

CITY OF PHILADELPHIA PENNSYLVANIA

OFFICE OF THE CONTROLLER

STREETS DEPARTMENT HIGHWAYS UNIT

Review of Pothole Repair and Response

November 2016

City Controller

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Promoting honest, efficient & fully accountable government



Review of Pothole Repair & Response

Executive Summary

Why the Controller's Office Conducted this Review

As part of the City Controller's ongoing efforts to ensure public safety and quality of life in all Philadelphia neighborhoods and following a May 2016 NBC 10 report that highlighted issues with the pothole repair process, the Office of the City Controller reviewed the records of the Philadelphia Streets Department to examine its repair process and response time in repairing potholes.

The pothole repair process is managed by the City Streets Department. The agency has long had a standard response time of three business days for pothole repairs. The media report, however, noted several instances of response times that took longer than three days as well as concerns about suspicious recordkeeping of its pothole repairs. The objective of this review was to ascertain the efficiency of the Streets Department pothole repair process and to formulate recommendations, when needed, for the agency to improve repair times in all neighborhoods.

What the Controller's Office Found

After examining the records for 21,397 potholes filled between January 1, 2015 and June 30, 2016 maintained by the Streets Department, the Controller's Office found the following:

- A total of 4,798 pothole repairs, about 22.42 percent, were completed outside the three-day standard response time set by the Streets Department.
- Fifty-two pothole repairs took over 100 days to complete.
- The longest response time was 15 months, or 474 calendar days, to repair 11 potholes on a Fairmount Park road.

Streets Department Pothole Repairs January 2015 - June 2016		
Response Time	Potholes Filled	% of Total
1 to 3 days	16,599	77.6%
4 to 49 days	4,723	22.1%
50 to 99 days	23	<1 %
100+ days	52	<1 %
Total	21,397	100

The Streets Department met its own standard response time in about 78 percent of the pothole repair cases examined for this review. The Department did not meet the response time in about 22 percent of the cases.

The Controller's Office Recommendations

The City Controller's Office recommends the Department improve management of pothole repairs by utilizing its internal computer system more efficiently and creating a priority list of pending repair calls older than three days. Additional recommendations can be found at the conclusion of this report.

Background

The City Charter authorizes the Streets Department (the “Department”) under Article V, Chapter 5, Section 5-500 to repair street defects within Philadelphia. The city’s state roads, however, are repaired by the Pennsylvania Department of Transportation (“PennDOT”), as stated in Article V, Section 522 of the State Highway Act of 1945.¹ SEPTA is also responsible for street defects found inside or within 18” of trolley tracks, according to a City Transit Division Properties lease agreement between SEPTA and the City. Utility companies such as the Philadelphia Water Department, Philadelphia Gas Works, PECO and cable utilities may additionally be responsible for some deficiencies related to their work.

The Streets Department has three classifications of street defects: potholes, cave-ins and ditches.

- Potholes are bowl-shaped openings up to 10 inches deep. These openings develop when the top layer of the road has worn away and expose the concrete base. The Streets Department lists its customer service standard response time as three business days when reported by 2 p.m. Monday through Friday.
- Cave-ins, also called sinkholes, are voids that reach past the concrete base of the road. These involve repairs by property owners and utility companies and there is no specific response time other than what the Streets Department terms “a timely manner”. Prior to the completion of this review, the Streets Department updated its website to indicate a 45 day response time.
- Ditches are rectangular excavations in a road that are dug by utilities and plumbers to reach underground lines. The Department customer service standard for repair of ditches is 45 business days from July 1 to November 30. The agency repairs them as weather permits during other times of the year.

Members of the public have a number of options by which they can report street defects to the city:

- the 3-1-1 phone system
- 311 website (www.phila.gov/311)
- 311 mobile application (can be downloaded at the 3-1-1 website)
- Twitter @philly311
- 3-1-1 Walk-in Center
- Customer service at the Streets Department, 215-686-5560
- The Streets Department website (www.philadelphiastreet.com/customer-service)
- The PennDOT website (www.dot.state.pa.us)
- 1-800-FIX-ROAD, a PennDOT number

The Controller’s Office focused its review on potholes that were reported via the systems above, entered into a tracking system, Cityworks, and repaired by the Department from January 1, 2015 to June 30, 2016.

¹ For a listing of State Routes within Philadelphia, see <http://www.philadelphiastreet.com/images/uploads/documents/StateRouteListing.pdf>

Methodology and Scope of Work

The Controller's Office compiled data through the Cityworks system maintained by the Department, with a focus on pothole cases repaired between January 1, 2015 and June 30, 2016.² Cave-ins and ditches were excluded in the review because each involved third parties and are not held to the three day standard pothole response. The report also excluded calls that were eventually assigned to entities other than the Streets Department, such as PennDOT and SEPTA.

The data was sorted by potholes, Department repairs, closed cases and response time. In addition, the calendar days listed under "restore days" were converted to business days to facilitate our review of response time.

The initial data was made up of 78,032 street defects reported to the Streets Department. Of these repair requests, 21,397 pothole repairs fit our criteria. The resulting repairs were categorized by response time: 1-3 days, 4-49 days, 50-99 days and over 100 days.

The Controller's Office also reviewed log sheets of pothole calls to 3-1-1 to determine if these requests were received at the Streets Department.

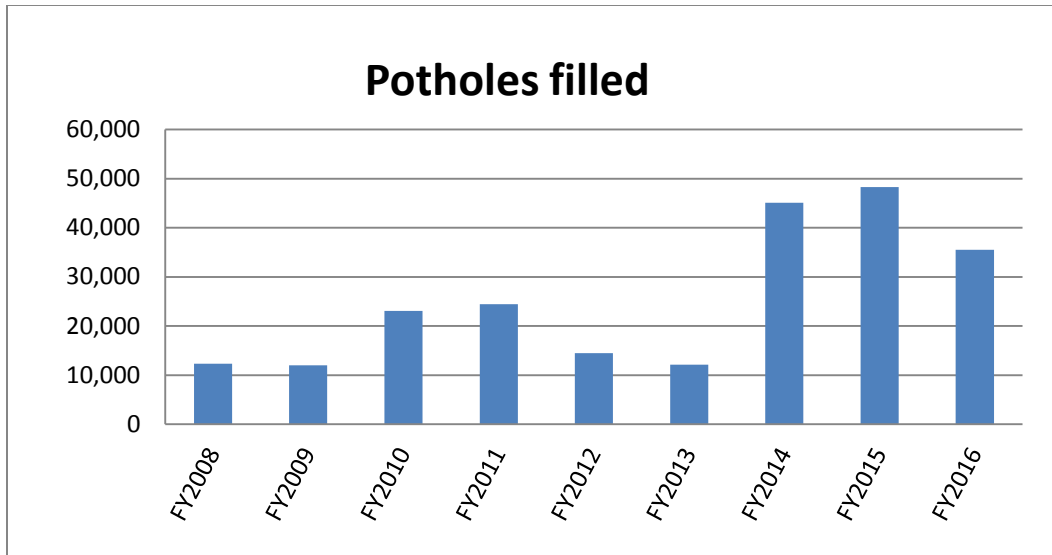
Discussion

When the Department receives a service request from any of the multiple sources, it is assigned a case number and an inspector is dispatched to the location to determine the validity of the request and to ascertain whether the defect is a pothole, cave-in or ditch. For potholes, inspectors may assign one of two repair options: a crew from one of six Highway Yards districts or a pothole "patcher"³ operated by the Central Maintenance Unit.

In recent years, the number of pothole complaints reported to the City has skyrocketed, primarily due to the high snow accumulation winters. The freezing and thawing cycle from the wet weather, along with the age of the roads' surfaces, results in broken down road surfaces. Salt used to keep roads safe during the winter also have a corrosive effect on the roads. Snowfall accumulation totaled 26.65 inches in 2015 and 26.71 inches in 2016, according to figures provided by the Streets Department. Between FY2008 and FY2011, the average number of potholes filled each year was 12,712. That trend continued in FY2012 and FY2013 when the yearly figure of pothole repairs was 14,451 and 12,093, respectively. The Streets Department filled 45,077 potholes in FY2014 and that figure climbed to 48,274 the following year. The Department fixed slightly less potholes, 35,541, in FY2016.

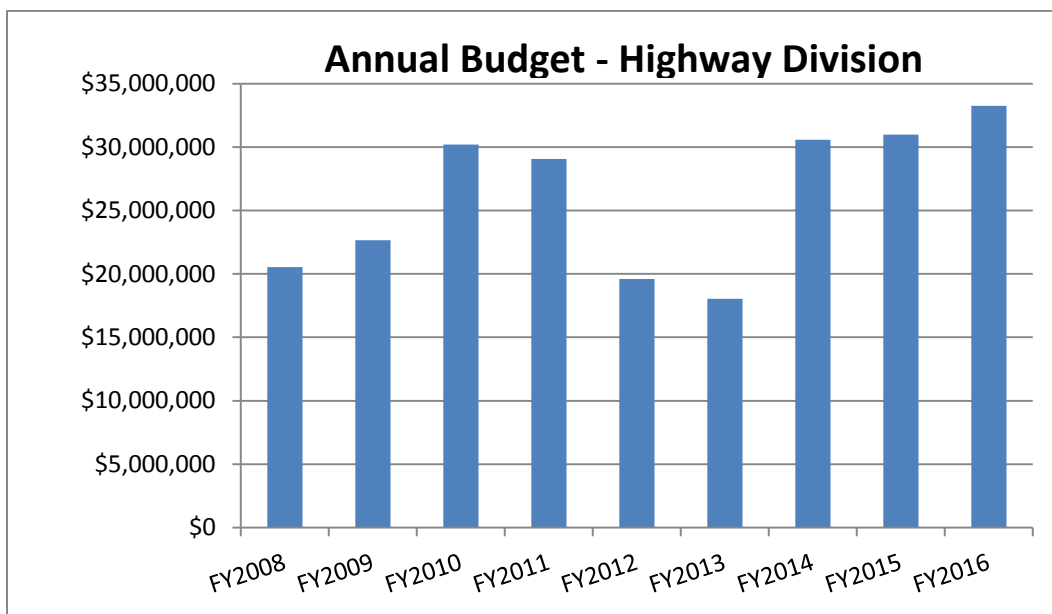
² One case in the Cityworks system could include multiple potholes.

³ The "patcher" machine clears out debris and water from a pothole. It then injects into the hole a combination of emulsion and stone to repair the defect.

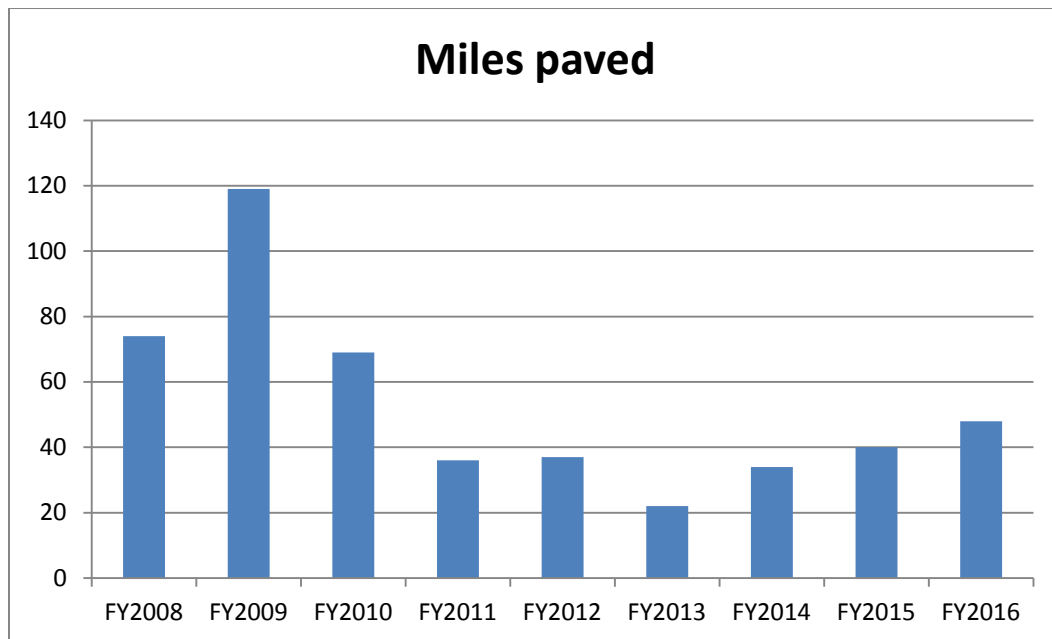


In FY2008, the Highways Division of the Streets Department, the unit in charge of repairing road defects, had 310 employees and that number dropped to 270 in FY2010. As of January 2016, there were 257 employees in the Highways Division.

According to Department officials, paving city streets helps bolster the road's structure while reducing the number of potholes that occur. The Streets Department has an annual goal of paving 131 miles of streets, but it has not been able to meet it since at least 2008 because of a reduction in its workforce and budget cuts. The result has been a sharp increase in the number of city potholes and the Department has fallen further behind in the miles of streets it needs to pave based on its annual goal.



The Department last came close to its 131 mile goal in FY2009 when it paved 119 miles of road. The Department paved 69 miles and 36 miles in FY2010 and FY2011, respectively. The number of miles paved fell to 22 miles in FY2013 and then ticked up slightly to 34 miles in FY2014. By 2015 and FY2016, the Department had paved 40 and 48 miles each year, respectively.



Findings

In May 2016, NBC10 aired an investigative report that disclosed pothole repairs were often repaired beyond the three day response time. One case on Richmond Street, cited by the report, took 354 days to close. The report also stated that approximately 298 potholes located in various parts of the city were closed on the same date, nine cases in the same minute. The Acting Streets Commissioner said the Department “didn’t do that volume of potholes all over the city in one day,” according to the broadcast report.

The Controller’s Office subsequently determined through interviews and by examining a list of state roads in Philadelphia that the closed cases and the street repairs noted in the NBC10 report were the responsibility of PennDOT, not the Streets Department. Department officials told the Controller’s Office that the high number of same day closed cases was due to personnel vacancies at PennDOT and their administrative process for reporting street repair status. They were told by PennDOT that the administrative position responsible for entering the repair status into the Cityworks system had been vacant for some time and the apparent backlog of cases that had been repaired were not entered into the system as closed in a timely manner. However, when the position was eventually filled, many cases were “closed” on the same day.

The NBC 10 report, nonetheless, prompted the Controller’s Office to examine the pothole repair process and protocols managed by the Streets Department to determine whether improvements are warranted.

Response time not met

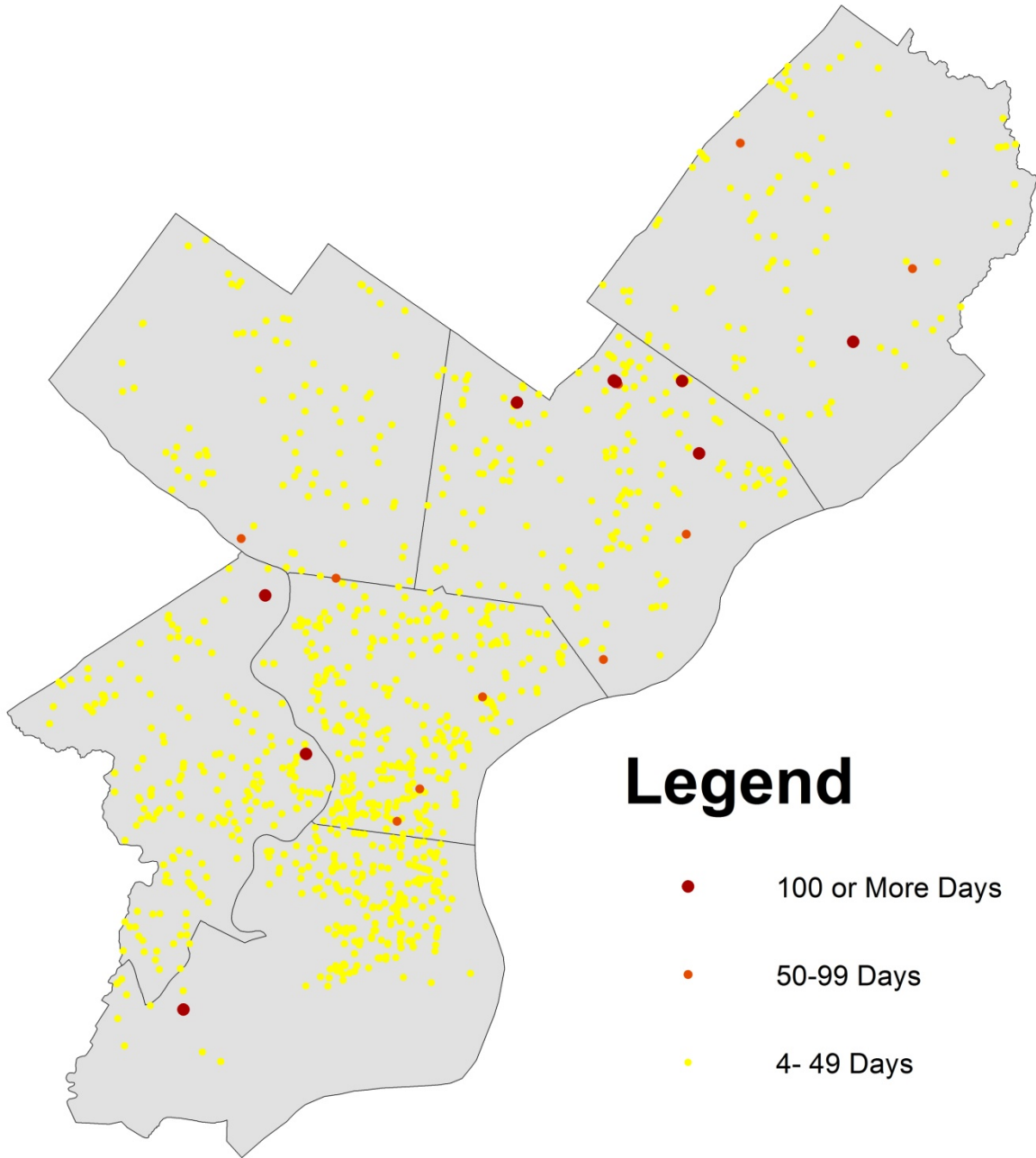
The Streets Department response time begins the moment the service request is generated in the Cityworks system, which is updated periodically throughout the day. The requests come through its website and phone customer service as well as the 3-1-1 system.

The Controller's Office found that of the 21,397 potholes filled from Jan. 1, 2015 to June 30, 2016, a total of 4,798 potholes were not completed within the three-day standard response time. Of those cases not meeting the turnaround time, 4,723 potholes were repaired between four and 49 days, averaging about 6.6 business days. For the 23 potholes repairs that took between 50 to 99 days, the average repair time was 66.6 days. Twelve cases involving 52 potholes took over 100 days to repair, averaging 172 days. In addition, there were 94 cases of "redress" pothole repairs. These are cases initiated through 3-1-1 calls in which the caller again contacted 3-1-1 within 30 days stating that the defect still existed, even though the Department reported that it had been repaired. In these circumstances, a Streets Department chief inspector will go to the location to ascertain the correct status of the repair.

Graphic Representations

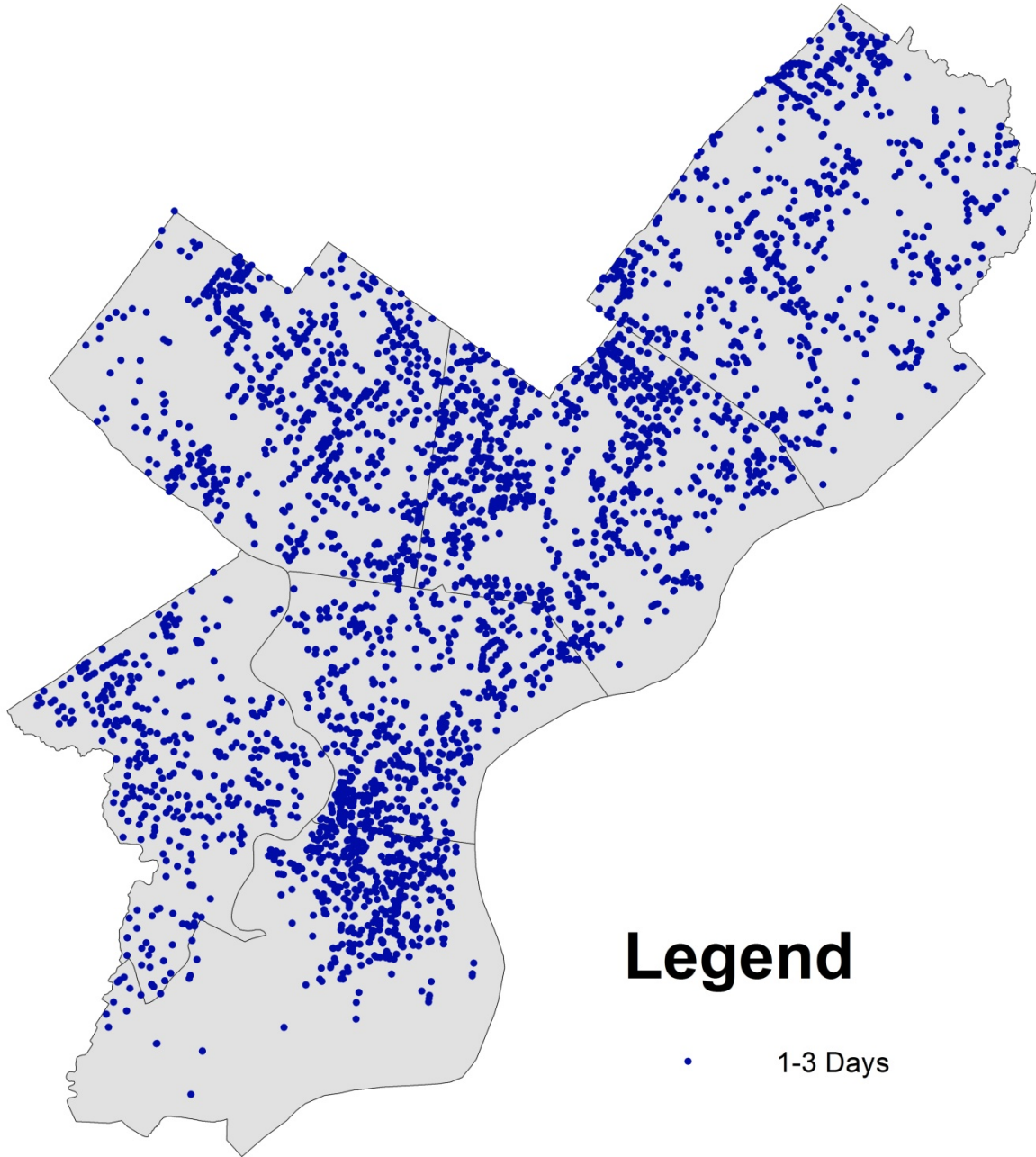
The following two pages are graphic representations of the potholes analyzed by the Controller's Office by location of potholes and repair time.

Pothole Repairs Exceeding Standard
Response Time



Please note that 49 pothole repairs are not included on this map due to missing coordinates. Also, many location points represent multiple pothole repairs.

Pothole Repairs Completed within
Standard Response Time



Please note that some location points represent multiple pothole repairs.

As previously stated, the Controller's Office found 12 pothole repair cases that took over 100 days to repair.⁴ One pothole case, in particular, on Greenland Drive and Ford Drive in the Fairmount Park area took over one year, 474 days.⁵ According to the Cityworks system report on the case, the call to report the street defect was received on January 8, 2015. Five days later, a Streets Department employee changed its defect status from pothole to an asphalt adjustment. The case remained open, with no work performed until April 19, 2016 when its status was changed back to pothole. It's unclear when the repair work was performed, but by April 26, 2016 the Streets Department repaired 11 potholes at that location and the case was closed.

A Department official initially said he could offer no explanation for that 15-month delay between the status changes in the case. The audit log showed that the status changed from pothole to asphalt adjustment and then back to pothole, but inspectors are not required to explain such changes in the comments section. Asphalt adjustments were considered a lower priority compared to potholes, the official said, and perhaps it resulted in the long response time. But, he added, it should have been attended to in a much more timely fashion. In another case, it took the Department 307 days to repair five potholes on Dunk Ferrys Road. A member of the public called in the complaint in March 2015 and the case was closed in January 2016. There was no explanation in the case log about the status of the potholes in the Department's system. It was "another one that fell through the cracks," the official said.

Improve Recordkeeping

Our review of the Department's records also found several pothole repairs with the same work order number and address that were repaired approximately the same time, but with different response times. Upon further inquiry, it was determined that the same case number was entered into the records more than once, sometimes multiple times. Such repeated entries result in a skewing of the data and may make response time analysis unreliable.

PennDOT Work

During the review, the Controller's Office found a number of instances -- at least 50 -- of Department crews repairing potholes on state roads that are under the purview of PennDOT. A Streets Department manager informed us that such repairs occur for a variety of reasons: they have observed the defect over a period of time and decide to repair it; employees want to protect the Department's reputation and avoid blame for the lack of repair; and some crews may be unaware that a particular pothole is on a state road.

The Streets Department is not reimbursed by the state for these repairs.

Funding

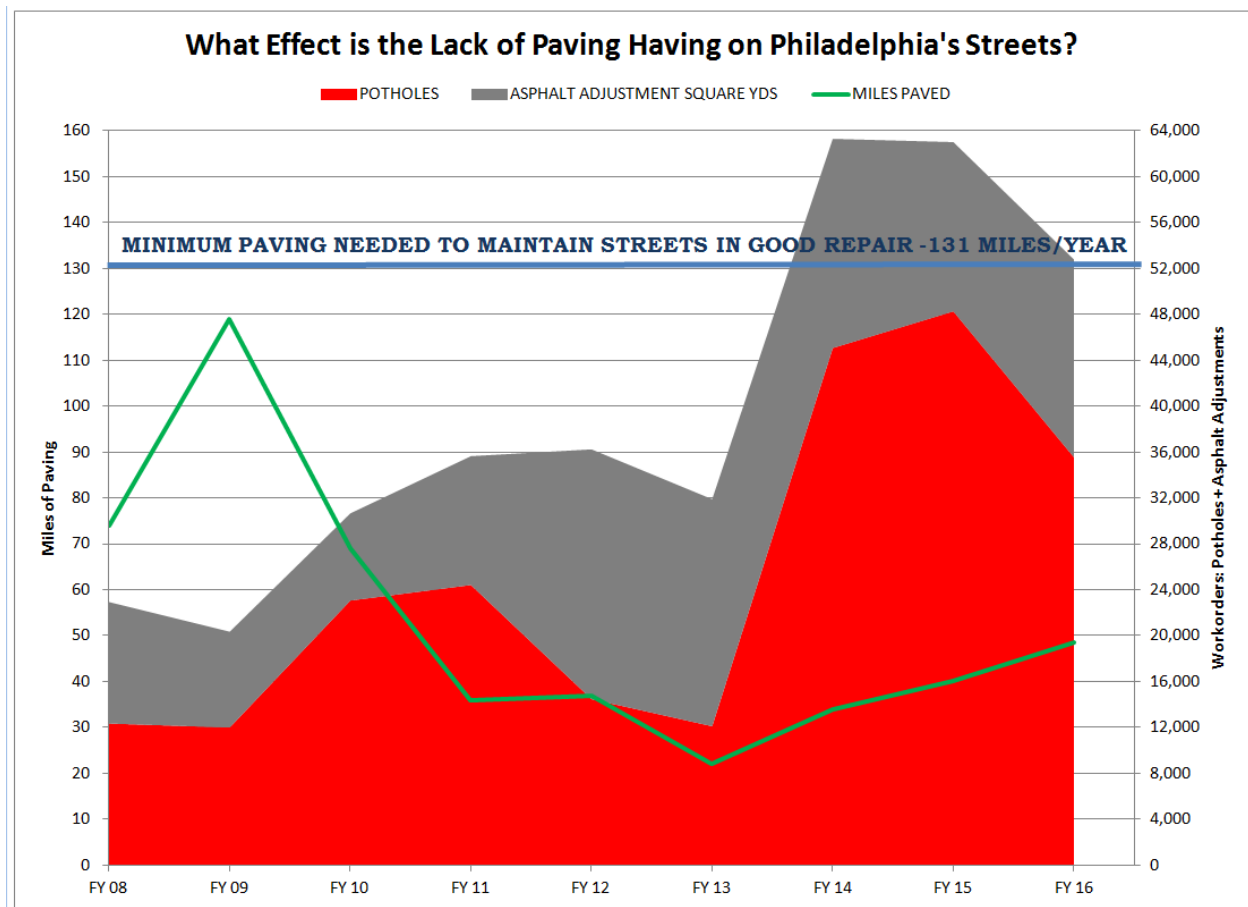
According to the Streets Department, the longer asphalt is on the roadway, the more susceptible it is to potholes and other defects. To alleviate this problem, asphalt streets need to be resurfaced on a scheduled basis. The Department estimates that it needs to resurface approximately 131 miles of roadway each year to properly maintain the streets and reduce pothole problems. However, starting in FY 2009, the

⁴ Four of these cases were due to PennDOT delays, according to the Streets Department.

⁵ Using Streets Department response criteria, in which they only count "business days", their data would indicate a response time of 325 days, even though the delay was actually 15 months.

Department's funding was cut and they haven't been able to meet the 131 mile goal since that time. Not meeting the street resurface goal exacerbates the pothole problem and more time and resources are used to repair those defects, leaving fewer resources to resurface.

The chart below, provided by the Department, graphically illustrates this issue.



Recommendations

The Streets Department Highway Division reported repairing close to 80 percent of potholes they were responsible for within the three day standard between Jan. 1, 2015 and June 30, 2016. While this rate is commendable, there are areas to improve, such as:

- Improve and monitor recordkeeping to avoid multiple entries of the same case.
- Improve coordination with PennDOT to ensure that only city-owned roads are maintained by the Department and that PennDOT updates the Cityworks system in a timely fashion.
- Consider using drone technology to determine problem roads and monitor repairs regularly.
- Pursue appropriate funding so that the Department can increase the number of roads paved each year with a resultant decrease in necessary pothole repairs.