

CITY OF WOOSTER  
DIVISION OF ENGINEERING  
2018 Annual Report



**Downtown Streetscape  
Simonson Construction Services, Inc.**

**Prepared by:  
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February 2019**

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## **Summary & Narrative – Section 1**



**Spink St. & Gasche St. Sewer Separation  
Stout Excavating**

## **Division of Engineering 2018 Annual Report Executive Summary**

The 2018 Annual Report for the Division of Engineering is contained in the following pages. The intent of this report is to summarize roles and responsibilities of the Division of Engineering, as well as describe the major projects and activities accomplished by the Division of Engineering for the year ending December 31, 2018. Hopefully, this report will provide information that can be used for City organizational, development and infrastructure planning for the coming years.

The Division of Engineering has attempted to meet the City's mission in the most cost-effective way possible. Most infrastructure projects are designed, managed, and inspected in-house by Engineering Division staff, keeping average fees for professional services at 0.86% for 2018. The industry average for design and professional engineering costs is 8% to 11% of the estimated construction costs. The value of engineering services provided by the Engineering Division for projects was over \$1,735,751 in 2018.

The Engineering Division managed over 26 infrastructure projects in 2018. The total dollar value of construction projects completed or under construction in 2018 was nearly \$10,000,000. Approximately 65% of the contracts finalized in 2018 came in at or under the contractors' bid price. The division diligently tracks and records quantities, materials stored and other aspects of construction management to ensure the city does not incur unjustified overages.

The Engineering Division is responsible for managing the replacement and improvement of the City's infrastructure. Including construction and development in 2018, the City now has over 440 miles of piping in its utility system and over 135 miles of roadway in its transportation system; 70% of the utility infrastructure is greater than 20 years old.

The Engineering Division also reviews and issues permits for all utility and site work construction activity in the City, as well as enforcing the city's site development regulations and storm water management regulations. The Engineering Division issued 237 permits in 2018 compared to 185 in 2017.

The Engineering Division is also the City's representative for Ohio811 and is responsible for locating and marking all city-owned utilities whenever requested by contractors and proposed development. These requests have consistently numbered over 2,000 each year since 1991. In 2018 our staff processed 2,945 Ohio811 requests. Per state law, not only are we responsible for physically marking the locations, but we also are responsible for responding to requests electronically. The Engineering Division, along with PPM Traffic, use WEBTMS software to note whether the locations have been marked, have no conflict or if it's a design ticket.

The Engineering Division is also responsible for all mapping, parcel data, addressing, utility information, and traffic control data that is contained in the City's Geographic Information System, or GIS. This information is updated and used on a daily basis for project planning, design, and maintenance of the City's infrastructure.

## Division of Engineering Mission Statement and Objectives

**Mission:** Our mission in the City of Wooster, Division of Engineering is to plan, advise, administer, oversee implementation of and document all public works improvements and subdivision development with the aim of providing these services cost-effectively and timely while protecting the public health, safety, and welfare.

**2019 Objectives:** To continue to manage the City's infrastructure construction and documentation in a way that will provide adequate service to residents, sustain development, and allow for intelligent infrastructure planning. The Division of Engineering attempts to balance the infrastructure needs of the City with the financial resources available. At the same time, current and future development and its associated demands are considered when attempting to develop a strategic plan for infrastructure improvements. The Division strives to provide design engineering services and construction monitoring to keep the outside engineering costs below the 8.5% industry average. We accomplished this goal in 2018 with a 0.86% average.

**Personnel:**

<i>Name</i>	<i>Title</i>	<i>Years Experience</i>
Roger Kobilarcsik	City Engineer, Licensed Professional Engineer	29
John Rice	Staff Engineer, Licensed Professional Engineer	12
Amy Hamilton	Administrative Assistant/Contract Specialist	2
Lance Cole	Project Manager	26
Spencer Gray	Engineering Technician/Drafter	34
Andy Gregory	Engineering Technician/GIS Technician	12
Dave Case	Inspector II, Assoc. Degree Civil Eng. Technology	25
Matt Hill	Inspector II, ODOT Right-of-Way Certification	34
Tim Leach	Inspector II, Assoc. Degree Civil Eng.	9

**Operations:**

O&M costs have remained steady over the past several years. The Division is on a regular schedule for replacing and/or upgrading computer equipment. The cost is spread out over two years; 2015 saw the replacement of 5 employees' computers, and in 2016 we purchased 2 computers. The three Surface Pro 3 Tablets purchased in late 2015 are now in the field and being used by inspectors to access the GIS system and inspection software. We purchased two iPads and GPS locator in 2018 for summer interns to use out in the field for locating and tagging city infrastructure structures with GPS coordinates for updating our GIS system.

**Capital:**

The current system of infrastructure project prioritization is primarily reactive. Capital improvement projects are currently implemented as portions of the system fail, in response to regulatory mandates, in an effort to avoid lawsuits, or are complaint driven. Funds are limited and the result is that the most needed projects are not always addressed.

Wooster's Infrastructure Strategic Plan indicates the following funding needs:

- ▶ 99 projects planned for construction from 2019-2022
- ▶ \$40,714,000 in Roadway
- ▶ \$12,851,000 in Water
- ▶ \$11,935,000 in Sewer
- ▶ \$6,670,000 in Storm

The most pressing needs within the next two years are as follows:

1. Water Distribution and Storage – Replacing existing mains and maintenance of water tanks
  - a. Funding Needs in 2019 = \$1,500,000
  - b. Funding Needs in 2020 = \$1,425,000
2. Sewer Collection – Upgrades at the WRRF and Lift Stations
  - a. Funding Needs in 2019 = \$1,930,000
  - b. Funding Needs in 2020 = \$2,500,000
3. Roadways – Paving, traffic signals, streetscape, road reconstruction
  - a. Funding Needs in 2019 = \$4,712,000
  - b. Funding Needs in 2020 = \$4,625,000
4. Storm Sewer – Culvert and storm sewer replacements
  - a. Funding Needs in 2019 = \$1,280,000
  - b. Funding Needs in 2020 = \$1,210,000

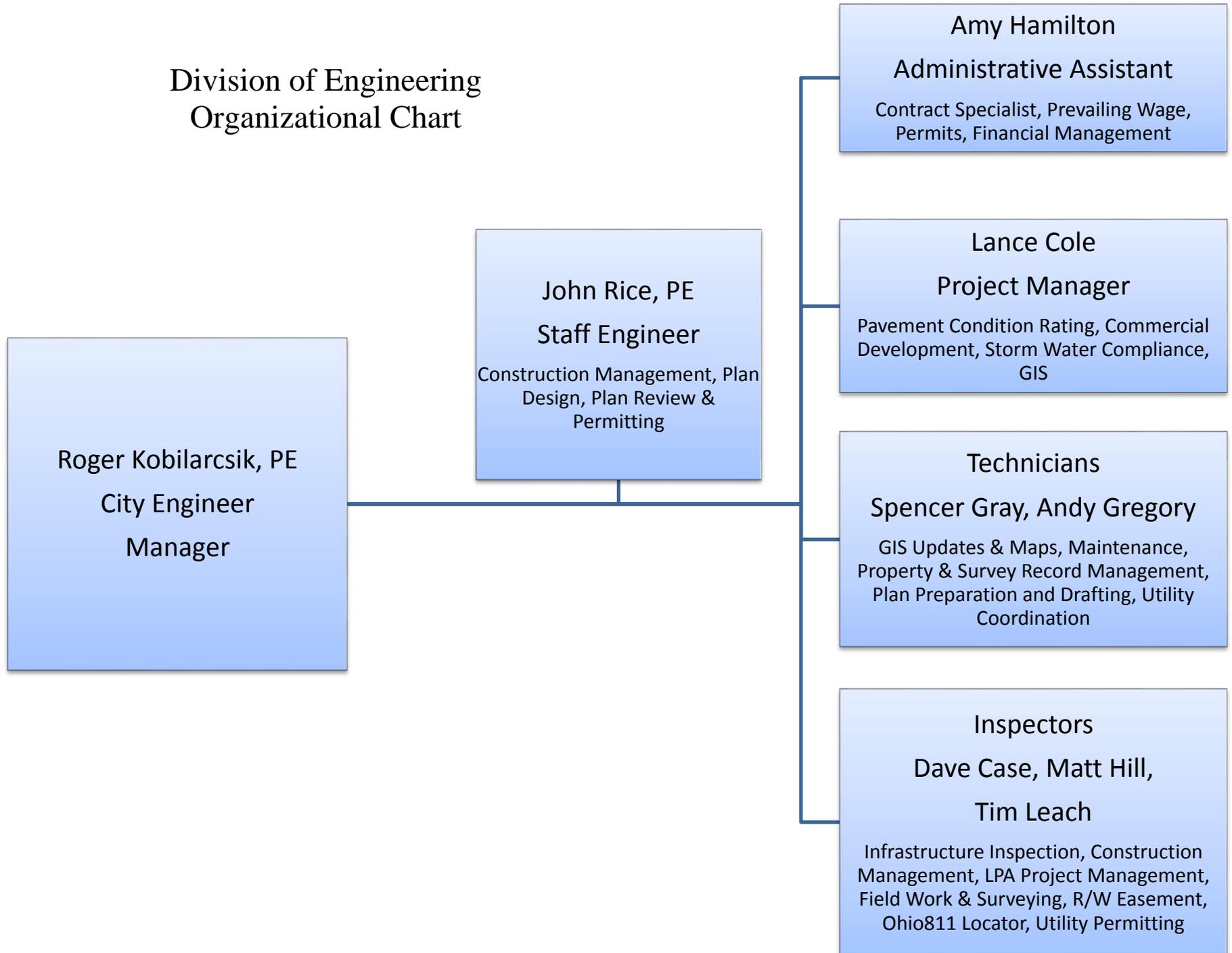
The Engineering Division aggressively seeks outside funding sources in an effort to offset the high costs of infrastructure improvements. The City was awarded \$2,412,987 in grant money in 2018 from various sources such as ODOT, OPWC, and CDBG. These funds have been applied to water system projects, traffic signals, roadway (including reconstruction and resurfacing), and recreation projects.

The chart below details the actual dollars received from the various sources in 2018.

**2018 Funding Received**

<b>PROJECT</b>	<b>BID PRICE</b>	<b>FINAL PROJECT COST</b>	<b>Funding Source</b>	<b>Funding Received</b>
Oakley Rd/Brookside Dr. Improvements	\$1,055,775	UC	OPWC	\$426,600.00
Spink St./Gasche St. Sewer Separation	\$579,547	\$584,279	OPWC	\$239,455.00
Bike Path Loop 1	\$834,147	UC	ODOT	\$712,500.00
Liberty Street Signals	\$756,176	\$742,637	CDBG	\$372,200.00
WAY-VAR Wosoter Streets	\$719,716	\$748,702	ODOT	\$536,487.00
				<u>\$2,287,242.00</u>
			Total Grant	\$2,287,242.00
			Total Loan	\$0.00

# Division of Engineering Organizational Chart



## **Storm Water Management**

The Division of Engineering is responsible for the City's Storm Water Management Plan and Municipal Separate Storm Sewer System (MS4) as mandated by the Ohio EPA. The program entails managing a minimum of six control measures.

- 1) **PUBLIC EDUCATION AND OUTREACH:** The City has formed and maintained a cooperative agreement with Wayne County Soil and Water Conservation District (Wayne SWCD) to educate students and the general public in environmental conservation through programs such as Freddie the Fish, Tree-Mendous Trees, and Tony the Trashbag. Kelly Riley, Education Specialist with the Wayne SWCD, taught more than 50 sessions last year through public school programs reaching more than 1,204 students and 714 adults. The programs provided 123 hours of education to the public. Riley also provided information and support through programs offered at the Wayne County Fair and the Ohio Agricultural Research and Development Center (OARDC) addressing such topics as conservation, pond maintenance, point source and non-point source pollution and Best Management Practices (BMPs).

The City has also continued several outreach programs to educate residents within the City. These programs included informational letters to residents that maintain septic systems within the City limits called HSTS, and educational flyers on an annual basis to residents who receive public water, storm and/or sanitary services. The City also maintains a public website that provides information to users about the City's storm water system, how and where to dispose of materials that could impact public waterways and users can submit Storm water complaints via the web interface directly to the City Engineer and others involved.

- 2) **PUBLIC INVOLVEMENT AND PARTICIPATION:** The College of Wooster, OARDC and various service organizations partner with the City's Parks Department in park clean-up activities, tree planting, and trail projects. Links are provided on our website for local information on recycling and connecting users to the Stark-Tuscarawas-Wayne Joint Solid Waste Management District. The City is actively looking for methods to increase public involvement and participation.
- 3) **ILLICIT DISCHARGE DETECTION AND EDUCATION:** The Engineering Division is responsible to locate, map and update the City's storm water system onto the GIS. The Engineering Division is in the process of completing a comprehensive review of the existing data and making significant modifications to how data is stored to meet new Ohio EPA permit requirements. Comprehensive inventories of all public and private outfalls (discharge points of the storm water system), culverts, HSTS and permanent Best Management Practices (BMP) are being completed to facilitate the management of these assets and compliance with Ohio EPA permits guidelines.

The City has formed a cooperative with the Wayne County Health Department Environmental Health Unit to ensure compliance with Ohio EPA requirements pertaining to Home Septic Treatment Systems (HSTS) within the City. The Health Department performs regular inspections of the fifty-seven (57) identified systems within the City and ensures the owners are on a regular maintenance program. Non-compliant systems must

connect to the City sanitary network when available, initiate repairs when feasible or upgrade to a non-discharging system meeting current EPA requirements.

All HSTS located in the City limits have been inspected and confirmed to be in working order and on a scheduled maintenance plan per EPA requirements. All systems found to be inoperable have been repaired, replaced or are in the process of implementing repairs and connecting to the City network. Two (2) locations are in the process of being connected to the City network because of failed systems. The City is beginning construction on the West Liberty Street Sanitary Sewer Extension to seven (7) HSTS locations providing connections to the City Sanitary Sewer. Two (2) other locations are being evaluated for failed or questionable systems. Three (3) business locations, with individual treatment systems, are to be reviewed with the Ohio EPA as businesses are required to be permitted by the Ohio EPA and do not fall under the jurisdiction of the Wayne County Health Department Environmental Health Unit.

The City is maintaining numerous programs to aid in the detection, prevention, and monitoring of the storm water system in terms of illicit discharge. These programs include: smoke testing of areas that have been identified as possible contributors of illicit discharge, regular inspection of more than 500 outfalls for signs of contamination, environmental stress, overall structural condition and proper function, video inspection of storm and sanitary systems to evaluate possible infiltration, along with damage and tree root infestation. The Engineering Division performs annual dry weather screenings to identify other areas possibly requiring further investigation. A new flow monitoring program is being implemented by the City to establish baseline flow of natural and manmade drainage areas within the City. This monitoring can also be utilized in illicit discharge detection.

- 4) **CONSTRUCTION SITE RUN-OFF CONTROL:** This year twenty-three (23) new National Pollution Discharge Elimination System NPDES permits were issued by the Ohio EPA for projects greater than one acre within the City of Wooster MS4. The Engineering Division is responsible for reviewing the plans for these permits, monitoring construction activities for new and previously issued permits and ensuring compliance with Ohio EPA regulations. The City Project Manager inspects and monitors an average of twenty (20) sites per month for compliance to their approved Storm Water Pollution Prevention Plan (SWP3), proper installation and maintenance of BMPs and issues notices of noncompliance and violation notices as needed to meet EPA regulations.

The Engineering Division is continuing the process of incorporating NPDES permit data into the City GIS system to assist in tracking the progress of active NPDES permits and providing historical data for previously issued permits. This effort has been undertaken to meet new requirements of the most recent issuance of the City's MS4 permit and Ohio EPA requirements.

- 5) **POST-CONSTRUCTION STORM WATER MANAGEMENT:** The City has completed an inventory of known post-construction storm water management controls totaling 247 units, to date, throughout the City. Ninety (90) percent of the units are located on private residential and commercial developments. cursory site visits have been performed by the City of all private units to evaluate the general condition of the storm water controls and maintenance status. Approximately thirty (30) percent of the private units were found to be in need of extensive maintenance and/or repair, forty (40) percent are in need of general maintenance. Public units are inspected and maintained by the City on an annual basis.

The maintenance and inspection by the owner of post-construction storm water management controls have been a requirement of the Ohio EPA general storm water permit since 1992. In December 2016, the City was mandated by the Ohio EPA to enforce this requirement as units were not being maintained and resulting in substantial downstream impacts. During 2017 the City worked with the Ohio EPA to develop a program comprised of annual inspection reporting requirements by the owner to the City and professional engineering inspection requirements every five (5) years for which the engineer shall issue an engineering certification and corrective requirements on behalf of the owner. This program was to be finalized during 2018 and the first owner/professional inspection reports will need to be submitted to the City by May 31, 2019. However, because of the extensive number of permanent storm water controls disclosed and complexities of determining ownership, this has been delayed one additional year with Ohio EPA approval.

- 6) **POLLUTION PREVENTION/GOOD HOUSEKEEPING:** In 2013 the City implemented a Storm water Pollution Prevention Plan for the Wooster Service Center as part of the City's MS4 permit. The plan addresses service center activities, methods to minimize exposure, good housekeeping, spill prevention and response, management of surface water runoff, waste and garbage management, and dust generation control. The plan is jointly managed by PPM and Engineering to implement training, inspections, documentation and meet compliance requirements. The Storm water Pollution Prevention Plan for the Wooster Service Center is due for renewal in 2019. Several new quantifiable programs will be implemented to control salt application during the winter season and management of roadway sweeping waste to minimize environmental impacts.

During 2019/2020 the City will continue to implement modifications to the storm water management plan to meet current and forthcoming Ohio EPA requirements. These are outlined below:

- 1) February 2019 – Finalize the identification of post-construction storm water management controls and determine ownership. Initial letters will be sent to the owners informing them of their obligations and reporting requirements.
- 2) March 2019 – Update Estimated Storm Unit (ESU) calculations during the summer.
- 3) April/May 2019 – Ohio EPA to finalize the new Ohio General Storm Water Permit for MS4. The City will be required to implement the new requirements effective immediately upon issuance. The City will be informing contractors, developers and design firms of the forthcoming changes as information becomes available. The proposed major modifications to the permit include:
  - a. All reported data to the Ohio EPA and City goals shall be based on quantifiable numbers rather than projected estimates. The City shall be accountable to meet our goals or revise our storm water management plan.
  - b. Ohio Department of Natural Resources is finalizing local stream evaluations and will be issuing requirements to improve the condition of streams found to be substandard. These requirements will need to be incorporated into the City storm water management plan when applicable
  - c. The Ohio EPA is still in the process of revising the Ohio Rainwater and Land Development Manual to meet the current Ohio EPA General Storm Water Permit Requirements. The

City is making regular updates to our storm water management plan and site development manual to maintain compliance with new requirements.

- 4) May 2019 – Second notice to be sent to Owners of post-construction storm water management controls informing them of their obligations and first required reporting to be completed by May 2020.
- 5) June to August 2019 – begin evaluation of estimated storm water unit (ESU) calculations from new imagery for the determination of the current City average ESU and billable ESUs for commercial sites.
- 6) July 2019 – Annual Ohio EPA audit and site visits.
- 7) December 2019 – To be in compliance with Ohio EPA requirements the City must have the following programs in place before December 31, 2019.
  - a. Submit a revised storm water management plan addressing the new MS4 storm water permit requirements
  - b. Finalize the post-construction storm water management control inventory and inspection program.
  - c. Maintain an active and historical Ohio EPA general storm water permit records and inspection data available in a physical or digital form.
  - d. Finalize implementation of the Home Septic Treatment Systems (HSTS) inventory within the City and ensure the units are on a scheduled maintenance program.
- 8) January 2020 – Notice sent to owners of post-construction storm water management controls requesting 2019 maintenance and inspection records be submitted by May 31, 2020.
- 9) June 2020 – Owners who fail to provide the required post-construction storm water management control inspections, maintenance and documentation shall be issued a Notice of Violation by the City and given 30 days to correct the issue. Failure to respond shall result in:
  - a. Loss of any storm water ESU credits/discounts for one year for commercial establishments receiving these discounts.
  - b. The City shall retain a qualified individual to perform regular or professional inspections required and charge the owner(s) for these services via utility billing and/or tax assessment.
  - c. Provide the owner 30 days to complete any needed repairs prior to the City retaining a contractor to complete the work and bill/assess the owner(s).

## 2018 INFRASTRUCTURE PROJECT NARRATIVE

The Engineering Division managed more than 26 projects in 2018. Roadway and new building construction accounted for the majority of the \$10,000,000 in infrastructure improvements. The staff of nine designed, inspected and administered four waterline projects, nine sanitary projects, six roadway or sidewalk projects, five storm sewer projects, and two miscellaneous projects.

The following pages give a brief synopsis of our 2018 infrastructure projects.



## 2018 Projects Completed or Under Construction

<b>ROADWAY – SIDEWALK PROJECTS -</b> (6 projects - \$3,268,918 Estimated Construction Costs)		
<p><b>2018 Wooster Streets Resurfacing</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: March 2018</li> <li>• Estimate: \$1,129,918</li> <li>• Contractor: Chagrin Valley Paving</li> <li>• Bid Price: \$1,109,145</li> <li>• Final Cost: \$1,253,933</li> <li>• Completed October 2018</li> <li>• Project expanded to include Cleveland Rd. and Highland Ave.</li> </ul>	<p><b>WAY-VAR Wooster Streets FY18</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: ODOT &amp; Local</li> <li>• Bid Date: December 2017</li> <li>• Estimate: \$853,000</li> <li>• Contractor: Kokosing</li> <li>• Bid Price: \$719,716</li> <li>• Final Cost: \$748,702</li> <li>• Completed September 2018</li> </ul>	<p><b>Liberty Street Signals</b></p> <ul style="list-style-type: none"> <li>• Designed: Poggemeyer</li> <li>• Funding: CDBG &amp; Local</li> <li>• Bid Date: September 2017</li> <li>• Estimate: \$730,000</li> <li>• Contractor: Perram Electric</li> <li>• Bid Price: \$756,176.50</li> <li>• Final Cost: \$742,637</li> <li>• Completed: September 2018</li> </ul>
<p><b>Madison Avenue Signal</b></p> <ul style="list-style-type: none"> <li>• Designed: Burgess &amp; Niple</li> <li>• Funding: Local</li> <li>• Bid Date: February 2018</li> <li>• Estimate: \$145,000</li> <li>• Contractor: Greenwich Electric</li> <li>• Bid Price: \$103,262</li> <li>• Final Cost: \$125,198</li> <li>• Completed: October 2018</li> </ul>	<p><b>Northwestern Avenue Sidewalks</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: May 2018</li> <li>• Estimate: \$86,000</li> <li>• Contractor: Liberta Construction</li> <li>• Bid Price: \$85,007</li> <li>• Final Cost: \$97,279</li> <li>• Completed: August 2018</li> </ul>	<p><b>Country Club Estates &amp; Oak Heights Allotment Concrete Repairs</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: March 2018</li> <li>• Estimate: \$325,000</li> <li>• Contractor: TR Snyder Construction</li> <li>• Bid Price: \$274,689</li> <li>• Final Cost: \$348,014</li> <li>• Completed: August 2018</li> </ul>



## 2018 Projects Completed or Under Construction

### **WATER PROJECTS**

(4 projects - \$1,830,500 Estimated Construction Costs)

#### **E. Wayne Avenue Waterline**

- Designed: Engineering
- Funding: Local
- Bid Date: May 2018
- Estimate: \$210,000
- Contractor: Palmer & Son Excavating
- Bid Price: \$179,473
- Final Cost: \$165,278
- Completed: October 2018

#### **Forest Drive Waterline**

- Designed: Engineering
- Funding: Local
- Estimate: \$48,000
- Contractor: Palmer & Son Excavating
- Quoted Cost: \$37,843
- Final Cost: \$40,620
- Completed: December 2018

#### **Melrose Tank Waterline Extension**

- Designed: Engineering
- Funding: Local
- Bid Date: October 2018
- Estimate: \$515,000
- Contractor: Bogner Construction
- Bid Price: \$271,413
- Under Construction

#### **Brookside Dr./Oakley Rd. Improvements**

- Designed: Engineering
- Funding: OPWC & Local
- Bid Date: May 2018
- Estimate: \$1,057,500
- Contractor: Dirt Dawg Excavating
- Bid Price: \$1,059,775
- Under Construction



**Melrose Tank Waterline Extension  
Bogner Construction**

## 2018 Projects Completed or Under Construction

### SANITARY SEWER PROJECTS

(9 projects - \$1,343,610 in Estimated Construction Costs)

<p><b>Beaver Alley Sewer Separation</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$45,000</li> <li>• Contractor: Stout Excavating</li> <li>• Quoted Cost: \$45,893</li> <li>• Final Cost: \$39,425</li> <li>• Completed: August 2018</li> </ul>	<p><b>Burbank Road Sanitary Sewer</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$39,610</li> <li>• Contractor: Stout Excavating</li> <li>• Quoted Cost: \$32,579</li> <li>• Final Cost: \$26,925</li> <li>• Completed: December 2018</li> </ul>	<p><b>E. University Sanitary Sewer</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$95,000</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Bid Price: \$44,344</li> <li>• Final Cost: \$40,678</li> <li>• Completed: October 2018</li> </ul>
<p><b>Manhole Replacements</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$25,000</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Quoted Cost: \$41,185</li> <li>• Final Cost: \$41,185</li> <li>• Completed: July 2018</li> </ul>	<p><b>Nupp Drive Lift Station</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: August 2017</li> <li>• Estimate: \$350,000</li> <li>• Contractor: Simonson Construction Services</li> <li>• Bid Price: \$320,245</li> <li>• Final Cost: \$290,624</li> <li>• Completed: May 2018</li> </ul>	<p><b>Spink St. &amp; Gasche St. Sewer Separation</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: OPWC &amp; Local</li> <li>• Bid Date: June 2017</li> <li>• Estimate: \$667,500</li> <li>• Contractor: Stout Excavating</li> <li>• Bid Price: \$579,547</li> <li>• Final Cost: \$584,279</li> <li>• Completed: May 2018</li> </ul>
<p><b>E. Henry &amp; Minerva Sanitary Sewer Replacement</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$22,000</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Quoted Cost: \$11,230</li> <li>• Final Cost: \$11,965</li> <li>• Completed: January 2018</li> </ul>	<p><b>Sanitary Sewer Lining Project</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: April 2018</li> <li>• Estimate: \$200,000</li> <li>• Contractor: United Survey</li> <li>• Bid Price: \$126,824</li> <li>• Final Cost: \$178,215</li> <li>• Completed: November 2018</li> </ul>	<p><b>W. Liberty Sanitary Sewer Ext.</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: December 2018</li> <li>• Estimate: \$255,000</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Bid Price: \$240,840</li> <li>• Under Construction</li> </ul>



## 2018 Projects Completed or Under Construction

### STORM SEWER PROJECTS

(5 projects - \$700,000 Estimated Construction Costs)

#### Cleveland Road Storm Sewer

- Designed: Engineering
- Funding: Local
- Estimate: \$82,500
- Bid Date: October 2018
- Contractor: Stout Excavating
- Bid Price: \$82,186
- Final Cost: \$78,058
- Completed: December 2018

#### E. Smithville Western Culverts

- Designed: Engineering
- Funding: Local
- Estimate: \$40,000
- Contractor: Dirt Dawg Excavating
- Quoted Price: \$24,118
- Final Cost: \$27,300
- Completed: May 2018

#### E. University Storm Sewer

- Designed: Engineering
- Funding: Local
- Bid Date: May 2018
- Estimate: \$345,000
- Contractor: Dirt Dawg Excavating
- Bid Price: \$322,114
- Final Cost: \$301,274
- Completed: October 2018

#### Melrose Drive Culvert Replacement

- Designed: Engineering
- Funding: Local
- Estimate: \$50,000
- Contractor: Dirt Dawg Excavating
- Quoted Price: \$47,250
- Final Cost: \$47,250
- Completed: October 2018

#### W. Wayne Ave. Culvert Replacement

- Designed: Engineering
- Funding: Local
- Bid Date: March 2018
- Estimate: \$182,500
- Contractor: Wenger Excavating
- Bid Price: \$179,071
- Final Cost: \$179,211
- Completed: August 2018



**W. Wayne Avenue Culvert  
Wenger Excavating, Inc.**

## 2018 Projects Completed or Under Construction

### MISCELLANEOUS PROJECTS

(2 projects - \$2,855,000 Estimated Construction Costs)

#### Downtown Streetscape

- Designed: OHM
- Funding: Local
- Bid Date: July 2017
- Estimate: \$1,695,000
- Contractor: Simonson Construction Services
- Bid Price: \$1,504,506
- Final Cost: \$1,917,839
- Completed: December 2018

#### Wooster Bike Loop – Phase 1

- Designed: Poggmeyer
- Funding: Local & ODOT
- Bid Date: April 2018
- Estimate: \$820,000
- Contractor: Lockhart Concrete Company
- Bid Price: \$834,147
- Under Construction



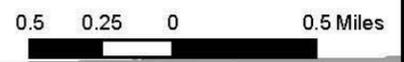
## **INFRASTRUCTURE PROJECTS SCHEDULED/PLANNED FOR 2019:**

1. **Wooster Bike Loop – Phase 1:** This is a 2.1-mile construction of a dedicated 10' wide multi-use path for non-motorized transportation from Bloomington Drive to Highland Avenue. The project is primarily funded by ODOT. Lockhart Concrete Company was awarded the contract. Construction began in September 2018 and completion is anticipated by June 1, 2019.
2. **OARDC Water Tank Painting:** This project involves interior and exterior painting, tank repair work, and cathodic protection replacement for the 250,000 gallon multi-legged OARDC elevated water tank. The estimated cost for the project is \$400,000. The contract was awarded to Utility Service Co., Inc. with a bid price of \$320,600.
3. **Water Treatment Plant Clearwell Painting:** Interior and exterior surface preparation and painting of two (2) 750,000 gallon ground-level steel clearwells as well as miscellaneous tank repairs consisting of installation of handrails, replacement of vents and overflow pipe screening, and modification of the tank center columns. The engineer's estimate for this project is \$575,000.
4. **Oakley/Brookside Waterline and Pavement Resurfacing:** The City was awarded funding through OPWC for the replacement of the waterlines on these streets as well as the resurfacing of the pavement. The estimated cost of the project is \$1,066,000, of which \$426,600 is being funded by OPWC. Dirt Dawg Excavating was awarded the contract and construction should be completed by Summer 2019.
5. **Lemar Drive Storm Sewer:** This project was designed by the Engineering Division and will bid in February 2019. The estimated cost for construction is \$485,000 and includes the replacement of approximately 1,635 lineal feet of 12" reinforced concrete storm sewer, including 12 manholes and 15 curb inlets.
6. **ODOT LPA Large Cities Paving:** Melway Paving was awarded the contract for this project, which will be primarily funded by ODOT, and includes resurfacing portions of N. Bever Street, E. Wayne Avenue, Beall Avenue, and Cleveland Road. The contract price is \$789,046.40.
7. **2019 Wooster Streets Resurfacing:** This project includes resurfacing of approximately 57,453 square yards of asphalt concrete pavement on various streets throughout the City of Wooster, including portions of Walnut, Spink, Cedar, Vanover, W. Wayne, and Nold. The Engineer's estimated construction cost is \$1,233,000 and should be completed by the end of August 2019.
8. **Electric Car Charging Stations:** This project involves installing three (3) electric car charging stations in the downtown area. McClintock Electric will install the units and, through a grant program, AEP will cover \$170,000 of the cost of the stations and installation.
9. **WRRF Sludge Storage Tank:** This project involves the construction of a 5 million gallon sludge storage tank at the WRRF. The tank will eliminate the need for the open air lagoons. The project is estimated at \$1 million and should be completed during 2019. Melway Paving was awarded the contract with a bid price of \$1,178,911.70.
10. **Woodcrest Drive Waterline Replacement and Pavement Repair:** This project involves replacement of the waterline and concrete pavement repairs on Woodcrest Drive and Sycamore Lane. Construction is planned for the summer and fall of 2019 with an estimated cost of \$600,000.

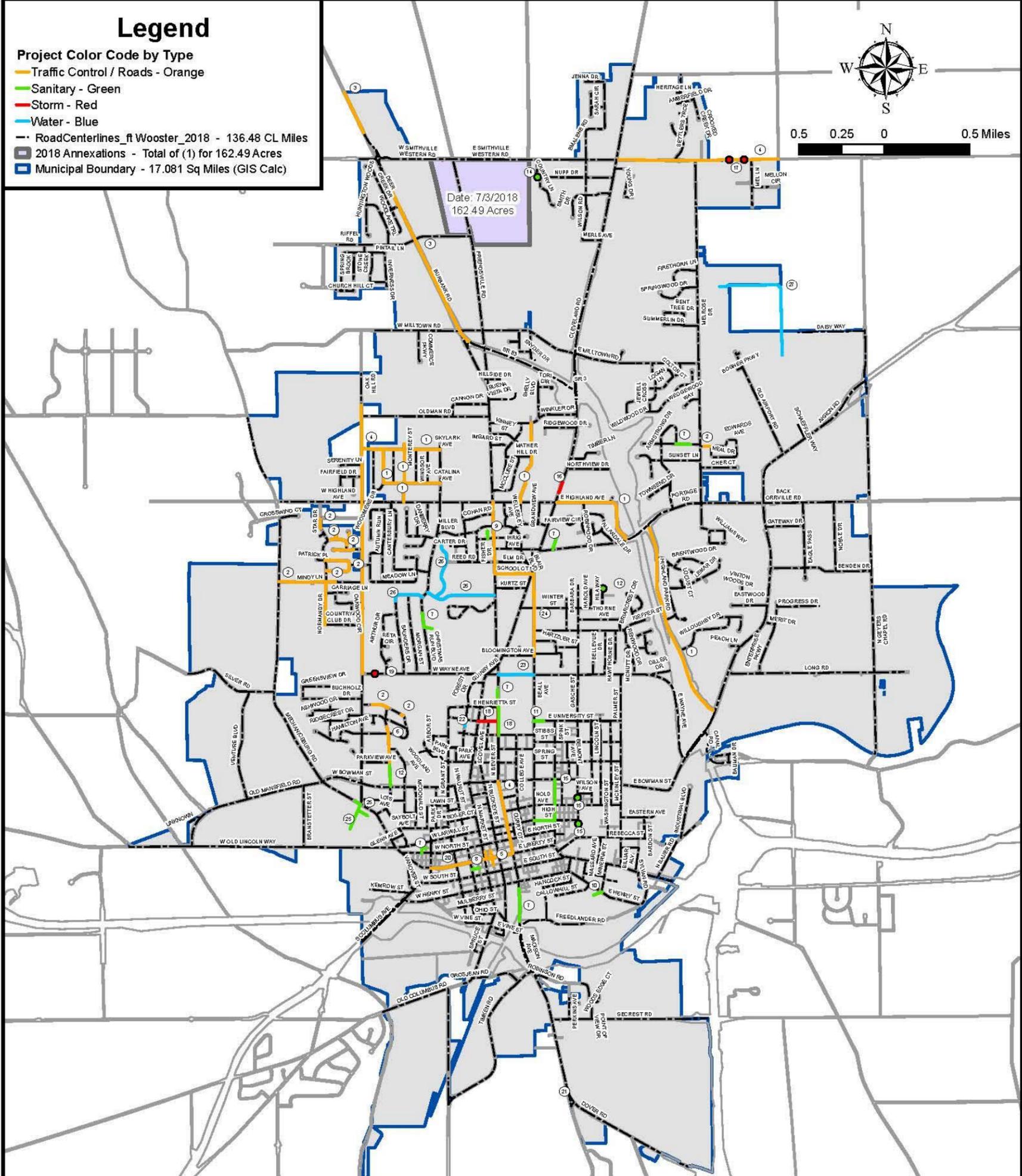
11. **W. Liberty Sanitary Sewer Extension:** A new sanitary sewer is being installed to serve residents along West Liberty Street, near the Oak Hill Road intersection, who previously were not connected to the municipal sewer and were served by HSTS. The Engineering Division designed the project and Dirt Dawg Excavating was awarded the contract with a bid price of \$240,840.
12. **Palmer Street Culvert Replacement:** This project includes the replacement of existing 12" and 24" corrugated metal culverts on Palmer Street (between E. University St and E. Wayne Ave.) with a 29" x 45" reinforced concrete culvert. Construction is planned for the summer of 2019.
13. **Chestnut Court Storm Sewer Replacement:** This project includes the replacement of corrugated metal storm sewers. The Engineering Division will design, manage, and inspect the construction process. Construction is planned for the summer of 2019 and is estimated to cost \$250,000.
14. **Friar Tuck Storm Sewer Replacement:** This project includes the replacement of corrugated metal storm sewers. The Engineering Division will design, manage, and inspect the construction process. Construction is planned for the summer of 2019 and is estimated to cost \$200,000.
15. **Holmes/Caldwell Waterline Replacement:** This project involves replacement of the waterline and concrete pavement repairs on Holmes Boulevard and Caldwell Drive. The design, project management, and inspections will be done by the Engineering Division.

# Legend

- Project Color Code by Type**
- Traffic Control / Roads - Orange
  - Sanitary - Green
  - Storm - Red
  - Water - Blue
- RoadCenterlines\_ft Wooster\_2018 - 136.48 CL Miles
- 2018 Annexations - Total of (1) for 162.49 Acres
- ▭ Municipal Boundary - 17.081 Sq Miles (GIS Calc)



Date: 7/3/2018  
162.49 Acres



### 2017 - 2018 City Infrastructure Projects

Completed or In-Process 1/1/18 to 12/31/18

Completed Projects				
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE
1	2018 Wooster Street Resurfacing	Paving	Completed Sept, 2018	Local
2	Concrete Pavement Repairs	Paving	Completed Aug, 2018	Local
3	ODOT SR 83 Urban Paving	Paving	Completed Oct, 2018	ODOT
4	WAY-VAR Wooster Streets FY18	Paving	Completed Aug, 2018	ODOT
5	Downtown Streetscape	Update Streetscape	Completed Dec, 2018	Local
6	Northwestern Avenue Sidewalks	Sidewalks	Completed Aug, 2018	Local
7	2018 Sanitary Sewer Lining	Sewer Lining	Completed Nov, 2018	Local
8	Beaver Alley Sewer Separation	Sewer Separation	Completed May, 2018	Local
9	Burbank Road Sanitary Sewer	Replacement	Completed Nov, 2018	Local
10	E. Henry & Minerva Sanitary Sewer Replacement	Replacement	Completed Feb, 2018	Local
11	E. University Sanitary	Replacement	Completed Jan, 2018	Local
12	Manhole Replacement	Replacement	Completed Jan, 2018	Local
13	Manhole Replacements	Replacement	Completed June, 2018	Local
14	Nupp Dr Lift Station	Replacement	Completed May, 2018	Local
15	S. Spink St. & Gasche St. Sewer Separation	Sewer Separation	Completed May, 2018	OPWC & Local
16	Cleveland Road Storm Sewer Replacement	Replacement	Completed Dec, 2018	Local
17	E. Smithville Western Road Culvert Replacements	Replacement	Completed Mar, 2018	Local
18	E. University Street and N. Beaver Street Storm Sewer	Improvements	Completed Nov, 2018	Local
19	W. Wayne Avenue Culvert Replacement	Replacement	Completed Aug, 2018	Local
20	Liberty St. Traffic Signals	Replacement	Completed Aug, 2018	CDBG & Local
21	Madison Avenue, Dover Road & Millersburg Road Signals	Replacement	Completed Oct, 2018	Local
22	Forest Drive Waterline Replacement	Replacement	Completed Dec, 2018	Local
23	E. Wayne Ave Waterline Replacement	Replacement	Completed Oct, 2018	Local
In Process Projects				
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE
24	Wooster Bike Loop Phase 1	Bike Path	Under Construction	ODOT & Local
25	W. Liberty Street Sanitary Sewer Extension	Improvements	Winter 2019	Local
26	Brookside Drive & Oakley Road Improvement Project	Replacement & Paving	Under Construction	Local & OPWC
27	Melrose Tank Waterline Extension	Improvement	Under Construction	Local

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**CITY OF WOOSTER**  
DIVISION OF ENGINEERING

538 N. MARKET ST. WOOSTER, OHIO 44691  
PH: (330) 263-9291 FAX: (330) 263-6283

ROGER V. KOBLARCZIK CITY ENGINEER rkoblarczik@woosteroh.com

## Private Developments

### 1. Private Subdivisions/Commercial Property under Construction:

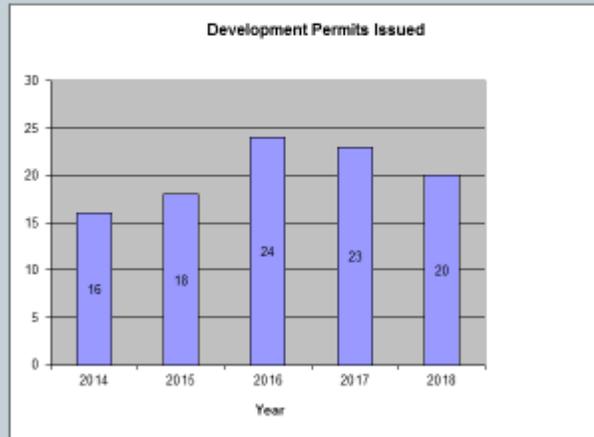
The Engineering Division saw three fewer Development Permit issued in 2018 (20) as compared to 2017 (23). New construction projects and additions to existing facilities made up a majority of the work.

Aldi completed construction of a new store located on Burbank Road as well as a remodeling project at its existing location on Akron Road. West View Healthy Living, Western Reserve and LuK each expanded their existing facilities, while Baker Properties, CSB Bank, 180, and the Wayne County Fairgrounds all embarked on new construction projects.

All private developments required oversight and permit approval from the City Engineering Division for compliance with the Wooster Site Development and Improvement Regulations. The Engineering Division reviews all plans and provided inspection of all these developments.

City of Wooster Engineering Development Permits						2018
DEVELOP. #	PERMIT NO.	PROJECT NO.	NAME / DESCRIPTION	SITE IMP.S COST ESTIMATE	PERMIT FEE	DATE RECEIVED
1	83489	183019	COW Armington Hall Renovation	\$ 100,000	\$ 2,792.00	01/04/18
2	83905	183020	Western Reserve Addition 2018	\$ 20,000	\$ 6,960.00	02/02/18
3	84052	183068	LuK Transmission Line	\$ 953,000	\$ 520.00	02/13/18
4	84754	183024	ALDI Burbank Rd. - New Store	\$ 1,800,000	\$ 3,433.00	03/23/18
5	85219	183020	Western Reserve Addition 2018	\$ 900,000	\$ 6,892.00	04/09/18
6	85959	183046	West View 2018 Wellness Center	\$ 500,000	\$ 14,837.00	05/09/18
7	85981	183028	Baker Properties 120,000 sq. ft. storage facility	\$ 1,500,000	\$ 9,123.00	05/09/18
8	87066	183033	CSB Bank Reconstruction 2018	\$ 300,000	\$ 1,421.00	06/26/18
9	87130	183060	Hackworth Parking Lot Improvements	\$ 16,000	\$ 615.00	07/02/18
10	87058	183041	Frito-Lay Parking Lot Improvements	\$ 40,000	\$ 209.00	07/03/18
11	87122	183061	Pro-Touch Automotive Detailing Expansion	\$ 25,000	\$ 3,522.00	07/03/18
12	87039	183032	LUK Front Addition 2018	\$ 1,500,000	\$ 1,417.00	07/13/18
13	87299	183062	Summerlin Subdivision	\$ 25,000	\$ 5,980.00	08/08/18
14	87825	183047	180 New Residential Facility	\$ 1,700,000	\$ 5,251.00	08/15/18
15	88152	183063	Aldi Addition (Akron Rd)	\$ 1,750,000	\$ 1,142.00	08/29/18
16	88264	183064	Santmyer Oil Dention Basin	\$ 25,000	\$ 944.00	09/10/18
17	88382	183065	Nolletti Development	\$ 82,200	\$ 3,802.00	09/17/18
18	88416	183066	GOJO Solar Panel Installation	\$ 1,680,000	\$ 150.00	09/24/18
19	88444	183067	Cornerstone Elementary Site Improvements	\$ 50,000	\$ 2,406.00	09/26/18
20	88971	183049	Wayne County Fair Event Center	\$ 2,300,000	\$ 6,813.00	10/31/18
				<b>\$ 15,266,200</b>	<b>\$ 78,229.00</b>	

## 2014 – 2018 Development Permits



### **ENGINEERING FEES AND REVENUES:**

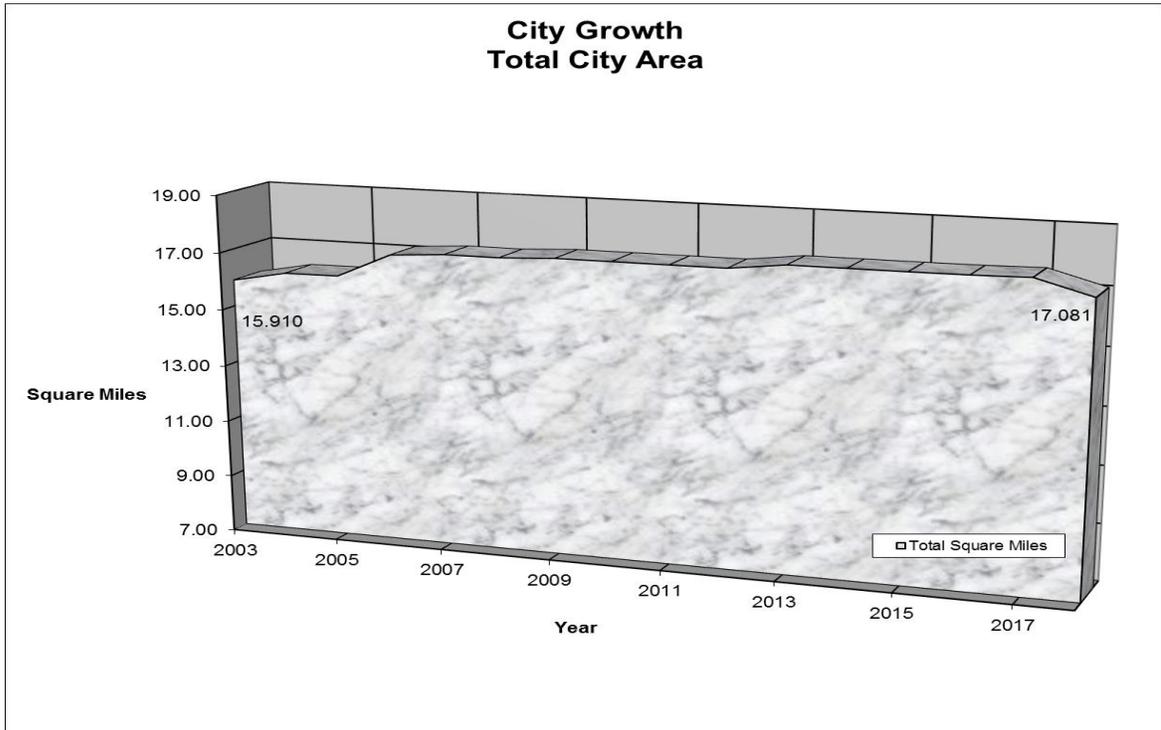
The following table details the revenues received by the Division of Engineering from 2014 through 2018.

	2014	2015	2016	2017	2018
Single Inspection	\$10,478.20	\$19,800.00	\$9,650.00	\$7,450.00	\$240.00
Construction Inspection	\$114,642.28	\$58,105.03	\$97,105.93	\$21,826.81	\$33,768.00
Plan Review Fee	\$10,480.00	\$12,960.00	\$11,680.00	\$63,017.33	\$45,827.00
Plan Copies	\$4,213.25	\$5,489.15	\$3,713.10	\$3,140.13	\$5,140.22
Yard Pipe Permit	\$0.00	\$160.00	\$240.00	\$0.00	\$0.00
Sanitary Sewer Permit	\$480.00	\$960.00	\$480.00	\$320.00	\$1,300.00
San. Sewer Availability Charge	\$7,584.00	\$47,746.56	\$4,522.00	\$51,538.96	\$30,884.00
Water Availability	\$704.00	\$50,300.80	\$24,008.16	\$5,066.60	\$31,748.00
Water Service Permit	\$640.00	\$800.00	\$640.00	\$240.00	\$2,901.00
Development Permit Waiver	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL FEES COLLECTED</b>	<b>\$149,221.73</b>	<b>\$196,321.54</b>	<b>\$152,039.19</b>	<b>\$152,599.83</b>	<b>\$151,808.22</b>



*Division of Engineering  
City of Wooster  
2018 Annual Report*

**City Growth Statistics – Section 2**



### City Growth Information

Year	City Population		City Area	City Streets
1990	22,427	(a)	12.8222 Sq. Mi.	106.42 Miles
2000	24,811	(a)	15.767 Sq. Mi.	120.41 Miles
2010	26,119	(a)	17.334 Sq. Mi	133.10 Miles
2011	26,397	(b)	17.334 Sq. Mi	133.10 Miles
2012	26,677	(b)	17.336 Sq. Mi	133.10 Miles
2013	26,961	(b)	17.557 Sq. MI	133.78 Miles
2014	27,247	(b)	17.557 Sq. MI	133.78 Miles
2015	27,537	(b)	17.557 Sq. MI	133.78 Miles
2016	27,830	(b)	17.567 Sq. MI	133.78 Miles
2017	27,023	(c)	17.604 Sq. MI	135.33 Miles
2018	26,618	(c)	17.081 Sq. MI (d)	136.48 Miles

(a) Census    (b) Estimated from Housing Starts

(c) This figures comes from the Census Bureau and does not include a full count of undergraduate students at the College of Wooster and ATI.

(d) GIS mapping allowed for a more accurate calculation of historical map areas.

### 2018 Annexations

No.	Description	Date	Area
1	Friendsville Road - Richard Property	10/2/2018	162.49 Acres

## City Area Statistics

City Area				
Year	Increases (Acres)	Total Acres	Total Square Miles	% Increase
1965	0.000	4,966.400	7.760	0.000
1966	648.890	5,615.290	8.774	13.066
1967	0.000	5,615.290	8.774	0.000
1968	0.000	5,615.290	8.774	0.000
1969	331.550	5,946.840	9.292	5.904
1970	62.470	6,009.310	9.390	1.050
1971	0.000	6,009.310	9.390	0.000
1972	181.810	6,191.120	9.674	3.025
1973	54.380	6,245.500	9.759	0.878
1974	173.858	6,419.358	10.030	2.784
1975	4.000	6,423.358	10.036	0.062
1976	19.532	6,442.890	10.067	0.304
1977	25.032	6,467.922	10.106	0.389
1978	79.990	6,547.912	10.231	1.237
1979	56.819	6,604.731	10.320	0.868
1980	3.000	6,607.731	10.325	0.045
1981	135.195	6,742.926	10.536	2.046
1982	2.730	6,745.656	10.540	0.040
1983	47.046	6,792.702	10.614	0.697
1984	148.203	6,940.905	10.845	2.182
1985	0.000	6,940.905	10.845	0.000
1986	45.319	6,986.224	10.916	0.653
1987	0.000	6,986.224	10.916	0.000
1988	187.711	7,173.935	11.209	2.687
1989	1,031.835	8,205.770	12.822	14.383
1990	0.000	8,205.770	12.822	0.000
1991	541.763	8,747.533	13.668	6.602
1992	166.072	8,913.605	13.928	1.899
1993	160.949	9,074.554	14.179	1.806
1994	1.080	9,075.634	14.181	0.012
1995	0.000	9,075.634	14.181	0.000
1996	23.626	9,099.260	14.218	0.260
1997	123.047	9,222.307	14.410	1.352
1998	40.564	9,262.871	14.473	0.440
1999	610.865	9,873.736	15.428	6.595
2000	217.389	10,091.125	15.767	2.202
2001	2.781	10,093.906	15.772	0.028
2002	64.491	10,158.397	15.872	0.639
2003	24.120	10,182.517	15.910	0.237
2004	226.640	10,409.157	16.264	2.226
2005	11.090	10,420.247	16.282	0.107
2006	537.062	10,957.309	17.121	5.154
2007	78.780	11,036.089	17.244	0.719
2008	0.000	11,036.089	17.244	0.000
2009	57.450	11,093.539	17.334	0.521
2010	0.000	11,093.539	17.334	0.000
2011	0.000	11,093.539	17.334	0.000
2012	1.61	11,095.149	17.336	0.015
2013	141.202	11,236.351	17.557	1.273
2014	0	11,236.351	17.557	0.000
2015	0	11,236.351	17.557	0.000
2016	6.69	11,243.041	17.567	0.060
2017	94.56	11,266.75	17.604	0.842
2018	162.49	11,429.24	17.081	-0.523

GIS mapping allowed for a more accurate calculation of historical map areas.

**Utility Statistics – Section 3**

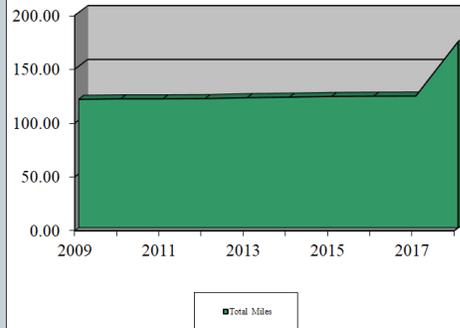
# Sanitary Sewer Mileage

## Sanitary Sewer Mileage

Year	Increase in Miles	Total Miles	% Increase
2009	1.73	119.31	1.47%
2010	0.46	119.77	0.39%
2011	0.00	119.77	0.00%
2012	0.21	119.98	0.18%
2013	0.92	120.90	0.77%
2014	0.45	121.35	0.37%
2015	0.66	122.01	0.54%
2016	0.21	122.22	0.17%
2017	0.13	122.35	0.11%
2018	0.00	172.75*	0.00%

\*New technology allows for more accurate measurement. The total for 2018 was adjusted to reflect a correction in measurements.

## Sanitary Sewer Total Mileage



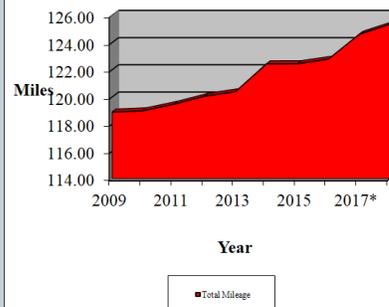
# Storm Sewer Mileage

## Storm Sewer Mileage

Year	Increase in Miles	Total Mileage	% Increase
2009	2.51	118.89	2.16%
2010	0.10	118.99	0.08%
2011	0.48	119.47	0.40%
2012	0.59	120.06	0.49%
2013	0.34	120.40	0.28%
2014	2.04	122.44	1.69%
2015	0.01	122.45	0.01%
2016	0.33	122.78	0.27%
2017	0.00	124.61*	0.00%
2018	0.75	125.36	0.60%

\*New technology allows for more accurate measurement. The total for 2017 was adjusted to reflect a correction in measurements.

## Storm Sewer Total Miles



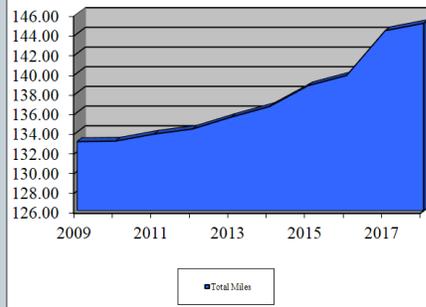
# Waterline Mileage

## Waterline Mileage

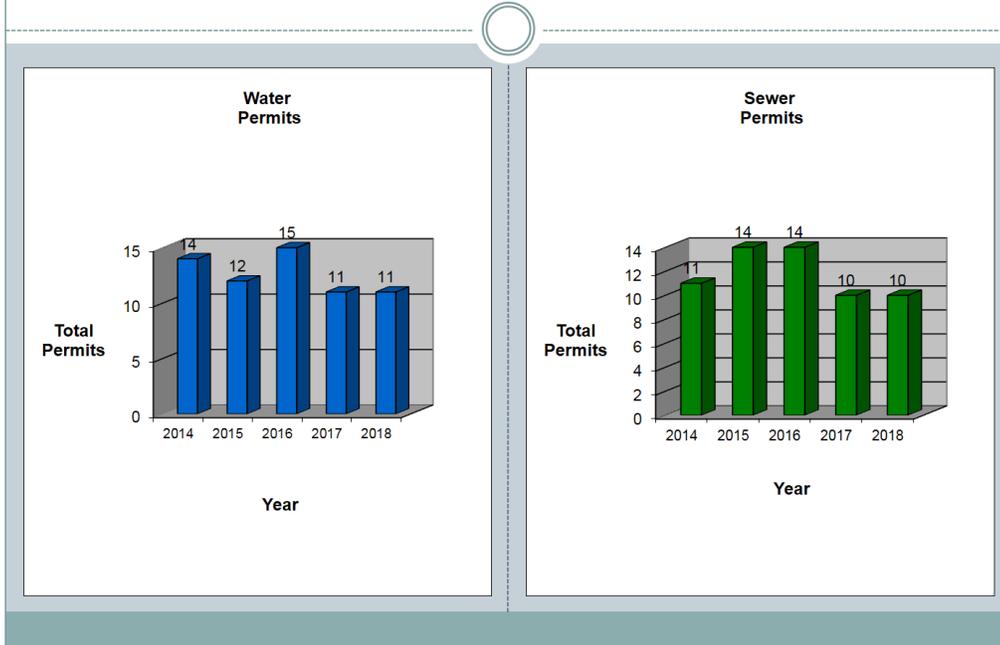
Year	Increase in Miles	Total Miles	% Increase
		129.35	
2009	3.68	133.03	2.84%
2010	0.05	133.08	0.04%
2011	0.71	133.79	0.53%
2012	0.52	134.31	0.39%
2013	1.20	135.51	0.89%
2014	1.08	136.59	0.80%
2015	2.12	138.71	1.55%
2016	1.04	139.75	0.75%
2017	0.00	144.30*	0.00%
2018	0.75	145.05	0.52%

\*New technology allows for more accurate measurement.  
The total for 2017 was adjusted to reflect a correction in measurements.

## Waterline Total Mileage



## 2018 Permits



Water and Sewer Permits remain fairly level throughout the years. Permits are issued for these utilities for any new development or whenever the need for a replacement or repair becomes necessary to a homeowner or business. Our inspectors are on-site to make sure the contractor follows the City's Standards and to help the contractor with any questions or problems that might arise during the project.



Dominion Energy Ohio continues to be the primary company obtaining Right-of-Way Permits. The company is in the process of improving their infrastructure throughout the city and replacing their main lines. Right-of-way permits are required any time there will be work along the City's streets and/or across the street. This ensures that the City can monitor restoration of the area after the contractor has completed the project.

## 2018 Water Main Leaks

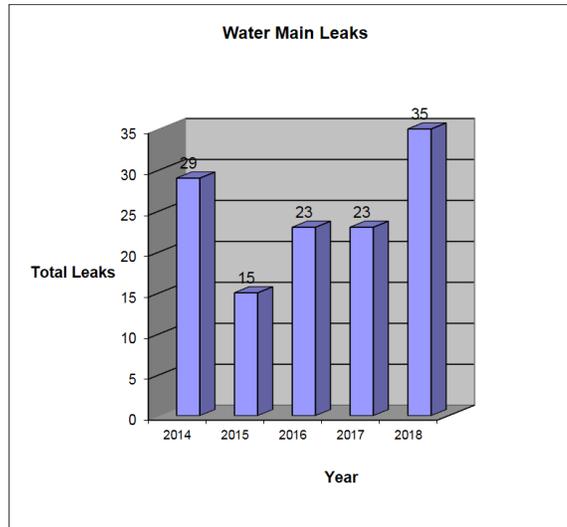
The City currently maintains over 140 miles of waterline.

Waterline replacements for 2018 include the areas of:

Brookside Drive

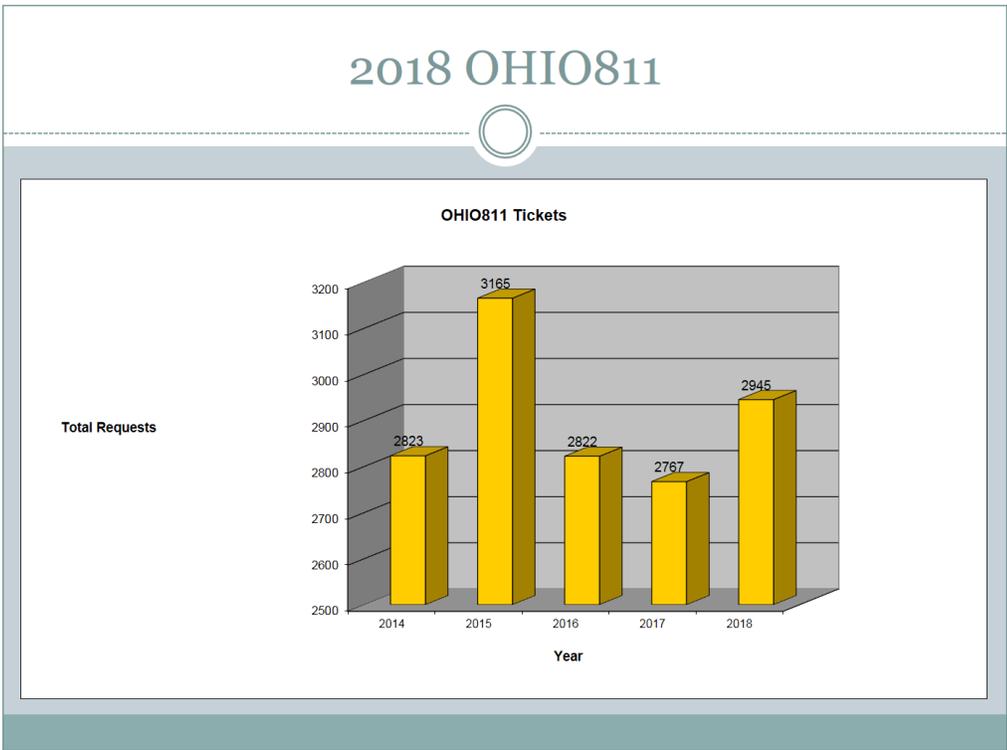
E. Wayne Avenue

Forest Drive



The increase in the number of water breaks in 2018 was due, in part, to periods of fluctuating temperatures, which causes the ground to shift. In addition, the City has increased its effort to locate main line leaks and breaks to more accurately quantify the amount of unaccounted for water.

# 2018 OHIO811



OHIO811 (formerly known as the Ohio Utility Protection Service, or OUPS) location notices continue to increase as more and more contractors and residents call 811 to notify OHIO811 of anticipated digging. Our inspector marks the requests within 48 hours of receiving the notice if any of the City’s utilities would be affected by the excavation. Our inspector is also responsible for emergency OHIO811 locations such as water line breaks or gas line ruptures. Each notification is also recorded in the WEBTMS software, which tracks the notifications and the positive response (outcome) for each ticket.

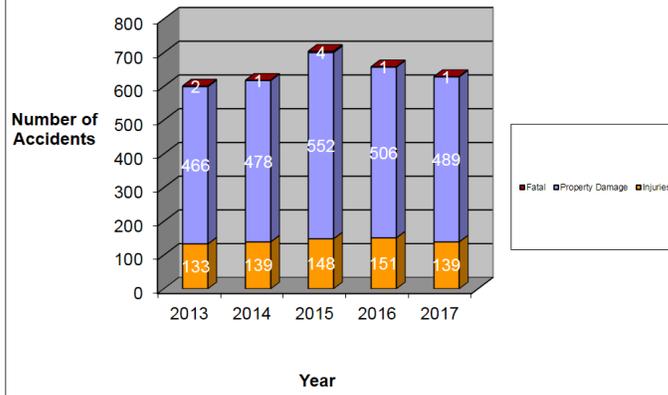
*Division of Engineering  
City of Wooster  
2018 Annual Report*

**Traffic Statistics – Section 4**

## 2013-2017 Comparison

Data is compiled from the Ohio Department of Public Safety's "Ohio Traffic Crash Facts"

### Total Traffic Accidents City of Wooster

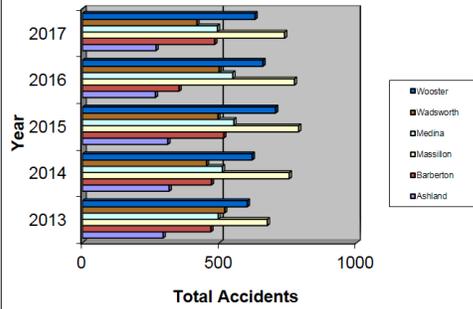


# 2013-2017 Total Crashes

**Traffic Accident Comparison  
Totals By Neighboring Cities**

Year	Ashland	Barberton	Massillon	Medina	Wadsworth	Wooster
2013	294	468	674	495	518	601
2014	316	470	754	510	452	619
2015	311	515	788	552	494	704
2016	266	352	773	548	498	658
2017	268	482	737	492	417	629

**Traffic Accident Comparison:  
Neighboring Cities**



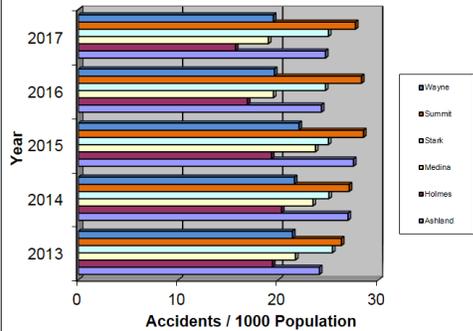
# County Crash Comparison

**Rates per 1000 based on  
2010 U.S. Census**

**Traffic Accident Comparison  
Rates by Neighboring Counties**

Year	Accidents Per 1000 People					
	Ashland	Holmes	Medina	Stark	Summit	Wayne
2013	24.1	19.4	21.7	25.4	26.3	21.4
2014	26.96	20.31	23.46	25.05	27.08	21.6
2015	27.5	19.3	23.7	25	28.5	22.06
2016	24.3	16.9	19.5	24.7	28.3	19.6
2017	24.7	15.7	19	25	27.7	19.5

**Traffic Accident Comparison:  
Neighboring Counties Accident Rates**



*Division of Engineering  
City of Wooster  
2018 Annual Report*

**Engineering Design Statistics – Section 5**

**DIVISION OF ENGINEERING**  
**2018 Project Summary**  
**(Projects Designed or Constructed in 2018)**

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED	BID	FINAL	Contract	%	
				CONST. COST	PRICE	COST	Balance	Complete	Retainage
WAY-VAR Wooster Streets FY18	Wooster Engineering	\$0	Kokosing Construction	\$853,000	\$719,716	\$748,702	\$0	100%	\$0
Beaver Alley Sewer Separation	Wooster Engineering	\$0	Stout Excavating	\$45,000	\$45,893	\$39,425	\$0	100%	\$0
Burbank Road Sanitary Sewer	Wooster Engineering	\$0	Stout Excavating	\$39,610	\$32,579	\$26,925	\$0	100%	\$0
Cleveland Rd. Storm Sewer Replacement	Wooster Engineering	\$0	Stout Excavating	\$82,500	\$82,186	\$78,058	\$0	100%	\$0
Downtown Streetscape	OHM	\$100,000	Simonson Construction Services, Inc.	\$2,035,000	\$1,504,506	\$1,917,839	\$0	100%	\$0
E. Henry & Minerva Sanitary Sewer Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$22,000	\$11,230	\$10,965	\$0	100%	\$0
E. Smithville Western Culverts	Wooster Engineering	\$0	Dirt Dawg Excavating	\$40,000	\$24,118	\$27,300	\$0	100%	\$0
E. University Sanitary	Wooster Engineering	\$0	Dirt Dawg Excavating	\$95,000	\$44,344	\$40,678	\$0	100%	\$0
E. University Storm Sewer (Quinby to Bever)	Wooster Engineering	\$0	Dirt Dawg Excavating	\$345,000	\$322,114	\$301,274	\$0	100%	\$0
E. Wayne Ave. Waterline	Wooster Engineering	\$0	Palmer & Son Excavating	\$210,000	\$179,473	\$165,278	\$0	100%	\$0
Forest Drive Waterline	Wooster Engineering	\$0	Palmer & Son Excavating	\$48,000	\$37,843	\$40,620	\$0	100%	\$0
Liberty Signals	Poggemeyer	\$35,864	Perram Electric	\$730,000	\$756,176	\$742,637	\$0	100%	\$0
Madison Avenue Signals	Burgess & Niple	\$19,000	Greenwich Electric	\$145,000	\$103,262	\$125,198	\$0	100%	0
Manhole Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$25,000	\$41,185	\$41,185	\$0	100%	\$0
Melrose Drive Culvert Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$50,000	\$47,250	\$47,250	\$0	100%	\$0
Melrose Tank Waterline Extension	Wooster Engineering	\$0	Bogner Construction	\$515,000	\$305,301	UC	\$151,504	50%	\$11,916
Northwestern Avenue Sidewalks	Wooster Engineering	\$0	Liberta Construction	\$86,000	\$85,007	\$97,279	\$0	100%	\$0
Nupp Drive Lift Station	Wooster Engineering	\$0	Simonson Construction Services, Inc.	\$350,000	\$320,245	\$290,624	\$0	100%	\$0
Oakley/Brookside Improvements	Wooster Engineering	\$0	Dirt Dawg Excavating	\$1,057,500	\$1,059,775	UC	\$694,878	35%	\$31,730
S. Spink St. Sewer Separation	Wooster Engineering	\$0	Stout Excavating	\$667,500	\$579,547	\$584,279	\$0	100%	\$0
Sanitary Sewer Lining Projects	Wooster Engineering	\$0	United Survey	\$200,000	\$126,824	\$178,215	\$0	100%	\$0
Country Club Estates & Oak Heights Allotment Concrete Repairs	Wooster Engineering	\$0	TR Snyder Construction	\$325,000	\$274,689	\$348,014	\$0	100%	\$0
2018 Wooster Streets Resurfacing	Wooster Engineering	\$0	Chagrin Valley Paving	\$1,129,918	\$1,109,145	\$1,253,933	\$0	100%	\$0
W. Liberty St. Sanitary Sewer Ext.	Wooster Engineering	\$0	Dirt Dawg Excavating	\$255,000	\$240,840	UC	\$240,840	100%	\$0
W. Wayne Avenue Culvert Replacement	Wooster Engineering	\$0	Wenger Excavating	\$182,500	\$179,071	\$179,211	\$0	100%	\$0
Wooster Bike Loop 1	Poggemeyer	\$127,625	Lockhart Concrete	\$820,000	\$834,147	UC	\$356,010	55%	\$19,910
							UC=Under Construction		
<b>Subtotals</b>		<b>\$282,489</b>		<b>\$10,353,528</b>	<b>\$9,066,466</b>	<b>\$7,284,887</b>	<b>\$1,443,232</b>		<b>\$63,556</b>

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED		STATUS
				CONST. COST	BID PRICE	
WAY-VAR Wooster Streets FY19	Wooster Engineering	\$0	Melway Paving	\$827,500	\$789,046	DC
2019 Wooster Street Resurfacing	Wooster Engineering	\$0	Melway Paving	\$1,233,000	\$1,178,912	DC
Lemar Storm Sewer Replacement	Wooster Engineering	\$0		\$485,000		DC
<b>Subtotals</b>		<b>\$0</b>		<b>\$2,545,500</b>	<b>\$1,967,958</b>	
2019 Sanitary Sewer Lining	Wooster Engineering	\$0				UD
Bike Path Phase 2	Poggemeyer	\$97,000		\$1,113,000		UD
Cedar Lane Stream Stabilization	Wooster Engineering	\$0		\$65,000		UD
Clear Creek Park	Environmental Design Group	\$68,170				UD
Downtown Streetscape Phase 2	OHM	\$84,750				UD
Friar Tuck Storm Sewer Replacements	Wooster Engineering	\$0		\$160,000		UD
OARDC Water Tank Painting	Wooster Engineering	\$0	Utility Service Company	\$400,000	\$321,600	UD
Palmer Street Culvert Replacement	Wooster Engineering	\$0				UD
Safe Routes to School Melrose Elementary	Wooster Engineering	\$0				UD
Sunset Drive Reconstruction	Wooster Engineering	\$0		\$600,000		UD
W. Highland Avenue Reconstruction	Wooster Engineering	\$0				UD
Wayne (Bever to Beall)	Wooster Engineering	\$0		\$100,000		UD
Woodcrest Waterline Replacement	Wooster Engineering	\$0				UD
Woodcrest Pavement Repairs	Wooster Engineering	\$0		\$375,000		UD
WTP Clarifier Painting	Wooster Engineering	\$0		\$225,000		UD
WTP Clearwell Painting	Wooster Engineering	\$0		\$575,000		UD
<b>Subtotals</b>		<b>\$249,920</b>		<b>\$3,613,000</b>		

Note: Engineering consultant services and construction costs shown in this table represent totals to date. Actual expenditures occurred over several years.

UD = Under Design

## Engineering Value Calculations

Project	Design Cost	2018 Design Costs Paid	2017 Design Costs Paid	2016 Design Costs Paid	2015 Design Costs Paid	2014 Design Costs Paid	Engineer's Estimate	Contractor	Bid Price	Final Cost	2018 Const. Payments
WAY-VAR Wooster Streets FY18	\$0						\$853,000	Kokosing Construction	\$719,716	\$748,702	\$748,702
Beaver Alley Sewer Separation	\$0						\$45,000	Stout Excavating	\$45,893	\$39,425	\$39,425
Burbank Road Sanitary Sewer	\$0						\$39,610	Stout Excavating	\$32,579	\$26,925	\$26,925
Cleveland Rd. Storm Sewer Replacement	\$0						\$82,500	Stout Excavating	\$82,186	\$78,058	\$78,058
Downtown Streetscape	\$100,000	\$2,936	\$57,805	\$32,190			\$2,035,000	Simonson Construction Services, Inc.	\$1,504,506	\$1,917,839	\$1,917,839
E. Henry & Minerva Sanitary Sewer Replacement	\$0						\$22,000	Dirt Dawg Excavating	\$11,230	\$10,965	\$10,965
E. Smithville Western Culverts	\$0						\$40,000	Dirt Dawg Excavating	\$24,118	\$27,300	\$27,300
E. University Sanitary	\$0						\$95,000	Dirt Dawg Excavating	\$44,344	\$40,678	\$40,678
E. University Storm Sewer (Quinby to Bever)	\$0						\$345,000	Dirt Dawg Excavating	\$322,114	\$301,274	\$301,274
E. Wayne Ave. Waterline	\$0						\$210,000	Palmer & Son Excavating	\$179,473	\$165,278	\$165,278
Forest Drive Waterline	\$0						\$48,000	Palmer & Son Excavating	\$37,843	\$40,620	\$40,620
Liberty Signals	\$35,864						\$730,000	Perram Electric	\$756,176	\$742,637	\$742,637
Madison Avenue Signals	\$19,000						\$145,000	Greenwich Electric	\$103,262	\$125,198	\$125,198
Manhole Replacement	\$0						\$25,000	Dirt Dawg Excavating	\$41,185	\$41,185	\$41,185
Melrose Drive Culvert Replacement	\$0						\$50,000	Dirt Dawg Excavating	\$47,250	\$47,250	\$47,250
Melrose Tank Waterline Extension	\$0						\$515,000	Bogner Construction	\$305,301	UC	\$0
Northwestern Avenue Sidewalks	\$0						\$86,000	Liberta Construction	\$85,007	\$97,279	\$97,279
Nupp Drive Lift Station	\$9,000						\$350,000	Simonson Construction Services, Inc.	\$320,245	\$290,624	\$290,624
Oakley/Brookside Improvements	\$0						\$1,057,500	Dirt Dawg Excavating	\$1,059,775	UC	\$77,516
S. Spink St. Sewer Separation	\$0						\$667,500	Stout Excavating	\$579,547	\$584,279	\$276,894
Sanitary Sewer Lining Projects	\$0						\$200,000	United Survey	\$126,824	\$178,215	\$178,215
Country Club Estates & Oak Heights Allotment Concrete Repairs	\$0						\$325,000	TR Snyder Construction	\$274,689	\$348,014	\$348,014
2018 Wooster Streets Resurfacing	\$0						\$1,129,918	Chagrin Valley Paving	\$1,109,145	\$1,253,933	\$1,253,933
W. Liberty St. Sanitary Sewer Ext.	\$0						\$255,000	Dirt Dawg Excavating	\$240,840	UC	\$0
W. Wayne Avenue Culvert Replacement	\$0						\$182,500	Wenger Excavating	\$179,071	\$179,211	\$179,211
Wooster Bike Loop 1	\$127,625		\$106,067				\$820,000	Lockhart Concrete	\$834,147	UC	\$477,837
	\$291,489	\$2,936	\$163,872	\$32,190	\$0	\$0	\$10,353,528		\$9,066,466		\$7,532,856
Industry Standard for Design Engineering* =	8.5%								\$770,650		

**Engineering Value Calculations**

<b>Design Completed</b>	Design Cost	2018 Design Costs Paid	2017 Design Costs Paid	Engineer's Estimate
WAY-VAR Wooster Streets FY19	\$0	\$0	\$0	\$827,500
2019 Wooster Street Resurfacing	\$0	\$0	\$0	\$1,233,000
Lemar Storm Sewer Replacement	\$0	\$0	\$0	\$485,000
	\$0	\$0		\$2,545,500

<b>Under Construction (2018)</b>		
Value of Construction Engineering	10.00%	\$750,349.31
Design Value Provided in 2018	12.0%	\$68,598.16

<b>Under Design</b>	Design Cost	2018 Design Costs Paid	2017 Design Costs Paid	Engineer's Estimate
2019 Sanitary Sewer Lining	\$0			\$200,000
Bike Path Phase 2	\$97,000	\$14,668		\$1,113,000
Cedar Lane Stream Stabilization	\$0			\$65,000
Clear Creek Park	\$84,750	\$0		\$963,305
Downtown Streetscape Phase 2	\$68,170	\$17,813		\$1,550,000
Friar Tuck Storm Sewer Replacements	\$0			\$160,000
OARDC Water Tank Painting	\$0			\$400,000
Palmer Street Culvert Replacement	\$0			\$150,000
Safe Routes to School Melrose Elementary	\$0			\$297,000
Sunset Drive Reconstruction	\$0			\$600,000
W. Highland Avenue Reconstruction	\$0			\$1,825,000
Wayne (Bever to Beall)	\$0			\$100,000
Woodcrest Waterline Replacement	\$0			\$250,000
Woodcrest Pavement Repairs	\$0			\$65,000
WTP Clarifier Painting	\$0			\$150,000
WTP Clearwell Painting	\$0			\$250,000
	\$249,920	\$32,481	\$0	\$8,138,305

<b>Under Design (2018)</b>		
Value of Design Engineering		\$441,835.93

<b>Preliminary Engineering, Planning &amp; Funding</b>				
Water Projects (1)	\$0			\$1,945,000
Sewer projects (1)	\$0			\$835,000
Storm (1)	\$0			\$1,160,000
Roadway Projects (1)	\$0			\$4,680,000
	\$0			\$8,620,000

<b>Planning (2018)</b>		
Value of Preliminary Engineering	3.00%	\$258,600

<b>Total Engineering Services Provided in 2018</b>		<b>\$1,735,751</b>
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Consultant Services Paid	% of Construction
Under Construction \$198,998.25	1.92%
Design Completed \$0.00	0.00%
Under Design \$32,481.10	0.40%
<b>\$231,479.35</b>	<b>0.86%</b>

**Notes:**  
Fees for Engineering services are based on standard industry rates as established by various regulatory and funding agencies, including ODOT, USDA, EPA and OPWC, as well as recent engineering services proposals.

(1) Sum of construction estimates from the 10 year infrastructure plan.

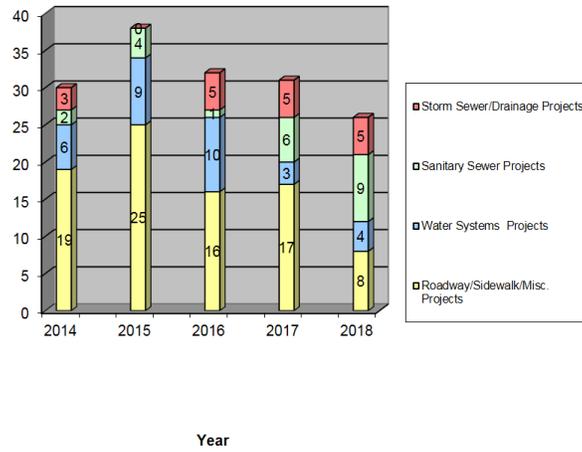
## 2018 Breakout for Types of Projects

The Division of Engineering staff designed 25 of the 30 projects for 2018.

Our ability to keep design work in-house enables us to stay below the industry average of 8% to 11% for design costs.

2018 saw our design cost average to be 3.2%.

Number of Projects



## Project Cost over the years

The Engineering Division oversaw \$9,066,466 of infrastructure construction projects in 2018.

Outside design contracts totaled \$291,489.

The ratio between outside design contracts and our construction projects remains fairly constant throughout the years.

Infrastructure Project Costs

Construction Costs

