



DEP Crew Cleaning a clogged sewer in Queens

# STATE OF THE SEWERS 2021

*Performance Metrics  
December 2021*

Fiscal Year 2021 (July 1, 2020 through June 30, 2021)



Bill de Blasio  
Mayor

Vincent Sapienza, P.E.  
Commissioner

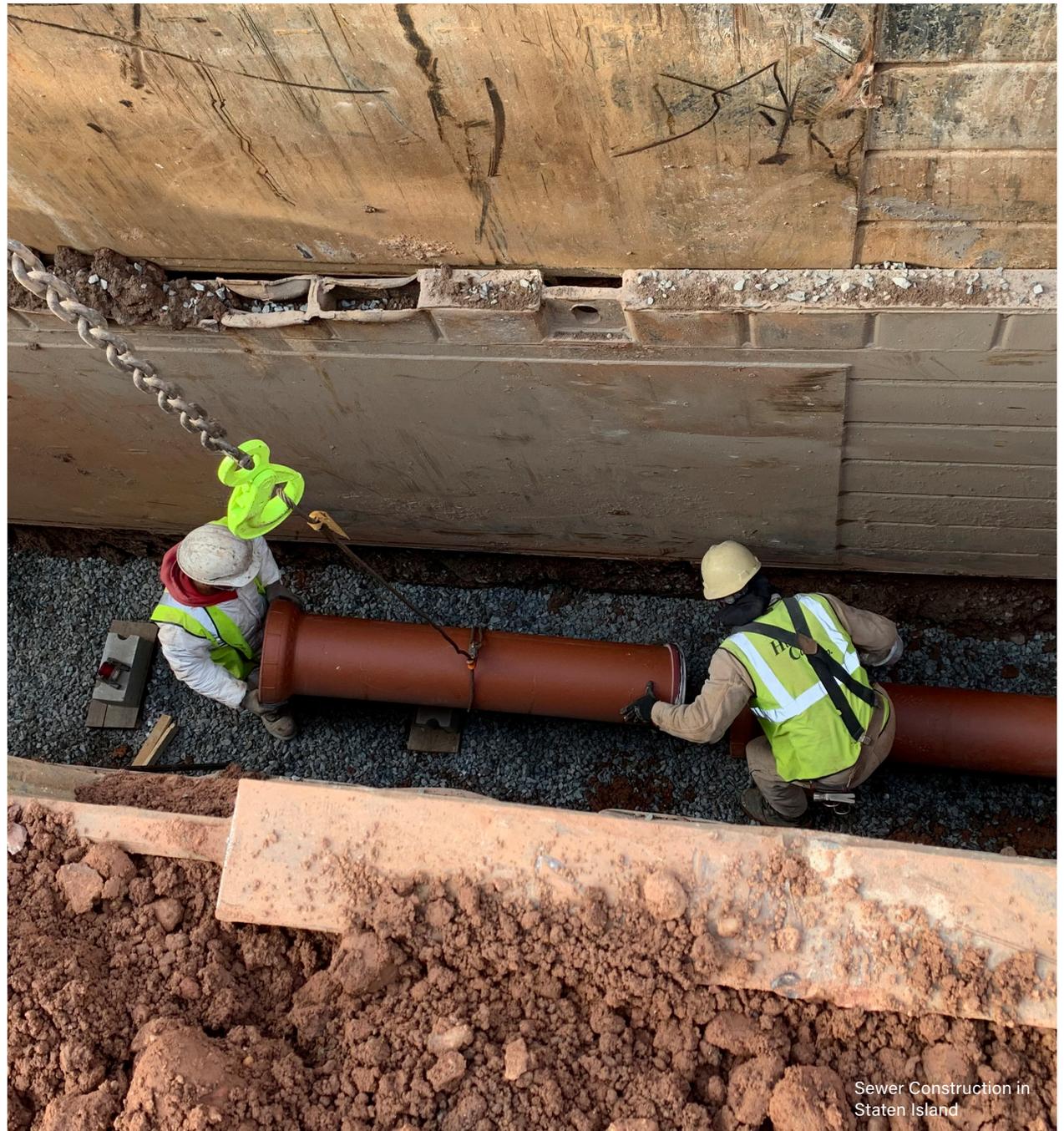
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# INTRODUCTION

The New York City Department of Environmental Protection (DEP) protects public health and the environment by supplying clean drinking water, collecting and treating wastewater, and reducing air, noise, and hazardous materials pollution. To achieve this mission, DEP operates and maintains 7,500 miles of sewers that convey an average of 1.3 billion gallons of wastewater per day to 14 in-city wastewater resource recovery facilities.

Over the last decade, DEP has embraced a data-driven, proactive approach to operating and maintaining the sewer system. By using a range of digital tools and innovative practices, DEP develops targeted programs to provide a high level of service to our customers while focusing on investments that will prioritize our resources.



Sewer Construction in Staten Island

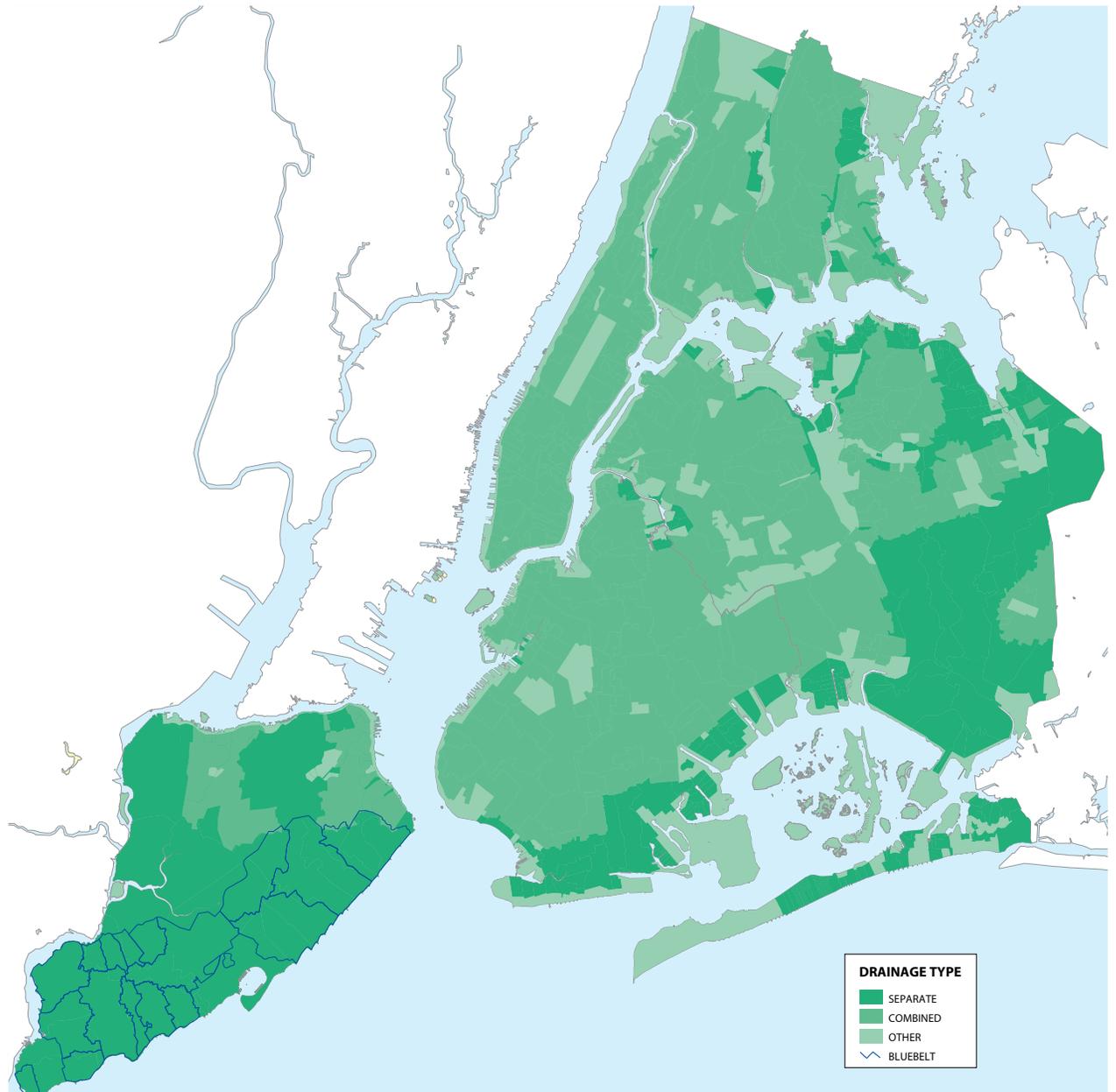
# THE SEWER SYSTEM

Approximately 60% of New York City's sewer system is combined, handling sanitary waste from both homes and businesses as well as storm water. The other 40% of the sewer system is separated – sanitary sewers carry sewage to the treatment plant, while storm sewers carry storm water runoff in a separate pipe directly to a local waterway.

In wet weather, wastewater resource recovery facilities that receive combined flow can treat up to twice the designed dry weather flow. However, to eliminate flooding from roadways, the capacity of the city's sewer system is greater than that of the plants. When the plants reach their capacity at twice dry weather flow, regulators release the excess flow from the sewers into the harbor as combined sewer overflow to protect against sewage backing up into homes and businesses.

Sewers vary in size; however, all sewers are designed to convey wastewater through the system at a speed fast enough to minimize the deposition of debris and sediment in the pipes but slow enough to minimize scouring and erosion. DEP targets its programs and resources to ensure the system continues to operate as designed and to maintain the system in a state of good repair.

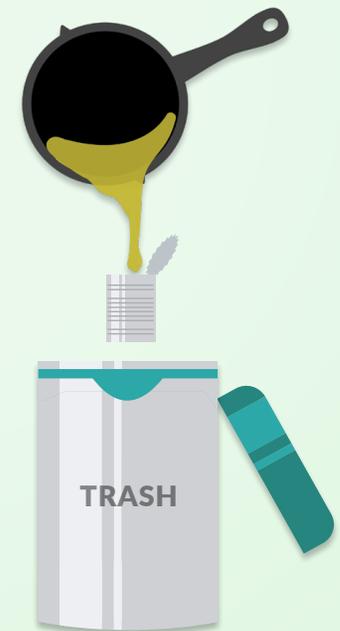
To learn more about how DEP's sewer system functions, [click here](#).



# TRASH IT. DON'T FLUSH IT.

New York City needs the help of all its residents to keep our sewer system running properly, which is why DEP continues to promote our "Trash It. Don't Flush It." campaign to warn New Yorkers of the hazards of flushing grease, wipes, and other trash down the drain. The campaign has garnered more than 95 million impressions and more than 150,000 website visits. Door-to-door outreach efforts have reached more than 30,000 people and DEP also regularly conducts grease compliance inspections at food establishments citywide. To learn more about this campaign and how to properly dispose of grease, wipes, and other trash, visit [fatbergfree.nyc](http://fatbergfree.nyc).

## TRASH IT. DON'T FLUSH IT.



**FATBERGS** form when grease, wipes and other stuff get flushed, clogging pipes and draining wallets.

LEARN MORE: [FatbergFree.nyc](http://FatbergFree.nyc)

#FatbergFreeNYC

**NYC** Environmental Protection

# PERFORMANCE METRICS

DEP uses a variety of metrics to evaluate our operations across the agency, from frontline supervisors to senior management. This data-driven approach allows us to focus our resources, develop targeted programs, and provide the highest level of service to our customers. All annual performance metrics in this report correspond to fiscal years. For example, Fiscal Year 2021 began July 1, 2020 and ended June 30, 2021.

## Sewer Backup Complaints

When our field crews respond to a customer call about a potential sewer backup, they first open manholes around the area where the backup or blockage is reported. If the sewer segment has higher than expected wastewater levels, the crew will note this as a “confirmed sewer backup” whether or not any actual backups occur. If a crew does not detect higher wastewater levels than expected, it is noted as an “unconfirmed sewer backup.”

## Recurring Confirmed Backup Complaints

The sewer system is divided into 160,000 “sewer segments” that run between two adjacent manholes. In order to identify systemic issues, DEP tracks street segments with recurring confirmed sewer back-ups (multiple backups on the same segment in the same year) during both dry and wet weather.

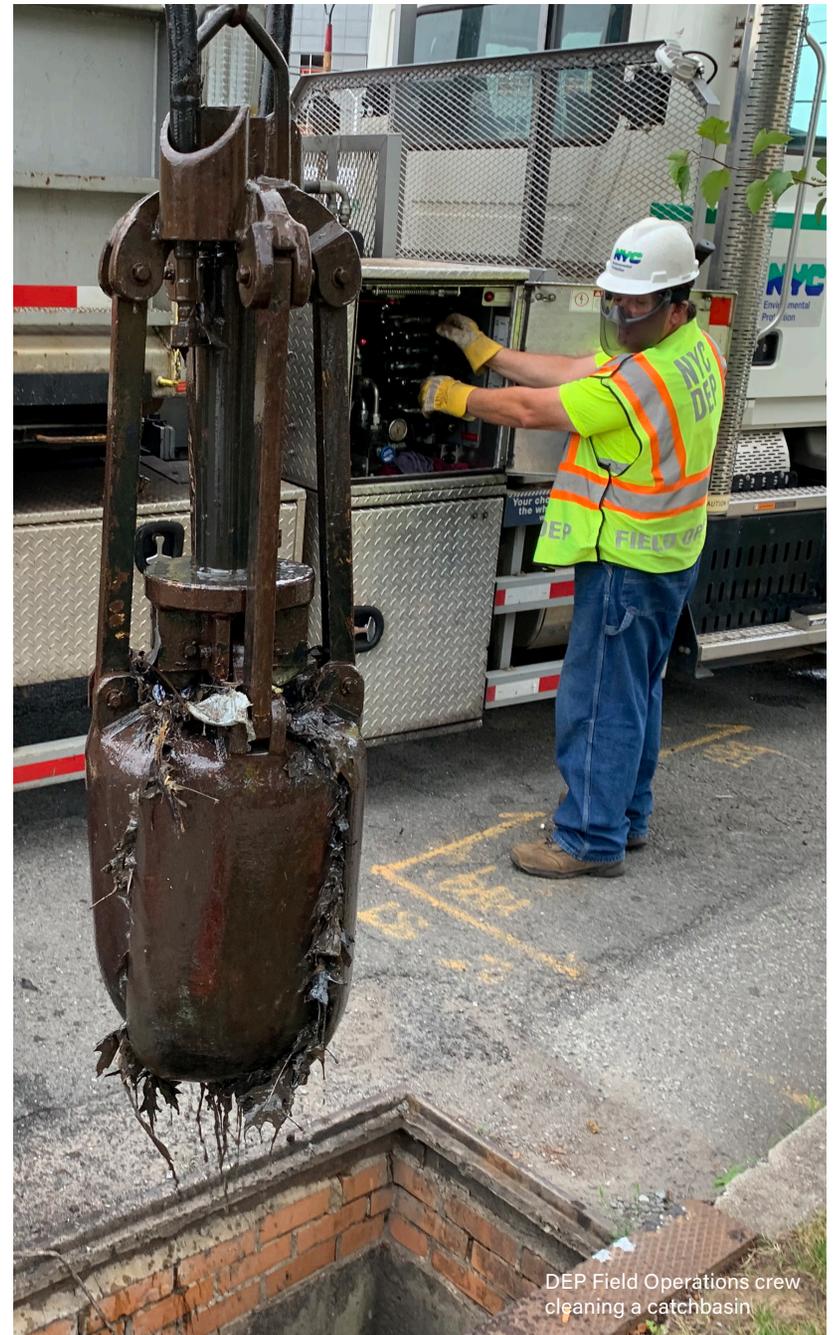
## Sewer Cleaning

Proactive sewer cleaning includes miles of sewers cleaned as part of the inspection and analysis programs, regular sewer maintenance program, and the Department of Design and Construction inspection and cleaning. Sewer cleaning activities in response to a 311 complaint are categorized as “Reactive” cleaning

## Confirmed Sewer Backup Causes

After visually inspecting affected sewer segments, crews identify and record the potential cause of a confirmed sewer backup.

- “Grease” refers to the buildup of fats, oils, and grease in a sewer.
- “Debris” refers to sand, silt, and roadbed aggregate that accumulate along the bottom of the sewer.
- “Heavy Rain” refers to microbursts and other brief, heavy rainstorms that can temporarily overtax the sewer.
- “Other” includes backups where conditions warranted further investigation.



DEP Field Operations crew cleaning a catchbasin

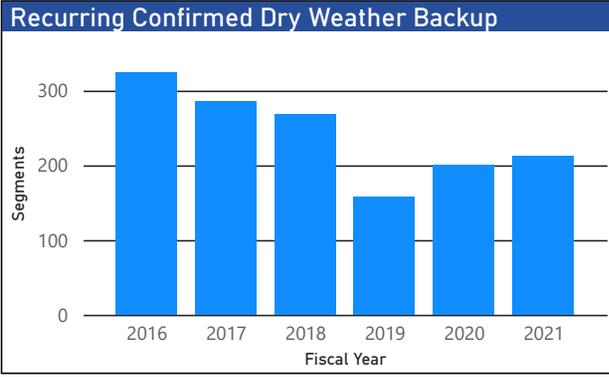
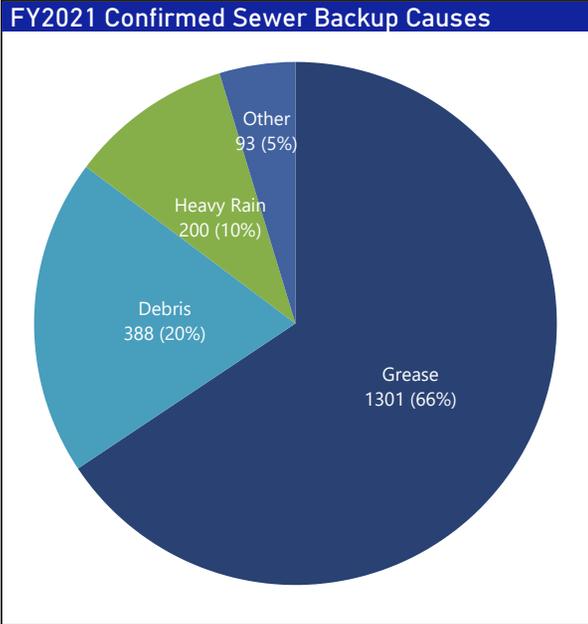
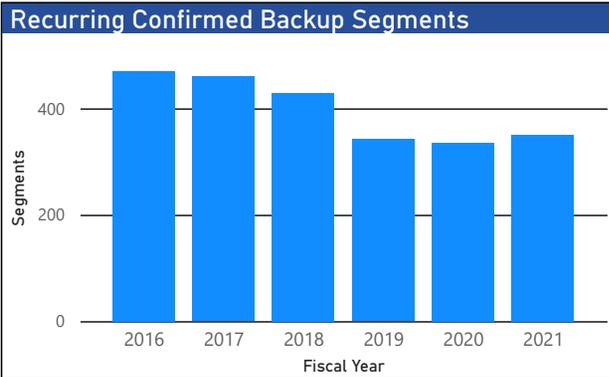
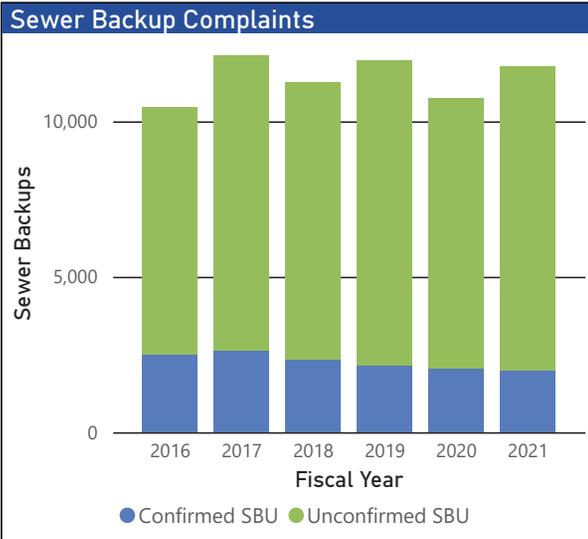
# CITYWIDE

DEP’s extensive and robust sewer inspection, analysis and cleaning programs continue to net improvements across key performance indicators citywide. While there are some variations in year-to-year comparisons of the data, the trend over the past five years demonstrates that DEP’s programs have achieved meaningful improvements.

With respect to confirmed sewer backups, average annual complaints decreased 4% when the five-year average of 2016-2020 is compared to that of 2017-2021, a decrease from 2,344 complaints to 2,241. Between 2016 and 2020, DEP received an average of 11,317 total sewer backup complaints (both confirmed and unconfirmed), compared to an average of 11,576 total sewer backup complaints between 2017 and 2021, an increase of 2%.

Improvements can be seen in recurring confirmed sewer backups, which have decreased by 6% over the same timeperiods (averaging 407 annually for 2016 -2020, compared to 383 for 2017-2021). Dry weather recurring sewer backups netted a 9% decrease, dropping from an average of 247 in 2016-2020 to an average of 225 in 2017-2021.

In FY2021, 66% of confirmed backups were grease-related; 20% attributable to debris; 10% attributable to heavy rains; and 5% due to other causes. Systematic sewer cleaning continued on pace, with more proactive than reactive cleaning.

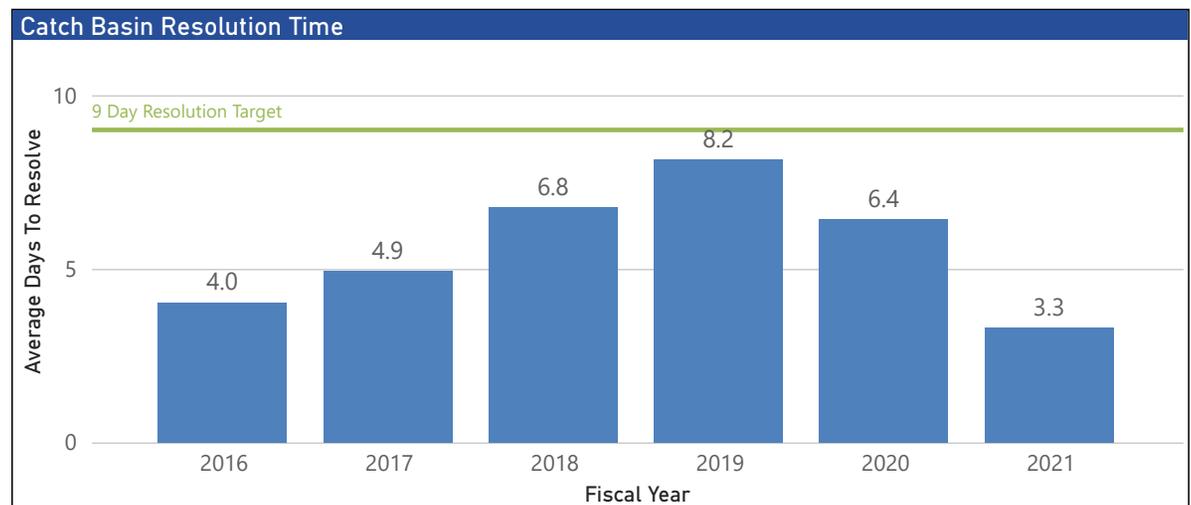
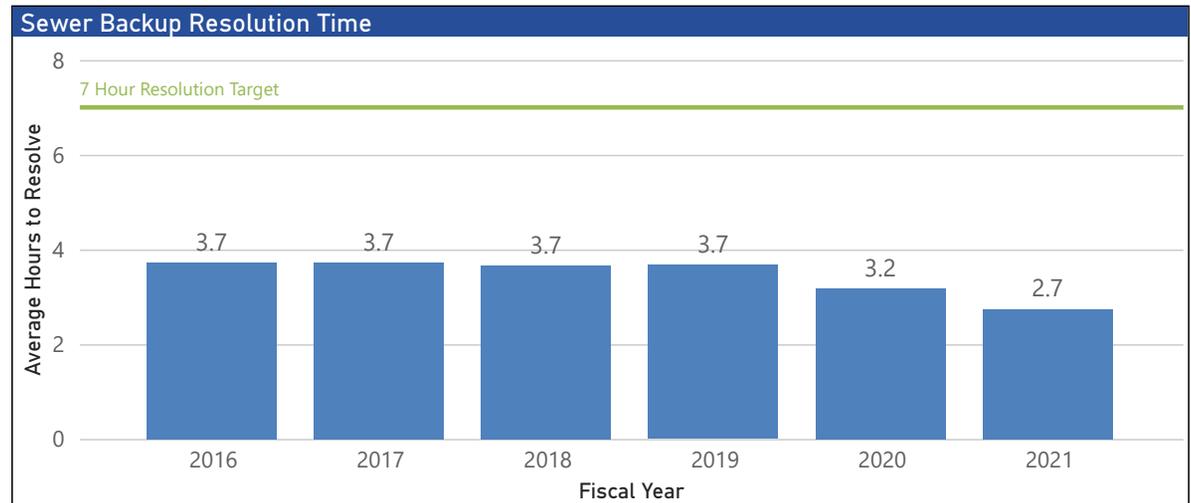


# SEWER BACKUP AND CATCH BASIN RESOLUTION TIME

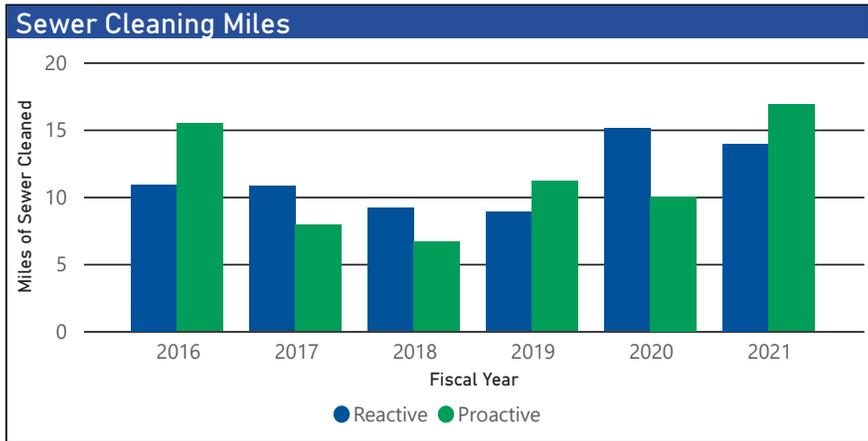
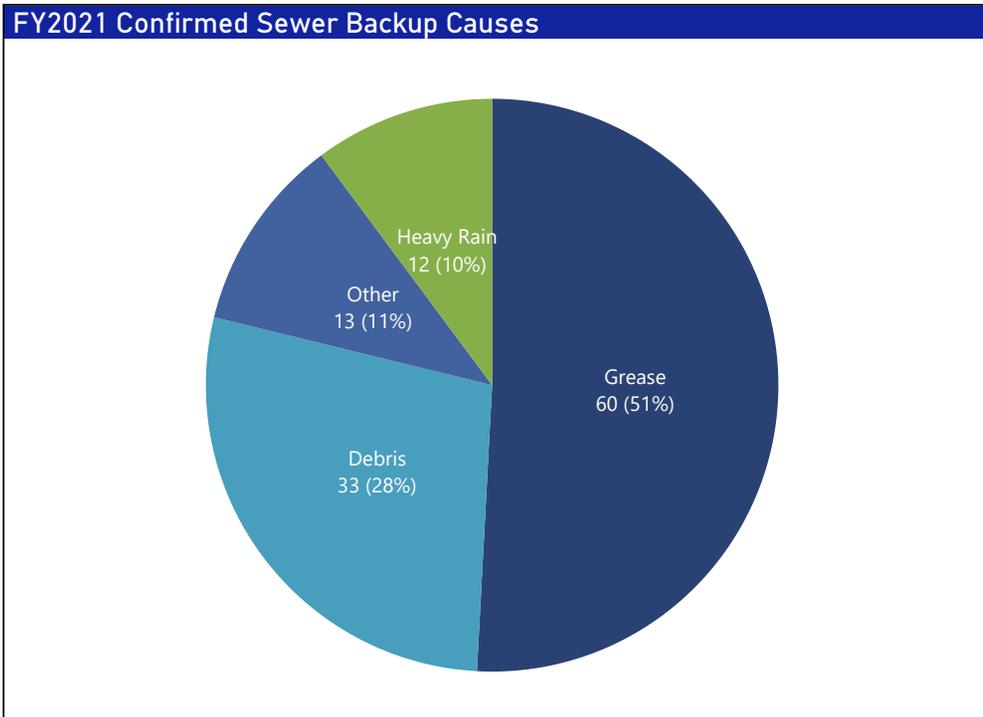
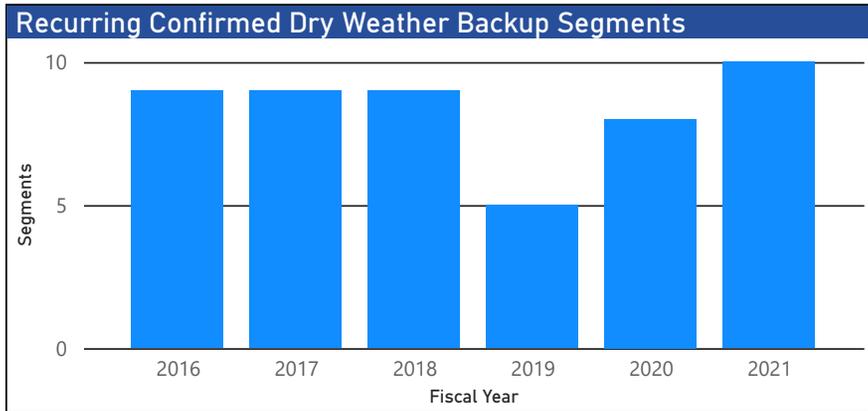
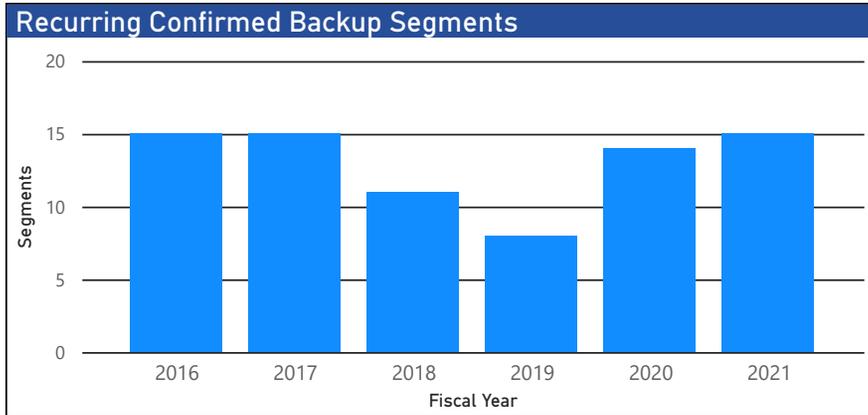
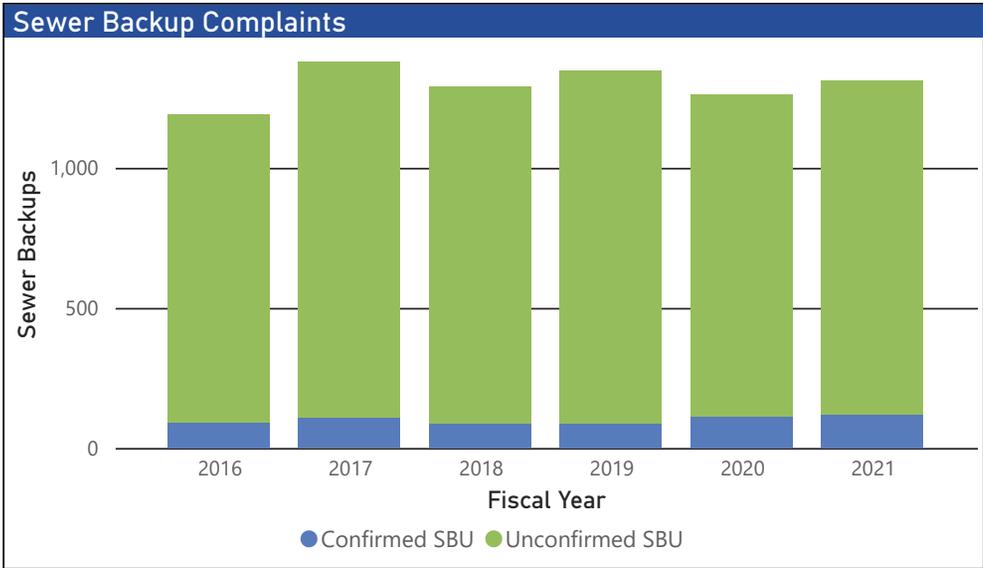
New York City has more than 153,000 catch basins to collect storm water runoff from streets and sidewalks. DEP's rigorous sewer and catch basin inspection, analysis, and cleaning programs have produced improvements in the level of sewer service citywide.

Over the past six years, the time to resolve sewer-related issues has remained below our service level targets of 7 hours to resolve a sewer backup complaint and 9 days to resolve a catch basin complaint. From 2016 to 2020, DEP resolved sewer backup complaints in 3.6 hours, on average. This metric improved to 3.4 hours for the period between 2017 and 2021, a decrease of 5%.

For catch basin-related complaints, the average resolution time from 2016 to 2020 was 6 days which decreased 2% to 5.9 days for 2017 to 2021.

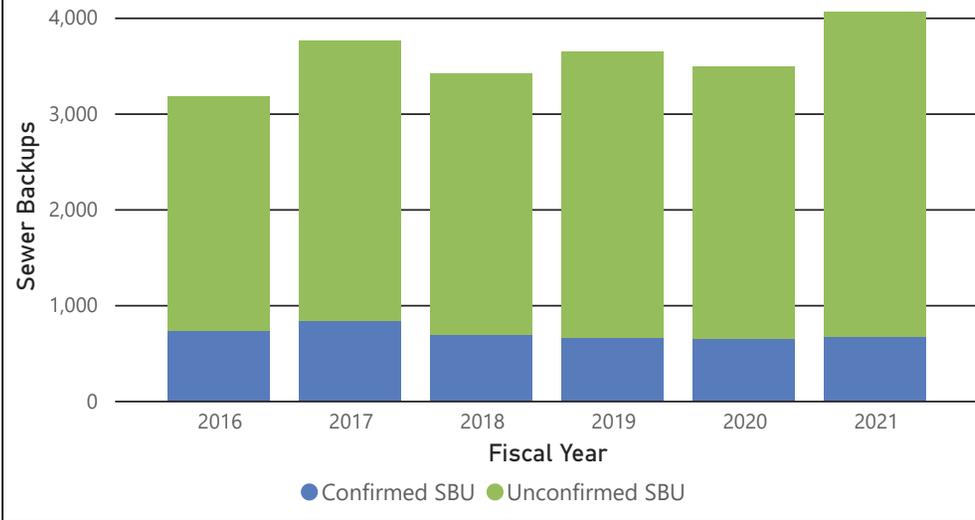


# BRONX

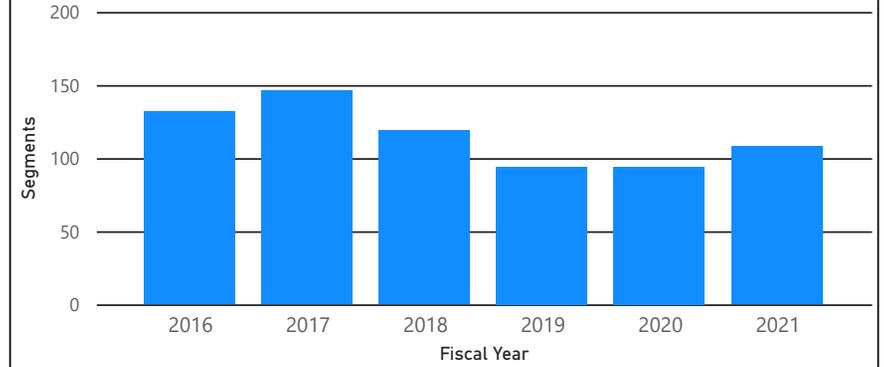


# BROOKLYN

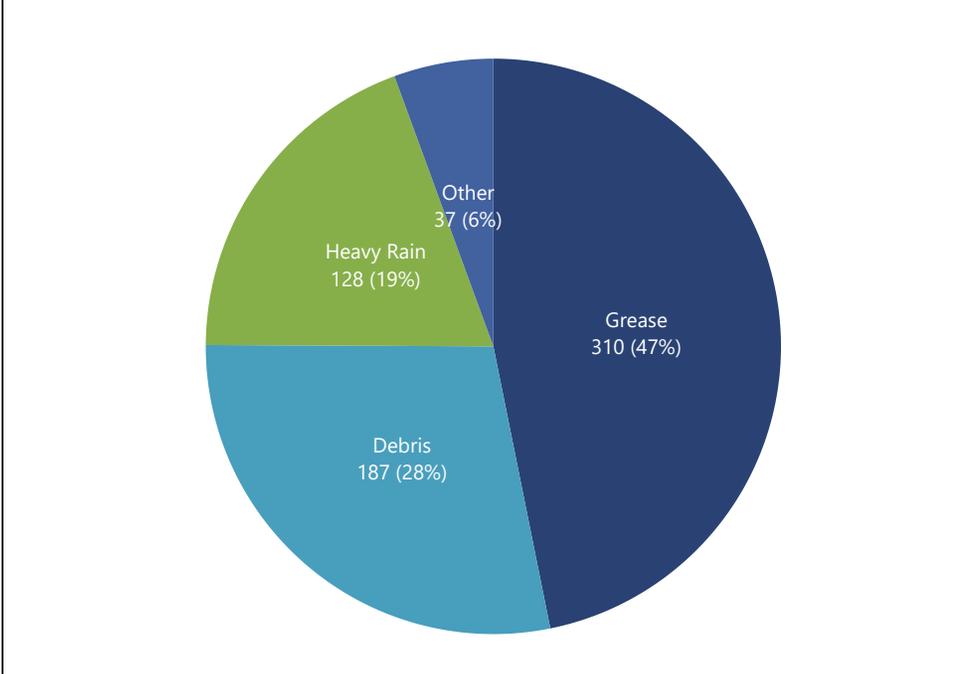
Sewer Backup Complaints



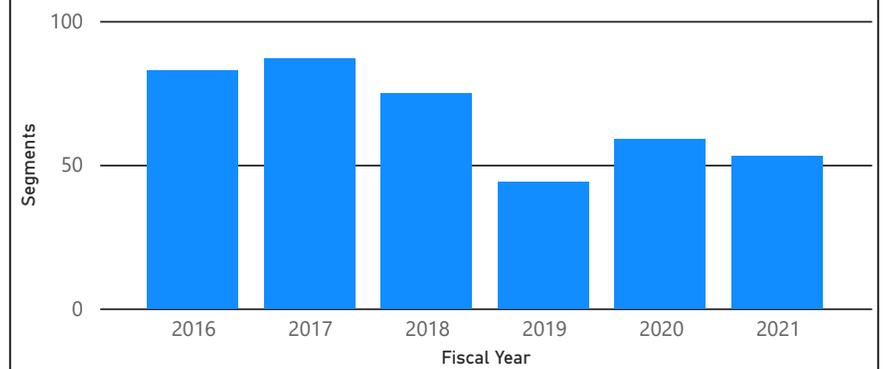
Recurring Confirmed Backup Segments



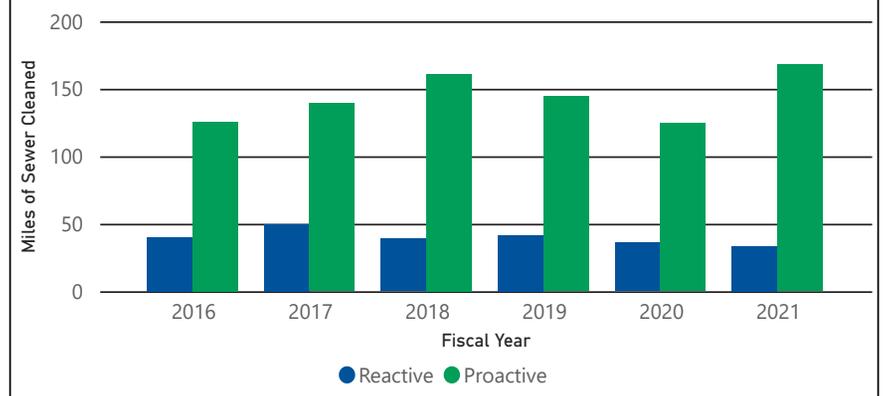
FY2021 Confirmed Sewer Backup Causes



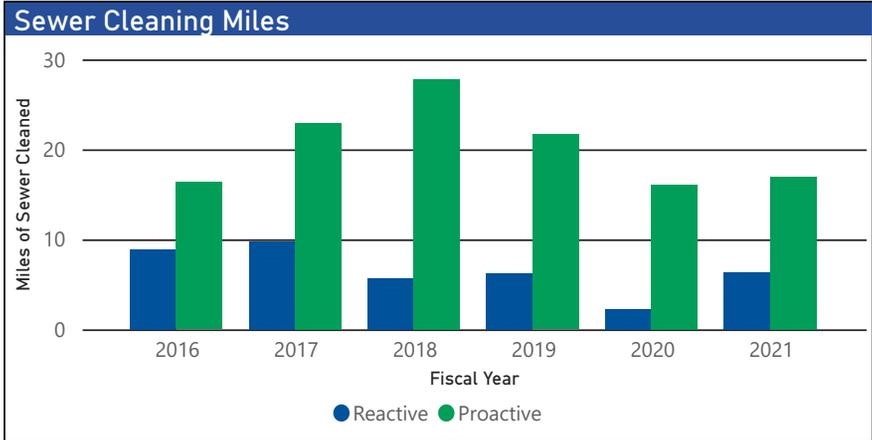
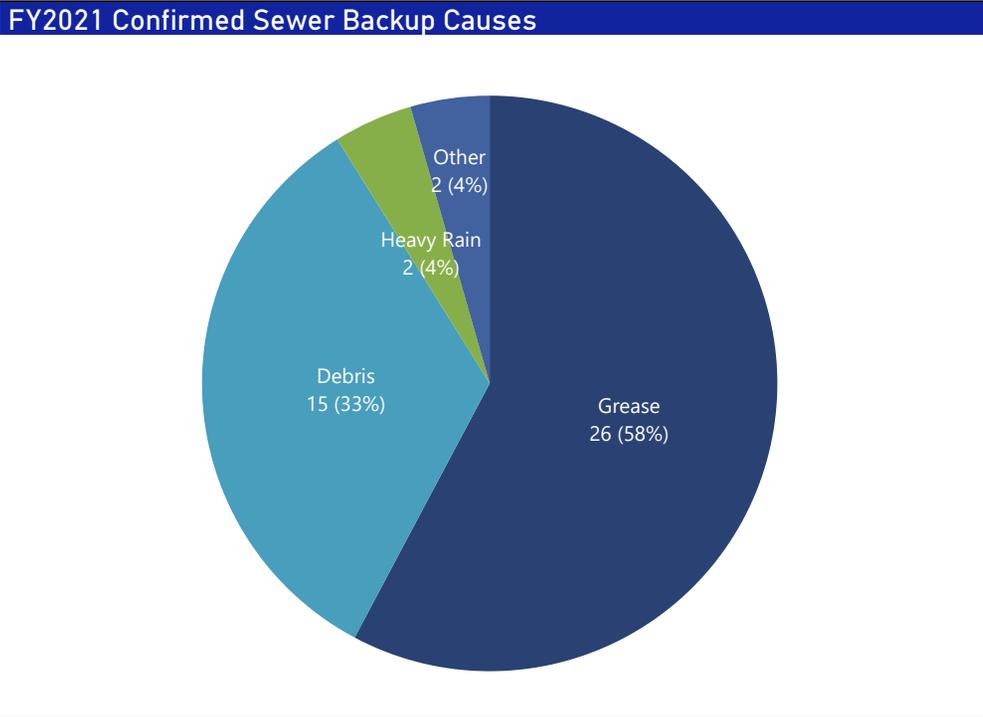
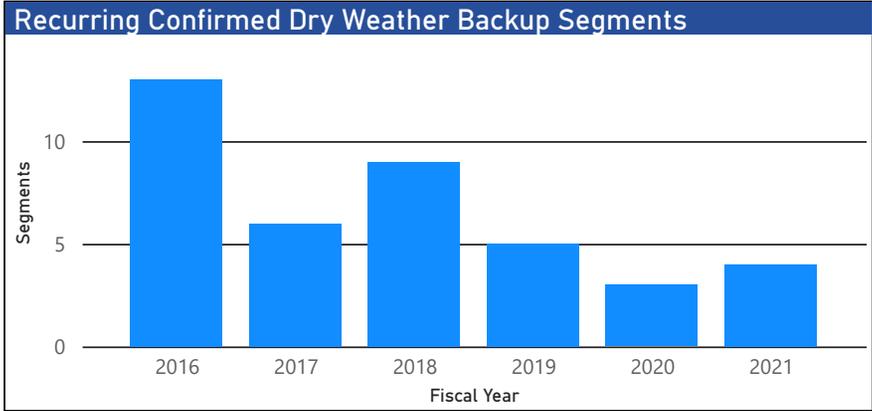
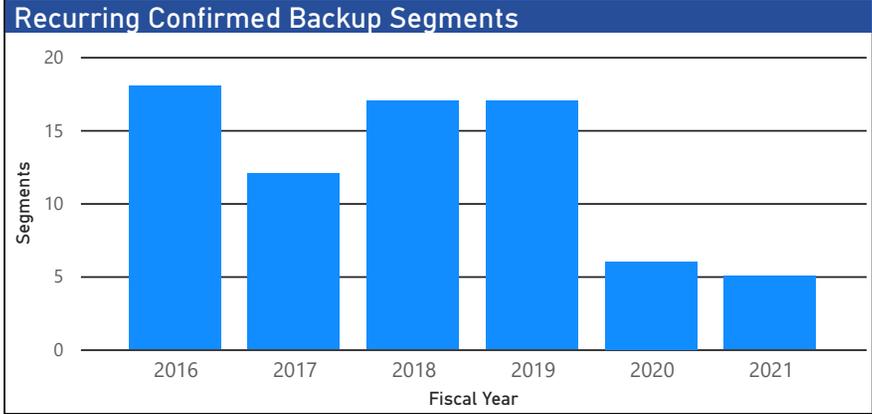
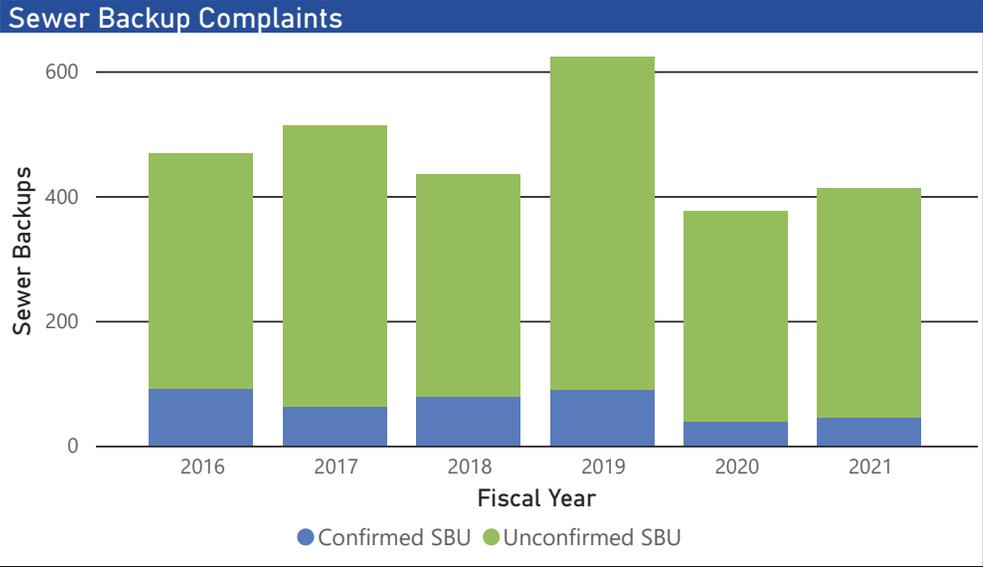
Recurring Confirmed Dry Weather Backup Segments



Sewer Cleaning Miles

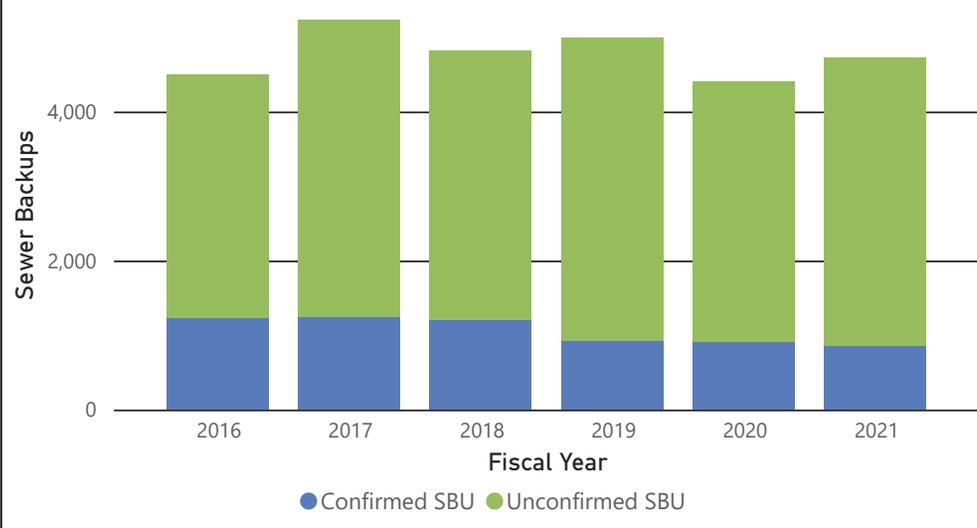


# MANHATTAN

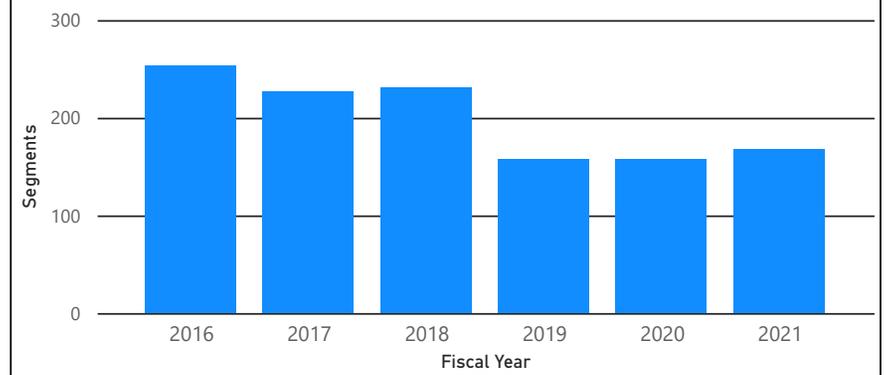


# QUEENS

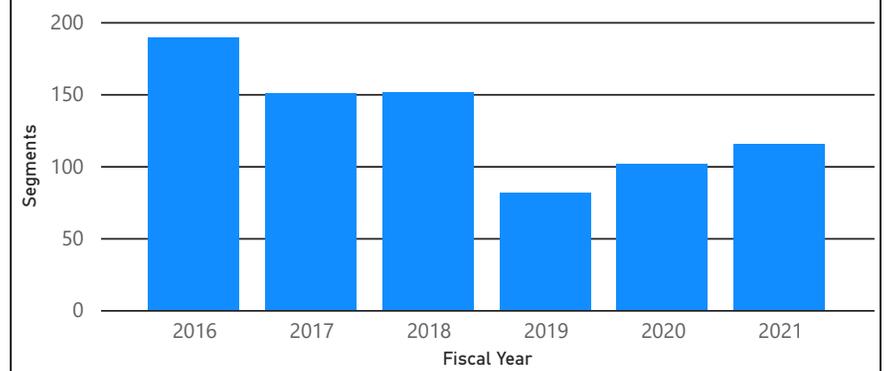
Sewer Backup Complaints



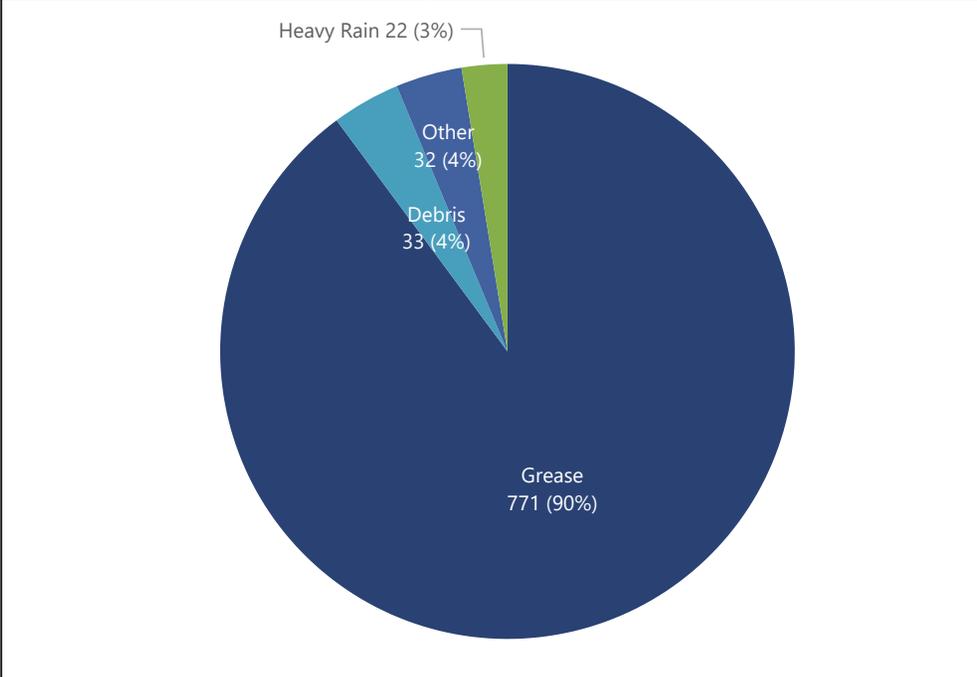
Recurring Confirmed Backup Segments



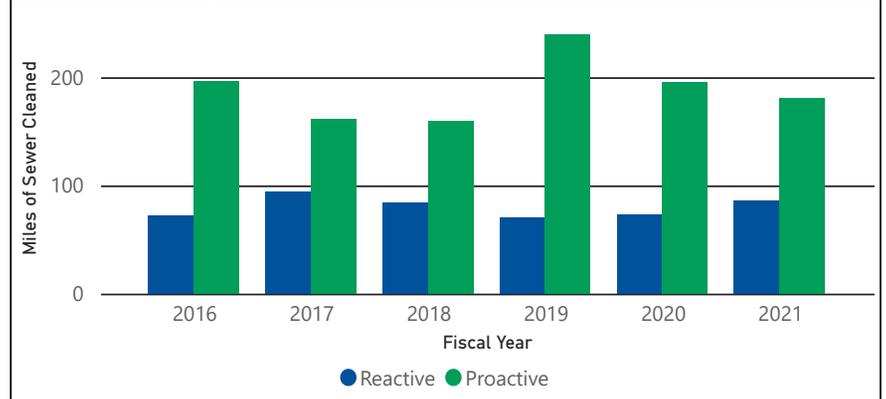
Recurring Confirmed Dry Weather Backup Segments



FY2021 Confirmed Sewer Backup Causes

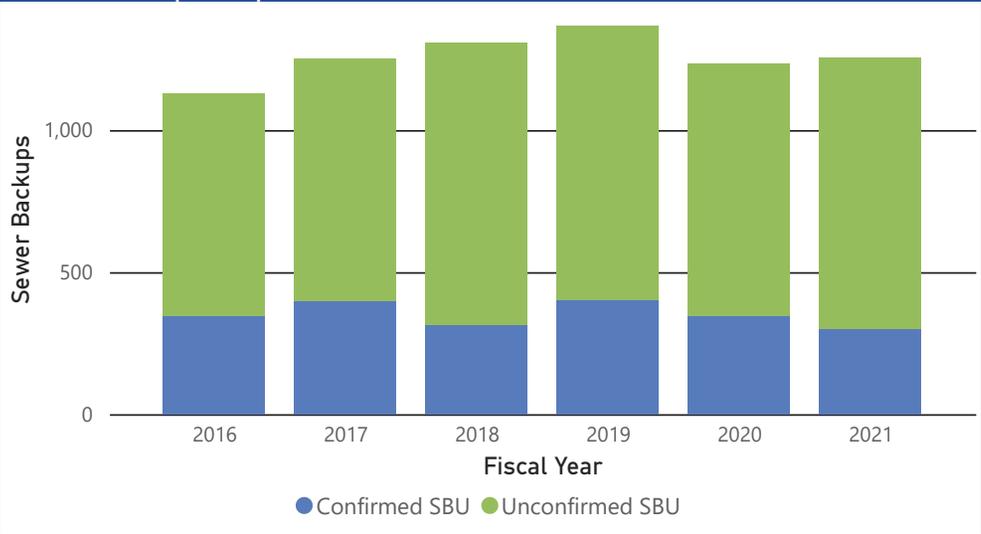


Sewer Cleaning Miles

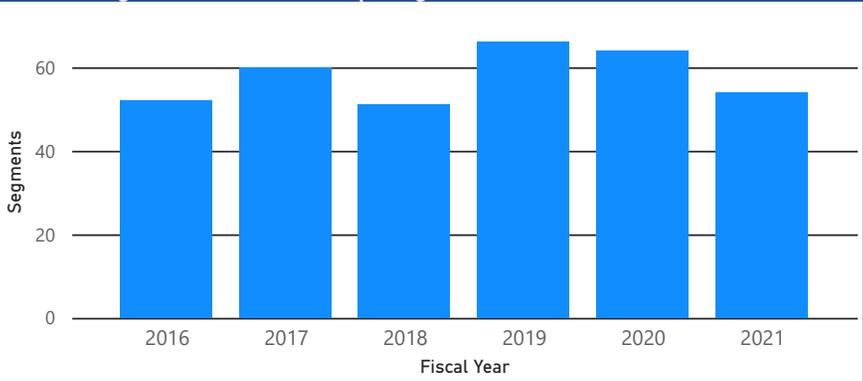


# STATEN ISLAND

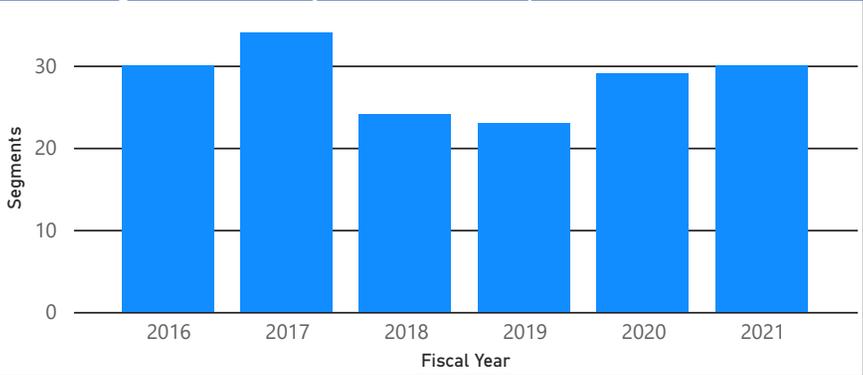
Sewer Backup Complaints



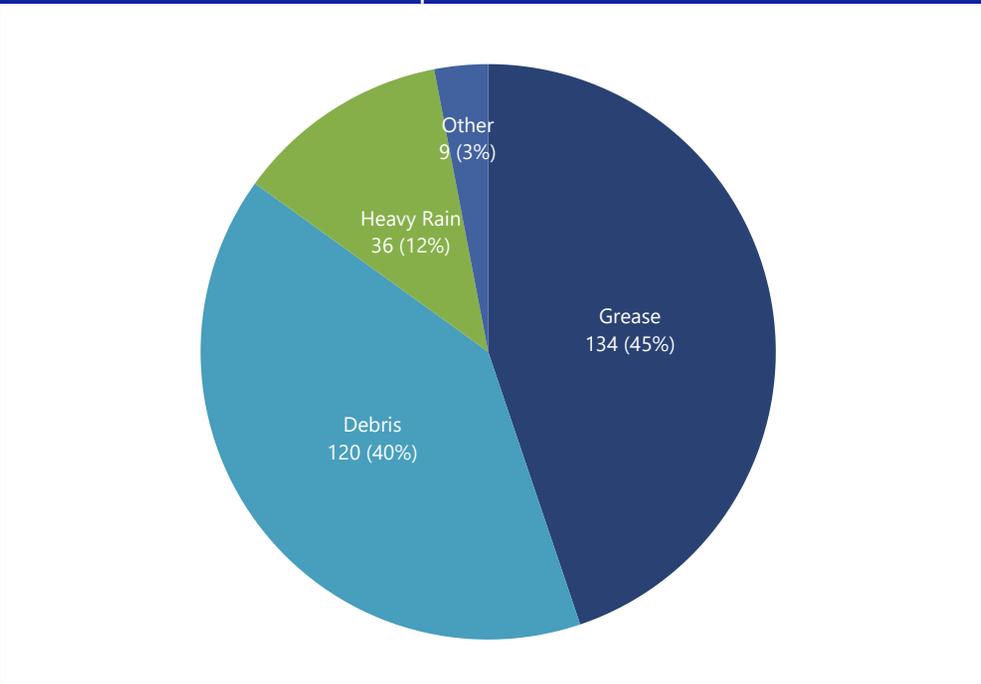
Recurring Confirmed Backup Segments



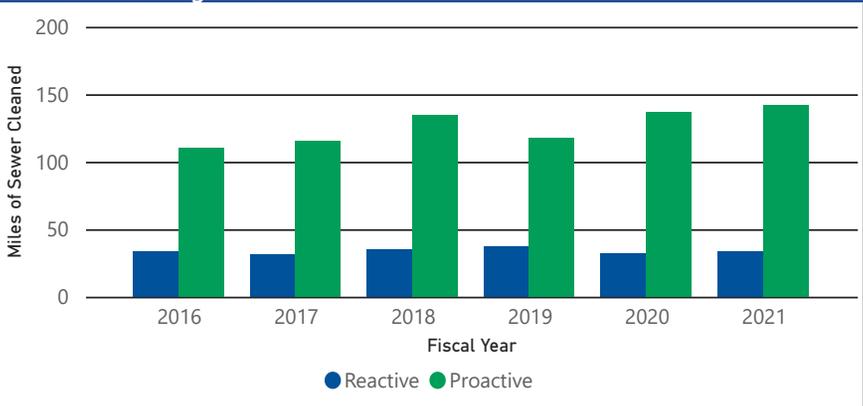
Recurring Confirmed Dry Weather Backup



FY2021 Confirmed Sewer Backup Causes



Sewer Cleaning Miles





**Environmental  
Protection**

**[nyc.gov/dep](https://nyc.gov/dep)**