

CITY OF WOOSTER  
DIVISION OF ENGINEERING  
**2019 Annual Report**



**Palmer Street Culvert Replacement  
Boss Union Contracting, Inc.**

**Prepared by:  
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February 2020**

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



## **Division of Engineering 2019 Annual Report Executive Summary**

The 2019 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, 2019. 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 0.73% for 2019. 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 \$1,531,163 in 2019.

The Engineering Division managed over 18 major infrastructure projects in 2019. The total dollar value of construction projects completed or under construction in 2019 was over \$7,000,000. Approximately 57% of the contracts finalized in 2019 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 2019, 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 older than 20 years.

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 255 permits in 2019 compared to 237 in 2018.

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 2019 our staff processed 2,928 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 is 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 by multiple divisions within the city on a daily basis for project planning, design, and maintenance of the City's infrastructure. It is also available to the public through the city's website.

## 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 2019 with a 0.73% average.

**Personnel:**

<i>Name</i>	<i>Title</i>	<i>Years Experience</i>
Roger Kobilarcsik	City Engineer, Licensed Professional Engineer	30
John Rice	Staff Engineer, Licensed Professional Engineer	13
Amy Hamilton	Administrative Assistant/Contract Specialist	3
Lance Cole	Project Manager	27
Spencer Gray	Engineering Technician/Drafter	35
Andy Gregory	Engineering Technician/GIS Technician	13
Dave Case	Inspector II, Assoc. Degree Civil Eng. Technology	26
Matt Hill	Inspector II, ODOT Right-of-Way Certification	35
Tim Leach	Inspector II, Assoc. Degree Civil Eng.	10

**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. Inspectors use tablet in the field to access the GIS system and inspection software. We purchased a new surveying base station and rover pole in 2019. The upgrade will make us compliant with the new 5G network. This equipment will pay for itself over the years by not having to hire outside contractors.

**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 2020-2023
- ▶ \$24,595,628 in Roadway
- ▶ \$5,275,000 in Water
- ▶ \$6,045,000 in Sewer
- ▶ \$3,395,000 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 2020 = \$1,335,000

- b. Funding Needs in 2021 = \$1,925,000
- 2. Sewer Collection – Upgrades at the WRRF and Lift Stations
  - a. Funding Needs in 2020 = \$4,225,000
  - b. Funding Needs in 2021 = \$990,000
- 3. Roadways – Paving, traffic signals, streetscape, road reconstruction
  - a. Funding Needs in 2020 = \$10,120,905
  - b. Funding Needs in 2021 = \$4,938,281
- 4. Storm Sewer – Culvert and storm sewer replacements
  - a. Funding Needs in 2020 = \$1,795,000
  - b. Funding Needs in 2021 = \$1,890,000

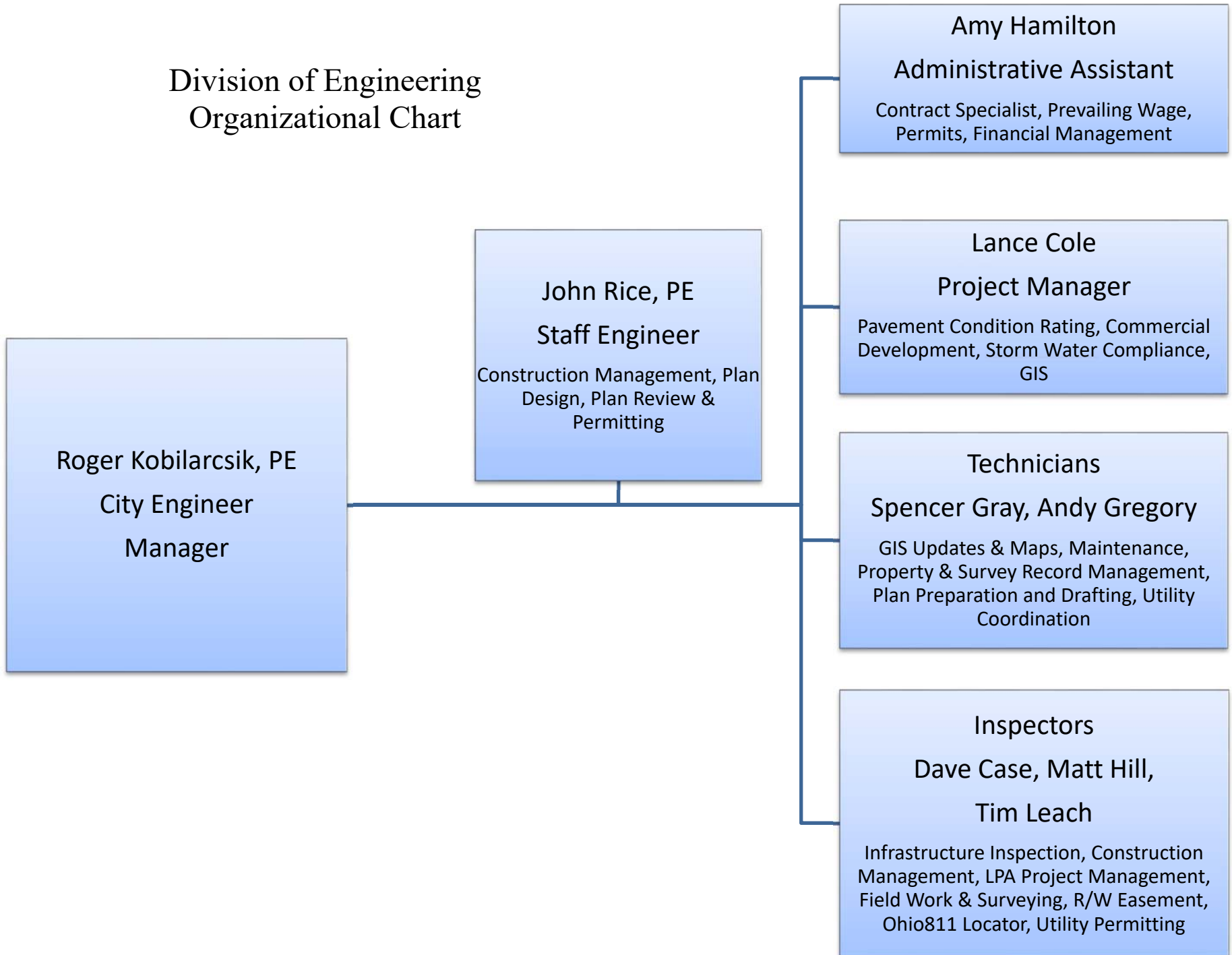
The Engineering Division aggressively seeks outside funding sources in an effort to offset the high costs of infrastructure improvements. The City received \$1,669,537 in grant money in 2019 from various sources such as ODOT, Ohio Public Works Commission, and AEP. These funds have been applied to water 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 2019.

#### 2019 Funding Received

Project	Bid Price	Final Project Cost	Funding Source	Funding Received
Oakley Rd/Brookside Dr. Improvements	\$1,055,775	\$1,028,320	OPWC	\$371,220
Electric Car Charging Stations	\$175,000	\$180,000	AEP	\$170,000
Bike Path Loop 1	\$834,147	\$729,792	ODOT	\$712,500
WAY-VAR Wooster Streets	\$719,716	\$725,781	ODOT	\$415,817
				\$1,669,537
			Total Grant	\$1,669,537
			Total Loan	\$0

# 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 SWDC, taught more than 40 sessions last year through public school programs reaching more than 1,032 students and 2,831 adults. The programs provided 101 hours of education to the public. Riley also provided information and support through programs offered at the Wayne County Fair and the Ohio Agriculture 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 stormwater system, how and where to dispose of materials that could impact public waterways and users can submit stormwater 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) **ILLCIT 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-six (56) 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 or undocumented systems. The City is beginning construction on the West Liberty sanitary sewer extension to seven (7) HSTS locations providing connections to the City Network. Four new systems were added to the City inventory as part of



annexations and new construction. Three (3) business locations, with individual treatment systems, are reviewed with the Ohio EPA as business are required to be permitted by the Ohio EPA and do not fall under the jurisdiction of the Wayne County Environmental Health Department.

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 STORMWATER MANAGEMENT:** The City has completed an inventory of known post-construction stormwater management controls totaling 362 units to date throughout the City. Eighty-five (85) percent of the sites are private commercial locations and the majority of remaining fifteen (15) percent are residential developments. cursory site visits have been performed by the City of all private units to evaluate the general condition of the stormwater 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 stormwater management controls has been a requirement of the Ohio EPA general stormwater 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<sup>st</sup> of 2019. However, because of the extensive number of permanent stormwater 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 2020/2021 the City will continue to implement modifications to the stormwater management plan to meet current and forthcoming Ohio EPA requirements. These are outlined below:

- 1) February 2020 – Finalize the identification of post-construction stormwater management controls and determine ownership. Initial letters will be sent to the owners informing them of their obligations and reporting requirements.
- 2) March 2020 – Update Estimated Storm Unit (ESU) calculations during the summer.
- 3) April/May 2020 – Ohio EPA to finalize the new Ohio General Stormwater 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. This has been delayed by the Ohio EPA pending renewal of the Federal EPA permit and issuance of the new State permit. 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 stormwater 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 stormwater 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 Stormwater Permit Requirements. The City is making regular updates to our stormwater management plan and Site Development Manual to maintain compliance with new requirements.
- 4) May 2020 – Second notice to be sent to Owners of post-construction stormwater management controls informing them of their obligations and first required reporting to be completed by May 2020.
- 5) June to August 2020 – begin evaluation of estimated stormwater unit (ESU) calculations in preparation for new imagery in 2021 for the determinate of the current City average ESU and billable ESUs for commercial sites.
- 6) July 2020 – Annual Ohio EPA audit and site visits.
- 7) December 2020 – To be in compliance with Ohio EPA requirements the City must have the following programs in place before December 31, 2020.
  - a. Submit a revised stormwater management plan addressing the new MS4 stormwater permit requirements

- b. Finalize the post-construction stormwater management control inventory and inspection program.
  - c. Maintain an active and historical Ohio EPA general stormwater 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 2021 – Annual inspections reports due for 2020 by private entities
- 9) February 2021 – Owners who fail to provide the required post-construction stormwater 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 stormwater 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).

## 2019 INFRASTRUCTURE PROJECT NARRATIVE

The Engineering Division managed more than 18 major projects in 2019. Roadway and waterline construction accounted for the majority of the \$7,000,000 in infrastructure improvements. The staff of nine designed, inspected and administered six waterline projects, four sanitary projects, three roadway or sidewalk projects, three storm sewer projects, and three miscellaneous projects.

The following pages give a brief synopsis of our 2019 major infrastructure projects.



## 2019 Projects Completed or Under Construction

### **ROADWAY – SIDEWALK PROJECTS -** (3 projects - \$2,017,918 Estimated Construction Costs)

<p>2019 Wooster Street Resurfacing</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: February 2019</li> <li>• Estimate: \$1,129,918</li> <li>• Contractor: Melway Paving Co., Inc.</li> <li>• Bid Price: \$1,178,912</li> <li>• Final Cost: \$1,045,779</li> <li>• Completed October 2019</li> </ul>	<p>WAY-VAR Wooster Streets FY19</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: ODOT &amp; Local</li> <li>• Bid Date: December 2018</li> <li>• Estimate: \$853,000</li> <li>• Contractor: Melway Paving Co., Inc.</li> <li>• Bid Price: \$789,046</li> <li>• Final Cost: \$725,781</li> <li>• Completed August 2019</li> </ul>	<p>E. University &amp; E. Bowman Sidewalks (CAP)</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local &amp; Property Owner Assessments</li> <li>• Proposal Date: September 2019</li> <li>• Estimate: \$35,000</li> <li>• Contractor: Liberta Construction</li> <li>• Proposal Price: \$31,000</li> <li>• Final Cost: \$31,676</li> <li>• Completed: November 2019</li> </ul>
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## 2019 Projects Completed or Under Construction

<b>WATER PROJECTS</b>		
(6 projects - \$2,710,925 Estimated Construction Costs)		
<p><b>Freedlander Waterline</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Proposal Date: October 2019</li> <li>• Estimate: \$ 40,000</li> <li>• Contractor: Palmer &amp; Son Excavating</li> <li>• Proposal Price: \$39,630</li> <li>• Final Cost: \$ 50,114</li> <li>• Completed: November 2019</li> </ul>	<p><b>Sycamore Waterline</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: May 2019</li> <li>• Estimate: \$70,000</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Bid Price: \$55,904</li> <li>• Final Cost: \$57,235</li> <li>• Completed: August 2019</li> </ul>	<p><b>Melrose Tank Waterline &amp; Sanitary Sewer Extension</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: October 2018</li> <li>• Estimate: \$515,000</li> <li>• Contractor: Bogner Construction</li> <li>• Bid Price: \$271,413</li> <li>• Final Cost: \$300,600</li> <li>• Completed: May 2019</li> </ul>
<p><b>OARDC Water Tank Painting</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: February 2019</li> <li>• Estimate: \$ 400,000</li> <li>• Contractor: Utility Service Co., Inc.</li> <li>• Bid Price: \$321,600</li> <li>• Final Cost: \$322,900</li> <li>• Completed: August 2019</li> </ul>	<p><b>WTP Clearwell Painting</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: March 2019</li> <li>• Estimate: \$575,000</li> <li>• Contractor: George Kountoupes Painting, Co.</li> <li>• Bid Price: \$434,000</li> <li>• Under Construction</li> </ul>	<p><b>Brookside Dr./Oakley Rd. Improvements</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: OPWC &amp; Local</li> <li>• Bid Date: May 2018</li> <li>• Estimate: \$1,057,500</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Bid Price: \$1,059,775</li> <li>• Final Cost: \$1,028,320</li> <li>• Completed: June 2019</li> </ul>



**WTP Clarifier Tank Painting  
George Kountoupes Painting**

## 2019 Projects Completed or Under Construction

### **SANITARY SEWER PROJECTS** (4 projects - \$615,000 in Estimated Construction Costs)

<p>W. Liberty Sanitary Sewer Ext.</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>	<p>2019 Sanitary Sewer Lining</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: April 2019</li> <li>• Estimate: \$200,000</li> <li>• Contractor: United Survey, Inc.</li> <li>• Bid Price: \$187,797</li> <li>• Final Cost: \$184,789</li> <li>• Completed: September 2019</li> </ul>	<p>Henry Street Lift Station Improvements</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$120,000</li> <li>• Proposal Date: September 2019</li> <li>• Proposal Price: \$114,656</li> <li>• Under Construction</li> </ul>
<p>Manhole Replacements</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$40,000</li> <li>• Contractor: Stout Excavating</li> <li>• Proposal Price: \$34,329</li> <li>• Final Cost: \$30,441.22</li> </ul>		



Hawthorne Ave Manhole Replacement  
Stout Excavating, Inc.

## 2019 Projects Completed or Under Construction

<b>STORM SEWER PROJECTS</b>			(3 projects - \$734,000 Estimated Construction Costs)
<p><b>Lemar Drive Storm Sewer</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$485,000</li> <li>• Bid Date: February 2019</li> <li>• Contractor: Dirt Dawg Excavating</li> <li>• Bid Price: \$322,114</li> <li>• Final Cost: \$349,168</li> <li>• Completed: October 2019</li> </ul>	<p><b>Ohio Street Storm Sewer</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$125,000</li> <li>• Bid Date: September 2019</li> <li>• Contractor: Boss Union Contracting, Inc.</li> <li>• Bid Price: \$108,808</li> <li>• Under Construction</li> </ul>	<p><b>Palmer Street Culvert Replacement</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: March 2019</li> <li>• Estimate: \$124,000</li> <li>• Contractor: Boss Union Contracting, Inc.</li> <li>• Bid Price: \$97,034</li> <li>• Final Cost: \$100,661</li> <li>• Completed: August 2019</li> </ul>	





## 2019 Projects Completed or Under Construction

### **MISCELLANEOUS PROJECTS** (2 projects - \$995,000 Estimated Construction Costs)

#### Electric Car Charging Stations

- Designed: Engineering
- Funding: Local & AEP Grant
- Estimate: \$175,000
- Contractor: McClintock Electric
- Bid Price: \$180,000
- Final Cost: \$180,000
- Completed: October 2019

#### Wooster Bike Loop – Phase 1

- Designed: Poggemeyer
- Funding: Local & ODOT
- Bid Date: April 2018
- Estimate: \$820,000
- Contractor: Lockhart Concrete Company
- Bid Price: \$834,147
- Final Cost: \$729,792
- Completed: November 2019



Car Charging Station at Merchant's Block  
McClintock Electric



**Wooster Bike Loop – Phase 1**  
**Lockhart Concrete Company**

## **INFRASTRUCTURE PROJECTS SCHEDULED/PLANNED FOR 2020:**

1. **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. George Kountoupes Paintwas was awarded the contract with a bid price of \$434,000. Work on one of the tanks was completed in 2019 and the second tank will be completed in 2020.
2. **WAY-VAR Wooster Streets FY20:** Melway Paving was awarded the contract for this project, which will be primarily funded by ODOT Large Cities funds, and includes resurfacing North St., Quinby Ave., and portions of Highland Ave., E. Milltown Rd., and Melrose Dr. The contract price is \$1,053,789.40.
3. **2020 Wooster Streets Resurfacing:** This project includes resurfacing of approximately 27,700 square yards of asphalt concrete pavement on various streets throughout the City of Wooster, including Montclair Ave., Christmas Run Blvd., Maple St., Hancock St., Maiden Ln., Callowhill St., and portions of Prospect St. Melway Paving was awarded the contract with a bid price of \$470,936.60 and work should be completed by the end of August 2020.
4. **2020 Microsurfacing Program:** Approximately 43,300 square yards of asphalt concrete pavement on various streets throughout the city will be microsurfaced during this project. The Engineer's estimate construction cost is \$250,000 and will be bid in February 2020.
5. **Daisy Way Extension:** Daisy Way will be extended to Old Airport Road. This will create a direct link between Old Airport Road and Geyers Chapel Road. The estimated cost of the project is \$1,000,000 and will be bid out for construction in 2020.
6. **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 \$2 million and should be completed during 2020.
7. **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.
8. **Holmes/Caldwell Waterline Replacement:** This project involves replacement of the waterline on Holmes Boulevard and Caldwell Drive. The design, project management, and inspections will be done by the Engineering Division. The project is estimated at \$400,000 and will be bid out in 2020.
9. **Holmes Blvd. Culvert Replacement:** This project will replace a culvert under Holmes Blvd. Culvert replacement will coincide with the waterline project.
10. **Downtown Streetscape Phase 2:** The project will construct new streetscape features in the SE Quadrant and the sidewalk on East Liberty Street between Market Street and the alley between Market Street and Buckeye Street. The project was bid in December 2019 and Simonson Construction Services, Inc. was awarded the contract at \$939,342.00. Construction is set to begin in spring 2020.

11. **Wooster Bike Loop – Phase 2:** This is a 1.1 mile construction of a dedicated 10' wide multi-use path for non-motorized transportation between the Oldman Road Trail and the Friendsville Road Trail (0.75 mi.) and from Melrose Drive to State Route 585 along Portage Road (0.35 mi.). S.E.T., Inc. was awarded the contract in November 2019 with a price of \$914,972.25. Construction will begin in spring 2020.
12. **Clear Creek Park:** This project will be the newest park in the City's growing list of parks. The park is located along Venture Blvd. and includes an overlook of Clear Creek Valley.
13. **Country Club Estates & Oak Heights Allotment Concrete Repairs Phase 2:** The scope of this project involves the replacement of approximately 4,100 square yards of concrete pavement in these allotments that include Mindy Ln., Normandy Dr., and Country Club Dr. Bids were received in November 2019 and Liberta Construction was awarded the contract with a bid price of \$332,825.00. Construction is scheduled to begin in spring 2020.
14. **Prospect Street Sanitary Sewer Replacement:** This project includes the replacement of an existing sanitary sewer with approximately 260 feet of 8" PVC sanitary sewer, 180 feet of 6" PVC sanitary sewer laterals, and 3 manholes. The project bids in February 2020 with an estimated cost of \$75,000.
15. **WTP Solids Contact Clarifier Painting:** The two solids contact clarifiers at the water treatment plant will be prepped, cleaned, and painted in this project. The estimated cost of the work is \$325,000 and will be bid in February 2020.
16. **Sunset Lane Reconstruction:** The pavement on Sunset Lane will be reconstructed including the installation of curbs and gutters, sidewalks, sanitary sewer lines, and storm sewer lines.
17. **Safe Routes to School – Melrose Elementary:** The City received an ODOT Safe Routes to School grant to construct sidewalks along portions of Highland Park Ave., Armstrong Dr., and Townsend Dr. and Sunset Ln. Construction will take place in 2020.
18. **W. Highland Ave. Reconstruction:** The pavement on W. Highland Avenue between Christmas Run Blvd. and Oak Hill Rd. will be reconstructed including the installation of curbs and gutters, sidewalks, sanitary sewer lines, waterlines, and storm sewer lines.
19. **Lincoln Street Waterline Replacement:** Using CDBG grant funds, the waterline serving Lincoln Street will be replaced in 2020.
20. **2020 Waterline Replacement:** Waterlines service McKinley St., Washington St., and W. Henry St. will be replaced using funds awarded by OPWC.

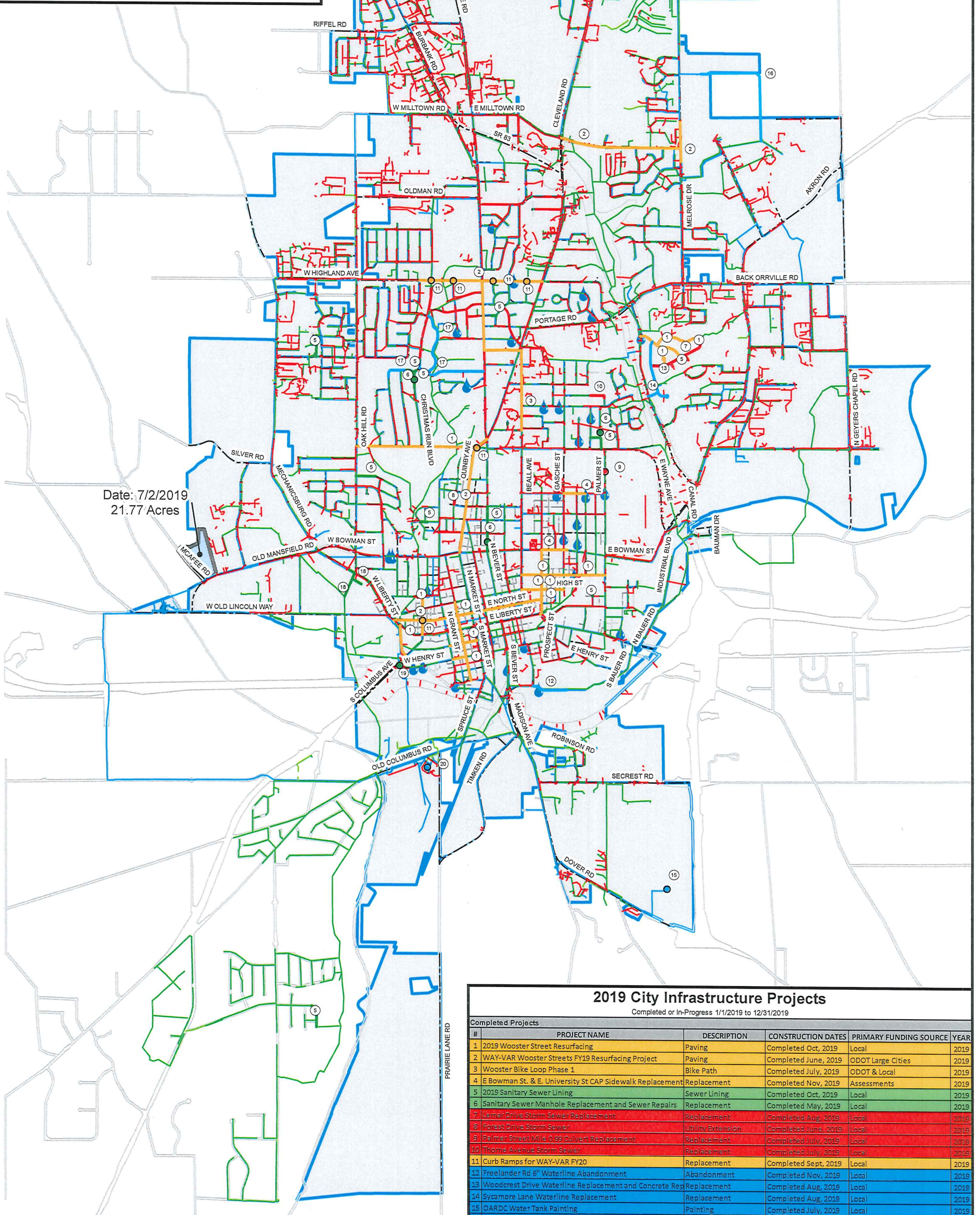


# Legend

- Traffic Control / Roads - Orange
- Sanitary - Green
- Storm - Red
- Water - Blue
- 2019 Storm\_Gravity\_Main - 135.72 Mi
- 2019 SSL Gravity Main - 170.45 Mi
- 2019 SS Pressure Lines - 5.60 Mi
- 2019 Public\_Water\_Mains - 145.04 Mi
- 2019 Watermain Leaks - Total of (34)
- RoadCenterlines\_ft Wooster\_2019 - 136.56 CL Miles
- 2019 Annexations - Total of (1) for 21.77 Acres
- 2019 Municipal Boundary - 17.115 Sq Miles (GIS Calc)



0.5 0.25 0 0.5 Miles

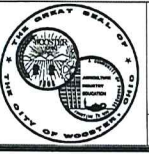


Date: 7/2/2019  
21.77 Acres

## 2019 City Infrastructure Projects

Completed or In-Progress 1/1/2019 to 12/31/2019

Completed Projects					
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE	YEAR
1	2019 Wooster Street Resurfacing	Paving	Completed Oct, 2019	Local	2019
2	WAY-VAR Wooster Streets FY19 Resurfacing Project	Paving	Completed June, 2019	ODOT Large Cities	2019
3	Wooster Bike Loop Phase 1	Bike Path	Completed July, 2019	ODOT & Local	2019
4	E Bowman St. & E. University St CAP Sidewalk Replacement	Replacement	Completed Nov, 2019	Assessments	2019
5	2019 Sanitary Sewer Lining	Sewer Lining	Completed Oct, 2019	Local	2019
6	Sanitary Sewer Manhole Replacement and Sewer Repairs	Replacement	Completed May, 2019	Local	2019
7	Leman Drive Storm Sewer Replacement	Replacement	Completed Aug, 2019	Local	2019
8	Forest Drive Storm Sewer	Utility Extension	Completed June, 2019	Local	2019
9	Palmer Street Mile 0.99 Culvert Replacement	Replacement	Completed July, 2019	Local	2019
10	Thomas Avenue Storm Sewer	Replacement	Completed July, 2019	Local	2019
11	Curb Ramps for WAY-VAR FY20	Replacement	Completed Sept, 2019	Local	2019
12	Freelander Rd 6" Waterline Abandonment	Abandonment	Completed Nov, 2019	Local	2019
13	Woodcrest Drive Waterline Replacement and Concrete Rep	Replacement	Completed Aug, 2019	Local	2019
14	Sycamore Lane Waterline Replacement	Replacement	Completed Aug, 2019	Local	2019
15	OARDC Water Tank Painting	Painting	Completed July, 2019	Local	2019
16	Melrose Tank Waterline Extension	Utility Extension	Completed June, 2019	Local	2019
17	Brookside Drive & Oakley Road Improvement Project	Replacement & Paving	Completed June, 2019	Local & OPWC	2019
In-Progress Projects					
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE	YEAR
18	W. Liberty Street Sanitary Sewer Extension	Utility Extension	Construction Pending	Local	2019
19	Henry Street Lift Station Improvements	Replacement	Under Construction	Local	2019
20	WTP Clearwell Painting	Painting	Under Construction	Local	2019



### CITY OF WOOSTER DIVISION OF ENGINEERING

538 N. MARKET ST. WOOSTER, OHIO 44601  
PH: (330) 263-5251 FAX: (330) 263-5283  
ROGER V. KOBIARCSIK CITY ENGINEER rkobiarcsik@wooster.org



**Private Developments**

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

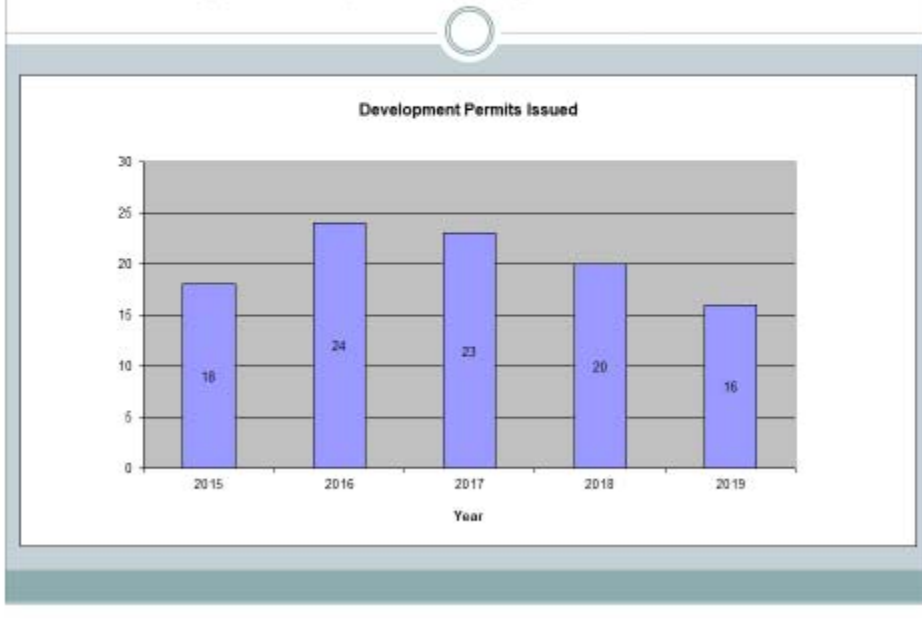
The Engineering Division saw four fewer Development Permit issued in 2019 (16) as compared to 2018 (20). New construction projects and additions to existing facilities made up a majority of the work.

The Holiday Inn Express, Akron Children’s Hospital facility, OSU’s new lab building, and Wooster Lofts top the list in terms of largest development projects. All four projects are new construction.

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.

<b>City of Wooster Engineering Development Permits</b>						<b>2019</b>
<b>DEVELOP. #</b>	<b>PERMIT NO.</b>	<b>PROJECT NO.</b>	<b>NAME / DESCRIPTION</b>	<b>SITE IMP.S COST ESTIMATE</b>	<b>PERMIT FEE</b>	<b>DATE RECEIVED</b>
1	DP-19-1		Holiday Inn Express - Riffel Road 2018	\$ 8,000,000	\$ 5,626.65	01/03/19
2	DP-19-2		OSU New Lab Building	\$ 26,424,671	\$ 1,979.50	03/12/19
3	DP-19-5		Akron Children's Hospital 15,195 SF new building	\$ 30,000,000	\$ 4,504.30	05/03/19
4	DP-19-6		Netops Consulting alt	\$ 350,000	\$ 620.25	05/13/19
5	DP-19-8		YMCA of Wayne County Gymnastics Facility Parking Lot Addition	\$ 149,000	\$ 1,734.88	05/24/19
6	DP-19-9		West Hill Baptist Church Nursery Addition	\$ 340,000	\$ 242.50	06/05/19
7	DP-19-11		Greystone Event Center Parking Lot Expansion	\$ 100,000	\$ 1,545.25	06/12/19
8	DP-19-12		OSU Wooster Parking Lot Improvements	\$ 856,263	\$ 2,731.10	06/21/19
9	DP-19-13		Wooster Glass Warehouse Addition	\$ 10,000	\$ 293.38	07/02/19
10	DP-19-14		Buckeye Corregated Addition 2019	\$ 1,710,000	\$ 855.20	08/07/19
11	DP-19-15		OSU Wooster Temp Parking Lot	\$ 50,000	\$ 486.70	08/16/19
12	DP-19-16		MCTV Storage Building	\$ 50,000	\$ 2,263.98	08/29/19
13	DP-19-17		Wooster Lofts - Akron Rd - 2019	\$ 5,294,727	\$ 8,048.00	09/06/19
14	DP-19-18		Silver Road Site Work	\$ 25,000	TBD	11/12/19
15	DP-19-19		The Looking Glass Parking Lot Expansion 2020	\$ 10,000	\$ 390.50	11/26/19
16	DP-19-20		Demolition of greenhouse on OARDC campus	\$ 120,000	\$ 230.00	12/03/19
				<b>\$ 73,489,661</b>	<b>\$ 31,552.19</b>	

## 2015 – 2019 Development Permits



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

The following table details the revenues received by the Division of Engineering from 2015 through 2019.

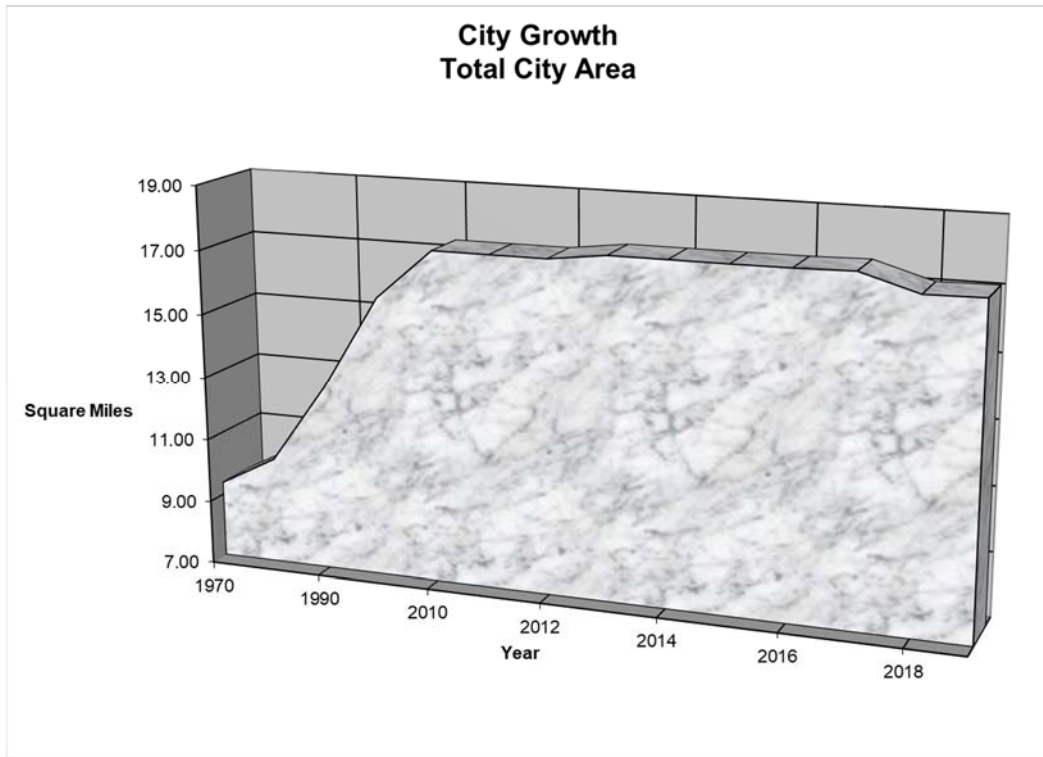
	2015	2016	2017	2018	2019
Single Inspection	\$19,800.00	\$9,650.00	\$7,450.00	\$6,750.00	\$11,400.00
Construction Inspection	\$58,105.03	\$97,105.93	\$21,826.81	\$33,768.00	\$16,588.62
Plan Review Fee	\$12,960.00	\$11,680.00	\$63,017.33	\$45,827.00	\$37,896.00
Plan Copies	\$5,489.15	\$3,713.10	\$3,140.13	\$5,140.22	\$5,124.00
Yard Pipe Permit	\$160.00	\$240.00	\$0.00	\$0.00	\$0.00
Sanitary Sewer Permit	\$960.00	\$480.00	\$320.00	\$1,300.00	\$2,080.00
San. Sewer Availability Charge	\$47,746.56	\$4,522.00	\$51,538.96	\$30,884.00	\$31,720.00
Water Availability	\$50,300.80	\$24,008.16	\$5,066.60	\$31,748.00	\$30,480.00
Water Service Permit	\$800.00	\$640.00	\$240.00	\$2,901.00	\$1,560.00
Development Permit Waiver	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL FEES COLLECTED</b>	<b>\$196,321.54</b>	<b>\$152,039.19</b>	<b>\$152,599.83</b>	<b>\$158,318.22</b>	<b>\$136,848.62</b>



*Division of Engineering  
City of Wooster  
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**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
2019	26,560	(c)	17.115 Sq. MI	136.56 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.

## City Area Statistics

City Area				
Year	Increases (Acres)	Total Acres	Total Square Miles	% Increase
1970		6,609.310	9.390	0
1980	(1.579)	6,607.731	10.325	-0.024
1990	1,598.039	8,205.770	12.822	24.184
2000	1,885.355	10,091.125	15.767	22.976
2010	1,002.414	11,093.539	17.334	9.934
2011	0.000	11,093.539	17.334	0.000
2012	1.610	11,095.149	17.336	0.015
2013	141.202	11,236.351	17.557	1.273
2014	0.000	11,236.351	17.557	0.000
2015	0.000	11,236.351	17.557	0.000
2016	6.690	11,243.041	17.567	0.060
2017	94.560	11,266.747	17.604	0.841
2018	162.490	10,931.84	17.081	-0.523
2019	21.77	10,953.60	17.115	

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

## 2019 Annexations

No.	Description	Date	Area
1	McAfee Rd. & Old Mansfield Rd.	7/2/2019	21.77 Acres

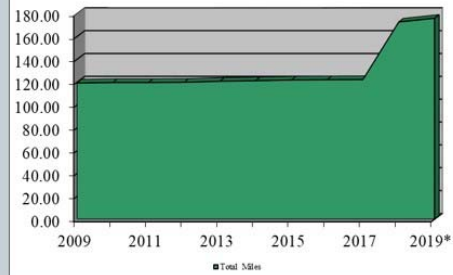
**Utility Statistics – Section 3**

# 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%
2019*	3.30	176.05	1.91%

## Sanitary Sewer Total Mileage



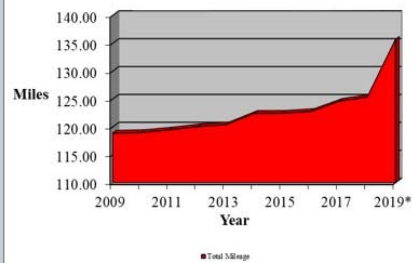
\*New technology allows for more accurate measurements. The measurement for 2019 includes new mains located in 2019.

# 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%
2019*	10.36	135.72	8.26%

## Storm Sewer Total Miles



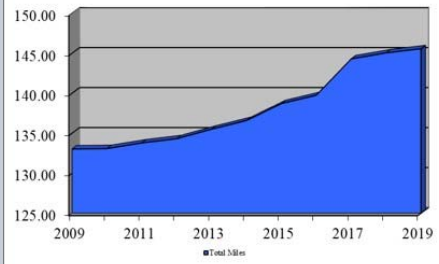
\*New technology allows for more accurate measurement. Quantity reflects new mains and mains located in 2019

# Waterline Mileage

## Waterline Mileage

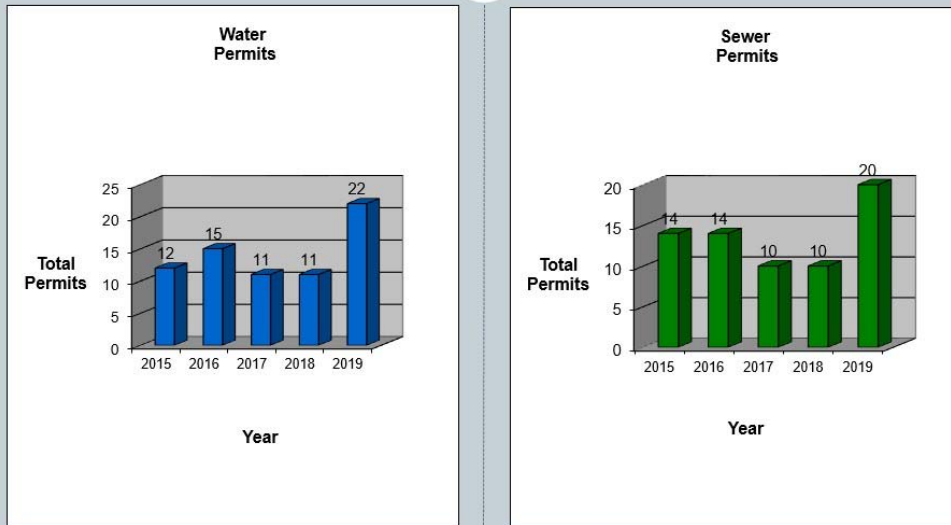
Year	Increase in Miles	Total Miles	% Increase
2009	3.68	133.03	2.84%
2010	0.05	133.08	0.04%
2011	0.71	133.79	0.53%
2012	0.52	134.31	0.39%
2013	1.20	135.51	0.89%
2014	1.08	136.59	0.80%
2015	2.12	138.71	1.55%
2016	1.04	139.75	0.75%
2017	0.00	144.30	0.00%
2018	0.75	145.05	0.52%
2019	0.52	145.57	0.36%

## Waterline Total Mileage



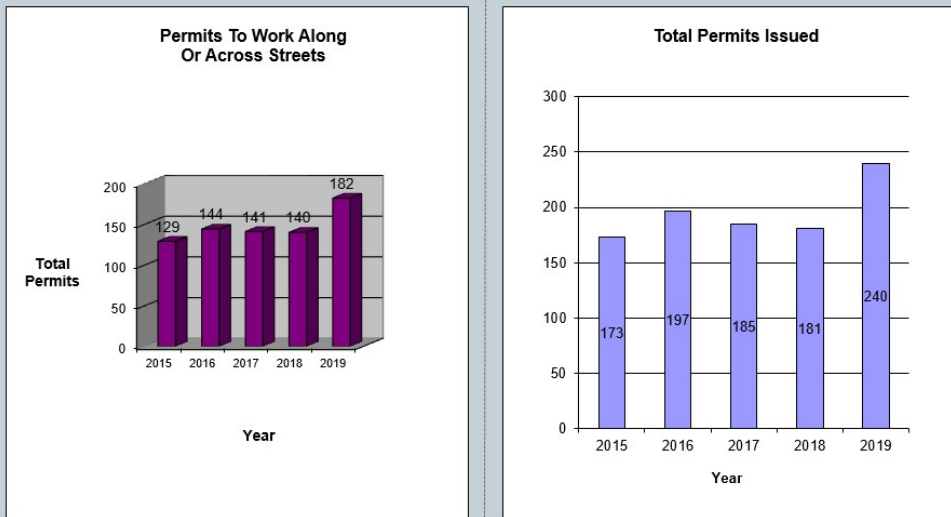
\*New technology allows for more accurate measurement. The total for 2017 was adjusted to reflect a correction in measurements.

## 2019 Permits



Water and Sewer Permits remain fairly level throughout the years; however, in 2019 we saw several large new developments and new constructions that required water and sanitary permits. 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.

## Work in the Right-of-Way



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 and also now includes the installation of small cell towers. These permits ensure the City can monitor restoration of the area after the contractor has completed the project.

## 2019 Water Main Leaks

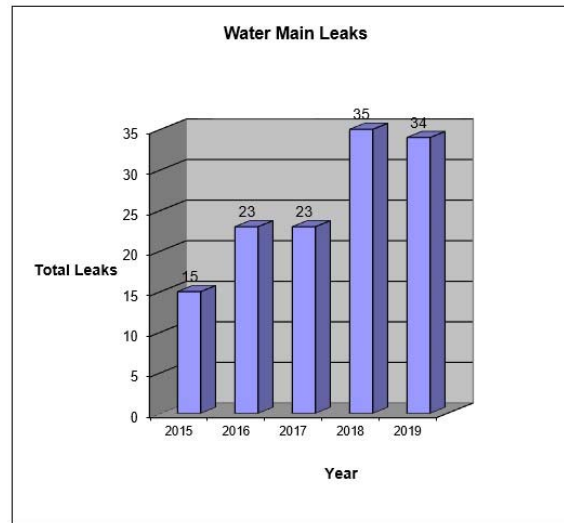
The City currently maintains over 140 miles of waterline.

Waterline replacements for 2019 include the areas of:

Freedlander Road

Sycamore Lane

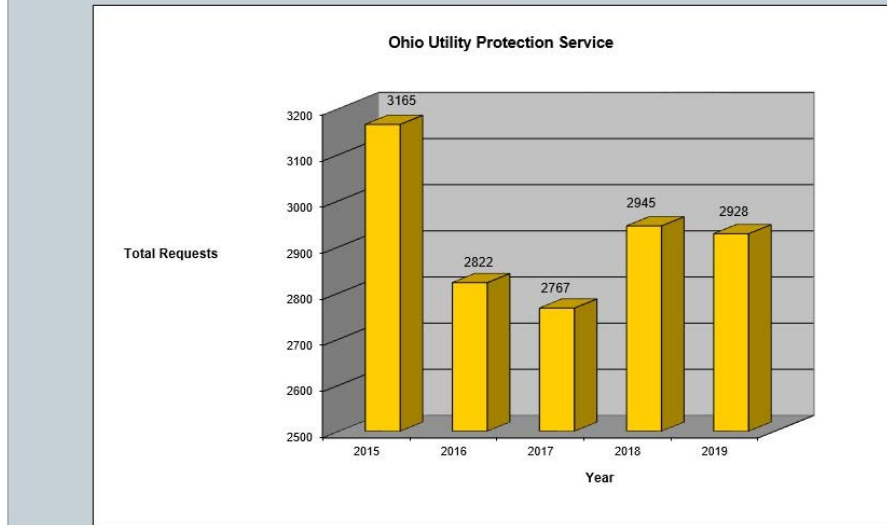
Woodcrest Drive



The number of water breaks in 2019 was nearly the same as in 2018 as we continue to experience 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.



# 2019 OHIO811



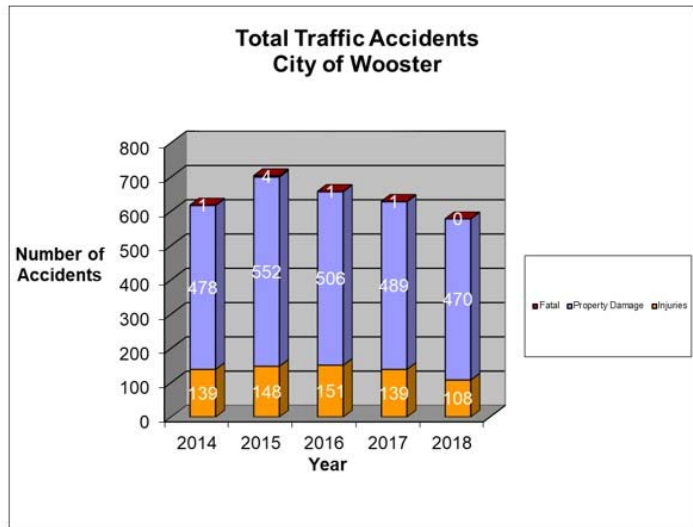
OHIO811 (formerly known as the Ohio Utility Protection Service, or OUPS) location notices have remained fairly steady as contractors and residents call 811 to notify OHIO811 of anticipated digging. Our inspector marks the requests within 48 hours of receiving the notice if any of the City's utilities 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  
2019 Annual Report*

**Traffic Statistics – Section 4**

## 2014-2018 Comparison

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



# 2014-2018 Total Crashes

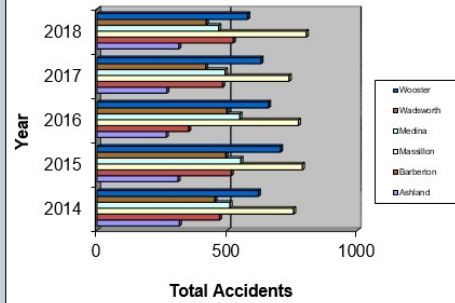
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**Traffic Accident Comparison  
Totals By Neighboring Cities**

Year	Ashland	Barberton	Massillon	Medina	Wadsworth	Wooster
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
2018	314	523	803	467	419	578

**Traffic Accident Comparison:  
Neighboring Cities**



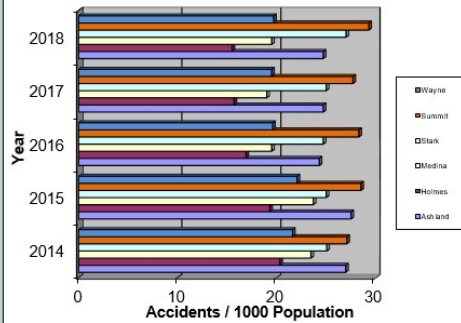
# County Crash Comparison

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
2014	26.96	20.3	23.5	25.1	27.1	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
2018	24.7	15.5	19.5	27	29.3	19.7

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



*Division of Engineering  
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**Engineering Design Statistics – Section 5**

**DIVISION OF ENGINEERING**  
**2019 Project Summary**  
**(Projects Designed or Constructed in 2019)**

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED			Contract	% Complete		Retainage
				CONST. COST	BID PRICE	FINAL COST	Balance	Complete	Retainage	
2019 Sanitary Sewer Lining	Wooster Engineering	\$0	United Survey, Inc.	\$200,000	\$187,797	\$184,789	\$0	100%	\$0	
2019 Wooster Street Resurfacing	Wooster Engineering	\$0	Melway Paving	\$1,233,000	\$1,178,912	\$1,045,779	\$0	100%	\$0	
E. University & E. Bowman Sidewalks (CAP)	Wooster Engineering	\$0	Liberta Construction	\$35,000	\$31,000	\$31,676	\$0	100%	\$0	
Electric Car Charging Stations	Wooster Engineering	\$0	McClintock Electric	\$175,000	\$180,000	\$180,000	\$0	100%	\$0	
Freedlander Waterline	Wooster Engineering	\$0	Palmer & Son Excavating	\$93,425	\$39,630	\$103,727	\$0	100%	\$0	
Henry Street Lift Station Improvements	Wooster Engineering	\$0	Bogner Construction	\$120,000	\$114,656	UC	\$0	90%	\$0	
Lemar Storm Sewer Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$485,000	\$322,114	\$349,168	\$0	100%	\$0	
Melrose Tank Waterline Extension	Wooster Engineering	\$0	Bogner Construction	\$515,000	\$305,301	\$300,600	\$0	100%	\$0	
Oakley/Brookside Improvements	Wooster Engineering	\$0	Dirt Dawg Excavating	\$1,057,500	\$1,059,775	\$1,028,320	\$0	100%	\$0	
OARDC Water Tank Painting	Wooster Engineering	\$0	Utility Service Company, Inc.	\$400,000	\$321,600	\$322,900	\$0	100%	\$0	
Ohio Street Storm Sewer Replacement	Wooster Engineering	\$0	Boss Union Contracting, Inc.	\$125,000	\$108,808	UC	\$65,195	98%	\$0	
Palmer Street Culvert Replacement	Wooster Engineering	\$0	Boss Union Contracting, Inc.	\$124,000	\$97,034	\$100,661	\$0	100%	\$0	
Sycamore Lane Waterline	Wooster Engineering	\$0	Dirt Dawg Excavating	\$70,000	\$55,904	\$57,235	\$0	100%	\$0	
W. Liberty Sanitary Sewer Extension	Wooster Engineering	\$0	Dirt Dawg Excavating	\$255,500	\$240,840	UC	\$0	0%	\$0	
WAY-VAR Wooster Streets FY19	Wooster Engineering	\$0	Melway Paving	\$827,500	\$789,046	\$725,781	\$0	100%	\$0	
Woodcrest Waterline & Pavement Repairs	Wooster Engineering	\$0	Dirt Dawg Excavating	\$375,000	\$420,000	\$391,477	\$0	100%	\$0	
Wooster Bike Loop 1	Poggemeyer	\$127,625	Lockhart Concrete	\$820,000	\$834,147	\$729,792	\$0	100%	\$0	
WTP Clearwell Painting	Wooster Engineering	\$0	George Kountoupes Painting	\$575,000	\$434,000	UC	\$279,566	50%	\$23,560	
							UC=Under Construction			
<b>Subtotals</b>		<b>\$127,625</b>		<b>\$7,485,925</b>	<b>\$6,720,563</b>	<b>\$5,551,905</b>	<b>\$344,761</b>		<b>\$23,560</b>	

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	CONST. COST	BID PRICE	STATUS
2020 Wooster Street Resurfacing	Wooster Engineering	\$0	Melway Paving Company	\$575,000	\$470,937	DC
Bike Path Phase 2	Poggemeyer	\$97,000	S.E.T., Inc.	\$861,910	\$914,972	DC
Clear Creek Park	Environmental Design Group	\$68,170		\$970,000		DC
Country Club Estates & Oak Heights Allotment Concrete Repairs Phase 2	Wooster Engineering	\$0	Liberta Construction	\$400,000	\$332,825	DC
Downtown Streetscape Phase 2	OHM	\$84,750	Simonson Construction Services, Inc.	\$917,600	\$939,342	DC
Prospect Street Sanitary Sewer Replacement	Wooster Engineering	\$0		\$75,000		DC
Safe Routes to School Melrose Elementary	Wooster Engineering	\$0		\$160,000		DC
Sunset Lane Reconstruction	Wooster Engineering	\$0		\$840,000		DC
W. Highland Avenue Reconstruction	Wooster Engineering	\$0		\$1,375,000		DC
WAY-VAR Wooster Streets FY20	Wooster Engineering	\$0	Melway Paving Company	\$1,195,000	\$1,053,789	DC
<b>Subtotals</b>		<b>\$249,920</b>		<b>\$7,369,510</b>	<b>\$ 3,711,865</b>	
2020 Microsurfacing	Wooster Engineering	\$0		\$250,000		UD
Daisy Way Extension	Wooster Engineering	\$0		\$976,000		UD
Holmes Blvd & Caldwell Dr Waterline Replacement	Wooster Engineering	\$0		\$650,000		UD
Holmes Blvd Culvert Replacement	Wooster Engineering	\$0		\$250,000		UD
Lincoln Street Waterline	Wooster Engineering	\$0		\$600,000		UD
Washington, McKinley, W. Henry Waterline Replacement	Wooster Engineering	\$0		\$1,050,000		UD
WTP Contact Clarifier Painting	Wooster Engineering	\$0		\$225,000		UD
<b>Subtotals</b>		<b>\$0</b>		<b>\$4,001,000</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	2019 Design	2018 Design	2017 Design	2016 Design	2015 Design	Engineer's	Contractor	Bid	Final	2019 Const.
		Costs Paid	Costs Paid	Costs Paid	Costs Paid	Costs Paid	Estimate		Price	Cost	Payments
2019 Sanitary Sewer Lining	0						\$200,000	United Survey Co., Inc.	\$187,987	\$184,789	\$184,789
2019 Wooster Street Resurfacing	\$0						\$1,233,000	Melway Paving Company, Inc.	\$1,178,912	\$1,045,779	\$1,045,779
E. University & E Bowman Sidewalks (CAP)	\$0						\$35,000	Liberta Construction	\$31,000	\$31,676	\$31,676
Electric Car Charging Stations	\$0						\$175,000	McClintock Electric	\$180,000	\$180,000	\$180,000
Henry Street Lift Station Improvements	\$0						\$120,000	Bogner Construction	\$114,656	UC	\$0
Lemar Storm Sewer Replacement	\$0						\$485,000	Dirt Dawg Excavating	\$322,114	\$301,274	\$349,168
Melrose Tank Waterline Extension	\$0						\$515,000	Bogner Construction	\$305,301	\$300,600	\$282,384
Oakley/Brookside Improvements	\$0						\$1,057,500	Dirt Dawg Excavating	\$1,059,775	\$1,028,320	\$644,267
OARDC Water Tank Painting	\$0						\$400,000	Utility Service Co., Inc.	\$321,600	\$322,900	\$322,900
Ohio Street Storm Sewer Replacement	\$0						\$125,000	Boss Union Contracting, Inc.	\$108,808	UC	\$42,195
Palmer Street Culvert Replacement	\$0						\$124,000	Boss Union Contracting, Inc.	\$97,034	\$100,661	\$100,661
Sycamore Lane Waterline	\$0						\$70,000	Dirt Dawg Excavating	\$55,904	\$57,235	\$57,235
W. Liberty St. Sanitary Sewer Ext.	\$0						\$255,000	Dirt Dawg Excavating	\$240,840	UC	\$0
WAY-VAR Wooster Streets FY19	\$0						\$827,500	Melway Paving Company, Inc.	\$789,046	\$725,781	\$725,781
Woodcrest Waterline & Pavement Repairs	\$0						\$375,000	Dirt Dawg Excavating	\$420,000	\$391,477	\$391,477
Wooster Bike Loop 1	\$127,625		\$106,067				\$820,000	Lockhart Concrete	\$834,147	\$729,792	\$225,350
WTP Clearwell Painting	\$0						\$575,000	George Kountoupes Painting	\$434,000	UC	\$154,434
	\$127,625	\$0	\$106,067	\$0	\$0	\$0	\$7,392,000		\$6,681,124		\$4,738,096
Industry Standard for Design Engineering* =	8.5%								\$567,895		



**Engineering Value Calculations**

<b>Under Construction (2019)</b>		
Value of Construction Engineering	10.00%	\$473,809.56
Design Value Provided in 2019	12.0%	\$55,419.42

<b>Design Completed</b>	Design Cost	2019 Design	2018 Design	Engineer's Estimate
2020 Wooster Street Resurfacing	\$0	\$0	\$0	\$575,000
Bike Path Phase 2	\$97,000	\$11,994	\$14,668	\$861,910
Clear Creek Park	\$84,750			\$970,000
Country Club Estates & Oak Heights Concrete Repair Phase 2	\$0			\$400,000
Downtown Streetscape Phase 2	\$68,170	\$66,161	\$17,813	\$917,600
Prospect Street Sanitary Sewer	\$0			\$75,000
Safe Routes to School Melrose Elementary	\$0			\$160,000
Sunset Lane Reconstruction	\$0			\$840,000
W. Highland Avenue Reconstruction	\$0			\$1,375,000
WAY-VAR Wooster Streets FY20	\$0			\$1,195,000
	\$249,920	\$78,155	\$32,481	\$7,369,510

<b>Design Completed (2019)</b>	
Value of Design Engineering	\$376,488.35

<b>Under Design</b>	Engineer's Estimate
2020 Microsurfacing	\$0
Daisy Way Extension	\$0
Holmes Blvd. Culvert Replacement	\$0
Holmes/Caldwell Waterline & Storm Sewer	\$0
Lincoln Street Waterline	\$0
Washington/McKinley/W. Henry Waterline	\$0
WTP Contact Clarifier Painting	\$0
	\$0
	\$4,001,000

<b>Under Design (2019)</b>	
Value of Design Engineering	\$340,085.00

<b>Preliminary Engineering, Planning &amp; Funding</b>	Engineer's Estimate
Water Projects (1)	\$0
Sewer projects (1)	\$0
Storm (1)	\$0
Roadway Projects (1)	\$0
	\$2,250,000
	\$990,000
	\$890,000
	\$4,938,241
	\$9,068,241

<b>Planning (2019)</b>		
Value of Preliminary Engineering	3.00%	\$272,047

<b>Total Engineering Services Provided in 2019</b>	<b>\$1,517,850</b>
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Consultant Services Paid	% of Construction
Under Construction	
\$106,067.00	1.43%
Design Completed	
\$78,154.66	1.06%
Under Design	
\$0.00	0.00%
<b>\$184,221.66</b>	<b>0.73%</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.

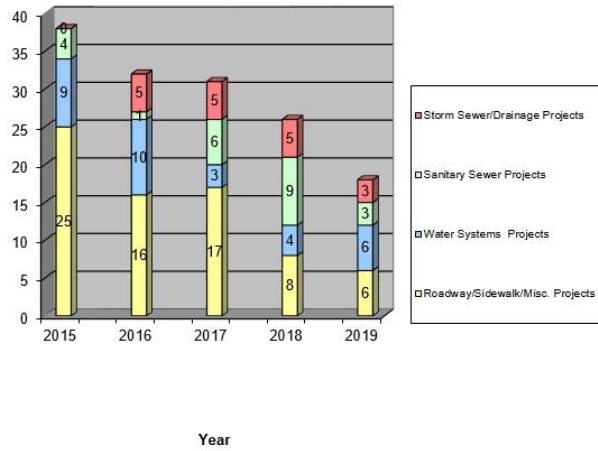
## 2019 Breakout for Types of Projects

The Division of Engineering staff designed 17 of the 18 projects for 2019.

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

2019 saw our design cost average to be 1.7%.

Number of Projects



## Project Cost over the years

The Engineering Division oversaw \$7,485,925 of infrastructure construction projects in 2019.

Outside design contracts totaled \$127,625.

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

Infrastructure Project Costs

Construction Costs

