street sweeping debris collected by the City's street sweeper is offloaded into a designated containment area and loaded into a solid waste container with hard cover which is provided by the City's solid waste contractor. When the container is full the contractor is contacted and directed to transport the material for disposal at a regulated facility. Routine street sweeping debris is transported to the Shoreline Recycling and Transfer Station for disposal. Seasonal street sweeping (annual leaf drop) and wind storm cleanup can generate large volumes of clean organic debris and is transported to an organic compost facility for recycling. Emergency street sweeping debris that is potentially contaminated is either transported directly by staff or by solid waste contractor to a regulated facility for incineration.

Street sweeping collection and disposal is a significant work activity and a major component in complying with the City's National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Permit and achieving water quality related goals adopted in the Comprehensive Plan and the Cities Surface Water Master Plan.

## Debris, Leaf and Litter Collection

The City has one street sweeper that collects debris, leaves, and litter from its street network. The current sweeper is an Elgin Crosswind, Series J regenerative air sweeper with Shared Power and is PM10 compliant. This street sweeper is a large, complex, powerful machine and represents a large capital investment by the City. This equipment is extremely high maintenance and simple mistakes can render the street sweeper inoperable with costly repairs. Because of this, personnel assigned to operate the street sweeper are trained in the proper and safe use of the vehicle. This equipment and personnel training includes, but is not limited to:

- Reading the manufactures operations manual.
- Pre-deployment equipment checks. (fuel, tires, spray nozzles, broom adjustment, etc.)

- Basic preventative maintenance.
- Riding in the passenger's seat with an experienced street sweeping operator.
- Operating the street sweeper with an experienced operator in the passenger seat.
- Emptying the hopper and following debris handling procedures.
- Understanding and following sweeper routes and schedule.
- Completion of daily reports and other documentation, and finally,
- Operating the street sweeper alone.

Street sweeping services are provided year-round within the City and the work is assigned to a primary street sweeping operator. The primary operator provides these services Monday through Friday and during the primary operator's absence, a fully trained back-up operator is available and assigned these duties.

Leaf collection is primarily a seasonal activity that traditionally starts sometime in October and can often continue into December. Leaf collection is limited to tree lined Arterial streets with sidewalks and flood prone locations. The City has limited staff and resources available for leaf collection so residents and property owners are asked and encouraged to remove leaves and debris from their property and adjacent right of way to keep sidewalks, curb lines, and storm drains clear. During the fall months, those streets identified for leaf collection are routinely monitored and sweeping is scheduled as needed. If available, additional staff is assigned to blow leaves and debris in front of the street sweeper to clear sidewalks, drains, and shoulders. Service Requests for leaf cleanup are investigated and assessed case by case.

### **Litter Control**

Chapter 13 of the City of Shoreline municipal code adopts solid waste regulations. Chapter 13.14.210 adopts code language that prohibits littering within the City. The City street sweeper is used to pick up litter on Arterial and local access (residential) streets. This service is provided on a scheduled basis.

Additionally, the City's Right-of-Way (ROW) Landscape Maintenance services contract utilizes outsourced labor to pick up and dispose of litter. The contract specifies location and levels of service for the outsourced litter control.

The City also has an Adopt-a-Road program as another litter control effort. This is a proactive volunteer program that encourages a community-based approach to litter control. This program is administered by the Customer Response Team within the Community Services Division.

### **Storage Receptacles**

The City of Shoreline's solid waste collection services are provided by contract. As such, garbage and recycling receptacle sizes and types as well as collection frequency is defined within the contract. Contractor provided receptacles at City facilities are serviced by the contractor on a weekly basis as well as strategically placed street side receptacles.

Litter and debris collected by the City's street sweeper is deposited in a contractor provided solid waste container located at the Hamlin Park Maintenance Facility. When the solid waste container is full, maintenance staff coordinates with the contractor to transport, empty, and return the container.

### **Dead Animal Pickup**

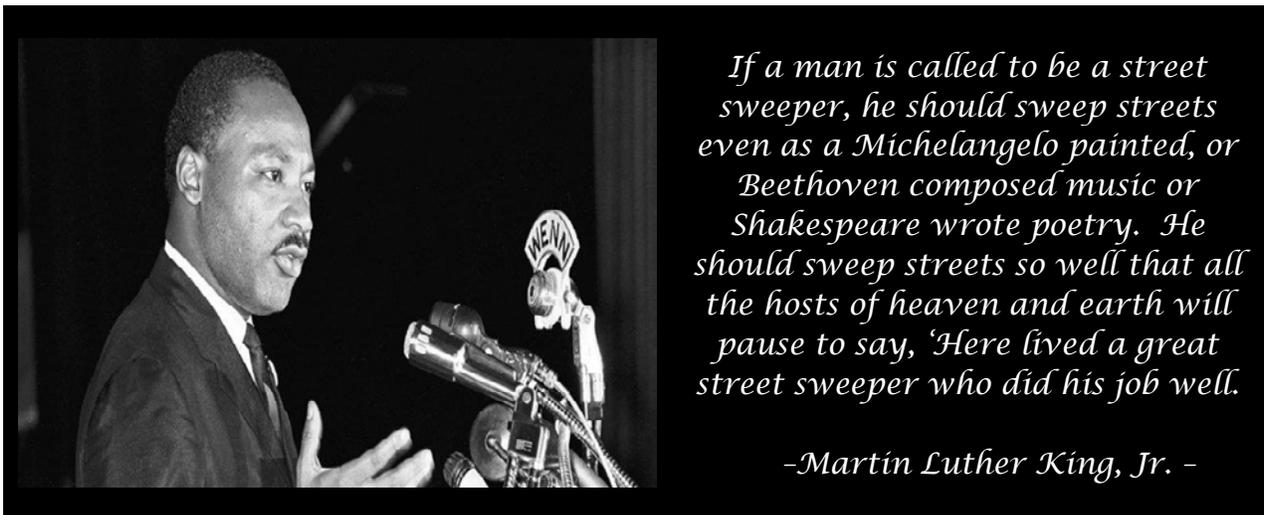
Dead animal removal from the City's public streets and ROW is provided through the Regional Animal Services of King County (RASC) under an Interlocal Agreement (ILA). When the City receives requests for dead animal removal from the public street or ROW, the information is collected as a courtesy to our residents and King County Animal Control is contacted on their behalf. King County Animal Control will then dispatch an Animal Control Officer to provide this service.

### **Street Cleaning: Conclusion**

As stated at the beginning of this Plan, street sweeping is a highly visible public works activity; one that is closely aligned with our City Council goals of Vision 2029 to become a sustainable city in all respects. This includes:

- **Sustainable neighborhoods** – ensuring they are safe and attractive;
- **Sustainable environment** – enhancing our build environment so that it protects our natural resources; and
- **Sustainable services** – supporting quality services, facilities and infrastructure.

The Public Works Department street cleaning program helps meet these Council goals with regular street debris removal that enhances the safety and aesthetic value of the City's street network, protects our natural environment through the routine removal of large and microscopic pollutants from street surfaces that otherwise could lead to air and water quality degradation, and is recognized as a "Best Management Practice" to achieve cleaner and greener infrastructure.

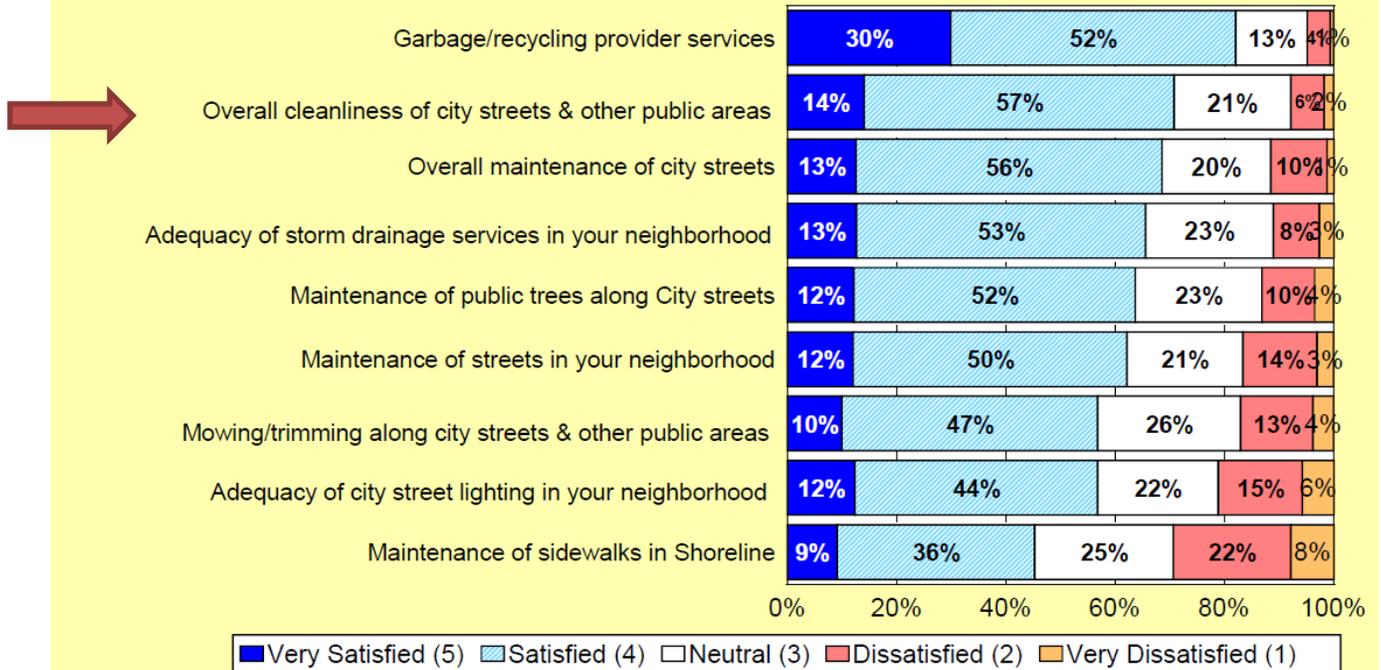


# Exhibit A

## Citizen Satisfaction Survey (2014)

### Q5. Respondent Overall Satisfaction with Maintenance Services Provided by the City of Shoreline

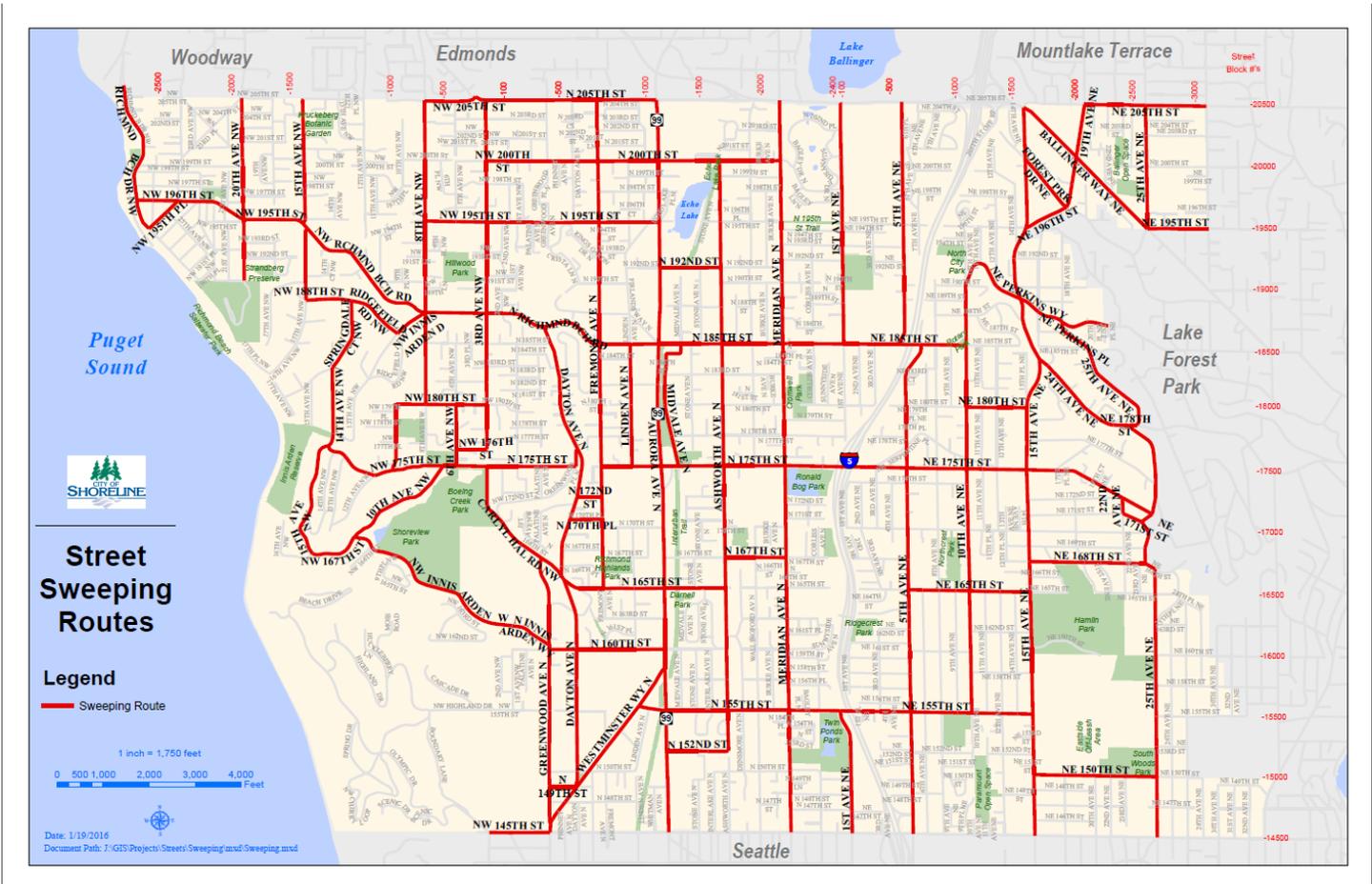
by percentage of respondents (excluding "don't know")



Source: ETC Institute for the City of Shoreline (2014)

# Exhibit B

## 2016 Street Sweeping Routes



# Exhibit C

## Street Sweeping Schedule

<b>Service Category</b>	<b>Frequency</b>	<b>Notes</b>
Arterial Streets	Once per month	Bike lanes and streets are swept with scheduled routes.
Non-Arterial Streets	Twice a year	Bike lanes and streets are swept with scheduled routes.
Fall Leaf Removal	As needed	Leaf removal sweeping is performed as required by constant monitoring of the route during the fall season. This sweep also captures bike paths and lanes.
Storm Clean Up	As needed	Sweeping after snow/ice events and wind storms.
Emergency	As needed	Sweeping primarily as a result of vehicle accidents, spills, unsecured loads, or other unplanned roadway events.
City Facilities	Twice a year	City Hall and Parks property streets and parking lots.
Citizen Requests	Case-by-case	All sweeping requests will be investigated case by case. If warranted a work order is created and sweeping is coordinated with the monthly Arterial Route. Un-warranted requests will be closed and swept under routine scheduling.

# Exhibit D

## Non-Arterial Sweeping Sectors

