

Department of Public Works

2014 Annual Report

2014 Facts & Figures

Field Employee Data:

- *Total years of service: 285*
- *Average years of service: 15*
- *Average age: 49*

Conferences & Training

- *WI Rural Water*
- *WI APWA*
- *WI Arborist Association*
- *Public Works Supervisory Academy*
- *MMSD Inspection & CMOM*
- *APWA Snowplow ROADeo*
- *Managing Snow & Ice Control Operations*
- *Winter Road Maintenance: Equipment Calibration*
- *Alternative Fuels Workshop*
- *Smart Fleet Recognition Program*

Familiar Faces, New Places

- Kyle Pinzer, Route Collector, joined the team in March. Kyle was previously a member of our summer crew and most recently was the tech for the 2013 sidewalk program.

Notables

- Dave Best, Fleet & Facilities Foreman, graduated from the WI APWA Public Works Supervisory Academy.
- Bill Nowak, Utility Equipment Operator, received his WDNR Water Operator License.
- The Wisconsin Rural Water Association presented its 2014 President's Award to the Shorewood Waterworks for service to the community during the winter of 2013-14.
- Leeann Butschlick, Director, was named Chairperson of the Wisconsin APWA's state Facilities & Grounds Technical Committee.



Shorewood Water Utility staff (left to right): Scott Erickson, Dave Kunze, Dave Bruncker, Wayne Okray, Scott Bohm and Bill Nowak (not pictured).

2014 Facts & Figures

Major Capital Projects:

- *Murray Avenue Street Reconstruction Program*
\$2,585,921
- *Basin 6 Phase II Sewer Improvements*
\$1,571,878
- *Capitol Drive/DPW Yard Water Main Improvements*
\$618,179
- *Oakland Avenue Water Main*
\$82,581
- *Annual PPII Reduction/Lateral Lining Program*
\$291,097
- *Annual Mainline Sewer Lining Program*
\$324,359
- *DPW Upper Garage Roof*
\$48,228

Operational Highlights

Much of 2014's focus was administration of a significant list of infrastructure improvement projects (see left).



Time was made for increasing our community outreach including an expanded list of Shorewood Waters Project events, participation in the Shorewood PD's National Night Out, and hosting a Welcome Neighbors event.



Metrics

Key measures of DPW and Utility operations are featured on the pages that follow. Please note that where a figure is followed by an arrow symbol, the intent is to quickly illustrate the change from 2013 to 2014, either increase (↑) or decrease (↓).

2014 Facts & Figures

Total Refuse:
2,620 tons ↑

Average refuse disposed per Shorewood resident:
397.3 pounds ↑
(increase of 12.9 pounds over 2013)

Labor Hours:
3,566 ↓

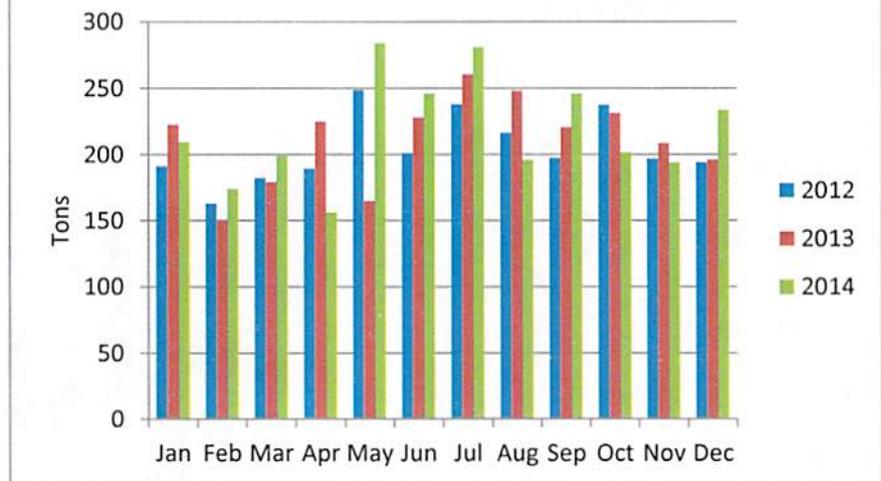
Contracted per ton disposal cost:
\$44.43 ↑

Total Recycling:
1,266 tons ↓

Material recycled per Shorewood resident:
192.0 pounds ↓
(decrease of 1.5 pounds from 2013)

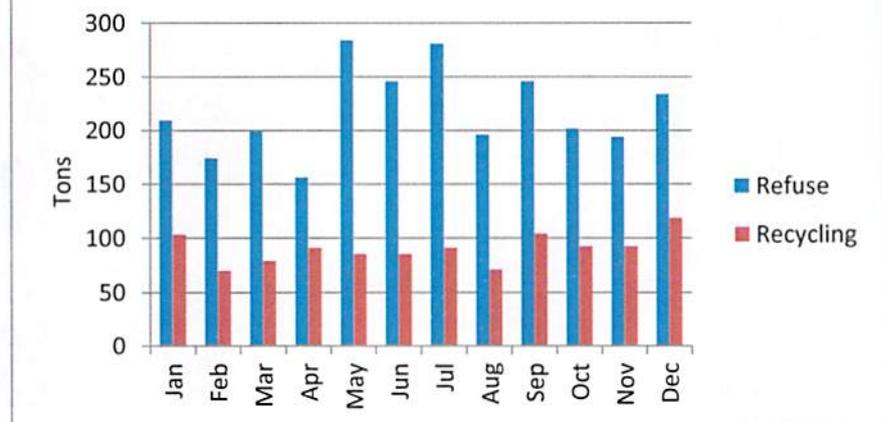
2014 Recycling Rebate:
\$49,880.58 ↓

Refuse Collection 2012-2014



Refuse collection services are provided weekly to one, two and three family residences curbside or via alley. The Village is divided into three refuse collection routes operated by three employee collectors Monday through Wednesday of each week.

Total Material Collection Refuse/Recycling



Village residents currently landfill approximately 2.4 pounds of material for each pound of material recycled. We have a recovery rate of 32.5%, down from 33.48% in 2013.

2014 Facts & Figures

Total Curbside Recycling:
1,085 tons ↓

Total DPW Drop-off Recycling:
181 tons ↑

Monthly cost per residence for curbside recycling:
\$2.28 =

Material totals (all sources):

Paper
666.4 tons ↓

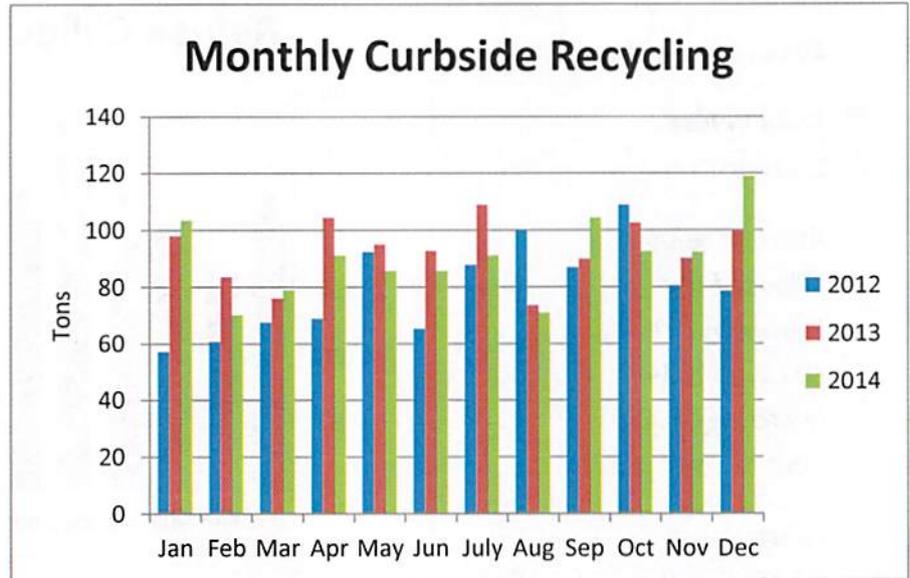
Glass
336.4 tons ↑

PETE (#1 plastic)
43.7 tons ↑

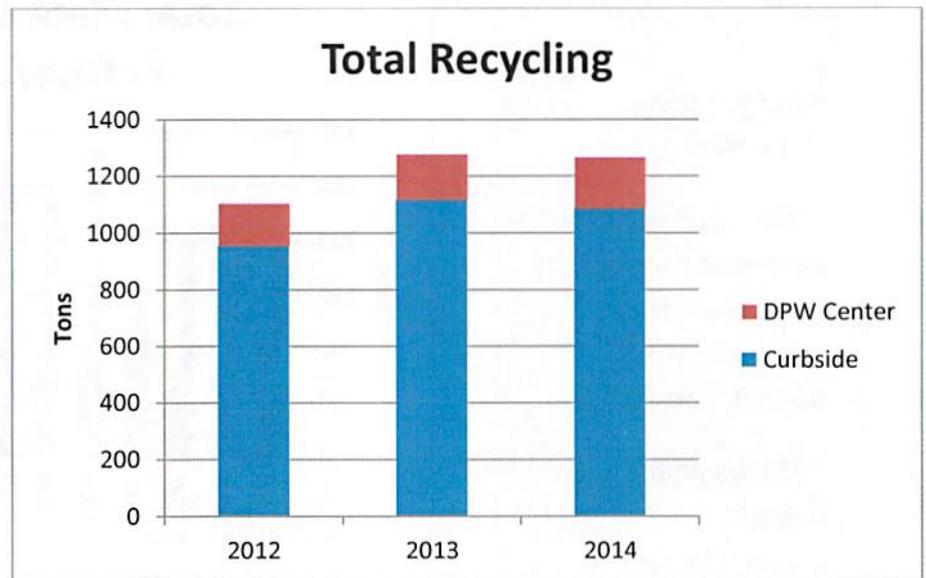
HDPE (#2 plastic)
17.6 tons ↑

Tin
16 tons ↓

Aluminum
11.4 tons ↓



Curbside recycling collection is currently provided under contract with Waste Management. Under the current contract, the Village receives half the proceeds for the sale of materials collected curbside.



Total materials recycled in 2014 are down slightly from 2013.

2014 Facts & Figures

Material Disposed:
214 tons ↑

Total Labor Hours:
hours
354 ↑

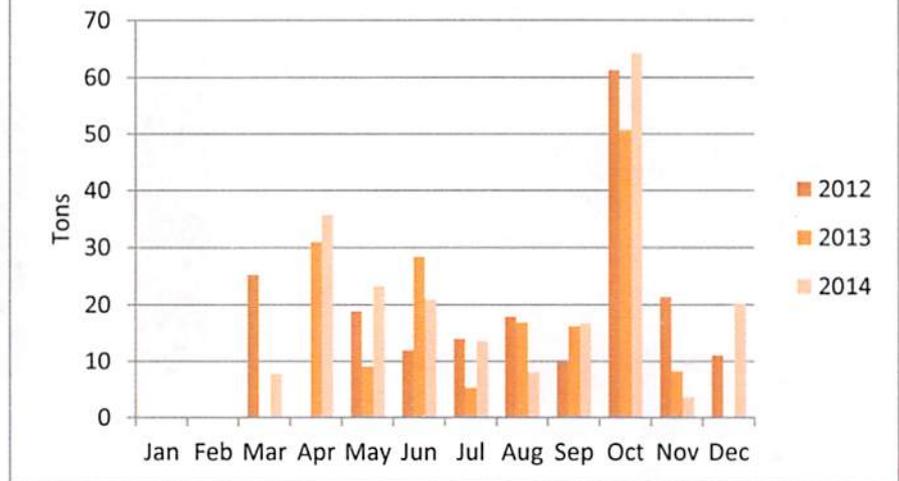
Shorewood jointly owns its 2012 Tymo vacuum sweeper with the Village of Whitefish Bay.

Total Diggers Hotline Tickets:
1,182 ↑

Estimated Labor Hours:
167 ↓

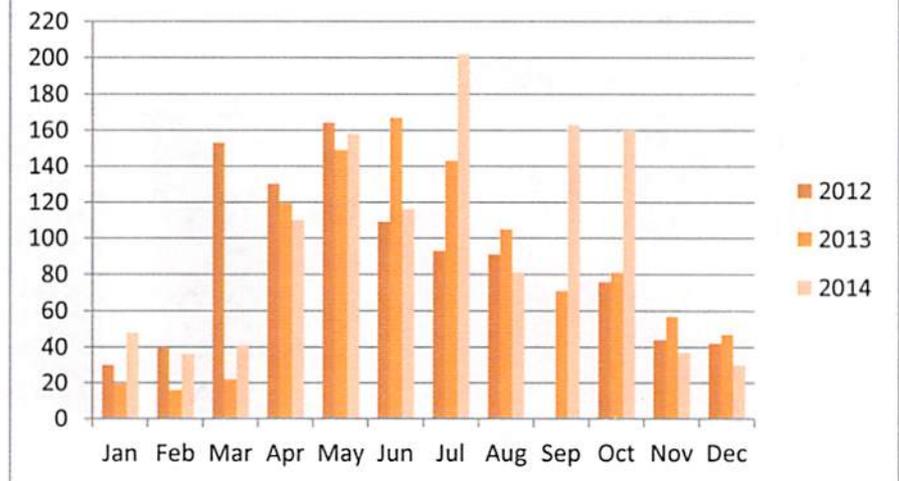
Hotline requests fluctuate greatly based upon the scope of public construction projects and economic conditions (private activity).

Street Sweeper



Regular street sweeping is required under the Village's NR 216 stormwater discharge permit. Sweeping is typically not done during the winter months as road salt is extremely damaging to the sweeper.

Diggers Hotline Tickets



Diggers Hotline is a necessary activity to protect the Village's underground infrastructure. Requests are made for projects ranging from fence installations to major sewer improvements. All requests, no matter the project scope, require the marking of water, street light and traffic signal locations within the project area radius.

2014 Facts & Figures

Total Gallons:
22,253 ↓

Total gasoline:
6,262 ↑

Total diesel:
15,991 ↓

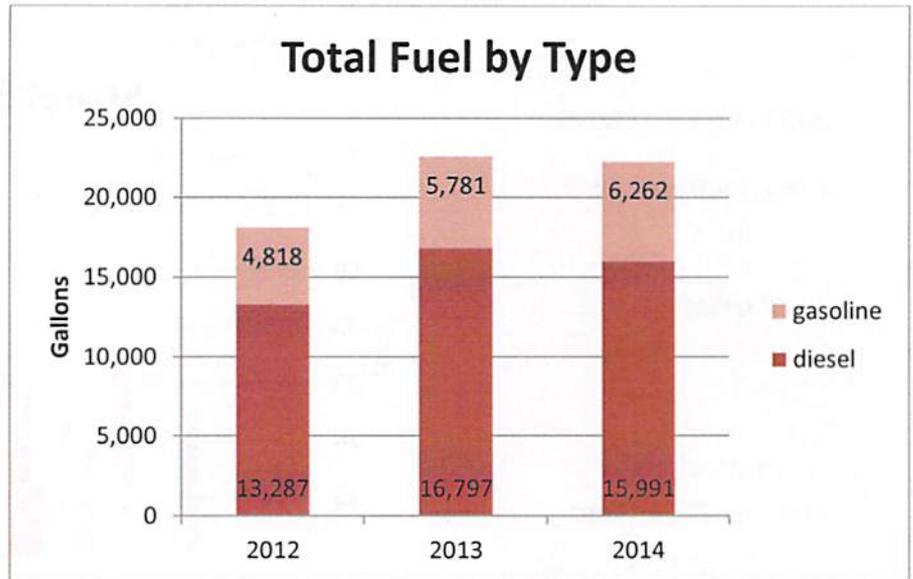
% change 2013 to
2014:
1.44% decrease

Total number of fleet
vehicles:
32

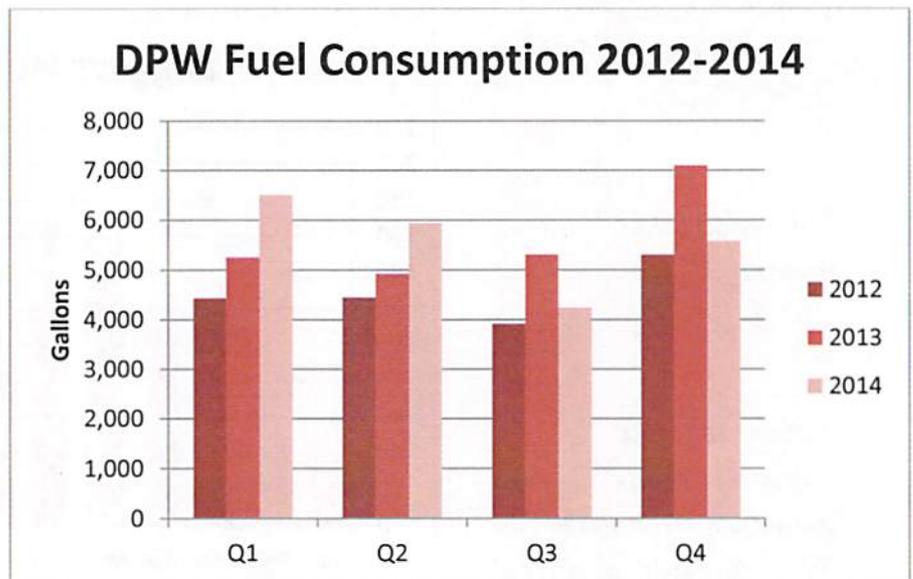
Diesel vehicles:
19

Gasoline vehicles:
13

Total pieces of
gas/diesel powered
equipment:
26



Fuel consumption varies from quarter to quarter based upon a number of factors including the types of projects or tasks undertaken. The most significant impact, however, is typically seasonal. Annual fuel usage is directly proportionate to snowfall and snow event frequency.



2014 Facts & Figures

Total Materials:
1,115 tons ↑

Total leaves:
509 tons ↑

Total brush:
168 tons ↑

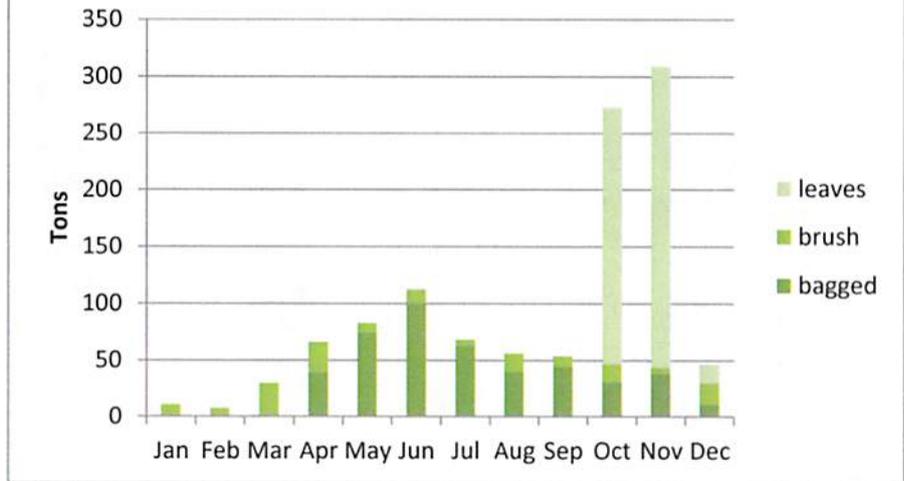
Total bagged:
439 tons ↑

Estimated labor hours: 1,193 ↓

While the number of trees in Shorewood remains relatively constant, the volume and timing of leaf collection can vary dramatically based upon precipitation levels, temperature and other factors.

A wet fall season will significantly increase both weight totals and labor hours.

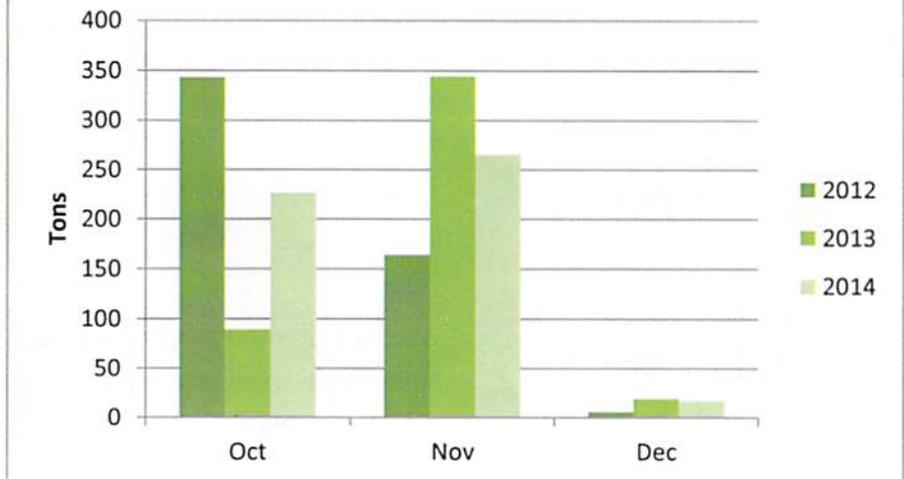
2014 Yard Waste - All Types



Bagged yard waste is collected on the same schedule as refuse. Yard waste routes parallel refuse routes and the material is collected in the afternoon following the regular routes in season (April – Nov).

Brush is chipped curbside on a monthly schedule (April – Nov).

Monthly Leaf Collection 2012-2014



Leaves are vacuum collected curbside on a day-certain weekly schedule between the third Monday in October and the first Friday in December of each year.

2014 Facts & Figures

Total Street Trees:
6,226

*Labor hours
planting & pruning:*
1,072 ↓

*Most common street
tree species in
Shorewood:*

Maple

Ash

Honey locust

Linden

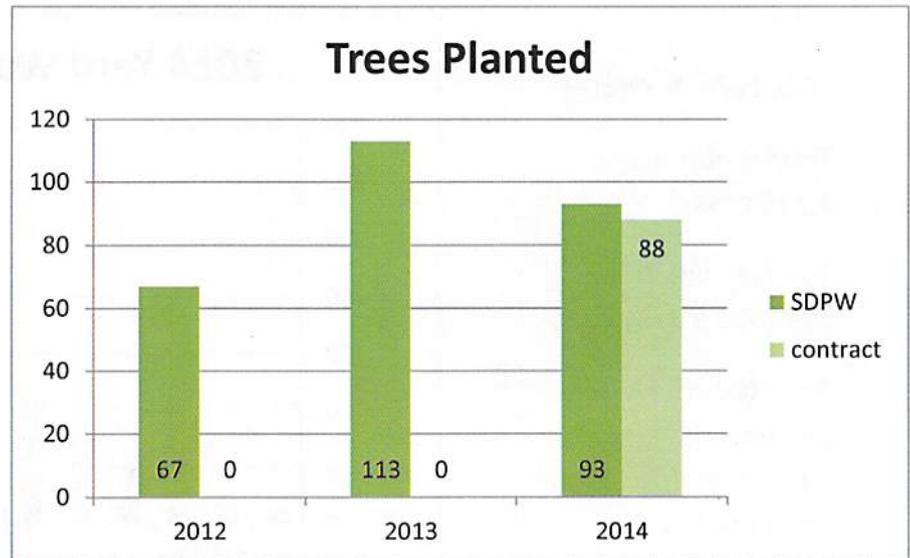
Elm

Hackberry

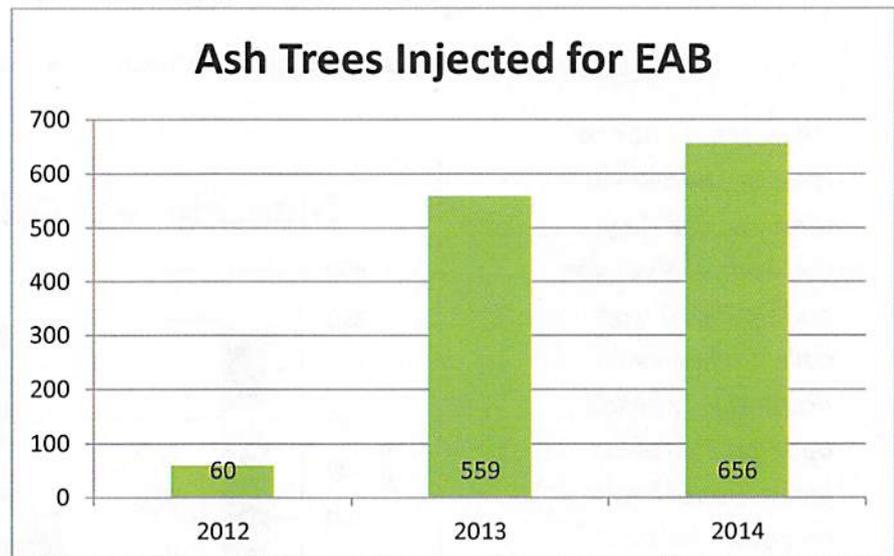
Total Ash Trees:
1,693

EAB Labor hours:
392 ↑

*Ash trees as a% of
total street trees:*
28%



In 2014 the Village utilized landscape contractors for tree planting to replace ash in construction program areas (see EAB below).



The department began utilizing an Urban Forestry Intern in 2013 to assist with trunk injections of ash identified in the Village's EAB Readiness Plan.

In 2014, the Village's fight against EAB also included the removal and replacement of selected ash trees within infrastructure project areas. The policy, adopted in 2014, identifies criteria for the replacement of selected ash trees; removals and planting tasks are performed by the project's landscape subcontractor.

2014 Facts & Figures

Tree pruning, trimming, or cutting is an ongoing process throughout the life of a tree. After selecting the right tree and carefully planting it, early pruning is the most important thing that can be done for a tree.

"The best friend on earth of man is the tree. When we use the tree respectfully and economically, we have one of the greatest resources on earth."

- Frank Lloyd Wright



The number of trees pruned annually is dictated by the staff time available. Weather conditions reduce the available window for pruning and snowfall frequency impacts staff time available as our forestry crew is typically among our first responders for winter maintenance activities.



Foresters Mike Dondlinger (left) and Trevor Robishaw feed the chipper following street tree pruning.

2014 Facts & Figures

DPW horticultural staff includes one full-time and up to 13 temporary seasonal workers. These employees:

- *Plant and water 140 business district pots.*
- *Maintain over 75,000 SF of planting beds at Village buildings, parking lots, parks and other areas.*
- *Order and install approximately 2,400 plants – annuals, perennials and shrubs – each year.*



The forestry staff planted more than just trees in 2014. Horticulturalist Judy Kaiser designed both a vertical recycled bottle herb garden at the DPW Yard (shown below) and a Livewall garden (above) at the Village Center. The Livewall, the first of its kind in Wisconsin, was funded in part by the Friends of the DPW Garden Tour proceeds and features vegetables grown for the Senior Resource Center, whose members assist with the care and maintenance of the garden. The forestry and building maintenance staff assisted with the installation of both gardens.



2014 Facts & Figures

Total length of collection system:
45.7 miles

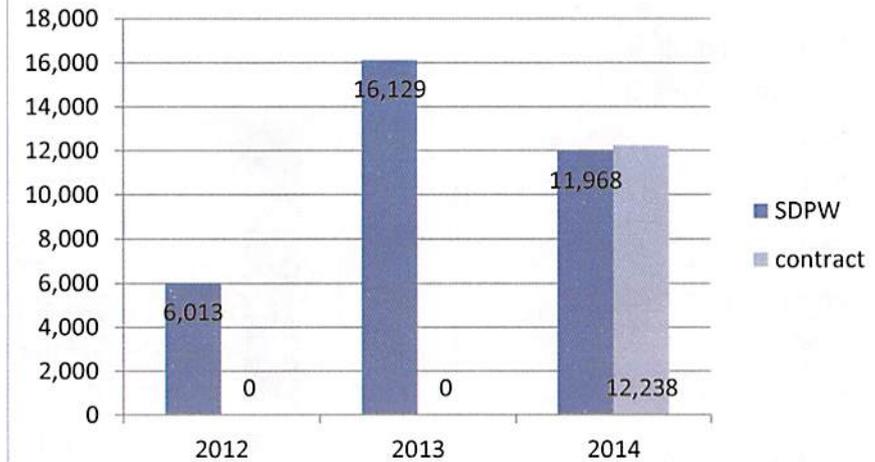
Combined sewer:
18.4 miles

Sanitary sewer:
12.55 miles

Storm sewer:
16.45 miles

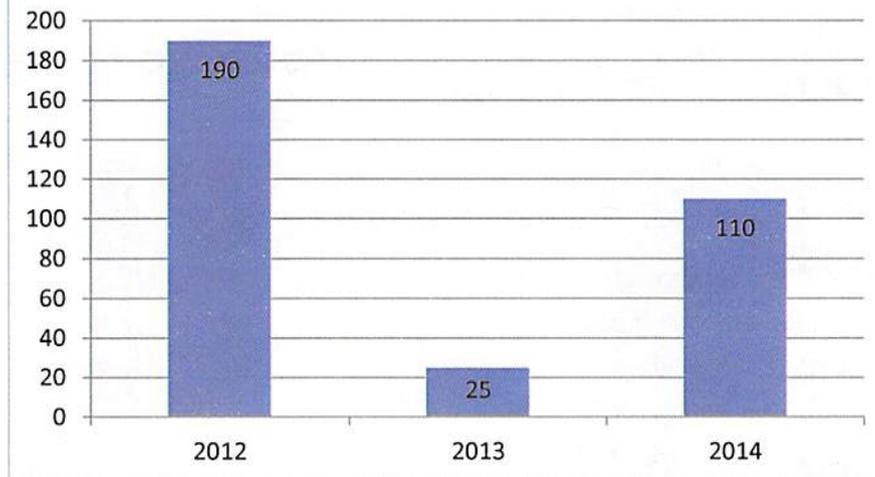
The Village is a member community of the Metropolitan Milwaukee Sewerage District.

Sewers Cleaned/Inspected



Shorewood's CMOM (Capacity, Management, Operations and Maintenance) Plan outlines a goal to inspect 14% of the Village's combined and sanitary systems annually. This equates to 22,629 lineal feet each year.

Manholes Inspected 2012-2014



The Village's CMOM Plan outlines a goal to inspect 20% of the Village's sanitary and combined manholes annually. This equates to an inspection of 212 of the 1,062 system manholes each year.

2014 Facts & Figures

*Mainline lining
program contract
cost:*
\$331,912 ↑

*Lateral lining
program contract
cost:*
\$291,097 ↓

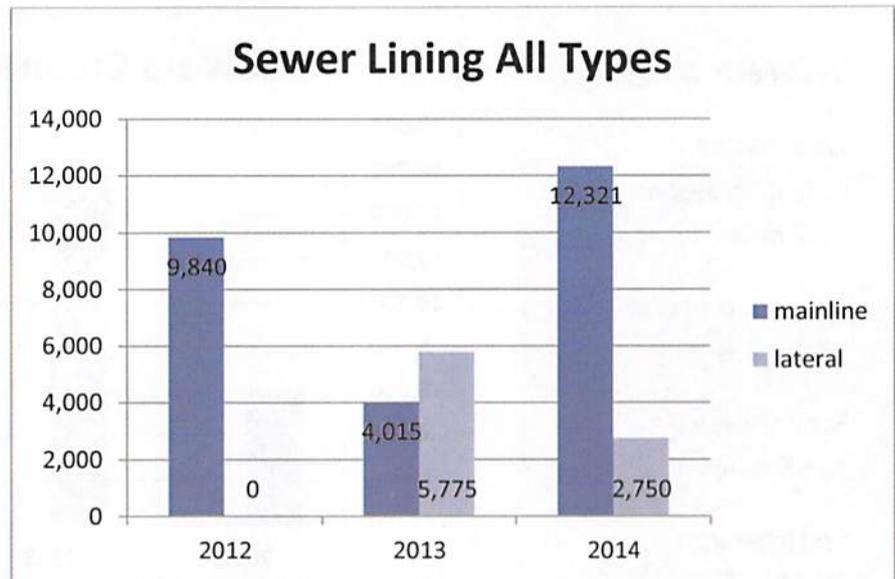
*Total number of
private laterals
rehabilitated:*
50 ↓

*Average cost of
private lateral
rehabilitation:*
\$5,822 ↑

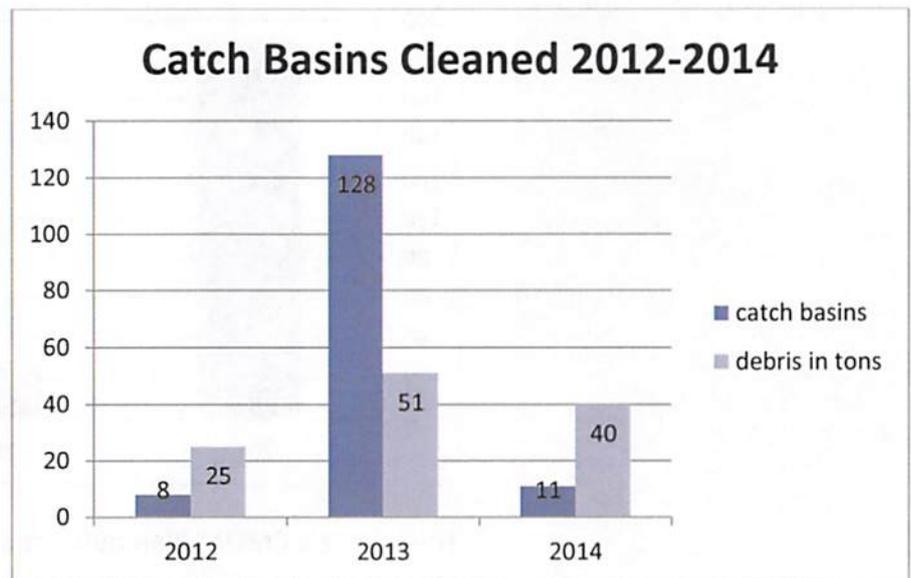
Storm Inlets:
450

Catch basin:
480.

*Unlike inlets, catch
basins are designed
with a sump which
removes debris and
particulates from the
storm water before it
is discharged through
the system to the
lake or river.*



The Village has performed an annual mainline sewer CIPP lining program since 2001. Lining improves the structural integrity of the pipe, protecting it from failure or collapse. It also provides significant inflow and infiltration reduction benefits to both mainline (public) sewer and privately owned laterals. The Village's PPII Reduction program lined 50 private laterals, a program partially funded by MMSD.



2014 Facts & Figures

Total length of distribution mains:
38.1 miles

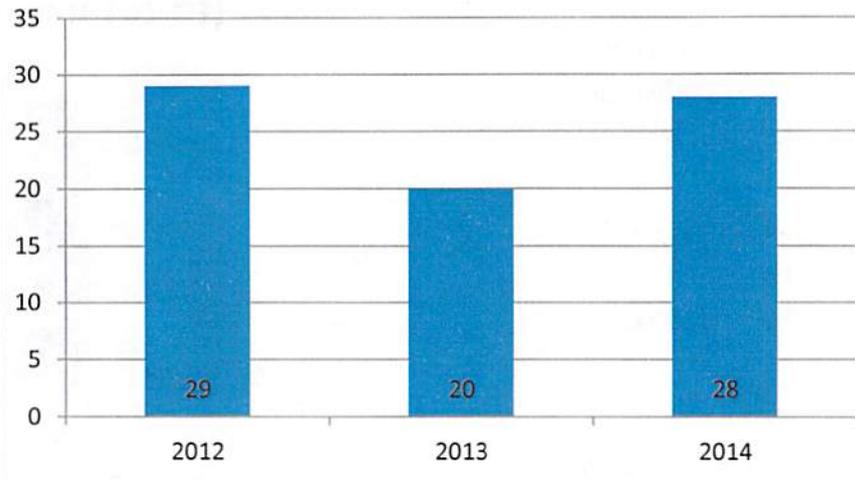
Main break repair labor hours:
5,200 ↑

The Village is a wholesale customer of the Milwaukee Water Works, purchasing water while owning and maintaining the distribution system within its municipal boundaries.

Percent of distribution system replaced in three year reporting period:
2.7% ↑

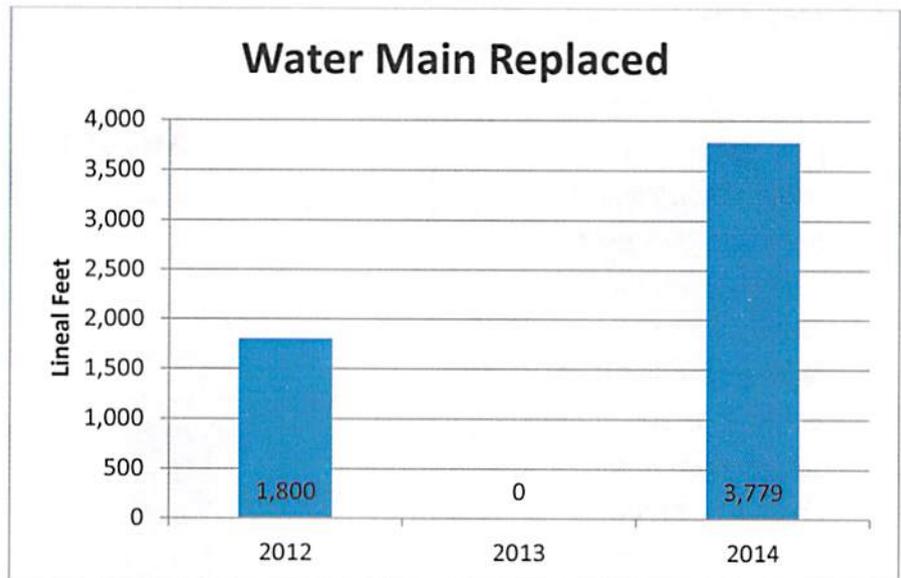
Public Service Commission-approved Milwaukee Water Works rate increase to Shorewood customers:
8.5%↑

Water Main Breaks



Many Wisconsin water systems struggled with extreme weather conditions in early 2014. Record and prolonged cold temperatures led to frost penetration at depths not seen in recent years. The vast majority of Shorewood's 2014 main breaks were radial pipe failures – caused by the shifting of the ground. The other type – lateral – is generally a result of pressure issues on weak or compromised pipe. These lateral breaks were the prevailing type seen in 2013 when the Village's PRV valves in the Downer pit failed.

Water Main Replaced



Water main was replaced in 2014 as a part of the Murray Reconstruction, Basin 6 Phase II and Capitol Drive/DPW Yard Water Main Improvement Programs.

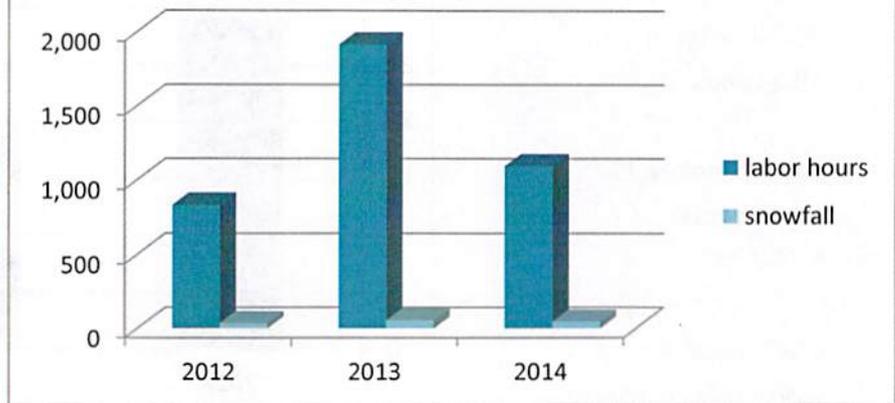
2014 Facts & Figures

Per ton salt cost:
\$51.03 early season
\$60.36 late season

2013 per ton salt
cost:
\$51.42/\$51.03

In recent years, the Village has invested in equipment improvements to reduce salt use. Primary among these has been for the production of salt brine and the addition of tanks to the front-line plow trucks to allow on-board treatment (pre-wetting) of the rock salt with liquid brine. Studies report that pre-wetting causes the salt to work faster and that as much as 30% more salt remains in the driving lanes rather than scattering into the gutter.

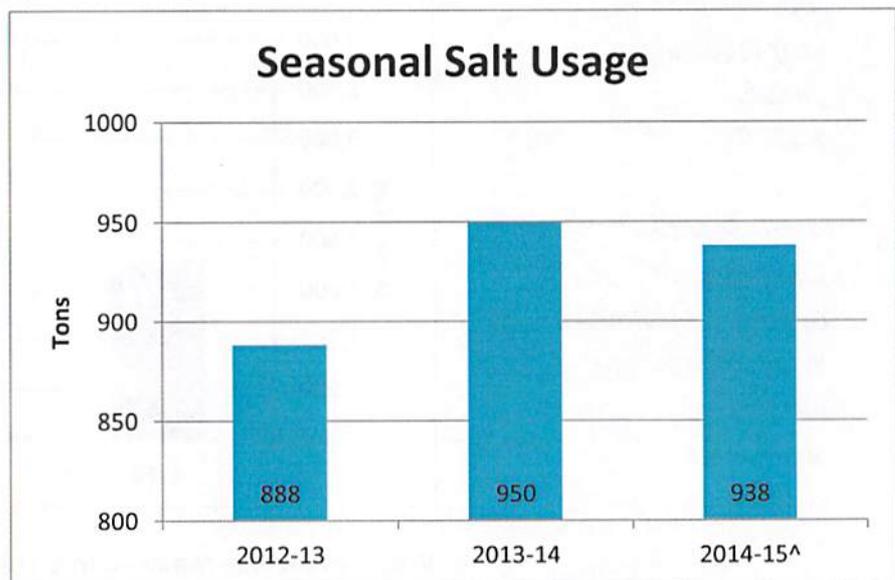
Winter Maintenance Labor Hours (to total annual snowfall)



Winter maintenance includes the following snow-related tasks: salting, plowing, sidewalk clearing, bus stop clearing, “bumping corners” (clearing snow from corners at all intersection to improve pedestrian access) and snow removal from the business district.

Comparing these hours to the annual snowfall does not give a true picture of efficiency as several consecutive light snowfalls will often require as many or more labor hours and salt usage as one larger storm.

Seasonal Salt Usage



[^] Through February 24, 2015