

Asset Systems Management

Program Description & Goals

The Asset Systems Management (ASM) Program (within the Engineering Services Group) identifies and appropriately prioritizes BES asset system improvements and investment strategies needed to continue to maintain and improve the service levels and reliability of wastewater and stormwater system infrastructure, including balancing the need to meet regulatory requirements. The ASM Program identifies, clarifies and communicates the levels of service related to physical system assets and the related decision-making processes that are needed to put those assets into service for customers. This program directly impacts the performance measures listed below by providing the system planning and analysis (i.e., hydraulic and hydrologic modeling) that informs and prioritizes system investments to reduce the risk of sewer pipe failure, capacity-related flooding and combined and sanitary sewer overflows. The project-level modeling and analysis that the ASM Program provides also directly impacts performance measures by informing appropriate project design.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of sanitary sewer overflows	180	168	0	135	0
Number of stormwater flooding events due to system capacity	111	60	0	100	0
Number of combined sewer overflow events	7	3	0	4	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Asset Systems Management Program provides analysis, interpretation and in-depth, functional understanding of how BES system assets interact with each other. This is done at all evaluation scales, from citywide down to the local project level. This function is necessary to identify and prioritize BES system improvements and asset investment strategies, to (1) maintain and improve the service and reliability of the City’s wastewater and stormwater infrastructure as cost-effectively as possible, and (2) protect public health and safety systemwide. ASM is the only program in the Bureau that performs this essential function. ASM is sometimes requested to support and assist other work groups by collaborating on new system-related initiatives or through technical review of work. This work depends on institutional knowledge and leveraging an intimate understanding by ASM staff of how the BES asset systems function. Developing these skills is an investment in time and mentorship of staff. This knowledge is gained through experience and work performed over years by ASM staff on highly technical, multi-faceted wastewater and stormwater infrastructure system and process analyses.

Equity Impacts

The ASM Program is responsible for incorporating equity considerations into the risk evaluation and project prioritization processes for the combined and sanitary sewer system assets. The current risk process uses U.S. Census information on vulnerable communities. The ASM Program is working with other Bureau work groups to expand how we incorporate equity into the broader system planning space, such as by establishing targets for levels of service.

Changes to Program

The demand for ASM resources has doubled since FY 2015-16, specifically in the areas of spatial analysis and modeling analysis, alongside major system planning efforts initiated over the past two fiscal years. As the limited-term consultant services to support the strategic planning efforts come to an end by FY 2020-21, the expectations and demand on internal staff resources will increase. Although limited-term contracts have helped initiate the strategic planning efforts, the internal staffing resources necessary to implement and sustain the improvements have not advanced. The increased workload burden on staff has demonstrably resulted in increased overtime and observed instances of sick time.

ASM looks to increase by one Engineering FTE in FY 2019-20 to support the modeling team, with more budget requests in the future to accommodate the increased demand. Where feasible, ASM has been using contracted resources to meet this workload. Contract staff are best used to level peak workload and perform one-off analyses or simple requests that would otherwise disrupt ASM staff workflow on more complex system analyses. Contract staff are also used to help initiate new project initiatives on a limited contract term (e.g., Resiliency Master Plan). Historically, contracting more of the strategic planning and complex system analysis work resulted in reduced product quality at a higher cost to the City. Additionally, the knowledge gained through the work does not stay in the City (i.e., contract turnover is typically higher than turnover among permanent City staff [FTE]). Adding in-house FTEs will create more productive and cost-effective outputs over the long-term and allow the City to retain the knowledge invested in FTEs. This is critical if the ASM Program is to perform its essential functions.

The FY 2019-20 Requested Budget decreases the allocation for spending on the multi-year Continuous Collection System Plan update as result of delays in contracting that occurred in FY 2018-19. The total cost of the multi-year project (anticipated for completion in FY 2020-21) remains unchanged at \$1.5 million.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	1,964,102	2,533,092	0	0
External Materials and Services	2,556,880	704,726	1,060,692	645,445
Internal Materials and Services	-9,615,178	-9,858,904	210,771	261,635
Personnel	1,998,795	1,601,754	1,942,190	2,194,680
Sum:	-3,095,402	-5,019,331	3,213,653	3,101,760
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	18.25	12.05	24	13.5
Sum:	18.25	12.05	24	13.5

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program are personnel, outside consultant costs for system plans (Resiliency, Pump Station, and Continuous Collection Master Plans), and specialty engineering software. Additionally, this program supports costs of laboratory services and field operations for sampling and monitoring from the Water Pollution Control Lab.

Actual Internal Materials and Services for FY 2016-17 and FY 2017-18 reflect an accounting entry that reduces operating expenses and allocates the expenses to capital projects representing the bureau overhead allocations.

Staffing: 25 positions support this program with approximately 11.5 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (23) and GIS Technicians (2).

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/>

Website: bes/

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