



**Department of Public Works**

**2018 Annual Report**



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# Executive Summary

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The Department of Public Works (DPW) is comprised of seven (7) employees – an operations superintendent/mechanic, five (5) municipal operators/service technicians, and a limited-term employee. This team is dedicated to providing many of the core services Village residents expect and appreciate. The notable service areas of public works include:

- Stormwater Management
- Sanitary Sewer Maintenance
- Snowplowing
- Bulk Item Pick-Up
- Forestry and Landscaping
- Parks and Recreation
- Road Repair
- Mulch Delivery
- Garbage and Recycling Collection
- Leaf and Yard Waste Collection

The DPW crew takes pride in caring for over seven (7) acres of Ellsworth park, four (4) tennis/pickleball courts, baseball diamond, and pavilion. Crews maintain 46.3 lane miles and 14,500 feet of sidewalks throughout the year.

Maintaining critical infrastructure in the sanitary sewer and stormwater systems are a top priority. DPW oversees the operation of three (3) lift stations, 135,000 feet of sanitary sewer lines, and 602 manholes. In 2018, crews cleaned over 18,000 feet of sanitary sewer lines, oversaw the televising of over 16,000 feet of sewer lines, completed monthly maintenance at each lift station, and rehabilitated three (3) manholes.

The ditch and culvert system in the Village is responsible for storing and draining stormwater to Indian Creek, Fish Creek, and/or Lake Michigan. Key pieces of infrastructure include the 621 Brown Deer Road pond, Ellsworth Park pond, and nearly 100 cross-culverts. The DPW crew replaced 47 driveway culverts and regraded 11,200 feet of stormwater ditch in 2018 as part of a continual improvement process of the stormwater system.

A core service of the department is to collect garbage, recycling, yard waste, and loose leaves throughout the Village. In 2018, DPW collected 1,186 tons of garbage, 541 tons of recycling, 8,222 piles of yard waste, and 2,985 piles of loose leaves. Additionally, 885 residents participated in the 2018 Clean-Up and Drop-Off Days.

This report provides a glimpse into the Department of Public Works accomplishments and outlines the goals that have been set for 2019.

# 2018 Fast Facts

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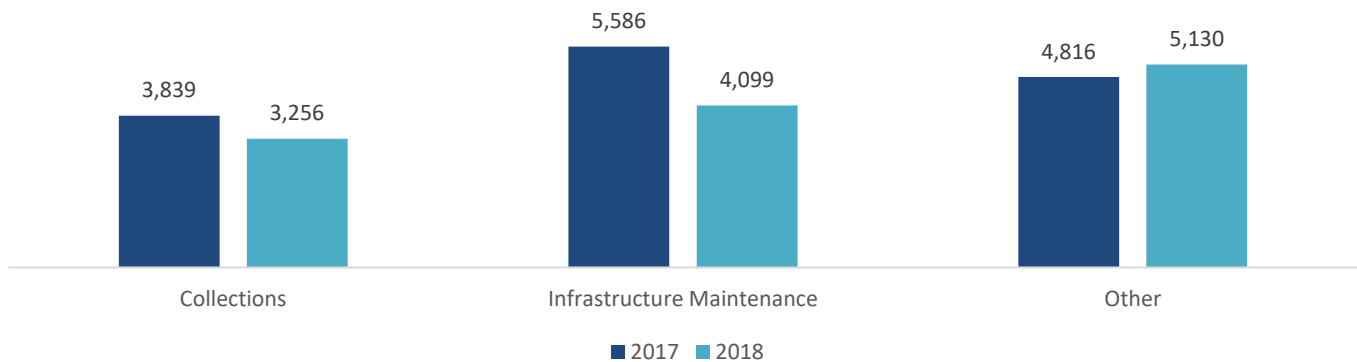
## Projects Completed by the DPW crew:

- Removed 71 trees, with 66 being Ash trees, based on the 2014 tree inventory.
- Collaborated with the Schlitz Audubon Nature Center and Village of Fox Point to remove 48 trees and hazardous limbs from an additional 17 trees along Lake Drive.
- Replaced 47 culverts and completed approximately 11,200 feet of stormwater ditching.
- Completed crack sealing on roads throughout the Village.
- Completed monthly sewer lift station maintenance.
- Rehabilitated three (3) manholes.
- Handled set up and take down for Elections, Clean-Up Days, Village Picnic, Bayside 5k, and 4<sup>th</sup> of July events.
- Completed 122 special pick-ups and 58 mulch deliveries, generating \$15,042 in revenue.
- Cleaned 18,400 feet of sanitary sewer mains.
- 885 participants attended 2018 Clean-Up and Drop-Off Days.
- Collected 8,222 piles of yard waste and 2,985 piles of loose leaves.
- Collected 1,186 tons of garbage and 541 tons of recycling.

## Projects Overseen by Department:

- 37 trees were planted on Village property and rights-of-way.
- Street resurfacing project on three (3) streets in the Village.
- Fund for Lake Michigan Grant Stormwater Project to engage resident of Pelham-Heath, provide stormwater education materials, and create outdoor classroom comprised of three (3) stormwater ditch designs.
- Continued integration of SeeClickFix service requests and work orders into operations.
- 16,146 feet of sanitary sewer televising.
- Purchased pavement line striper to complete future projects in-house.
- Received Tree and Bird City Designations.

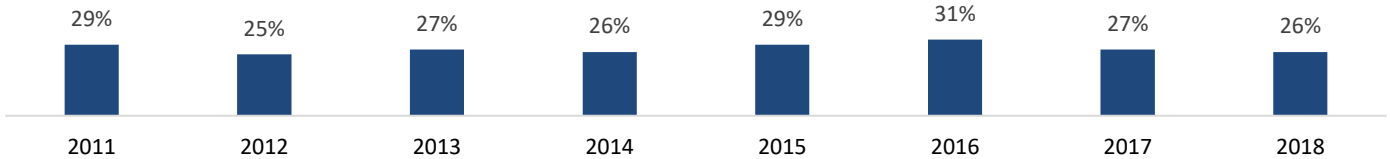
## Hours by Function



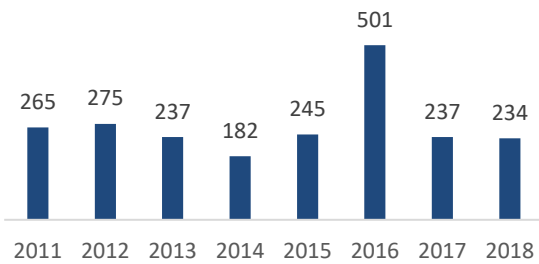
# Collections

Collection hours are comprised of garbage and recycling collection, up-the-drive service, yard waste, leaf vacuum, brush chipping, and special pick-ups. The largest decrease in collection hours was yard waste at 29%. As a percentage of total hours, collections made up 26% of the crew's time.

## Collection Hours vs. Total Hours

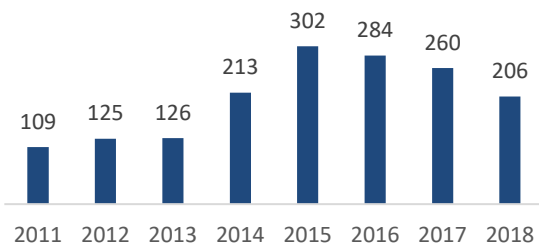


## Leaf Collection Hours



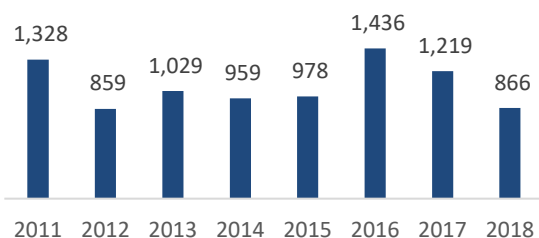
Leaf vacuum hours decreased by three (3) hours, or 1%, between 2017 and 2018. However, 234 hours represents the second lowest number of hours dedicated to loose-leaf collection over the last eight (8) years. By having a back-up collection system in place and taking advantage of on-demand, request-based collections, the Village will continue to see highly-efficient leaf collections.

## Special Pick-Up Hours



The Department of Public Works crew completed 122 special-picks up in 2018, which is a 27 pick-up decrease from 2017. While the number of pick-ups completed decreased by 18%, the time spent on completing special pick-ups decreased by nearly 21%. In 2019, the Village will explore offering special pick-ups on a bi-weekly basis during slower times of the year for impact on number of special pick-ups and time spent on collection.

## Yard Waste Hours

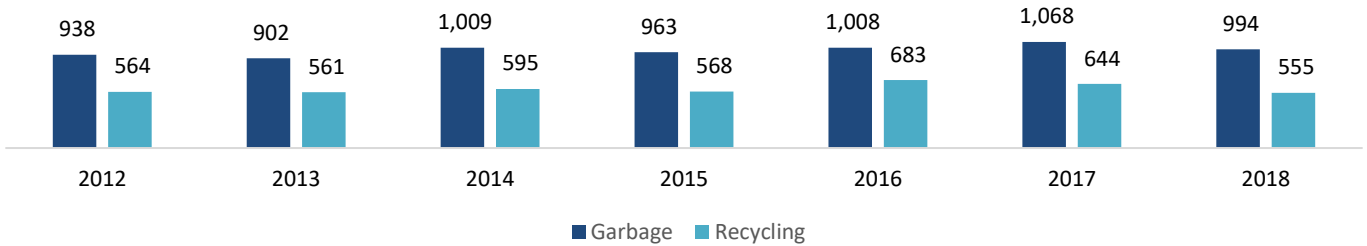


16 yard waste collection weeks were completed in 2016, which included 10 regular collections and six (6) bagged collections. Yard waste hours decreased by 29% between 2017 and 2018. Contributing factors to this accomplishment were completing bagged yard waste collections in three (3) days and continuing to experiment with on-demand, request-based, collections.

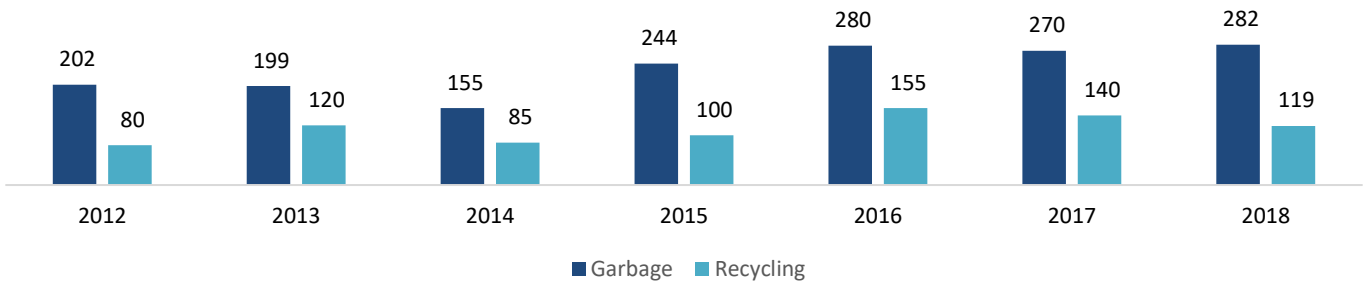
# Collections

The graphs below depict the hours spent on automated and up-the drive garbage and recycling service. There was a notable decrease in both automated and up-the-drive garbage and recycling numbers. In total, automated collection hours decreased by 9.5% and up-the-drive collection time decreased by 2%.

## Automated Garbage and Recycling Hours

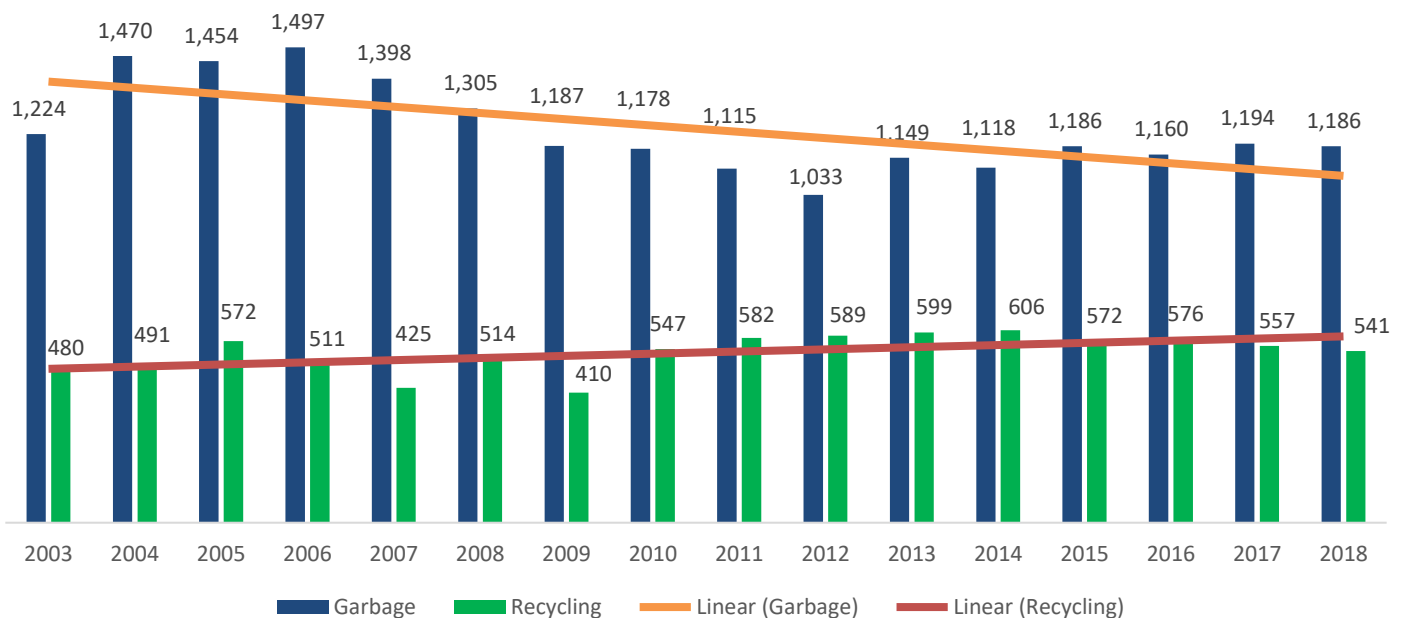


## Up-the-Drive Garbage and Recycling Hours



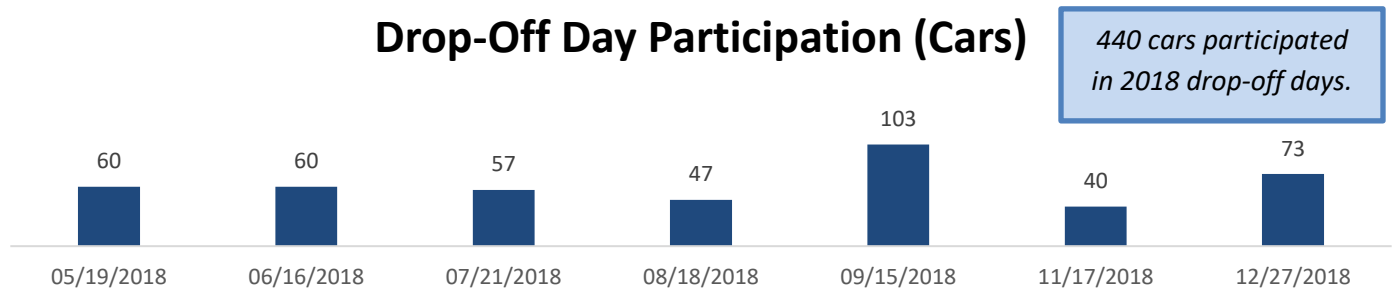
Garbage and recycling tonnage were both down in 2018 in comparison to 2017. Changing trends in recyclable items (e.g. lighter shipping boxes from online shopping and plastic bottles as opposed to newspaper and magazines) may partly explain the continuing downward trend in recycling.

## Recycling and Garbage Tonnage Collected



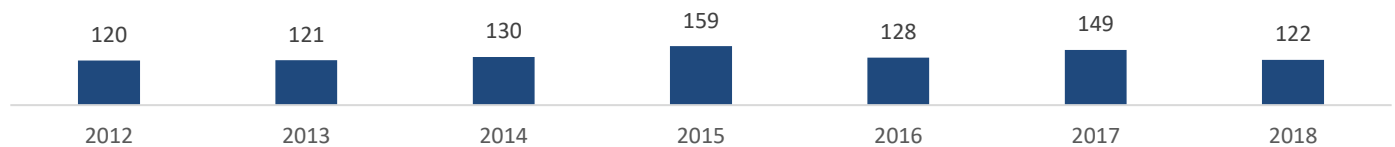
In 2018, there were seven (7) drop-off days held with 440 cars participating. On average, 63 cars came to each event. In 2017, 8 drop-off days were held with an average of 68 cars coming to each event.

### Drop-Off Day Participation (Cars)

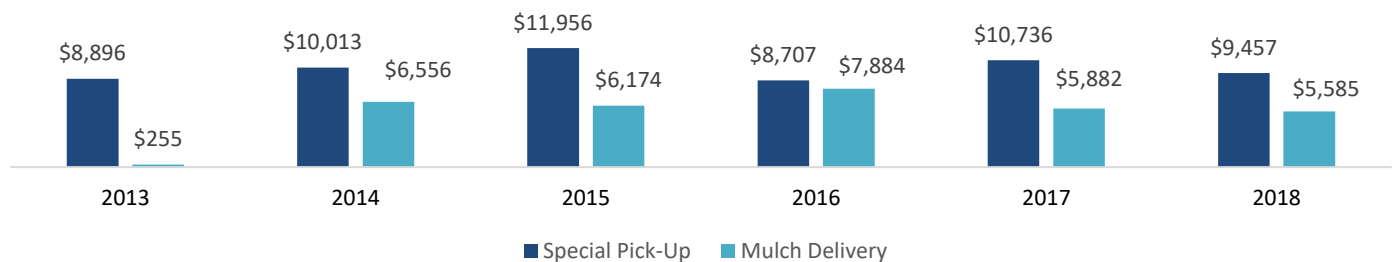


In addition to the Clean-Up and Drop-Off Days, residents having the ability to schedule a fee-based special pick-up. Public Works completed 122 special pick-ups in 2018, which generated \$9,457 in revenue. Between special pick-ups and mulch deliveries, the Village received \$15,042 in revenue last year.

### Special Pick-Ups



### Revenue Generated



**Look Ahead:** The Department of Public Works is going to experiment with two (2) changes in collections in 2019. Special pick-ups will be offered on the first and third Thursday for the months of January, February, March, April, November and December. These have been historically slower times in the year and should allow DPW more time to focus on other activities and projects. The Department will also offer three (3) on-demand yard waste collections which must be requested through the Village website or Access Bayside mobile app. By moving to a request-based on-demand system, collections can be done more efficiently – saving staff time, vehicle mileage, and wear and tear on equipment.

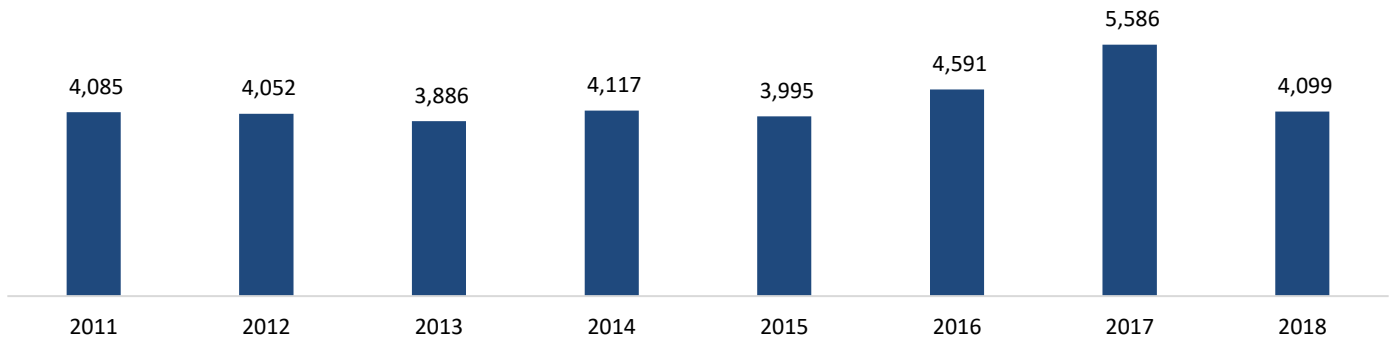
The Village will offer five (5) Recycling Days for recycling, yard waste, scrap metal, and electronics as well as two (2) larger Clean-Up Days in 2019. These events will be advertised in the Bayside Buzz, Village Scene, and on social media.

# Infrastructure Maintenance

Infrastructure maintenance hours consist of road repair, stormwater, equipment/vehicle maintenance, and sewer. Infrastructure maintenance hours resulted in:

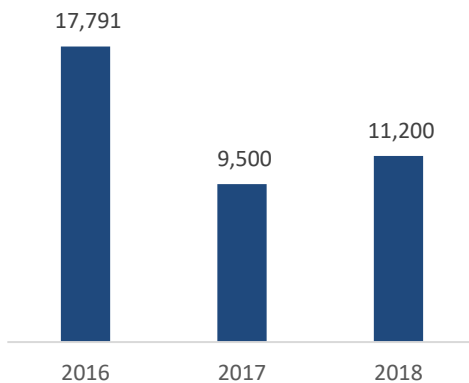
- Cleaning over 18,000 feet of sanitary sewer main
- Replacing 47 driveway culverts and completing 11,200 feet of ditching in the culvert replacement program
- Rehabilitating three (3) manholes

## Infrastructure Maintenance (Hours)

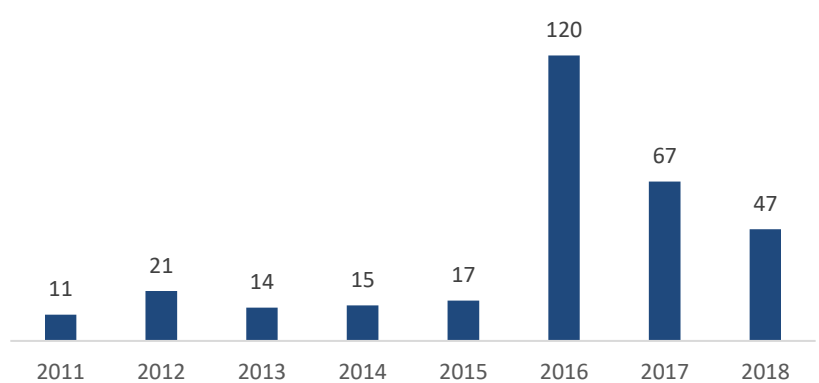


Since the start of the culvert replacement program in 2016, crews have replaced 234 driveway culverts and completed over 38,000 feet of stormwater ditch re-grading. This approach maximizes the storage capacity of the ditch system, ensures proper pitch to move stormwater to outlet points, and installs new culverts to prevent blockages or back-ups in the stormwater system.

## Feet of Ditching



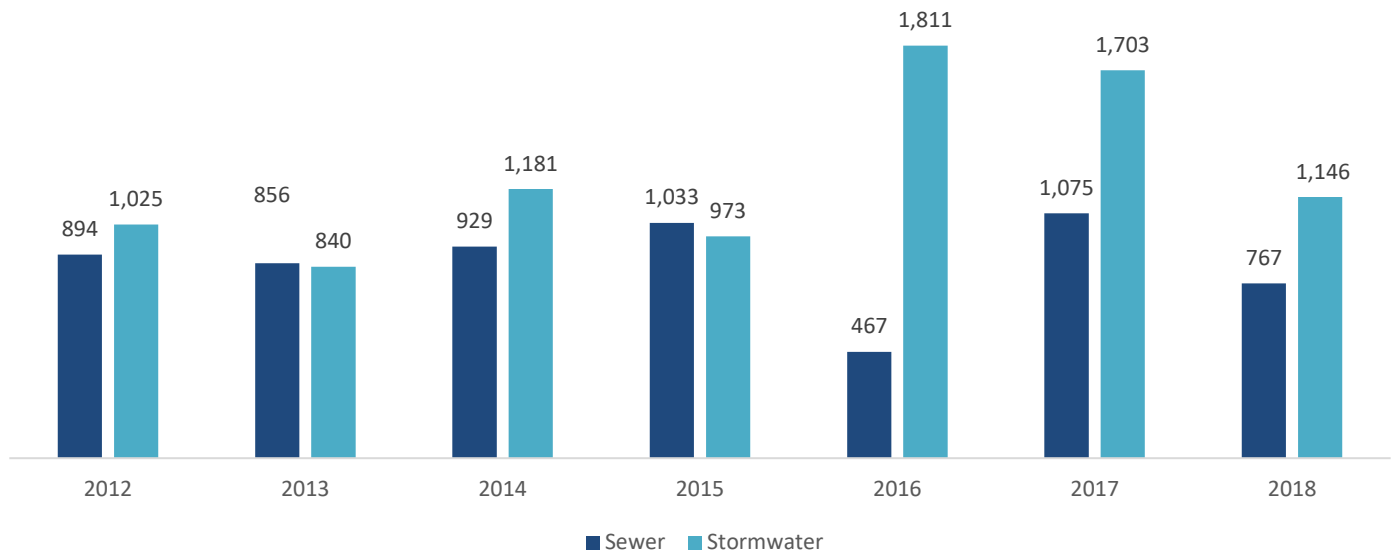
## Culverts Replaced



# Infrastructure Maintenance

Sewer and stormwater hours are spent maintaining critical pieces of Village infrastructure. Crews completed monthly lift station maintenance at the Village's three (3) lift stations and cleaned over 18,000 linear feet of sanitary sewer main. Stormwater hours are spent on the annual culvert replacement program, maintaining the ponds at Ellsworth Park and 621 Brown Deer Road, and completing other projects on an as-needed basis.

## Sewer and Stormwater Hours



**Look Ahead:** The Department of Public Works will work towards the annual sanitary sewer main line cleaning goal of 26,200 linear feet in 2019. Approximately 29,000 linear feet of sanitary sewer main line will be televised in the east and southeast portions of the Village. 10,224 linear feet of sanitary sewer main line will be rehabilitated in 2019 with the majority of the work to be cured-in-place pipe (CIPP) lining. Sanitary sewer manholes will be rehabilitated on an as-needed basis with the emphasis being on those in the road project area.

It is estimated that 40 driveway culverts will be replaced and over 6,000 feet of stormwater ditching will be re-graded in the culvert replacement project, which will primarily occur within the 2019 road project boundaries (North Meadowlark Lane and North Tennyson Drive).

Due to retirement and employee turnover, total Public Works hours were down 1,756 hours, or 12%. For comparison, infrastructure maintenance hours were down 1,487 hours, or 27%. Unfortunately, infrastructure maintenance can be one of the first areas to see a decrease in hours during times of short-staffing due to service necessity as well as crew capacity and capability. As Public Works fills two (2) vacant positions in 2019, infrastructure maintenance hours between sanitary sewer and stormwater are anticipated to increase from 2018.

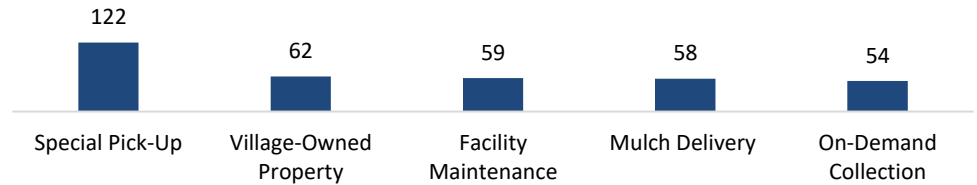


# Facilities/Seasonal/Misc.

This category includes building maintenance, elections, grass/weed removal, tree planting/removal, recreation, and snow/ice removal.

DPW responded to 617 service requests over the course of 2018 through Access Bayside, the Village's online platform and mobile application.

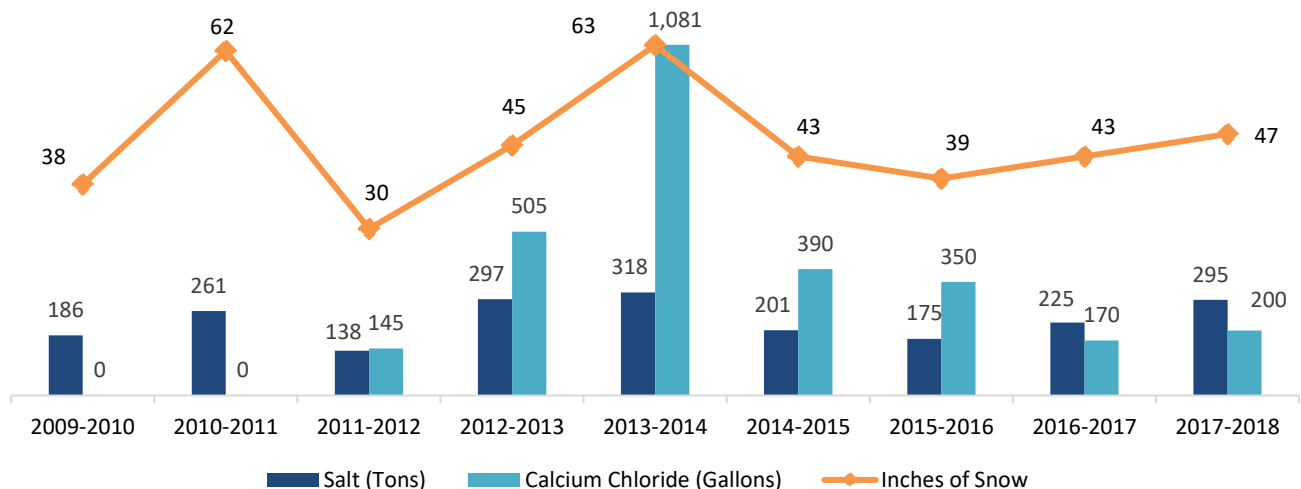
## Service Requests by Type



Crews planted, mulched, and watered 37 trees through the Village's Adopt-A-Tree Program in 2018. The program allows the Village to replenish the urban forest with diverse tree species while creating tree-lined roadways and continuing a tree-care partnership with residents. The Adopt-A-Tree Program is the Village's primary tool in maintaining a resilient urban forest as the Emerald Ash Borer (EAB) continues to decimate the ash tree population. As a result of the Emerald Ash Borer, the Village removed 66 ash trees in 2018. Ash trees account for 93% of the 71 trees that the Village removed in 2018.

The Department of Public Works crew removes snow from 46.3 lane miles of roadway and 14,500 feet of sidewalks. To accomplish this task, the Village has available three (3) plow trucks, two (2) one-ton trucks, a pick-up truck, and a skid steer with a snowblower attachment.

## Winter Operations



# 2019 Top Goals

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- Rehabilitate manholes in the 2019 road project areas to repair the structure and reduce inflow and infiltration.
- Replace stormwater culverts and cross culverts in the 2019 road project areas as well as ditch regrading efforts to ensure adequate stormwater flow.
- Fund for Lake Michigan Stormwater Grant Project to create and implement shared public and private property stormwater management projects.
- Fill two (2) vacant positions.
- Avoid down time with the Village fleet to ensure services are being provided in the most efficient and effective manner.
- Engage in tree removal efforts to maintain aesthetically-pleasing and safe rights-of-way.
- Meet the annual goal of 26,200 feet of sanitary sewer jetting.
- Continue in-house crack-sealing efforts and line-striping.
- Conduct monthly sewer lift station maintenance.
- Finalize North Shore East cul-de-sac project to include stormwater improvements and landscape restoration.
- Oversee the 2019 road project, sewer rehabilitation project, and sewer televising project.
- Oversee 621 Brown Deer Road pond dredging and sediment removal.

