

CITY AND COUNTY OF SAN FRANCISCO
BOARD OF SUPERVISORS
BUDGET AND LEGISLATIVE ANALYST

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Policy Analysis Report

To: Supervisor Stefani
From: Budget and Legislative Analyst's Office
Re: Comparative Street Cleaning Costs: San Francisco
and 11 Other Cities
Date: June 25, 2018



Summary of Requested Action

Your office requested a survey of comparable cities' street cleaning practices, costs, staffing levels, frequency of cleaning, and recommendations of best practices.

Executive Summary

- For a comparison with the City and County of San Francisco's street cleaning costs, staffing, and practices, our office surveyed 16 cities, of which we received responses from eleven of the cities, as follows:

Baltimore	Portland	Denver*
Chicago	Sacramento	Miami*
Long Beach	San Diego	Philadelphia*
Los Angeles	San Jose	Washington, D.C.*
Minneapolis	Seattle	
Oakland	Boston*	

* did not respond

- San Francisco is spending more on street cleaning and has more employees dedicated to this function than the 11 cities that responded to our survey. San Francisco Public Works (SF Public Works) spent approximately \$35 million on street cleaning in FY 2016-17 compared to a median of approximately \$8 million in the eleven respondent cities. Since most respondent cities' costs do not include overhead, San Francisco's costs are presented without a full overhead factor, which, if included, would result in total street cleaning costs of \$46.2 million for FY 2016-17.
- Adjusted for population, San Francisco has higher per capita street cleaning costs than the other cities: \$40.46 vs. a median of \$8.76 for the comparison cities.
- SF Public Works had 302 positions allocated to this function compared to a median of 40 in the comparison cities.
- San Francisco's costs for motorized street sweeping, the street cleaning service provided by all cities, was \$40.05 per curb mile swept in FY 2016-17, less than the median cost of the

comparison cities of \$52.31 per curb mile. However, San Francisco still incurred higher total street cleaning costs than the other cities due to the costs of the other street cleaning services SF Public Works provides.

- To at least partially explain San Francisco's higher costs, SF Public Works provides more street cleaning services more frequently than the comparison cities. It provides services in five service categories multiple times per week. None of the comparison cities provide either all the same services and/or the frequency of services provided by San Francisco.
- Another factor contributing to higher costs is that the City received 77,091 street cleaning service requests from the public and other departments in FY 2016-17, substantially higher than the next highest city, Baltimore, which received 32,553 such requests that year. The other responding cities received between 1,271 and 27,823 service requests.
- In spite of a receiving a higher number of requests, SF Public Works reports that it responded to street cleaning service requests on average within 2.8 days, or nearly the same as the median three day response time for the comparison cities, all of which had substantially fewer requests.
- The City has a higher number of homeless people relative to its population compared to all the comparison cities except Seattle. This adds to the street cleaning workload and costs.
- While the factors above contribute to higher street cleaning costs in San Francisco, the efficiency with which staff is performing these services and how that affects costs was not analyzed for this report.

For further information about this report, contact Fred Brousseau, Director of Policy Analysis, at the Budget and Legislative Analyst's Office.

Project staff: Fred Brousseau and Reuben Holober

Survey overview and results

The Budget and Legislative Analyst's Office was requested to conduct a survey of street cleaning practices from comparable cities. The request asked for budget, staffing levels, frequency of cleaning, and best practices of street cleaning from the surveyed cities. The Controller's Office had conducted a similar survey in 2016 and provided contact information for staff at the cities it had surveyed. After developing the survey with input from Public Works, the Budget and Legislative Analyst's Office received responses from the following eleven cities: Baltimore, Chicago, Long Beach, Los Angeles, Minneapolis, Oakland, Portland, Sacramento, San Diego, San Jose, and Seattle. Participation was solicited from the cities of Boston, Denver, Miami, Philadelphia, and Washington but those five cities did not respond to the survey.

As shown in Exhibit 1, at \$34,988,059, San Francisco had higher total expenditures for street cleaning than the eleven respondent cities in FY 2016-17. This is after removing San Francisco's overhead costs, which if included, would show total San Francisco costs as \$46,164,480. San

Francisco’s overhead costs were removed since most of the respondent cities reported their costs without an overhead factor. The costs for three cities, Baltimore, Los Angeles, and Oakland, include an overhead factor though their total costs are still lower than San Francisco’s.

Normalizing the differences in street cleaning costs by population shows that San Francisco’s \$40.46 per capita level of street cleaning expenditures was higher than the median of \$8.76 for the comparison cities, though close to the spending per capita costs for the cities of Baltimore and Oakland. San Francisco also had a higher level of staffing for street cleaning in FY 2016-17, with 302 positions, versus median staffing of 40 positions for the other cities.

As can be seen, San Francisco has a larger population in a smaller area than the median of the respondent cities, spends approximately 4.4 times the median of the other cities and has 7.6 times more positions dedicated to street cleaning than the other cities.

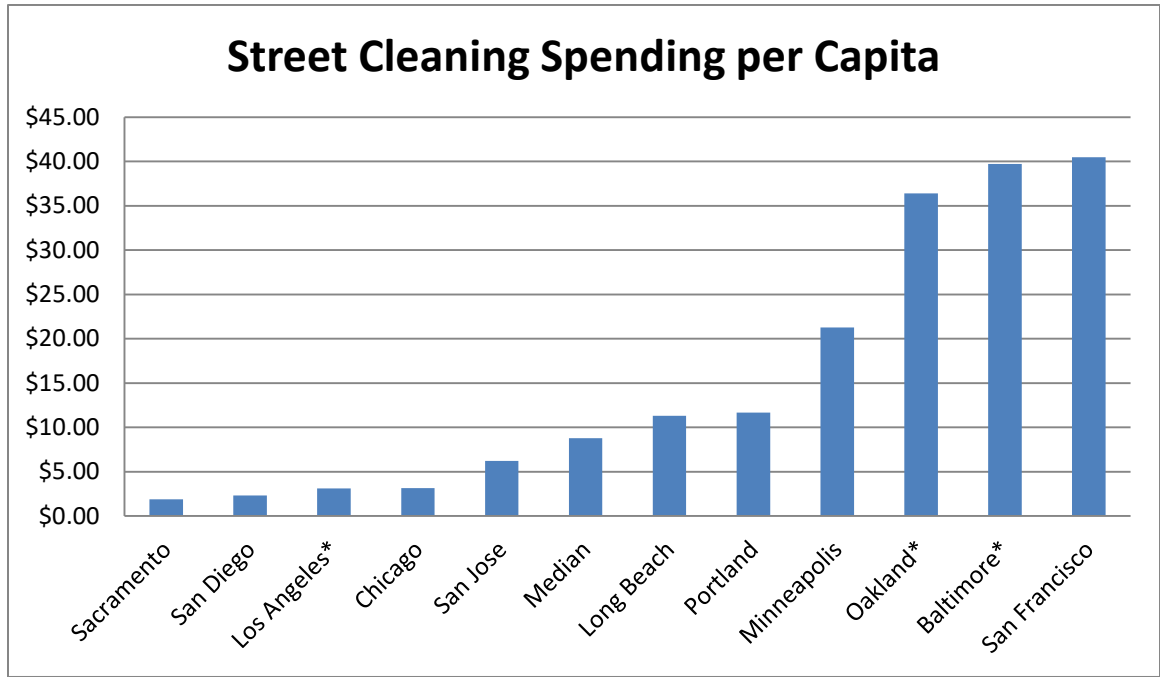
Exhibit 1: Spending and Staffing for Street Cleaning, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Population	Area (Sq. Miles, Land)	Street Cleaning Spending (FY 16-17)	Spending per Capita	Street Cleaning FTE Count (FY 16-17)
Baltimore*	611,648	80.9	\$24,284,646	\$39.70	N/A
Chicago	2,704,958	227.3	\$8,548,428	\$3.16	71
Long Beach	470,130	50.3	\$5,313,421	\$11.30	15
Los Angeles*	3,976,322	468.7	\$12,400,000	\$ 3.12	111
Minneapolis	413,651	54.9	\$8,800,000	\$21.27	54
Oakland*	412,040	55.9	\$15,000,000	\$36.40	61
Portland	639,863	133.0	\$7,461,034	\$11.66	30
Sacramento	501,334	97.9	\$936,292	\$1.87	7
San Diego	1,406,630	325.2	\$3,282,000	\$2.33	40
San Jose	1,015,785	177.5	\$6,320,000	\$6.22	18
Seattle	713,700	83.9	N/A		N/A
Median	639,863	97.9	\$ 8,004,731	\$8.76	40
San Francisco	864,816	46.9	\$34,988,059	\$40.46	302

*includes overhead

Note: overhead costs of \$11,176,421 have been removed from San Francisco’s costs since most cities did not include an overhead factor in their costs. Total street cleaning expenditures for San Francisco, with overhead, were \$46,164,480.

Exhibit 2: Street Cleaning Spending per Capita, 11 Surveyed Cities and San Francisco, FY 2016-17



*Includes overhead

Street Cleaning Measures

All of the cities that responded to our survey report that they perform motorized street sweeping as a core street cleaning service. As shown in Exhibit 3, San Francisco swept more curb miles in FY 2016-17 than most of the respondent cities: 158,974 compared to a median of 120,333. In terms of street cleaning dollars spent per curb mile, San Francisco's \$40.05 was lower than the \$52.31 median of the respondent cities. This reflects the fact that most comparison cities' costs are concentrated on street sweeping services, as compared to San Francisco, which incurs additional costs by providing a broader array of services, discussed further below.

Exhibit 3: Curb Miles Swept and Expenditures per Curb Mile, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Curb Miles Swept	Street Sweeping Expenditures	\$ per Curb Mile Swept
Baltimore*	120,333	\$4,752,996	\$39.50
Chicago	251,429	\$7,005,120	\$27.86
Long Beach	141,132	N/A	N/A
Los Angeles*	230,961	\$12,300,000	\$53.26
Oakland*	N/A	\$3,969,756	N/A
Portland	14,780	\$2,973,149	\$201.16
Sacramento	150,000	\$936,292	\$6.24
San Diego	106,000	N/A	N/A
San Jose	67,295	\$3,520,000	\$52.31
Seattle	27,360	\$2,588,400	\$94.61
Median	120,333	\$3,744,878	\$52.31
San Francisco	158,974	\$6,367,200	\$40.05

*includes overhead

Note: overhead costs of \$2,032,800 have been removed from San Francisco's costs since most cities did not include an overhead factor in their costs. Total street sweeping expenditures for San Francisco, with overhead, were \$8,400,000.

While two of the surveyed cities collected more tons of debris in FY 2016-17, San Francisco collected the third highest amount: 29.6 tons for every 1,000 residents. The amount collected by San Francisco was greater than the median of 21.6 tons per 1,000 residents for all the cities that responded to the survey. Only the cities of Los Angeles and Minneapolis collected more debris per 1,000 residents in FY 2016-17.

Exhibit 4: Debris Collected per 1,000 Residents, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Tons of Debris Collected	Population	Tons of Debris per 1,000 Residents
Baltimore	12,597	611,648	20.6
Chicago	74,484	2,704,958	27.5
Long Beach	11,147	470,130	23.7
Los Angeles	238,000	3,976,322	59.9
Minneapolis	18,000	413,651	43.5
Portland	14,403	639,863	22.5
Sacramento	1,221	501,334	2.4
San Diego	7,000	1,406,630	5.0
San Jose	10,700	1,015,785	10.5
Seattle	4,448	713,700	6.2
Median	11,872	639,863	21.6
San Francisco	25,630	864,816	29.6

Key Factors Affecting San Francisco’s Higher Street Cleaning Costs

Range and Frequency of Services

Perhaps the biggest reason for San Francisco’s high costs and employee count is its range and frequency of services. Like San Francisco, all respondent cities provide motorized street sweeping. However, not all cities provide services in all of the other categories provided by the City and County of San Francisco. As shown below, only four respondent cities provide services in all of the same categories as San Francisco; the other seven cities provide fewer services. Exhibit 5 shows the number and type of services provided by the respondent cities.

Exhibit 5: Street Cleaning Services and Frequency, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Motorized sweeping	Manual cleaning	Response to service requests	Illegal dumping removal	Homeless encampment cleanup	Number services provided
Baltimore	✓	✓	✓	✓	✓	5
Chicago	✓		✓	✓	✓	4
Long Beach	✓		✓			2
Los Angeles	✓		✓			2
Minneapolis	✓		✓	✓	✓	4
Oakland	✓	✓	✓	✓	✓	5
Portland	✓	✓	✓	✓		4
Sacramento	✓	✓	✓	✓	✓	5
San Diego	✓					1
San Jose	✓	✓	✓	✓	✓	5
Seattle	✓		✓			2
# cities providing service	11	5	10	7	6	
San Francisco	✓	✓	✓	✓	✓	5

Regarding services other than motorized street sweeping provided by San Francisco:

- Manual cleaning, pressure washing, and steam cleaning streets and sidewalks are provided by only five of the 11 respondent cities; the other six cities do not provide those services.
- Illegal dumping removal is provided by seven of the respondent cities; the other five cities do not provide this service.
- Homeless encampment cleanup is provided by six of the 11 survey respondent cities; the other five cities do not provide this service.
- All respondent cities except San Diego respond to service requests from the public and other departments.

It should be noted that the City of San Jose reports that street cleaning services are performed by a combination of the Transportation, Environmental Services, Housing, and Parks departments. All other respondent cities reported a single department responsible for street cleaning services, similar to San Francisco.

Like four of the surveyed cities, San Francisco provides services in all five street cleaning service categories. However, unlike any of the comparison cities, San Francisco is unique in that it is the only city providing services multiple times per week in all service categories. This could be a key factor in explaining San Francisco's higher street cleaning services costs and staffing. No other city surveyed provides such a high frequency of services in all categories, as shown in Exhibit 6.

Exhibit 6: Street Cleaning Services and Frequency, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Routine Motorized Street Sweeping	Routine Manual Street Cleaning	Response to Service Requests	Illegal Dumping Removal	Homeless Encampment Cleanup	Services provided multiple times/week
Baltimore	Multiple times per week	As requested	As requested	As requested	As requested	1
Chicago	Monthly	N/A	As requested	As requested	As requested	0
Long Beach	Weekly	N/A	As requested	N/A	N/A	0
Los Angeles	N/A	N/A	As requested	N/A	N/A	0
Minneapolis	Monthly	N/A	As requested	As requested	As requested	0
Oakland	Multiple times per week	Multiple times per week	Monthly	Multiple times per week	Multiple times per week	4
Portland	Less than once per month	Less than once per month	Weekly	Multiple times per week	N/A	1
Sacramento	Less than once per month	N/A	As requested	Multiple times per week	Weekly	1
San Diego	Multiple times per week	As requested	As requested	N/A	N/A	1
San Jose	Monthly	Multiple times per week	As requested	Multiple times per week	Multiple times per week	3
Seattle	Multiple times per week	N/A	As requested	N/A	N/A	1
# cities providing services multiple times/week	4	2	0	4	2	
San Francisco	Multiple times per week	Multiple times per week	Multiple times per week	Multiple times per week	Multiple times per week	5

Due to the range and frequency of services provided, the Street Environmental Services bureau of San Francisco Public Works (SES) has several specialized teams, such as the Zone Crews, Swing and Night Shifts, Encampment Resolution Crew, Special Projects, Hot Spot Crews, and Graffiti Crew (graffiti cleanup was not included in the survey and its costs are not included in the total costs reported). This work is very labor intensive and not performed as extensively in other cities.

In addition to street cleaning services provided by SES, San Francisco receives supplemental street cleaning service performed by Community Benefit Districts and non-profit groups, which were not counted in the cost totals. Chicago, San Jose, and Seattle also reported supplemental cleaning performed by other organizations.

Service Requests

All respondent cities report that they provide street cleaning service as requested by the public and other city departments and report that they respond to them within a median of three days, just above San Francisco Public Works' reported average response time of 2.8 days. However, San Francisco received 77,091 service requests in FY 2016-17, significantly more than the next highest city, Baltimore, which received 32,553 service requests that year. All other cities received fewer than 32,553 service requests in FY 2016-17, ranging from 1,271 in Chicago to 27,283 in Oakland. In other words, San Francisco is responding to more than double the number of service requests received by other cities in roughly the same amount of time. When accounting for population, San Francisco received 89.1 service requests per 1,000 residents, approximately ten times more than the median 8.9 requests per 1,000 residents in the respondent cities.

Exhibit 7: Street cleaning service requests from residents and other city departments, 11 Surveyed Cities and San Francisco, FY 2016-17

City	Total Requests (FY 2016-17)	Population	Requests per 1,000 Population	Average Response Time (Days, Approximate)
Baltimore	32,553	611,648	53.2	4.1
Chicago	1,271	2,704,958	0.5	2
Long Beach	21,000	470,130	44.7	N/A
Los Angeles	5,800	3,976,322	1.5	7
Oakland	27,283	412,040	66.2	3
Portland	1,746	639,863	2.7	N/A
Sacramento	10,643	501,334	21.2	3
San Diego	2,442	1,406,630	1.7	3
San Jose	9,000	1,015,785	8.9	1
Seattle	N/A	713,700	N/A	1
Median	9,000	639,863	8.9	3.0
San Francisco	77,091	864,816	89.1	2.8

Homelessness

San Francisco and all respondent cities, except one, report that the presence of homelessness has had an effect on their city's street and sidewalk cleanliness. The Department of Housing and Urban Development requires point-in-time homeless counts to be conducted every two years in January in jurisdictions that receive federal funding for homeless services. Recent counts, which include both sheltered and unsheltered homeless individuals, show that San Francisco has an estimated homeless population of 8.7 for every 1,000 residents compared to the median for the respondent cities of 5.3 per 1,000 residents. Only two cities, Los Angeles and Seattle, have more homeless residents than San Francisco, but only Seattle has a higher rate of homelessness per

1,000 residents than San Francisco. As shown above, San Francisco is one of only three cities to conduct homeless encampment cleanup multiple times per week. The other two were the cities of Oakland and San Jose. To the extent that the homeless population drives street cleaning costs, San Francisco can explain some of its relatively higher costs by its relatively higher homeless population.

Exhibit 8: Homeless Populations Relative to Total Populations, Surveyed Cities and San Francisco, FY 2016-17

City	Homeless Population	Total Population	Homeless per 1,000 Residents
Baltimore	2,800	611,648	4.6
Chicago	5,657	2,704,958	2.1
Long Beach	1,863	470,130	4.0
Los Angeles	33,138	3,976,322	8.3
Oakland	2,500	412,040	6.1
Portland	4,177	639,863	6.5
Sacramento	3,665	501,334	7.3
San Diego	5,619	1,406,630	4.0
San Jose	4,350	1,015,785	4.3
Seattle	8,522	713,700	11.9
Median	5,619	676,782	5.3
San Francisco	7,500	864,816	8.7

Sources: Survey responses and point-in-time census reports prepared by the cities for the U.S. Department of Housing and Urban Development.

Population Density

San Francisco Public Works has stated that San Francisco’s density could be a factor affecting the higher level of service needed and the amount of debris generated. In its 2016 Citywide Benchmarking Report, the San Francisco Controller’s Office measured San Francisco’s street cleaning costs adjusted for population density and concluded that at least one city, Baltimore, had higher street cleaning costs when measured by population density (per capita per square mile).¹

Using the costs reported by the cities that responded to our survey, the City of Baltimore’s costs are also higher than San Francisco’s when adjusted for population density, as are those of the cities of Oakland and Minneapolis, though costs for both Baltimore and Oakland include overhead, which San Francisco’s does not. However, based on the survey results, there is no clear trend showing that more dense cities are incurring higher street cleaning costs. As can be seen in Exhibit 9, street cleaning costs per capita per square mile are not consistently higher for the more dense cities. For example, Baltimore has the highest costs adjusted for density, but is

¹ 2016 Citywide Benchmarking Report, SF Controller.

not the most dense city among the respondents. Chicago, the second most dense city in the group, has only the seventh highest costs. Long Beach, the third most dense city among the respondents, has the second lowest costs.

Exhibit 9: Survey Respondent City Densities and Street Cleaning Costs Adjusted for Density, FY 2016-17, Ranked by Density

City	Total Costs	Population	Square miles	Pop/sq. miles	Costs per capita/sq. mile
San Francisco	\$34,988,059	864,816	46.9	18,440	\$1,897
Chicago	\$8,548,428	2,704,958	227.3	11,900	\$ 718
Long Beach	\$5,313,421	470,130	50.3	9,347	\$ 568
Seattle	N/A	713,700	83.9	8,507	N/A
Los Angeles*	\$12,400,000	3,976,322	468.7	8,484	\$1,462
Baltimore*	\$24,284,646	611,648	80.9	7,561	\$3,212
Minneapolis	\$8,800,000	413,651	54.9	7,535	\$1,168
Oakland*	\$15,000,000	412,040	55.9	7,371	\$2,035
San Jose	\$6,320,000	1,015,785	177.5	5,723	\$1,104
Sacramento	\$936,292	501,334	97.9	5,121	\$183
Portland	\$7,461,034	639,863	133.0	4,811	\$1,551
San Diego	\$3,282,000	1,406,630	325.2	4,325	\$759

*includes overhead

Note: overhead costs of \$11,176,421 have been removed from San Francisco's costs since most cities did not include an overhead factor in their costs. Total street cleaning expenditures for San Francisco, with overhead, were \$46,164,480.

Other Findings

Best Practices

Asked to identify best practices they had adopted, survey respondents provided the following street and sidewalk cleaning practices:

- Posting sweeping schedules and temporary “no parking” signs
- Deploying mechanical and vacuum sweepers in tandem to remove large debris and fine particles from the roadway
- Regular sweeper maintenance
- Resident online lookup tool to help ensure cars are cleared from the street
- Variable sweeping frequencies depending on area and need
- Instructing crews to clean the surrounding area and not just the specific service request location
- Notifying homeless encampments of proposed cleaning 24-48 hours in advance

Most of these best practices are specifically oriented towards street sweeping and are also practiced in San Francisco. As encampment resolution efforts have become more frequent in recent years, providing notification of upcoming cleanups could help to make these efforts more effective.

Many of the respondents also conduct public outreach campaigns to keep their cities clean and encourage recycling. San Francisco holds monthly Community Clean Team events with non-profit partners throughout the City.

Conclusions

While San Francisco has the highest total costs and employee count for street cleaning, it provides a wider range of services more frequently than any other city that responded to our survey. San Francisco also receives more than twice as many service requests from citizens and other departments as any other city but responds to requests in about the same amount of time. An additional factor to consider is that San Francisco, and the Bay Area overall, has one of the highest costs of living in the country and typically higher wages than most cities. Due to the wide range of positions that provide street cleaning services and their accompanying salaries, this report does not compare salaries across cities. Finally, though a number of factors discussed in this report contribute to San Francisco’s higher street cleaning costs, the efficiency with which the City’s street cleaning services are provided was not analyzed for this report and that could also have a bearing on these costs.