



ADMINISTRATIVE REPORT

TO: PUBLIC WORKS COMMISSION

FROM: BRAD UNDERWOOD, DIRECTOR OF PUBLIC WORKS

PREPARED BY: Public Works Department

MEETING DATE: Wednesday, December 09, 2015

SUBJECT:
STREET SWEEPING PROGRAM INFORMATION EXCHANGE

RECOMMENDATION

That the Public Works Commission receives background information on the Street Sweeping Program and provide feedback on possible program modifications.

BACKGROUND

Historically the main purpose for street sweeping was aesthetics. The removal of litter and debris from the roadways promotes cleanliness and a positive perception for residents and visitors. However, in addition to aesthetics there are mandated regulatory stormwater requirements for trash reduction. Currently and in the future, street sweeping, along with trash capture infrastructure, will be considered the primary tools for regulatory compliance for both trash and PCB load reductions, as mandated in the Municipal Regional Stormwater Permit (MRP). The MRP requires regional agencies to reach 70 percent trash reduction by July 1, 2017, 80 percent by July 1, 2019 and 100 percent trash and litter reduction by 2022. The MRP also requires 500 gram/year PCB load reduction regionally by 2018, and 3000 grams/year by 2020. Currently the Bay Area Stormwater Management Agencies Association is conducting a scientific study of street sweeping practices to determine which practices will yield the equivalent of full capture for trash. The results of the study are scheduled for completion in December 2016 and will be presented to the Regional Water Quality Control Board (RWQCB). It is possible the RWQCB will endorse a program of street sweeping best management practices (BMP's) that must be followed in order to achieve full trash capture equivalency for meeting trash reduction milestones.

For the street sweeping program to be successful in achieving these regulatory mandates now and in the future it must be efficient, effective and sustainable. Additionally, Staff has started to analyze how the street sweeping program would have to adapt to the mandated stormwater regulatory action.

As you have seen in the October 9, 2015 City of San Mateo Street Sweeping Cost of Service Analysis the street sweeping program is underfunded by \$145,565 annually and two Street Sweepers are due for replacement at a cost of approximately \$245,000 each. \$318,000 has been set aside but \$172,000 more is needed to purchase the sweepers. The City of San Mateo's actual cost per mile for street sweeping is \$48.79 when factoring full program cost. On average other cities pay around \$24 per mile for outsourced street sweeping service.

Opportunities to address the funding issue fall under two broad categories that include either cost reduction or increasing revenues.

DISCUSSION

Street sweeping revenues come from three sources; \$320,000 is collected from solid waste billing, \$40,000 is collected annually from Caltrans and approximately \$118,000 is collected from Measure M vehicle registration fees. In 1995 street sweeping revenues collected on solid waste bills was capped at \$320,000 annually. A typical residential user with a 32 gallon trash can pays \$4.68 annually for street sweeping service. A 2012 study by Kier Associates found that west coast communities are spending approximately \$5.58 per resident a year for street sweeping services. Increasing revenues for street sweeping would require Proposition 218 voter approval. Kier Associates also found that west coast communities are spending approximately \$13.00 per resident a year to combat and clean up trash.

Cost reduction opportunities include contracted service delivery and/or service level reductions. Management Partners recommends that the City consider outsourcing its street sweeping program as the most cost-effective method of meeting street sweeping needs. Outsourcing the street sweeping program requires the city to meet and confer with SEIU Local 521 and prepare a requested for proposals (RFP). The Meet and Confer process is underway. Before an RFP can be prepared the street sweeping program must be reevaluated and defined taking into consideration service levels across the city and sweeping effectiveness. For example some areas of San Mateo are not swept at all, others are swept weekly, and most others are swept twice per month. Some routes have no parking signs and many others rely on voluntary off street parking. Increased traffic and vehicles has placed greater pressure on street parking; when vehicles are left on the street during a sweeping route it makes it difficult to the sweep the curb where most trash accumulates. In areas of San Mateo that do not have no parking signage, the sweeping program is not performing optimally as cars in these neighborhoods prevent the sweepers from reaching the curb.

In March, 2015 staff came before the Public Works Commission with a final draft of the No Parking Street Cleaning Sign Policies and Procedure Manual. The Public Works Commission endorsed the procedure manual and staff presented to Council on May 18, 2015. Council did not approve the manual and expressed the following concerns:

- 1) Council indicated the numeric threshold to measure neighborhood support for no parking signs was too low, allowing a minority to decide if no parking signs would be installed on a sweeping route. Council wanted to see a much higher percentage of the surveyed residents approve any neighborhood signage.
- 2) Council indicated that the final decision to install no parking signs on sweeper routes should come back to them for approval. Council preferred a system where neighborhood support would be sought via a survey. Council would then use the results to guide them to either approve or reject the installation of signs for a given request.
- 3) Council stated that the procedure manual needed a section describing how requests to remove signs would be evaluated.
- 4) Council was concerned that since the signage program targeted medium to high trash generation areas (high residential density), this would place a potential punitive damage (in the form of a parking ticket) to those who would be most financially impacted.

Council recognized the impact that no parking requirements on sweeper routes has on residents and was concerned that the procedure for requesting no parking signs will pit neighbor against neighbor, due to differing opinions. This is unlike the Residential Parking Permit procedure where the neighbors are trying to deter outsiders from parking in their neighborhoods.

To have a viable street sweeping program that is part of an overall trash reduction strategy we must evaluate the following items regardless of how or street sweeping service is provided:

Efficiency

- Each month, two sweepers with three staff members cover San Mateo's 24 different sweeping routes. According to Management Partners the City completed 70% of these routes in Fiscal year 2014/15.
- Annually, sweepers travel over 12,400 miles of San Mateo streets.
- There is no additional route capacity in the current twice per month route system.
- Residential route frequency is not equitable. A typical route is swept twice per month, however there are two special residential routes that are swept weekly and some residential neighborhoods not currently being swept.
- Volunteer neighborhood no parking signage program divides neighborhoods and does not systematically reflect route needs.

Effectiveness

- Parked cars impact street sweepers' ability to effectively sweep the gutter where trash accumulates minimizing stormwater protection.
- Field tests have shown voluntary no parking is ineffective, signed routes are enforceable. 6% of the city routes are posted with no parking signs.
- Routes are swept twice a month regardless of their trash load designation. Sweeping a low trash street twice per month could be ineffective and those sweeping resources may be better utilized in higher trash generating areas of town.
- In addition to street sweeping, trash capture devices built according to Water Board standards are an effective way of meeting trash reduction regulations. The City is preparing to study the feasibility of Full Trash Capture Devices throughout the City. It is anticipated that there will be a large initial capital improvement budget (millions) needed, along with operations and maintenance costs for the long term.

Sustainability:

- Annual revenue from the solid waste fund for the street sweeping program has been capped at \$320,000 since 1995.
- Street Sweeping operation and maintenance is underfunded by \$154,565 annually.
- Street sweeper capital equipment replacement fund is underfunded by \$172,000.
- Street sweeping funds collected as a percentage of solid waste bill may not be the best method.
- City of San Mateo cost for street sweeping service is roughly double that of private service providers.
- There is no funding mechanism to help the city meet stormwater trash reduction regulations. Implementing a funding mechanism will require Proposition 218 voter acceptance.
- San Mateo faces stricter trash reduction goals coming in 2017, 2019, and 2022. These goals are unfunded mandates and the city needs to start proactively determining how to change existing practices to meet these goals, or look for new funding sources to help pay for program enhancements.

Staff will be assessing the following options over the next few months:

- 1) Eliminate the street sweeping program
- 2) Sweep only routes posted with no parking signs
- 3) Sweep only high trash generating areas
- 4) Maintain current level of street sweeping service
- 5) Install no parking signs throughout the city

Staff is requesting input from the Commission on these options and whether others should be considered.

BUDGET IMPACT

There are no budget impacts as a result of this Public Works Commission Administrative Report. Future actions could have budgetary impacts, for example, the installation of no parking signs will increase cost and outsourcing street sweeping services may reduce overall street sweeping program costs.

ENVIRONMENTAL DETERMINATION

In accordance with Section 15378(b) of the CEQA guidelines, Council action on this item does not constitute a project under CEQA as an activity that will not result in direct or indirect physical changes to the environment.

NOTICE PROVIDED

All meeting noticing requirements were met.

ATTACHMENTS

1 – City of San Mateo Street Sweeping Program Cost of Service Analysis, October 9, 2015

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Management Partners



To: Mr. Gary DeJesus, Environmental Services Deputy Director
City of San Mateo

From: Lynn Dantzker, Partner
Greg Fassler, Special Advisor

Subject: City of San Mateo Street Sweeping Program
Cost of Service Analysis

Date: October 9, 2015

Executive Summary

Management Partners was engaged to conduct a competitive sourcing analysis for San Mateo's street sweeping services. The purpose of the analysis was to assist the City in determining whether competitive sourcing could provide a cost-effective alternative to continuing to manage and provide the service in house. Based on the cost analysis in this report, we believe that it does and recommend that the City explore a competitive bidding process for its street sweeping program.

San Mateo Public Works staff asked that we analyze the cost of the existing street sweeping services prior to any work related to a possible decision to contract for service. This cost of service analysis addresses the following areas:

- Organization and Staffing
- Performance and Productivity
- Street Sweeping Program Costs and Revenues
- Preliminary Contract Cost Information

The scope of this project did not allow an in-depth assessment of the efficiency and effectiveness of the City's street sweeping program. We did not analyze routes or methods of operation for efficiency; however, we provide a high level discussion about performance and productivity based on available information from the City and best practices. Generally, with the exception of one residential area which receives more frequent sweeping than the rest of the City, the City's sweeping frequencies are consistent with other municipalities.

In addition to direct program expenditures exceeding available revenues by \$46,380, our review indicated that the City is not allocating all street sweeping program costs to its Solid Waste/ Street Sweeping Fund program for cost recovery purposes. The City is aware of this and has been maintaining the current cost allocation approach in part due to insufficient resources in the fund to offset the full cost of service. As a result of this approach, the actual estimated program costs associated with the program have not been fully assessed.

Effectively, the City is currently subsidizing the estimated annual street sweeping program cost by about \$154,565 annually. This is partly a result of the solid waste collection surcharge remaining flat since 1999, which has not allowed the City to fund total program costs. Additionally, program costs and street sweeping program regulatory obligations (storm water management) have increased since this time.

This cost of service analysis as well as preliminary data from cities that contract for street sweeping service indicates San Mateo could significantly reduce costs by doing so. This would be true regardless of whether the City increases its solid waste collection surcharge to support annual expenditures or all program costs associated with the street sweeping program.

The cost per curb mile swept is about \$40.08 when using actual costs and about \$48.79 when the estimated additional program costs, e.g., full equipment replacement costs and other Public Works staff costs, are included. This compares to a range of \$21.39 to \$32.42 per curb mile for cities surveyed that are currently contracting for street sweeping services. In addition to normal street sweeping covered under these contracts, other sweeping services may include parking lots, emergency response services (typically hourly), and special event support. These, plus contract management costs, may increase the overall cost of an outsourcing contract for San Mateo; however these are not likely to substantially increase the cost per curb mile that could be expected under a contract.

Management Partners recommends that the City consider outsourcing its street sweeping program as the most cost-effective method of meeting community interests for street sweeping and its economic development objectives for its downtown. While contract management would still be required, a contracted street sweeping program could be managed by Public Works administrative staff, thereby allowing line staff and supervisors to reallocate their time to other maintenance services. Additionally, reducing program costs may delay or mitigate the need to increase the current street sweeping surcharge. At an average cost of about \$24 per curb mile swept among the sample contract cities, the City's annual street sweeping revenue may be sufficient to support its current street sweeping program.

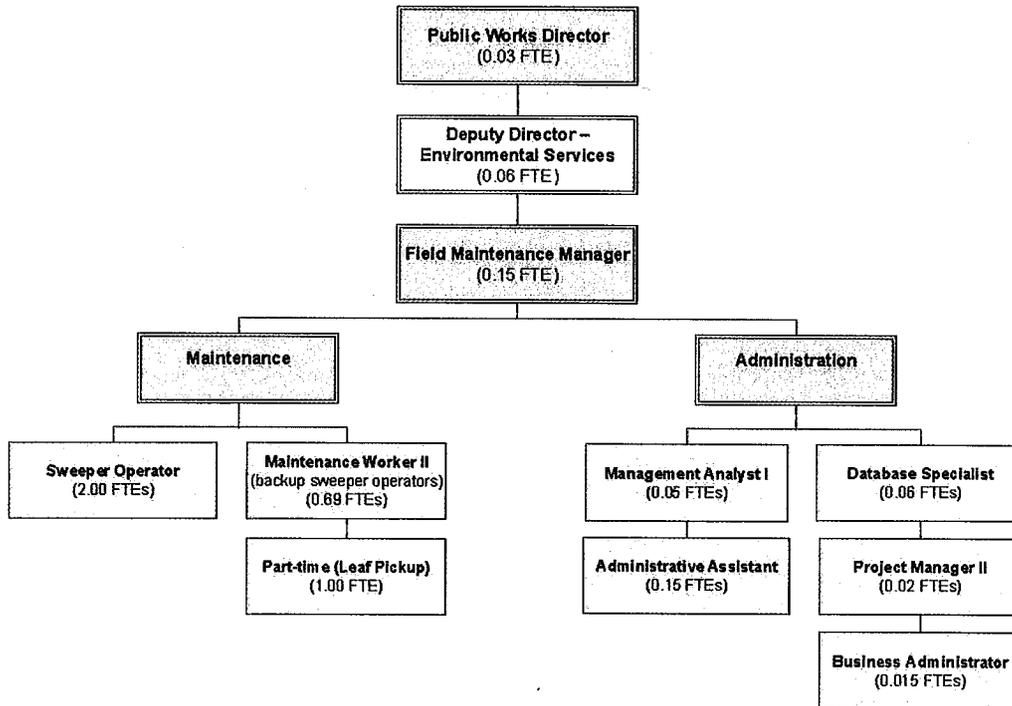
Organization and Staffing

This section provides information and observations regarding the organizational structure, staffing and labor distribution associated with the City's street sweeping program. Figure 1 shows the organizational structure of the street sweeping program as it was configured in FY



2014-15. The figure does not include the Police Department's parking enforcement function, which also provides support to the street sweeping program.

Figure 1. Street Sweeping Program Organization Chart



Sources: The Public Works Department Budget Flex Worksheet and Public Works staff interviews.
 Note: Blue boxes indicate positions that charge hours to Solid Waste Fund/Street Sweeping (3.07FTEs); Green boxes indicate positions allocated to other divisions and budgets within the Public Works Department (1.155 FTEs)

A total of 4.225 FTEs support the street sweeping program.

Based on information from the City's payroll system, Table 1 provides the total hours charged annually to the street sweeping program by the primary sweeper operator positions and three maintenance workers from the Public Works Street Division. The maintenance workers fill in for the primary sweeper operators when they are not available due to sick leave, vacation time, comp time or holidays. We understand the totals may also include hours for some other sweeping tasks, but those are minor compared to the back-up duties.

Table 1. Sweeper Operator Hours Charged to the Solid Waste Fund

Position	FY 2012-13	FY 2013-14	FY 2014-15
Primary Sweeper Operator A			
Regular Hours	1,246	1,353	1,190
Overtime Hours	262	235	265
(A) Sweeper Operator A Total Hours	1,508	1,588	1,455
Primary Sweeper Operator B			

Position	FY 2012-13	FY 2013-14	FY 2014-15
Regular Hours	1,718	1,717	1,661
Overtime Hours	130	184	102
(B) Sweeper Operator B Total Hours	1,848	1,901	1,763
(C) Total Primary Hours [(A) + (B)]	3,356	3,489	3,218
Backup Sweeper Operators (Three Maintenance Workers)			
Regular Hours	776	795	1,148
Overtime Hours	7	17	62
(D) Backup Sweeper Total Hours	783	812	1,210
TOTAL HOURS CHARGED [(C) + (D)]	4,139	4,301	4,428

Source: As reported by City/Public Works Eden Payroll System

A typical municipal employee (non-safety) works 2,080 hours in a fiscal year, which includes both active work hours as well as vacation, sick leave, and holidays. After deducting typical annual leave and holidays, the average number of direct work hours annually is estimated at about 1,760. The total number of regular and overtime hours charged to the Solid Waste Fund by both the primary and back-up sweeper operators is the equivalent of about 2.50 full-time equivalent (FTE) employees. Additionally, overtime and back-up sweeper operator hours accounted for almost one FTE (0.9) of those hours.

Table 2 shows the average annual leave (vacation and sick leave) time used by the primary sweepers, excluding holidays. Management Partners understands that one of the sweeper operators was on extended sick leave in FY 2012-13 and FY 2014-15.

Table 2. Primary Sweeper Operators' Annual Leave (not including holidays)

Position	FY 2012-13	FY 2013-14	FY 2014-15 ¹	Average Annual Leave
Primary Sweeper Operator A	138.00	250.50	230.00	206.17
Primary Sweeper Operator B	690.25	58.00	347.75	365.33
Total	828.25	308.50	577.75	571.50

Source: Human Resources data that includes vacation time, sick leave, and comp time; excludes holidays.

¹One sweeper operator was on sick leave for about five months in FY 2013 and 2014-15.

Major Observation

1. The City's street sweeping program relies on back-up sweeper operators and overtime to sustain it, which increases costs and impacts other Public Works maintenance programs when staff must be diverted to street sweeping.



Performance and Productivity

An in-depth analysis of program performance and productivity was not within the scope of this project; however, the City did ask us to provide observations at a high level to the extent we were able to do so. To understand program performance and productivity, we gathered data and information from available sources provided by the City. The program performance data maintained by the City is neither robust nor comprehensive; however based on our experience in other municipalities and the peer agency survey, this is not unusual.

Table 3 provides street sweeping frequencies currently performed by the City's street sweeping program.

Table 3. Street Sweeping Frequencies

Route Name	Miles	Frequency	Route Name	Miles	Frequency
Residential Routes					
1A	15.6	Twice a month	7A	21.7	Twice a month
1B	18.4	Twice a month	7B	16.9	Twice a month
2A	16.4	Twice a month	8A	18.3	Twice a month
2B	14.7	Twice a month	8B	15.8	Twice a month
3A	18.3	Twice a month	9A	17.2	Twice a month
3B	13.6	Twice a month	9B	16.1	Twice a month
4A	21.7	Twice a month	10A	11.8	Twice a month
4B	20.7	Twice a month	10B	8.7	Twice a month
5A	19.0	Twice a month	11	22.6	Twice a month
5B	19.2	Twice a month	SPT*	6.8	Weekly
6	14.8	Twice a month	SPW*	7.0	Weekly
Commercial Routes					
DT*	5.6	Three times a week	STORE*	2.5	Three times a week
Arterial Routes					
ECR**	8.8	Twice a month			

*SPT and SPW are two special residential routes; DT is the downtown area; STORE is the storefront area in downtown.

**Caltrans owned state highway (El Camino Real).

Twenty routes throughout the City are swept twice per month, representing 341.4 miles. Two "special routes" are swept once per week, representing 13.8 miles. These routes are all in residential areas. The downtown and storefront areas are swept three days per week and represent 8.1 miles. Caltrans contracts with the City to sweep El Camino Real twice a month. This corridor represents 8.8 miles. According to Public Works (see Table 4), this results in 12,417 scheduled route miles during FY 2014-15.



The City states that sweeper operators typically complete multiple routes each day, except on Thursday and Saturday. The downtown and storefront routes are completed Monday-Wednesday-Friday, followed by a full regular route. The "special residential route" schedule (SPT and SPW) was established some years ago to address a need for increased street sweeping in those areas; these routes are completed on Tuesday and Wednesday following completion of a regular full route.

Table 4 lists the total number of scheduled route miles for FY 2014-15 that were swept under the City's street sweeping program. According to the fleet maintenance contractor, the odometer readings indicate total annual sweeper miles were twice the number of miles spent sweeping scheduled routes. This is likely due to trips back and forth to the corporation yard to dump loads, lunch breaks, and travel time to begin a new route.

Table 4. Street Sweeping Scheduled Route Miles for FY 2014-15

Type	Annual Miles
Residential	9,911
Special Residential	799
Commercial (Downtown)	1,479
Arterial*	228
Total Street Miles Scheduled	12,417

Source: Scheduled Street Sweeping Route Miles provided by Public Works Department

**Caltrans contracted route (El Camino Real).*

Table 5 provides information about the number of routes scheduled compared with those completed based on information available.

Table 5. Street Sweeping Routes Compared to Completed Routes for FY 2014-15

Route Type	Routes Scheduled	Routes Completed*	Percent Completed
Scheduled	913	636	70%
Non-Scheduled	N/A	128	N/A
Other	N/A	8	N/A

**Data provided by City Public Works Department as documented by their Computerized Maintenance Management System (CMMS).*

To accomplish these routes, the City uses two front-line regenerative street sweepers. A third sweeper serves as a backup when any of the front line sweepers are out of service due to maintenance or repairs. Routes are split evenly between two primary sweeper operators. The documentation available indicates that about 70% of the scheduled routes were completed in FY 2014-15. This may be due in part to the number of back-up operators in the last fiscal year required to backfill a full-time position that was vacant due to an extended sick leave and unfamiliarity with documentation requirements by the various backup operators. Typically,



uncompleted routes are due to inclement weather, route obstructions, road construction or equipment failure.

Attachment A provides the results of a survey of some peer cities' street sweeping programs.

Best Practices and Performance Measures

Table 6 provides an assessment of street sweeping best practices compared with the City's program implementation. This is intended to provide a threshold assessment of San Mateo's program and performance measures. The major components of a street sweeping program generally address the following functional elements:

- Sweeping objectives , e.g., water quality, debris clean-up;
- Roadway types;
- Debris types;
- Equipment availability and usage;
- Program costs; and
- Water quality obligations.

Table 6. Street Sweeping Best Practices Implemented by the City

Street Sweeping Best Practices	Implemented	Partially Implemented
Policy and Program Objectives		
Established policies and program objectives with respect to: <ul style="list-style-type: none"> • Appearance (debris and trash removal) • Air quality • Roadway maintenance and clean-up • Safety • Water quality 		X
Equipment selected to maximize program objectives	X	
Sweeping schedules and equipment support City storm water quality outcomes	X	
Operation		
Equipment selection		
Maximizing sweeping program objectives		X
Ability to pick up debris (removal efficiency and objective)	X	
Surface type	X	
Hopper capacity	X	
Dumping style	X	
Alternative fuel opportunities		X
Service life costs		X
Operator training		
Street sweeping program objectives	X	
Factory training	X	
Internal training for new hires and back-up operators		X
Daily operation checklist procedures	X	



Street Sweeping Best Practices	Implemented	Partially Implemented
Trouble shooting minor repairs	X	
Daily clean-up	X	
Preventive maintenance (internal maintenance plan)	X	
Equipment maintenance		
Adherence to scheduled maintenance	X	
Factory trained mechanics		
Program Management		
Program Costs		
Revenue and expenditures analysis		X
Comprehensive cost allocation program		X
Adequate equipment replacement fund		X
Labor hour and cost monitoring		X
Alternative debris disposal methods		X
Performance Management		
Formal performance measures and standards		X
Scheduled route completion		X
Curb miles swept	X	
Debris disposal and volumes		X
Catch basin monitoring program		
Route monitoring (GPS and visual monitoring)		X
Program supervision		X
Interdepartmental coordination, e.g., police and construction inspection		X
Customer complaints	X	

Table 7 provides a listing of performance documentation that should be maintained compared to what is currently documented by the City.

Table 7. Suggested Street Sweeping Performance Metrics Implemented by the City

Documentation	Implemented	Partially Implemented
Sweeper Operator Daily Reports		
Number of curb miles swept	X	
Areas missed and why		X
Number and type of obstructions		X
Schedule routes swept	X	
Equipment, mechanical issues	X	
Management Reports		
Missed streets and frequency		
Sweeping call backs	X	
Number and type of customer complaints		X
Monthly labor hours charged		X



Documentation	Implemented	Partially Implemented
Frequency of route monitoring		X

The City has implemented many of the best practices associated with a municipal street sweeping program, either partially or fully. There may be several issues when an item is noted as partially implemented: although specific information or data is being gathered, it may not be sufficient; and/or the data may not be analyzed comprehensively or applied against established performance standards.

Major Observations

1. *Innovation and effectiveness require measuring what gets done (performance and accountability). The street sweeping program lacks comprehensive program performance standards against which productivity, performance and efficiency may be measured.*
2. *Increased supervision either through visual monitoring or the use of GPS should be a priority for the City to ensure that what is expected to be completed by a sweeper operator is in fact completed.*
3. *Assessment of the overall contribution of the street sweeping program to the City's storm water permit regulatory compliance program is not possible with the current documentation. A street sweeping program is an important tool for removing fine sediments from city streets to prevent them from flowing into either treated or untreated water flows. The City's street sweeping frequencies are typical for most municipalities (two residential areas are swept more frequently than twice per month) and represent a best practice in support of storm water management objectives.*

Street Sweeping Program Costs and Revenues

The major objective of this phase of our engagement was to provide a cost of service analysis for the street sweeping program. The following provides an analysis of revenues and expenses based on the available information and data provided by the City.

Program Costs

This section provides an analysis of the following cost components of the City's street sweeping program:

1. Actual Revenues and Expenditures for FY 2014-15
2. Other Equipment Operating Costs
3. Equipment Replacement Costs
4. Other Public Works Divisions Costs

Table 8 provides a summary of the street sweeping program actual revenues and expenditures in FY 2014-15. The City's adopted Business Plan 2014-2016 reflects a \$431,320 allocation to the Street Sweeping Program within the Public Works Department. The \$497,702 in Table 8 reflects the actual expenditures for FY 2014-15. The difference between the adopted budget and actual expenditures was primarily due to \$46,380 in additional salaries and benefits charged to the



Solid Waste/Street Sweeping Fund and a significant increase in maintenance costs (\$31,090) due to aging equipment and an engine failure.

Table 8. Street Sweeping Actual Revenues and Expenditures in FY 2014-15

Street Sweeping Program		FY 2014-15
Expenditures		
Salaries and Benefits		\$350,019
Operating Expenditures		\$111,092
Capital Outlay		\$36,591
	Total Expenditures	\$497,702
Revenues		
Vehicle Registration Fee		\$117,989
Caltrans Street/Hwy Maintenance Contract		\$40,000*
Solid Waste Collection Surcharge (Street Cleaning)		\$293,333
	Total Revenues	\$451,322
Revenues Under Actual Expenditures		\$46,380

Source: Expenditures by Object Report, Solid Waste Fund/Street Sweeping July 1, 2014 to June 30, 2015.

*Caltrans billing estimate provided by the Public Works Department Field Maintenance Supervisor.

The City's actual revenues and expenditures in FY 2014-15 resulted in a cost per curb mile swept of about \$40.08. While the FY 2014-15 street sweeping program revenues did not cover the actual Solid Waste/Street Sweeping Fund program expenditures, the subsidy by either the Solid Waste Fund or the General Fund is even higher when other street sweeping program related costs, e.g., the leaf pick-up program and other Public Works staff costs, are included.

Table 9 provides the FY 2014-15 annual leaf pick-up program equipment operating costs as documented by the City's Public Works Facilities Maintenance Division. The street sweeping equipment operating costs are not included in Table 9 as they are assumed to be captured in the actual operating expenditures in Table 8.

Table 9. Leaf Equipment Operating Costs for FY 2014-15

Leaf Pick-up Equipment	Model Year	Annual Maintenance Cost	Annual Fuel Costs	Annual Admin Costs	Total Annual Operating Costs
Indirect: Other Funds					
S-40 Leaf Vacuum	2008	\$931	\$257	\$197	\$1,385
M-40 Dump Truck*	1997	\$2,780	\$131	\$589	\$3,500
Total Indirect		\$3,711	\$388	\$786	\$4,885

*Truck costs are adjusted to reflect sweeping's share of usage (five months) during leaf season.



Table 10 reflects the funding currently budgeted to replace various sweeper and leaf pickup equipment, most of which are at or past their optimal usage term. Additionally the table reflects the current annual contributions made towards each unit's replacement costs and the corresponding accumulated costs for each unit.

Table 10. Budgeted Sweeper and Leaf-Pickup Equipment Replacement Costs

Sweeper Equipment	Model Year	Funding Required to Purchase ¹	Current Contribution	Accumulated Replacement Fund Balance To Date
Direct: Street Sweeping				
S-17-Sweeper	2006	\$245,000	\$0	\$154,824
S-19-Sweeper	2009	\$245,000	\$35,922	\$163,086
XS-19-Backup Sweeper	2004	N/A	\$0 ³	N/A
XL-73 Pickup	1999	N/A	\$0 ³	N/A
Total Direct:		\$490,000	\$35,922	\$317,910
Indirect: Other Funds				
S-40 Leaf Vacuum	2008	\$40,000	\$2,778	\$16,667
M-40 Dump Truck ²	1997	\$35,700	\$2,357	\$21,210
Total Indirect:		\$75,700	\$5,135	\$37,877
Total		\$565,700	\$41,057	\$355,787

¹Based on 2015 purchase price estimates.

²Truck costs adjusted to reflect street sweeping's share of usage (five months) during leaf season.

³There is no current contribution for this equipment as they are beyond the expected life of the equipment.

Management Partners believes there is insufficient revenue being allocated to ensure full replacement costs for the street sweeping equipment. In addition to the \$318,000 set-aside to replace the primary sweepers, another \$172,000 would be needed, based on today's price of approximately \$245,000 each. The dump truck that supports the leaf pickup program would also require another \$15,000. The underfunded replacement cost issue is addressed in the following section on Budgeted and Estimated Costs.

Street Sweeping Program – Budgeted and Estimated Annual Costs

To establish the full street sweeping program costs actually incurred by the City, Management Partners documented actual costs incurred in FY 2014-15, indirect costs not currently allocated to the Solid Waste/Street Sweeping Fund, and budgeted costs we believe to be underfunded within the program. These generally fell into the following categories:

1. *Salaries and benefits* – The actual labor costs charged to the Solid Waste /Street Sweeping Fund are greater than those budgeted in the City's Street Sweeping program in the adopted Business Plan 2014-2016. Additionally, the street sweeping program does not currently budget directly for the leaf season employee costs or capture all the indirect Public Works employee staff costs attributable to the program.



2. *Equipment maintenance* – The budgeted equipment maintenance costs do not reflect the actual costs incurred by the City.
3. *Equipment replacement* - The City is currently underfunding the replacement costs for the street sweeping equipment.

Table 11 summarizes those cost elements that were not charged to FY 2014-15 Solid Waste/Street Sweeping Fund and compares the budgeted costs against what Management Partners believes are more accurate annual program costs.

Table 11. Street Sweeping Program - Unallocated or Underfunded Annual Costs

	FY 2014-15 Actual	Annual Cost Estimates	Unallocated Program Cost
Salaries and Benefits			
Part Time Employees (Leaf Season) ¹	N/A	\$40,893 ¹	\$40,893
Non-budgeted Public Works Staff ²	N/A	\$26,131 ²	\$26,131
Total	N/A	\$67,024	\$67,024
Leaf Equipment Maintenance			
Leaf Pick-up Program	N/A	\$4,885 ³	\$4,885
Total		\$4,885	\$4,885
Sweeper Vehicle Replacement			
S-17 Sweeper	N/A	\$35,000 ⁴	\$35,000
S-19 Sweeper	\$35,922 ³	\$35,000 ⁴	(\$922)
S-40 Leaf Vacuum	\$2,778	\$4,000 ⁵	\$1,222
M-40 Dump Truck	\$2,357	\$3,333 ⁶	\$976
Total	\$41,057	\$77,333	\$36,276
Total Unallocated Program Costs			\$108,185

¹Based on information provided by the Field Maintenance Manager who estimated approximately 70% of three part-time employees hired annually during the leaf season.

²Based on information provided through staff interviews and budget data. Estimate is based on the applicable percentage of salaries and benefits of four public works employees not included within the street sweeping program budget: data specialist, project manager II, business administrator, and deputy director.

³See Table 9 for detail.

⁴Based on current equipment cost depreciated over 7 years.

⁵Based on current equipment cost depreciated over 10 years.

⁶Based on current equipment cost depreciated over 15 years.

The results of this analysis indicate that the City's actual annual estimated street sweeping program cost is understated by about \$108,185.

Table 12 compares the street sweeping program revenues with the estimated annual street sweeping program costs as shown in Tables 8 and 11. The data indicate that the City of San Mateo's estimated annual street sweeping program costs exceed available revenues by about \$154,565 annually.



Table 12. Street Sweeping Estimated Annual Program Costs and Revenues for FY 2014-15

Type	FY 2014-15 Actual
REVENUES	
Vehicle Registration Fee Revenue	\$117,989
Caltrans Hwy/Street Maintenance Contract	\$40,000*
Solid Waste Collection Surcharge (Street Cleaning)	\$293,333
TOTAL REVENUES	\$451,322
ESTIMATED ANNUAL COSTS	
Actual FY 2014-15 Street Sweeping Program	\$497,702
Additional Salaries and Benefits	\$67,024
Additional Equipment Maintenance Costs	\$4,885
Increased Equipment Replacement Contributions	\$36,276
TOTAL COSTS:	\$605,887
PROGRAM COSTS OVER REVENUES	\$154,565

Source: Expenditures by Object Report July 1, 2014 through June 30, 2015 and information compiled in Table 11.

*Revised estimate by the Public Works Department Field Maintenance Supervisor.

When the additional program costs are included, the total estimated annual program cost is \$605,887. This results in a cost per curb mile swept of about \$48.79.

Major Observations

1. All street sweeping program costs are not being fully assessed or allocated to the Solid Waste/Street Sweeping Fund, which results in a subsidy to the program and underestimates full program costs. This subsidy is directly related to the practice of using available revenue in the Solid Waste/Street Sweeping Fund to offset program costs, but also due to a cost allocation methodology that is not comprehensive.
2. Primary sweepers as well as the dump truck that supports the leaf pickup program are at or beyond their replacement terms, which leads to increased maintenance and operating costs. Equipment downtime documented by the City's contract fleet maintenance service indicated that all three sweepers were out of service 3,019 hours in FY 2014-15 due to regular maintenance and repairs. This has likely also contributed to the scheduled route completion performance record and the increase in maintenance costs in FY 2014-15.
3. The street sweeping equipment replacement plan and chargeback system underestimates the true costs to the program and should be reengineered to ensure sufficient revenue is available to support equipment replacement. The replacement criteria do not reflect industry standards.
4. Street sweeping program costs exceed revenues. Policy choices regarding the future of the program will need to be made. The City can either continue to subsidize the program, increase the solid waste street cleaning surcharge, or seek alternative service delivery options that may lower costs.



Preliminary Contract Cost Information

Management Partners gathered the following preliminary contract cost information for various cities that currently contract street sweeping services. Table 13 shows that the cost per curb mile for contracting cities is significantly lower than San Mateo's FY 2014-15 actual program cost. This information was obtained through discussions with the cities and a review of their street sweeping contracts.

Table 13. Contract Cost per Curb Mile

City	Total Annual Curb Miles Swept	Cost Per Curb Mile Swept
San Mateo (Actual FY 2014-15)	12,417	\$40.08 ¹
Contract Cities		
Foster City	4,134	\$22.59
Cupertino	6,408	\$21.39
Irvine	6,180	\$24.00
Tracy	12,800	\$18.45 ²
Palo Alto	17,272	\$32.42 ³
Pleasanton	7,614	\$24.10

¹Does not include additional program costs.

²Includes parking lots and alleyway.

³Includes weekly sweeping during leaf season.

These costs per curb mile include street sweeping costs only; they do not include other costs that may be included in the contracts such as emergency or special services (typically provided on an hourly cost basis), or specialty sweeping such as parking lots, which are included in some contracts and not others. The costs also do not include city-incurred program costs such as contract management, responding to customer service issues, or any services retained in house. Such indirect costs are not likely to increase the curb mile cost for each of the cities significantly. Also, as part of this phase of the project, Management Partners did not contact cities to determine their assessment of contract performance or satisfaction with the actual sweeping of the streets by contractors.

Table 13 shows San Mateo's FY 2014-15 cost per curb mile swept is approximately 68% higher than the average cost of the cities in the table that have outsourced the service. Similar cost savings could be expected by San Mateo under a contracted service arrangement, depending on the contract scope and performance standards. The relatively less expensive contract costs, as well as current challenges and costs San Mateo is experiencing maintaining street sweeper equipment and recruiting and retaining qualified operators indicate that competitive sourcing is a viable alternative. This may be particularly attractive following an evaluation of the need to increase the solid waste street sweeping surcharge to support full program costs.



Conclusion

This cost analysis indicates that exploring an outsourcing of its street sweeping program through a competitive bid process has merit for the City of San Mateo. The key issues that strongly suggest this may indeed be a viable path include:

- The City is not able to budget the full cost of the street sweeping program or receive revenue from its street sweeping surcharge sufficient for full cost recovery.
- The street sweeping equipment is nearing its useful life, maintenance costs are increasing significantly, and the City has not budgeted sufficient revenue in its capital equipment replacement fund to replace it. An alternative service delivery method could avoid this capital cost.
- Reducing the program costs may delay or mitigate the need to increase the street sweeping surcharge. At an average cost of about \$24 per curb mile swept among the example contract cities, the City would have sufficient annual revenue to support its current street sweeping program as well as a separate leaf pickup program.



Attachment A: Street Sweeping Peer Survey Summary

Participant Information

Table 14. Contact Information

City	Contact Name/Title	Contact	Contract or In-house
Burlingame	Name: Rob Mallick Title: Public Works Superintendent	Phone Number: 650-558-7670 Email Address: rmallick@burlingame.org	In-house
Concord	Name: Justin Ezell Title: Director of Public Works	Phone Number: 925-671-3231 Email Address: justin.ezell@cityofconcord.org	In-house
Palo Alto	Name: Todd Seeley Title: Project Manager	Phone Number: 654-496-5945 Email Address: todd.seeley@cityofpaloalto.org	Palo Alto contracts with Contract Sweeping Services for commercial, residential, and business areas.
Santa Clara	Name: Ron Billingsley Title: Solid Waste Foreman	Phone Number: 408-615-3087 Email Address: rbillingsley@santacalaraca.gov	In-house
Sunnyvale	Name: Jim Craig Title: Superintendent of Public Works Operations	Phone Number: 408-730-7558 Email Address: jcraig@sunnyvale.ca.gov	Sunnyvale contracts with Universal Sweeping for the multimodal parking lot and garage.



Service Provision

Table 15. Sweeper Operations¹

	San Mateo (In-house)	Burlingame (In-house)	Concord (In-house) ²	Palo Alto (In-house and Contract) ³	Santa Clara (In-house)	Sunnyvale (Mostly In- house) ⁴
SWEEPERS						
Broom	0	0	0	1 ³	0	1 ⁴
Vacuum	3	2	4 ²	2 ³	5	4 ⁴
STAFF						
Authorized sweeper operators	2	1	2.05	In house: 2 Contract: Varies	3	3+
Authorized managers overseeing the street sweeping function (even if not directly allocated)	1	4	0.05 ²	In house: 1 Contract: 1	1	1 ⁴
Authorized sweeping supervisors	0	1	0.05 ²	In house: 1 Contract: 1	0	1 ⁴
WORK DATA						
Number of street sweeping routes	25	21	50	In house: 20 Contract: 20	3	28
Cubic yards of debris removed annually	N/A	6,600	N/A	In house: 600 Contract: 11,000	6,381	10,527
Gallons of water used	N/A	168,000	N/A	N/A	N/A	N/A

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² Concord does not account for leaf removal during fall and winter. The vacuum sweepers have gutter brooms. The authorized manager and supervisor are the same position.

³ Palo Alto reports sweepers still operated by internal staff for parking lots, bike lanes, and dead-ends. Contract Sweeping Services, the contractor engaged in late 2014, has a larger fleet.

⁴ Sunnyvale uses two vacuum sweepers for two routes during the day and one mechanical sweeper at night. The night sweeping occurs in industrial regions. The City owns two additional vacuum sweepers. One is assigned to a street patching crew to clean the street before and after it is patched. The other sweeper is for heavy leaf season, make-up days around holidays, a spare in case a sweeper breaks down, and emergency sweeping. The supervisory staff listed oversee sweeping as a very small part of their work. Street sweeping is just one of many responsibilities of the sign and striping shop, under the street operations manager.



Table 16. Other Equipment Operations¹

	San Mateo (In-house) ²	Burlingame (In-house)	Concord (In-house) ³	Palo Alto (In-house and Contract) ⁴	Santa Clara (In-house)	Sunnyvale (Mostly In- house) ⁵
EQUIPMENT						
Dump Truck	0	1	0 ³	0	4	3 ⁵
Loader	1	1	0.13	1 ⁴	1	2 ⁵
Bins	2	2	2	0	0	4 ⁵
OPERATORS						
Dump Truck	0	Not Provided	Not Provided	0	4	1
Loader	1	Not Provided	Not Provided	1 ⁴	1	1
Bins	0	Not Provided	Not Provided	0	0	0

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² Street sweeping program's usage of this equipment is comparatively minimal. The listed equipment is not budgeted in the program budget, but in the streets division overall.

³ Information for Concord does not take into account leaf removal during fall and winter. Concord has a leaf machine that is pulled with a dump truck. Both are budgeted in the storm water program, not in the street sweeping program.

⁴ A Palo Alto employee loads the contractor's truck for removal weekly. This employee is not part of the sweeping program, but spends about an hour per week helping the contractor's truck driver.

⁵ The additional equipment identified is primarily for heavy leaf season. The equipment is used as needed up to the number of vehicles listed. When not used for sweeping assistance, these vehicles are used in asphalt patching applications. Two debris bins are in general use all the time. One or two more debris bins are used during heavy leaf season. During leaf season, a portion of a park parking lot is used to store collected leaves during the week. The stored leaves are collected on Friday for disposal. This shortens the time required for the sweepers to dump their loads. The dump trucks and loaders collect from this transfer location and collecting piles created by residents in various locations.



Service Data

Table 17. Annual Curb Miles Swept¹

	San Mateo (In-house)	Burlingame (In-house)	Concord (In-house)	Palo Alto (In-house and Contract)	Santa Clara (In-house)	Sunnyvale (Mostly In- house)
Residential	10,709	5,070	8,052	12,567	22,172	13,442
Commercial	1,480	1,818	2,364	6,615	10,845	6,266
Other	228	Not provided	Not provided	Not provided	25 ²	3,042
Total	12,417	6,888	10,416	19,182	33,042	22,750

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² Curb miles in parking lots.



Table 18. Sweeping Schedule¹

	San Mateo (In-house)	Burlingame (In-house)	Concord (In-house)	Palo Alto (In-house and Contract) ²	Santa Clara (In-house)	Sunnyvale (Mostly In- house) ³
RESIDENTIAL						
Number of days each route is swept per week	N/A ⁴	N/A	N/A	Varies ²	1	0.5 ³
Number of days each route is swept per month	2	N/A	1	Varies ²	up to 4	2.2 ³
Number of routes swept per day	4	N/A	N/A	Varies ²	1	2.8 ³
Number of miles swept per day	33.81	N/A	N/A	Varies ²	25	81.0 ³
COMMERCIAL						
Number of days each route is swept per week	3	N/A	N/A	Varies ²	1	See Note ³
Number of days each route is swept per month	12	N/A	1	Varies ²	3	See Note ³
Number of routes swept per day	2	N/A	N/A	Varies ²	2	See Note ³
Number of miles swept per day	8	N/A	N/A	Varies ²	22	See Note ³
Are there different sweeping schedules during leaf drop season compared to the rest of the year? (see next section)	No	Yes	Yes	Yes	Yes	Yes

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² Residents in Palo Alto receive weekly sweeping four months of the year. In the "non-leaf" season, this frequency is reduced to biweekly. More information is available at:

<http://www.cityofpaloalto.org/aov/depts/bwd/sweeping.asp>

³ The reported number reflects both commercial and residential routes as it is not possible to distinguish between residential and commercial regions based on the routes. Sunnyvale's program sweeps all streets every two weeks. Generally, that means the streets are swept 26 times per year. Over two weeks, there are 19 day routes and 9 night routes that are swept. The schedules are designed around the workforce operating on a 9/80 schedule. Every other Monday has only one day route, and every other Friday does not have a night route. When there is a holiday, an additional sweeper is assigned to sweep the day routes of the holiday on a day before or after. The intent is that day routes are made up with no overtime. The night route is made up by the night sweeper doing more in the days before and after to make sure the route is not totally missed. In general, sweeping is done the day after garbage collection. If garbage days change due to holidays, then sweeping days also change. A list of all sweeping days is on the City web site, with color coding for days that are swept outside the normal pattern. The map and schedule are available at:

<http://sunnyvale.ca.gov/Departments/PublicWorks/StreetMaintenance/StreetSweeping.aspx>

⁴ Two residential neighborhoods are swept once per week; the remaining are swept two times per month.



DIFFERENCES IN SWEEPING SCHEDULES DURING LEAF DROP SEASON

Burlingame: Sweeping is performed every other week during the summer months (April through September). From October to March, most residential street and arterial streets are swept once per week. The downtown areas of Broadway and Burlingame Avenues are swept six days a week all year long. The Street and Storm Division has one full-time equipment operator (street sweeper), that performs street sweeping services for all residential, commercial and industrial areas. During the winter months (October through March) the division schedules a second full-time (back-up) street sweeper.

Concord: Additional crews and specialized equipment are assigned to leaf removal, separate from the routine sweeping routes.

Palo Alto: Primary difference is a switch to sweeping every other week in the non-leaf season. Most other areas unchanged.

Santa Clara: Routes are broken up into sweeping routes and leaf vacuum routes.

Sunnyvale: A third sweeper is added during day sweeping to assist the two regular sweepers. The routes are not changed, but the extra sweeper is doing some of each route so all can be completed during business hours. Dumping routes for sweepers are shortened by using a portion of a park parking lot as a transfer location. Sweepers will dump at the parking lot, allowing the pile to be collected once per week for disposal. When not removing debris from the staging area, loaders and dump trucks can also be used to collect from piles created by residents.



Table 19. *Specialty Areas*¹

City	Specialty Area	Service Provision	Curb Miles	Days Swept per Week	Days Swept per Month
San Mateo	Downtown/store front	In-house	8.1	3	12
	Special residential streets	In-house	13.8	1	4
	Arterial streets	In-house	8.8	0 to 1	2
Burlingame	Broadway Business District	In-house	1.0	6	24
	Burlingame Business District	In-house	3.5	6	24
	Burlingame Plaza	In-house	1.0	5	20
Concord	El Camino Real	In-house	5.9	1	4
	Downtown	In-house	7.0	1	4 to 5
Palo Alto	University Avenue Business District	Contract	N/A	3	12 to 15
	California Ave Business District	Contract	N/A	3	12 to 15
Santa Clara ²	N/A	N/A	N/A	N/A	N/A
Sunnyvale ³	Downtown	In-house	N/A	3	N/A
	Select commercial areas	In-house	N/A	1	N/A
	Multi-modal Station	Contract	N/A	1 to 2	N/A

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² All areas are swept once a week.

³ The downtown area is swept three times per week. This area consists of approximately ten street segments and three parking lots. It is about 150,000 square feet. The work is coordinated with the parks division: sidewalks and hard-to-reach areas are blown so leaves can all be collected by the sweeper. The commercial areas are swept weekly by the night time sweeper to keep bike lanes clean. The multi-modal parking lot and garage is at the Sunnyvale Caltrain station. The sweeping is contracted because sweepers will not fit due to low clearance. The cost is partially reimbursed by Caltrain. Inside is swept once a week, and the outside is swept twice a week. The sweeping is part of an overall maintenance contract that includes blowing sidewalks, landscaping, striping, and power washing.



Finance and Budgeting

Table 20. Program Financing¹

	San Mateo (In-house)	Burlingame (In-house)	Concord (In-house)	Palo Alto (In-house and Contract)	Santa Clara (In-house)	Sunnyvale (Mostly In- house)
General Fund		\$151,971		\$50,000 ²		
Stormwater Management			\$541,058			
Solid Waste Management	\$499,008			\$1,150,000 ³	\$715,000	\$366,331
Wastewater Management						\$336,331
Total Budgeted	\$499,008	\$151,971	\$541,058	\$1,200,000	\$715,000	\$537,695.71 ⁴
Are there special fees charged to residential or commercial properties in FY 2014-15 specifically for street sweeping services?	No	No	Yes ⁵	Yes ⁶	No	Yes ⁷

Sources: City provided peer summary response.

¹ Some information may be different from the original responses due to follow-up phone interviews.

² Budget for public works administrative support.

³ The City of Palo Alto's refuse fund.

⁴ The funding sources identified are in excess of the budget. The actual expenditures are split evenly between the solid waste and wastewater management fund.

⁵ The City's Stormwater Utility Area has an annual assessment of \$35 per parcel. Of the revenues generated from the annual assessments, 25% is used for street sweeping, catch basin and storm drain maintenance, creek maintenance, illicit discharges, and etc.

⁶ There is a monthly assessment in utility billing of \$4.50 for residential areas. Commercial rate and generated revenue is unknown as the assessments are administered by a business improvement district (BID).

⁷ There is a surcharge on each utility bill, but the rate was not provided in the survey response.