

CITY OF WOOSTER
DIVISION OF ENGINEERING
2016 Annual Report



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Summary & Narrative – Section 1



Division of Engineering 2016 Annual Report Executive Summary

The 2016 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, 2016. 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 4.71% for 2016. 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 \$2,100,000 in 2016.

The Engineering Division managed over 32 infrastructure projects in 2016. The total dollar value of construction projects completed or under construction in 2016 was over \$25,000,000. Approximately 2/3's of the contracts finalized in 2016 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 2016, the City now has over 400 miles of piping in its utility system and over 130 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. 197 permits were issued in 2016 compared to 173 in 2015.

The Engineering Division is also the City's representative for the Ohio Utilities Protection Service, and is responsible for locating and marking all city owned utilities whenever requested by contractors and proposed development. These requests have consistently numbered over 2000 each year since 1991. In 2016 our staff processed 2822 OUPS requests. Per state law, not only are we responsible for physically marking the locations, 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, no conflict or 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.

2017 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% industry average. We accomplished this goal in 2016 with an 4.71% average.

Personnel:

<i>Name</i>	<i>Title</i>	<i>Years Experience</i>
Roger Kobilarcsik	City Engineer, Licensed Professional Engineer	27
John Rice	Staff Engineer, Licensed Professional Engineer	10
Lynne DePaulo	Administrative Assistant/Contract Specialist	40
Lance Cole	Project Manager	24
Spencer Gray	Engineering Technician/Drafter	32
Andy Gregory	Engineering Technician/GIS Technician	10
Dave Case	Inspector II, Assoc. Degree Civil Eng. Technology	23
Matt Hill	Inspector II, ODOT Right-of-Way Certification	32
Tim Leach	Inspector II, Assoc. Degree Civil Eng.	7

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, 2016 we purchased 2 computers. The three Surface Pro 3 Tablets purchased late 2015 are now in the field and being used by inspectors to access the GIS system and inspection software.

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 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:

- ▶ 70 projects planned for construction from 2017-2021
- ▶ \$26,406,000 in Roadway
- ▶ \$10,425,000 in Water
- ▶ \$5,170,000 in Sewer
- ▶ \$3,680,000 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 2017 = \$1,650,000
 - b. Funding Needs in 2018 = \$1,825,000
2. Sewer Collection – Lift Station upgrades
 - a. Funding Needs in 2017 = \$740,000
 - b. Funding Needs in 2018 = \$1,595,000
3. Roadways – Traffic signals, streetscape, road reconstruction
 - a. Funding Needs in 2017 = \$6,822,000
 - b. Funding Needs in 2018 = \$4,721,000
4. Storm Sewer – Culvert replacements, sewer separation
 - a. Funding Needs in 2017 = \$1,980,000
 - b. Funding Needs in 2018 = \$585,000

The Engineering Division aggressively seeks outside funding sources in an effort to offset the high costs of infrastructure improvements. The City has been awarded close to \$10,000,000 in the last few years in grant money or low interest loan money from various sources such as ODOT, EPA, OPWC, CDBG and others. These funds have been applied to water system projects, traffic signals, sewer separation projects and roadway projects including resurfacing.

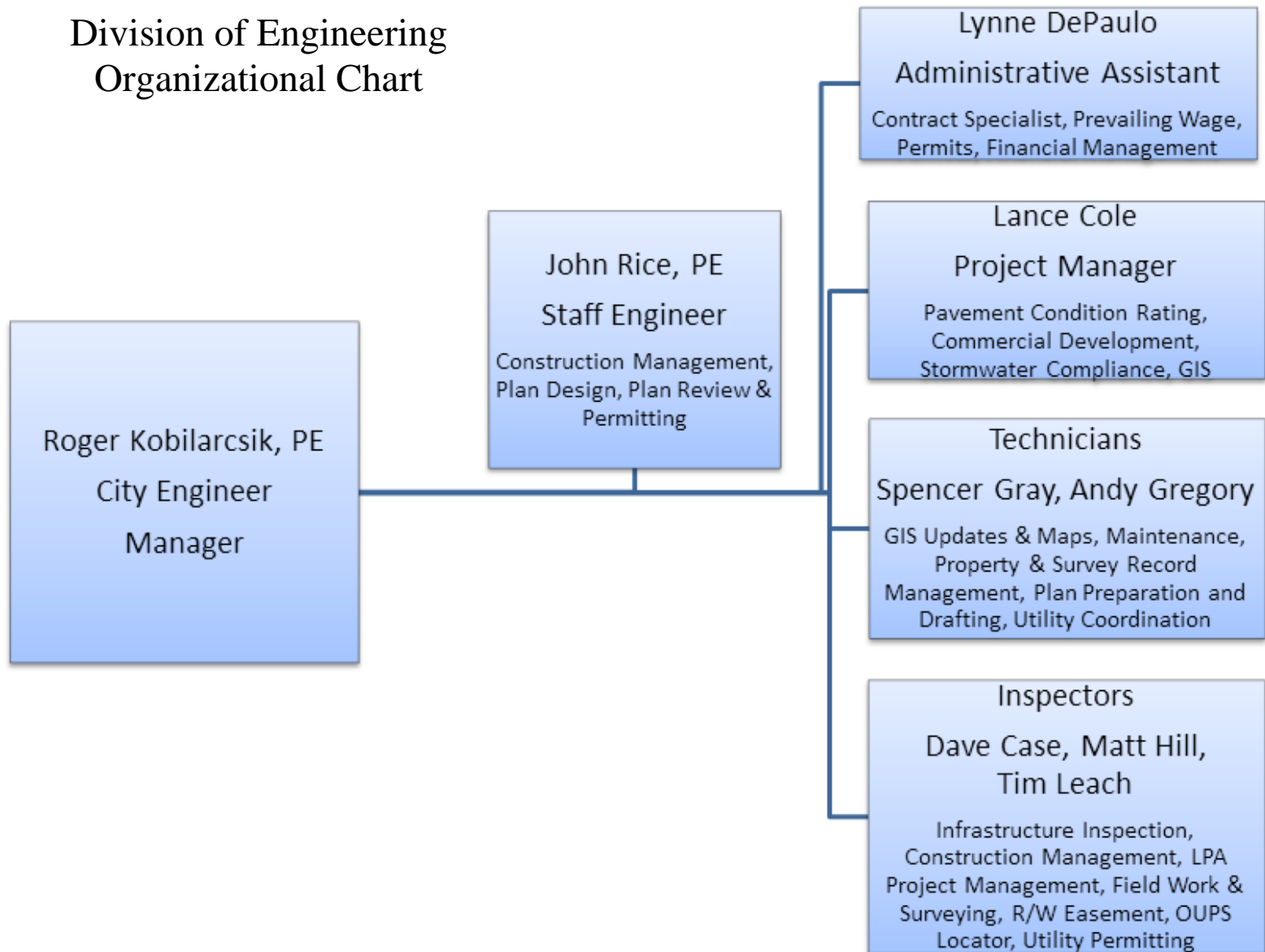
OPWC is currently funding the WCPC Improvements project with a \$500,000 grant and a \$713,852 low interest loan. They are also providing a grant in the amount of \$398,640 for the Secondary Transmission Waterline project completed in the Northwestern, Pearl and Forest areas.

ODOT has provided over \$5,000,000 in funding for projects which included Akron Road, Safe Routes to Schools Sidewalk Improvements and resurfacing projects. The chart below details the actual dollars received from the various sources in 2016.

2016 Funding Received

PROJECT	BID PRICE	FINAL PROJECT COST	Funding Source	Funding Received
SRTS Kean	\$191,729.65	\$202,090.32	ODOT	\$123,444.00
Friendsville Road	\$1,798,042.00	\$1,990,548.00	ODOT	\$1,498,419.19
Portage Road	\$238,692.00	\$238,610.00	ODOT	\$182,948.49
Akron Road Phase 2	\$3,077,862.00	\$2,978,011.43	ODOT	\$2,315,768.00
SRTS Parkview	\$320,142.00	\$300,550.67	ODOT	\$255,321.00
E. Liberty	\$396,203.65	\$379,093.00	ODOT	\$277,618.11
Oldman Connector	\$162,287.00	\$149,195.00	ODOT	\$119,356.28
Palmer	\$118,036.00	\$112,691.00	ODOT	\$90,152.72
Akron Rd. Industrial	\$305,102.00	\$295,197.00	Ohio Jobs	\$41,328.00
Akron Rd. Industrial			Ohio Development	\$160,000.00
WRRF	\$3,817,000.00	UC	OPWC	\$1,185,293.65
Secondary Transmission	\$1,136,633.00	\$953,493.84	OPWC	\$398,640.00
				\$6,648,289.94
			Total Grant	\$5,962,996.29
			Total Loan	\$685,293.65

Division of Engineering Organizational Chart



Stormwater Management

The Division of Engineering is responsible for the City's Stormwater 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 Division (Wayne SWDC) to educate students and the general public in environmental conservation through programs such as Freddie the Fish, Groundwater Wonders and Enviroscape. Kelly Riley, Education Specialist with the Wayne SWDC, taught more than 50 sessions last year through public school programs reaching more than 1200 students. 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 education 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 whom 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 Park 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 Tri-County Waste Management Division. 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 also implemented numerous programs to aid in the detection, prevention and monitoring of the stormwater 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 possible requiring further investigation. Several other new programs are under consideration, pending final guidance from the Ohio EPA.

- 4) **CONSTRUCTION SITE RUN-OFF CONTROL:** This year 18 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 insuring compliance with Ohio EPA regulations. The City project manager inspects and monitors an average of 21 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 need to meet EPA regulations.

The Engineering Division is in the process of incorporating NPDES permit data into the City GIS system to assist in tracking the progress of active NPDES permits and provide historical data for previously issued permits. This effort is being 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:** Numerous changes are underway to meet Ohio EPA requirements for post construction stormwater management and monitoring of more than 150 permanent BMPs. During the summer of 2014 a comprehensive inventory was completed of all new, existing and proposed permanent BMPs within the City's MS4. The inventory involved identifying the physical BMP, collecting original design information, performing a physical inspection and evaluating compliance to design specifications. Effective 9/11/2014 the Engineering Division is required to annually inspect each permanent BMP and issue a letter of findings to the property owner and insure proper maintenance and repair of each BMP.
- 6) **POLLUTION PREVENTION/GOOD HOUSEKEEPING:** In 2013 the City implemented a Stormwater 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. This year the City will be utilizing several training opportunities available from the Ohio EPA to continue meeting the SWP3 requirements.

2016 PROJECT NARRATIVE

The Engineering Division managed more than 32 various projects in 2016. Roadway and new building construction accounted for the majority of the \$28,000,000 in infrastructure improvements. The staff of nine designed, inspected and administered ten waterline projects, one sanitary project, twelve roadway projects, five storm sewer projects and five miscellaneous projects.

The following pages give a brief synopsis of our 2016 infrastructure projects.



2016 Projects Completed or Under Construction

ROADWAY – SIDEWALK PROJECTS - (12 projects - \$8,344,298 Estimated Construction Costs)

<p>Akron Road – Phase 2</p> <ul style="list-style-type: none"> • Designed: Engineering Associates • Funding: ODOT • Bid Date: April 2014 • Estimate: \$3,100,000 • Contractor: Wenger • Bid Price: \$3,077,862 • Final Price: \$2,978,011 • Completed October 2015 • Finalized 2016 	<p>SRTS - Parkview</p> <ul style="list-style-type: none"> • Designed: Engineering • Funding: ODOT • Bid Date: August 2014 • Estimate: \$281,000 • Contractor: Terra Valley • Bid Price: \$320,142 • Final Price: \$300,551 • Completed July 2015 • Finalized 2016 	<p>Akron Road Industrial Park</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: May 2016 • Estimate: \$370,000 • Contractor: G.E. Baker • Bid Price: \$305,102 • Final Price: \$295,197 • Completed Sept. 2016
<p>Concrete Repairs - 2016</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: April 2016 • Estimate: \$350,000 • Contractor: Denes Concrete • Bid Price: \$299,164 • Final Price: \$461,284 • Completed August 2016 	<p>ODOT Resurfacing 2016</p> <ul style="list-style-type: none"> • Designed: Engineering • Funding: ODOT • Bid Date: December 2015 • Estimate: \$945,000 • Contractor: Melway Paving • Bid Price: \$756,984 • Final Price: \$679,886 • Completed December 2016 	<p>E. Pine Street Reconstruction</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: September 2015 • Estimate: \$440,000 • Contractor: Terra Valley • Bid Price: \$403,740 • Final Price: \$433,559 • Completed November 2016
<p>E. Bowman & Long Road Resurfacing</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: August 2015 • Estimate: \$565,000 • Contractor: Karvo Paving • Bid Price: \$584,911 • Final Price: \$513,598 • Completed October 2015 	<p>Columbus Gateway</p> <ul style="list-style-type: none"> • Designed: OHM • Bid Date: October 2015 • Estimate: \$218,298 • Contractor: Stout • Bid Price: 261,495 • Final Price: 276,067 • Completed October 2016 	<p>Traffic Signal Replacement Cleveland/Highland Bever/Bowman</p> <ul style="list-style-type: none"> • Designed: Burgess & Niple • Bid Date: November 2015 • Estimate: \$300,000 • Contractor: Perram Electric • Bid Price: \$254,110 • Final Price: \$256,012 • Completed August 2016

2016 Projects Completed or Under Construction

ROADWAY – SIDEWALK PROJECTS -

North Street Traffic Signals

- Designed: Poggeymeyer
- Funding: CDBG
- Bid Date: August 2016
- Estimate: \$600,000
- Contractor: Perram
- Bid Price: \$505,300
- Under Construction

2017 Paving – ODOT

- Designed: Engineering
- Funding: ODOT
- Bid Date: December 2016
- Estimate: \$685,000
- Contractor: Kokosing
- Bid Price: \$479,533
- Under Construction

2017 Paving

- Designed: Engineering
- Bid Date: October 2016
- Estimate: \$490,000
- Contractor: Kokosing
- Bid Price: \$479,533
- Under Construction



2016 Projects Completed or Under Construction

WATER PROJECTS

(10 projects - \$6,353,089 Estimated Construction Costs)

<p>North High Tank</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: April 2014 • Estimate: \$3,900,000 • Contractor: CB&I • Bid Price: \$3,066,000 • Final Price: \$3,094,906 • Completed October 2015 	<p>Secondary Transmission Line – Contract A (Northwestern, Woodland and Rosa Parks)</p> <ul style="list-style-type: none"> • Designed: Engineering • Funding: OPWC • Bid Date: August 2015 • Estimate: \$650,000 • Contractor: Simonson Construction • Bid Price: \$649,873 • Final Price: \$344,237 • Completed June 2016 	<p>Secondary Transmission Line – Contract B (Christmas Run Pool, Forest and Pearl)</p> <ul style="list-style-type: none"> • Designed: Engineering • Funding: OPWC • Bid Date: August 2015 • Estimate: \$460,000 • Contractor: Dirt Dawg Excavating • Bid Price: \$486,760 • Final Price: \$413,621 • Completed July 2016
<p>WTP – Misc. Tank Painting</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: March 2016 • Estimate: \$100,000 • Contractor: Southwest Companies • Bid Price: \$69,560 • Final Price: \$69,560 • Completed September 2016 	<p>Edgewood Fire Hydrants</p> <ul style="list-style-type: none"> • Designed: Engineering • Proposal Date: July 2016 • Contractor: Stout • Quote: \$26,255 • Final Price: \$25,871 • Completed August 2016 	<p>Burbank Waterline</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: July 2016 • Estimate: \$390,000 • Contractor: Fioritto Construction • Bid Price: \$325,033 • Final Price: \$325,483 • Completed December 2016
<p>Leroy Waterline</p> <ul style="list-style-type: none"> • Designed: Engineering • Proposal Date: August 2016 • Contractor: Dirt Dawg • Quote: \$41,834 • Final Price: \$39,536 • Completed September 2016 	<p>Milltown Water Tank Painting</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: February 2016 • Estimated: \$375,000 • Contractor: D & M • Bid Price: \$283,500 • Final Price: \$283,500 • Completed: August 2016 	<p>Ihrig Avenue and Sherman Drive Waterline</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: December 2015 • Estimate: \$320,000 • Contractor: Fioritto Construction • Bid Price: \$265,740 • Final Price: \$269,828 • Completed August 2016

2016 Projects Completed or Under Construction

WATER PROJECTS

North Street Waterline

- Designed: Engineering
- Bid Date: July 2016
- Estimate: \$90,000
- Contractor: Dirt Dawg
- Bid Price: \$80,417
- Final Price: \$80,405
- Completed September 2016

2016 Projects Completed or Under Construction

SANITARY PROJECTS

(1 project - \$4,840,000 in Estimated Construction Costs)

WRRF – Liquid Stream

- Designed: URS
- Funding: OPWC
- Bid Date: September 2014
- Estimate: \$4,840,000
- Contractor: Kirk Brothers
- Bid Price: \$3,817,000
- Under Construction
- Working on final paperwork

2016 Projects Completed or Under Construction

STORM SEWER PROJECTS

(5 projects - \$600,450 Estimated Construction Costs)

<p>Dix Culvert Lining</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: December 2016 • Estimate: \$200,000 • Contractor: GE Baker • Bid Price: \$105,720 • Under Construction • Completion April 2017 	<p>Holmes Culvert</p> <ul style="list-style-type: none"> • Designed: Engineering • Contractor: Bogner • Bid Price: \$25,000 • Final Price: \$26,802 • Completed April 2016 	<p>Madison Avenue Storm</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: March 2016 • Estimate: \$100,000 • Contractor: Fioritto • Bid Price: \$69,787 • Final Price: \$64,462 • Completed: August 2016
<p>Oakley Culvert Replacement</p> <ul style="list-style-type: none"> • Designed: Engineering • Bid Date: July 2016 • Estimate: \$253,100 • Contractor: Denes Concrete • Bid Price: \$236,015 • Final Price: \$230,625 • Completed: November 2016 	<p>Silver Road Culvert Repair</p> <ul style="list-style-type: none"> • Designed: Engineering • Contractor: Dirt Dawg • Bid Price: \$22,350 • Final Price: \$22,350 • Completed: September 2016 	

2016 Projects Completed or Under Construction

MISCELLANEOUS PROJECTS (4 projects - \$7,890,000 Estimated Construction Costs)

<p>Christmas Run Basketball Courts</p> <ul style="list-style-type: none"> • Designed: Engineering • Funding: ODNR • Bid Date: August 2016 • Estimate: \$65,000 • Contractor: TR Snyder • Bid Price: \$86,832 • Under Construction • Completion Date: April 2017 	<p>Safety Services Building</p> <ul style="list-style-type: none"> • Architect: Bowden & Associates • Estimate: \$7,000,000 • Contractor: John G. Johnson • Bid Price: \$7,570,637 • Under Construction • Completion Date: July 2017 	<p>Fire Station #3</p> <ul style="list-style-type: none"> • Designed: Sol Harris Day • Estimate: \$400,000 • Contractor: CCI Commercial • Bid Price: \$439,379 • Final Price: \$455,077 • Completed March 2016
<p>Utilites Building Addition</p> <ul style="list-style-type: none"> • Designed: BA Widder • Bid Date: November 2016 • Estimate: \$425,000 • Contractor: CCI • Bid Price: \$465,885 • Under Construction • Completion Date: September 2017 		



INFRASTRUCTURE PROJECTS SCHEDULED/PLANNED FOR 2017:

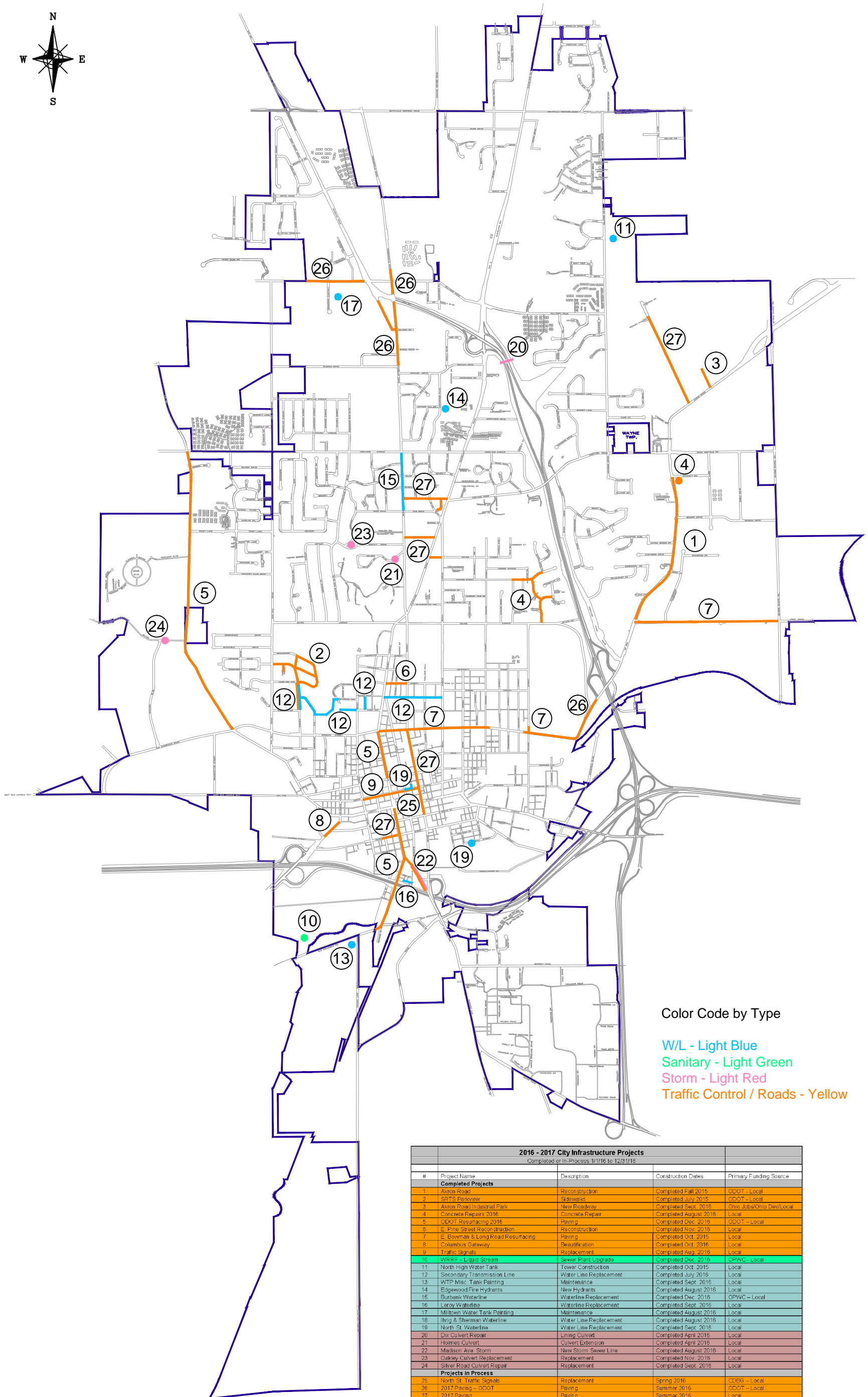
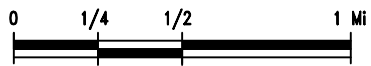
1. **SRTS –Sunset/Armstrong Sidewalk:** The Division is applying for ODOT funding to complete the sidewalks in the Melrose Elementary area. Plans will be developed if funding is awarded with a construction date of 2019.
2. **Downtown Streetscape:** Preliminary design concepts are being provided by OHM for updating the downtown streetscape. Construction of Phase 1 is planned for 2017 with an estimate for construction of \$1,300,000.
3. **Wooster Bike Loop – Phase 1:** This is a 2.1 mile construction of a dedicated 10' wide multi-use path for non-motorized transportation connecting Oak Hill Park to the downtown district. The project is partially funded by ODOT. Poggemyer Group is in the process of developing the plans and specifications. A public meeting was held in December to discuss the preliminary plans and obtain suggestions from the community. Acquisition of easements and right of way along with utility relocations will be done in 2017 with construction beginning in 2018.
4. **North Well Field Check Valve Replacement:** This project is being designed by the Engineering Division and consists of replacing the existing check valve vaults at the City's north well field. Piping will be replaced including all bends. Electric services to each well will also be upgraded.
5. **Culvert Replacements:** Roadway culvert replacements or rehabilitations are scheduled for locations on Geyers Chapel Road, Mechanicsburg Road and W. Wayne Avenue. These will be designed by the Engineering Division.
6. **Northview Drive Waterline Replacement:** This project is being designed by the Engineering Division and consists of replacing water mains and services on Northview Drive. The current estimate is \$190,000.
7. **Burbank Road Reconstruction:** This project improving Burbank Road with construction of sidewalks on the east side, a bike trail, curb and gutter and widening of the roadway. The Engineering Division is in the process of developing the plans and construction is planned for 2017. The estimated project cost is \$1,995,000. The first phase of the project was completed in 2016 with the Burbank Road Waterline Replacement. The second phase of construction is waiting for all the right-of-way easements to be completed.
8. **Nupp Drive Lift Station:** This project is being designed by Wooster Engineering. The estimate for construction is currently \$150,000.
9. **Lemar Storm Sewer:** This project is being designed by Wooster Engineering. The estimate for construction is \$85,000.
10. **S. Spink Street Sewer Separation:** This is a continuation of the EPA mandated separation of storm and sanitary sewers. Wooster Engineering is in the process of completing the design portion of the project which is estimated at \$550,000.
11. **Liberty Street Traffic Signals:** The City has obtained a grant from CDBG for replacement of traffic signals on the West Liberty Street section. Design is being done by the Poggemyer Group and has a cost estimate of \$772,000.

12. **Impala and Skylark Waterline Replacement:** The design work has been completed for the replacement of existing waterlines in the Impala and Skylark area. The project is slated to go out for bid in early 2017 and has an estimate of \$460,000.

13. **Christmas Run Pickleball Courts:** ODNR approved a grant in the amount of \$26,241 to be applied to renovation of the upper level tennis courts at Christmas Run Park. The four tennis courts will be revamped to six pickleball courts in the fall of 2017.

CITY OF WOOSTER

Prepared By: DIVISION OF ENGINEERING



Color Code by Type

- W/L - Light Blue
- Sanitary - Light Green
- Storm - Light Red
- Traffic Control / Roads - Yellow

2016 - 2017 City Infrastructure Projects				
Completed or In-Process: 1/1/16 to 12/31/16				
#	Project Name	Description	Construction Dates	Primary Funding Source
Completed Projects				
1	Akron Road	Reconstruction	Completed Fall 2015	ODOT - Local
2	SRTS Perleview	Sidewalks	Completed July 2015	ODOT - Local
3	Akron Road Industrial Park	New Roadway	Completed Sept. 2016	Ohio Jobs/Ohio Dev./Local
4	Concrete Repairs 2016	Concrete Repair	Completed August 2016	Local
5	ODOT Resurfacing 2016	Paving	Completed Dec. 2016	ODOT - Local
6	E. Fine Street Reconstruction	Reconstruction	Completed Nov. 2016	Local
7	E. Bowman & Long Road Resurfacing	Paving	Completed Oct. 2015	Local
8	Combus Gateway	Beautification	Completed Oct. 2016	Local
9	Traffic Signals	Replacement	Completed Aug. 2015	Local
10	WSPF - Liquid Stream	Sewer Plant Upgrade	Completed Dec. 2015	OPWC - Local
11	North High Water Tank	Tower Construction	Completed Oct. 2015	Local
12	Secondary Transmission Line	Water Line Replacement	Completed July 2016	Local
13	WTP Misc. Tank Painting	Maintenance	Completed Sept. 2016	Local
14	Edgewood Fire Hydrants	New Hydrants	Completed August 2016	Local
15	Burbank Waterline	Waterline Replacement	Completed Dec. 2016	OPWC - Local
16	Leroy Waterline	Waterline Replacement	Completed Sept. 2016	Local
17	Miltoin Water Tank Painting	Maintenance	Completed August 2016	Local
18	Illers & Sherman Waterline	Water Line Replacement	Completed August 2016	Local
19	North St. Waterline	Water Line Replacement	Completed Sept. 2016	Local
20	Dix Culvert Repair	Lining Culvert	Completed April 2016	Local
21	Holmes Ave. Storm	Culvert Extension	Completed April 2016	Local
22	Madison Ave. Storm	New Storm Sewer Line	Completed August 2016	Local
23	Oakley Culvert Replacement	Replacement	Completed Nov. 2016	Local
24	Silver Road Culvert Repair	Replacement	Completed Sept. 2016	Local
Projects In Process				
25	North St. Traffic Signals	Replacement	Spring 2016	ODBG - Local
26	2017 Paving - ODOT	Paving	Summer 2016	ODOT - Local
27	2017 Paving	Paving	Summer 2016	Local

Private Developments

1. Private Subdivisions/Commercial Property under Construction:

2016 once again saw an increase in development permits issued with the focus being mostly on additions to existing facilities. The City issued 24 development permits in 2016 which is a 72% increase in permits from 2012.

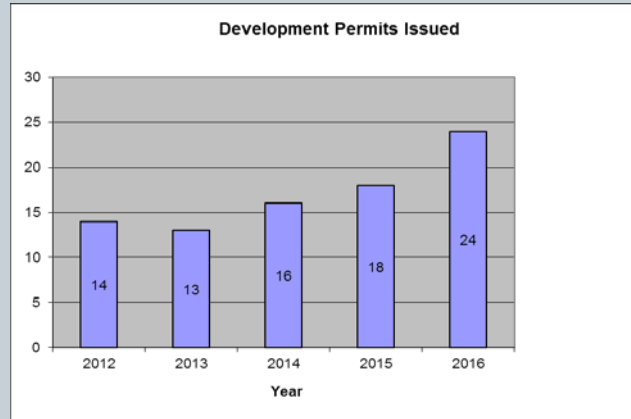
LuK continues its expansion with several new buildings and additional parking lots. The Wooster Community Hospital is in the mist of adding a new \$25,000,000 cancer facility to the north side of the existing hospital. The College of Wooster demolished a dormitory and classroom building in order to begin constructing a new \$24,000,000 science building.

Several senior housing developments are in the construction phase including Phase 2 of Danbury Woods, The Avenue on Smithville Western and an adult day care facility on Benden Drive.

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						2016
DEVELOP. #	PERMIT NO.	PROJECT NO.	NAME / DESCRIPTION	SITE IMP.S COST ESTIMATE	PLAN REVIEW FEE	DATE RECEIVED
1	2016001		OARDC/ATI EQUIPMENT STORAGE	\$375,000	\$ 2,169.50	01/12/16
2	2016002	#153046	Dunkin Donuts	\$ 780,000	\$ 1,159.00	1/15/2016
3	2016003	#153048	Edgewood Middle School Addition	\$93,000	\$ 847.20	01/19/16
4	2016004	#153031	Danbury Woods - Phase 2	\$ 1,000,000.00	\$ 6,740.00	02/02/16
5	2016005	#153049	WCH - North Expansion	\$25,000,000	\$ 7,993.50	03/02/16
6	2016006	#163017	Cornerstone Playlab	\$500,000	\$ 1,211.20	03/02/16
7	2016007	#153051	Cottagewood Leasing	\$ 200,000.00	\$ 739.73	03/31/16
8	2016008	#163018	WCH Parking Addition	\$20,000	\$ 1,378.90	05/04/16
9	2016009	#163019	LUK - Building Addition	\$ 3,000,000.00	\$ 4,128.00	05/16/16
10	2016010	#163029	College of Wooster - Parking	\$ 25,000.00	\$ 780.00	05/19/16
11	2016011	#163030	Wooster City Schools - Melrose Parking	\$85,000	\$ 536.50	05/23/16
12	2016012	#163031	Wooster City Schools - HS Drive	\$12,000	\$ 301.00	05/23/16
13	2016013	#153056	GOJO - Fire Line		n/c	06/10/16
14	2016014	#152024	Safety Center	\$ 500,000	n/c	06/29/16
15	2016015	#163011	College of Wooster - Science Bldg	\$ 24,000,000	\$ 1,633.00	07/12/16
16	2016016	#152024	Safety Services Building	\$ 7,000,000	n/c	08/02/16
17	2016017	#153057	The Avenues	\$1,000,000	\$ 10,919.00	08/04/16
18	2016018	#163044	Seaman Parking Lot	\$ 75,000	\$ 249.50	08/26/16
19	2016019	#163047	LuK - Parking Lot	\$ 100,000.00	\$ 1,539.50	09/06/16
20	2016020	#163019	LuK Addition		\$ 5,871.50	09/27/16
21	2016021	#163054	Adult Day Care	\$ 250,000.00	\$ 650.00	09/29/16
22	2016022	#163051	Follis Field Facility	\$ 20,000.00	\$ 3,244.00	10/04/16
23	2016023	#163011	COW - Cell Tower	\$ 150,000.00	\$ 150.00	10/06/16
24	2016024	#153056	Insite Wooster LLC	\$ 1,300,000.00	\$ 981.50	10/19/16
25						
26				\$65,485,000	\$ 53,222.53	

2012 - 2016 Development Permits



ENGINEERING FEES AND REVENUES :

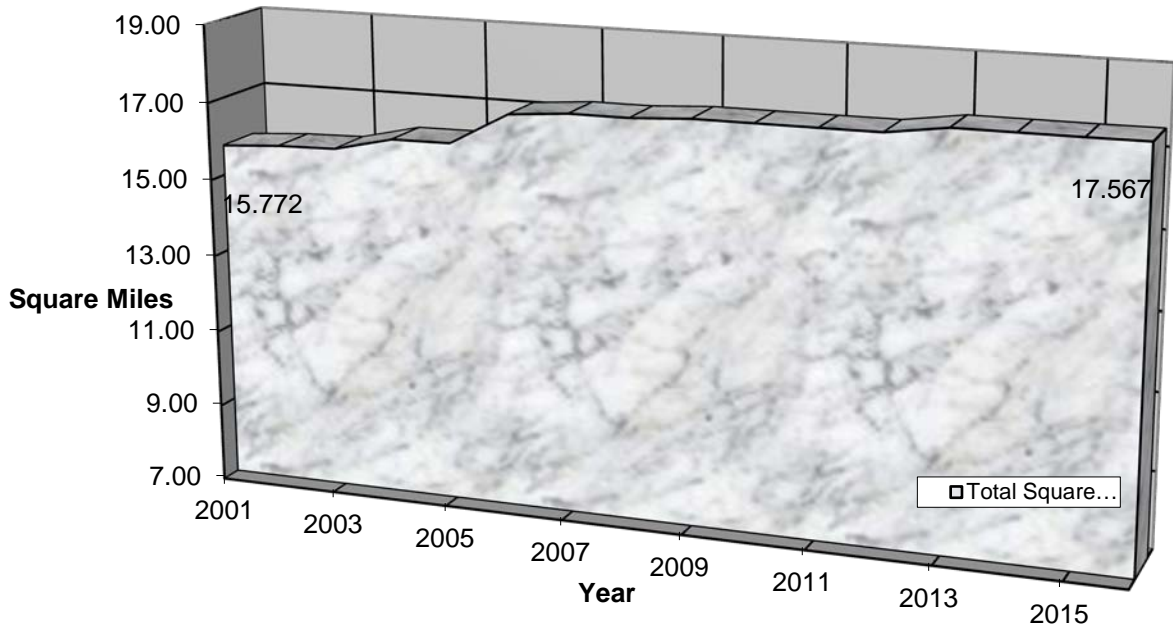
The following chart details the revenues received the past few years by the Division of Engineering.

	2013	2014	2015	2016
Single Inspection	\$21,338.26	\$10,478.20	\$19,800.00	\$9,650.00
Construction Inspection	\$50,476.60	\$114,642.28	\$58,105.03	\$97,105.93
Plan Review Fee	\$14,160.00	\$10,480.00	\$12,960.00	\$11,680.00
Plan Copies	\$4,634.54	\$4,213.25	\$5,489.15	\$3,713.10
Yard Pipe Permit	\$160.00	\$0.00	\$160.00	\$240.00
Sanitary Sewer Permit	\$480.00	\$480.00	\$960.00	\$480.00
San. Sewer Availability Charge	\$25,740.00	\$7,584.00	\$47,746.56	\$4,522.00
Water Availability	\$25,461.00	\$704.00	\$50,300.80	\$24,008.16
Water Service Permit	\$1,400.00	\$640.00	\$800.00	\$640.00
Development Permit Waiver	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL FEES COLLECTED	\$143,850.40	\$149,221.73	\$196,321.54	\$152,039.19

*Division of Engineering
City of Wooster
2016 Annual Report*

City Growth Statistics – Section 2

City Growth Total City Area



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

2016 Annexations

No.	Description	Date	Area
1	ODOT Property - Old Lincoln Way	5/2/2016	6.12 Acre
2	1039 Perkins	6/13/2016	.57 Acre

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

*Division of Engineering
City of Wooster
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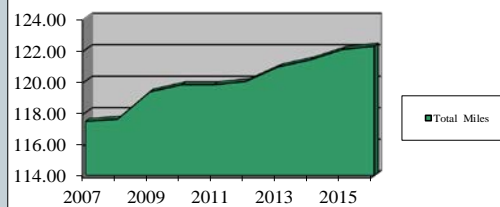
Utility Statistics – Section 3

Sanitary Sewer Mileage

Sanitary Sewer Mileage

Year	Increase in Miles	Total Miles	% Increase
		116.56	
2007	0.88	117.44	0.75%
2008	0.14	117.58	0.12%
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%

Sanitary Sewer Total Mileage

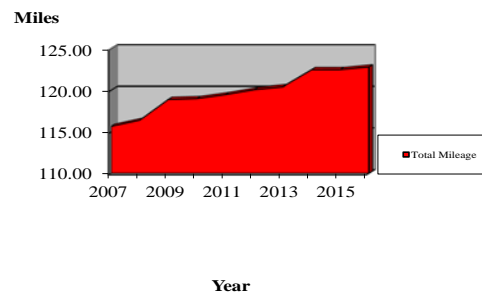


Storm Sewer Mileage

Storm Sewer Mileage

Year	Increase in Miles	Total Mileage	% Increase
		114.32	
2007	1.31	115.63	1.15%
2008	0.75	116.38	0.65%
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%

Storm Sewer Total Miles



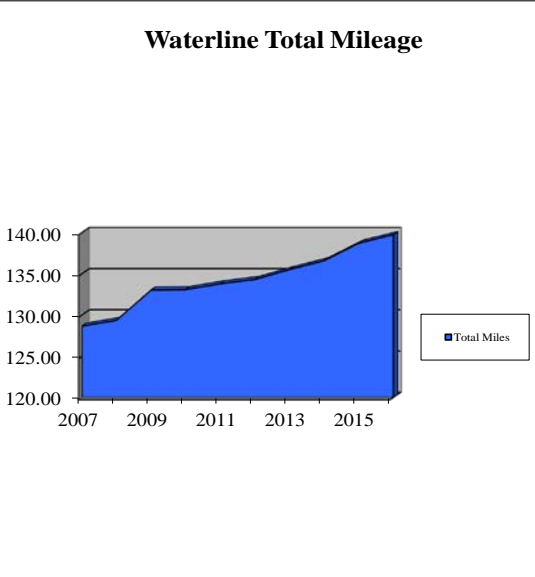
Waterline Mileage



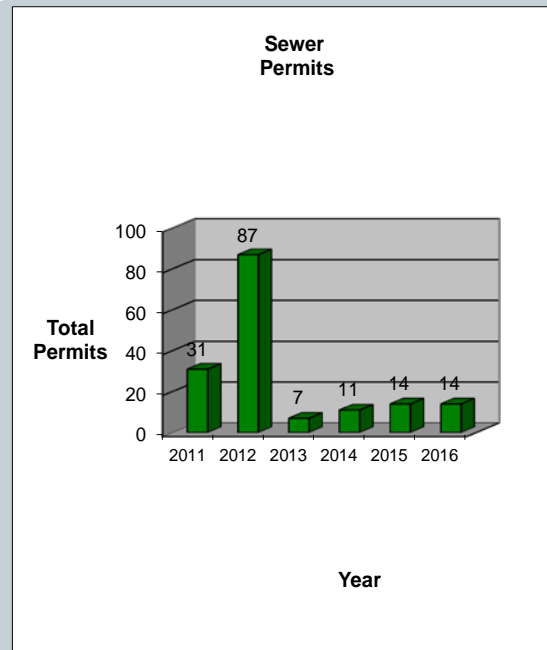
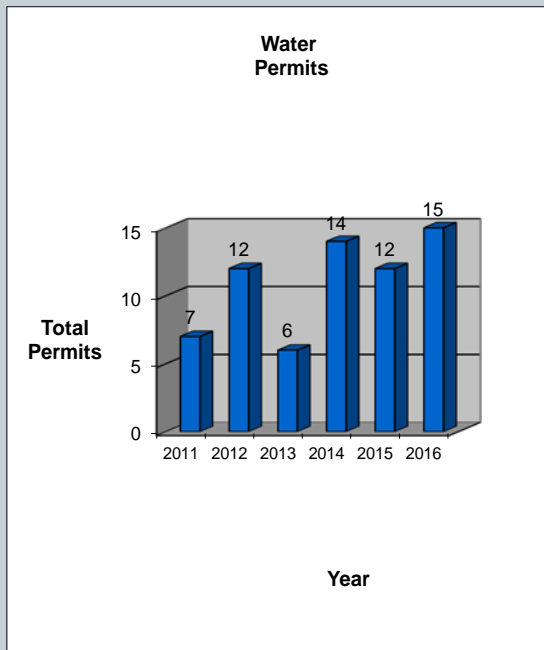
Waterline Mileage

Year	Increase in Miles	Total Miles	% Increase
		124.45	
2007	4.19	128.64	3.37%
2008	0.71	129.35	0.55%
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%

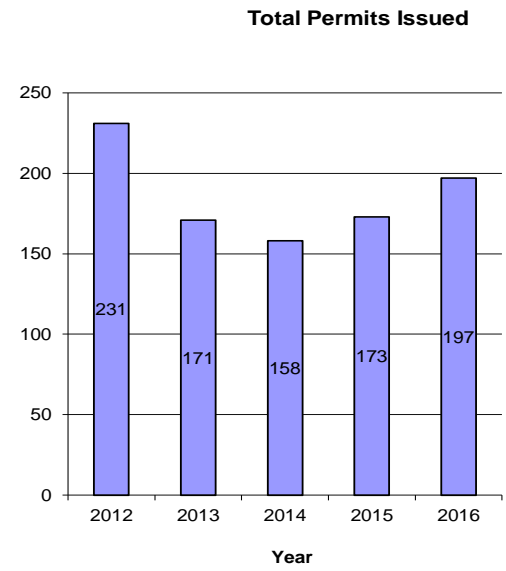
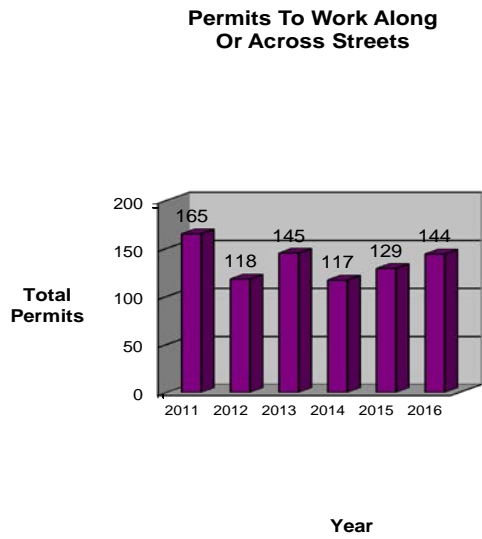
Waterline Total Mileage



2016 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 help the contractor with any questions or problems that might arise during the project. The increase in 2012 sewer permits is due to the connection of the homes in the Batdorf Road area to the City's sewer system as mandated by EPA.



Dominion East Ohio Gas 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 anytime 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.

2016 Water Main Leaks

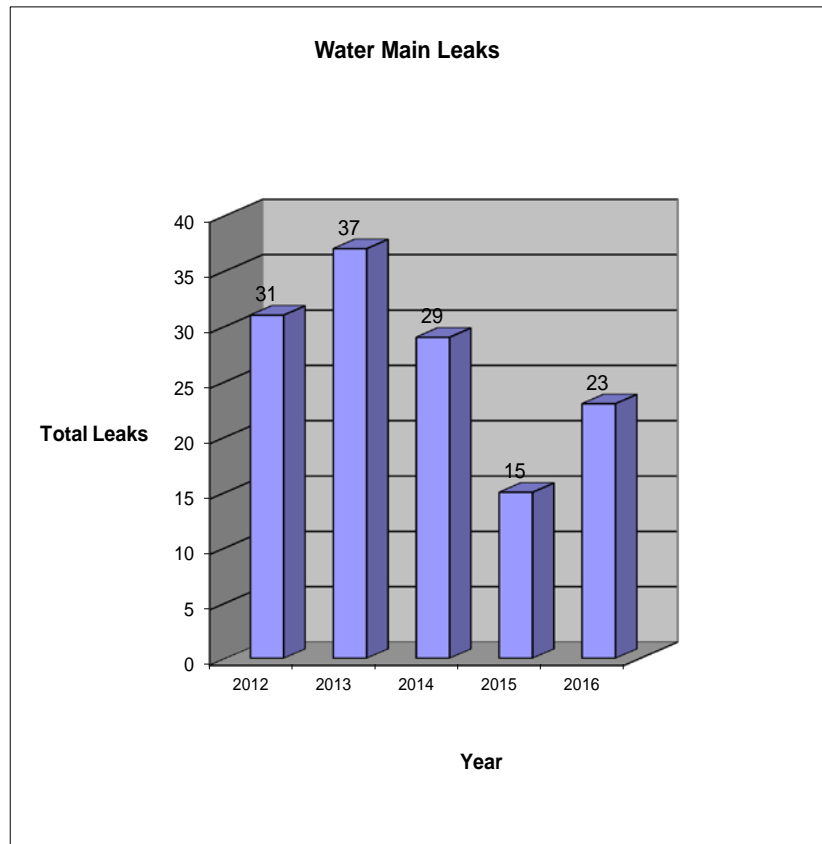
The City currently maintains over 138 miles of waterline.

Waterline replacements for 2017 include the areas of:

Northview Drive

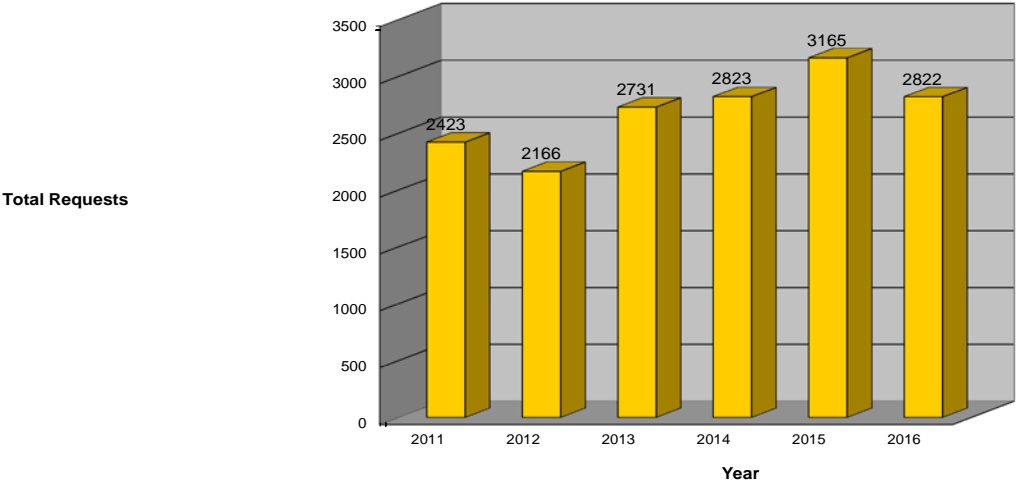
Impala

Skylark



2016 OUPS

Ohio Utility Protection Service



OUPS location notices continue to increase as more and more contractors and residents call 811 to notify the Ohio Utilities Protection Agency 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 OUPS 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.

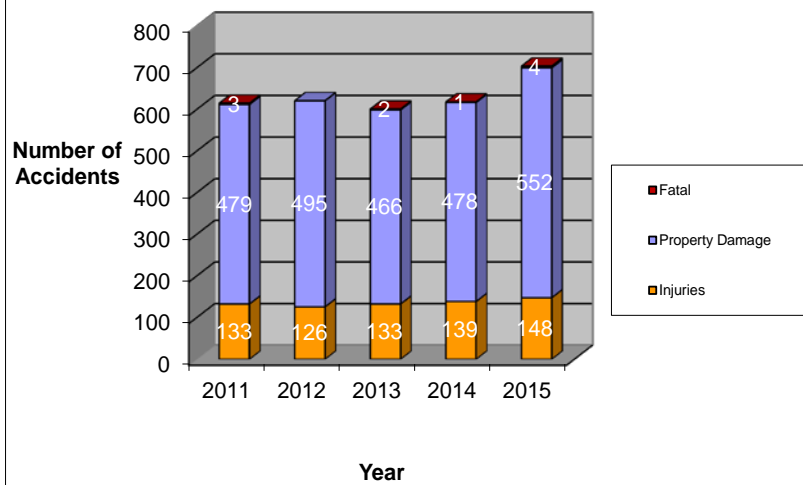
*Division of Engineering
City of Wooster
2016 Annual Report*

Traffic Statistics – Section 4

2011-2015 Comparison

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

Total Traffic Accidents City of Wooster



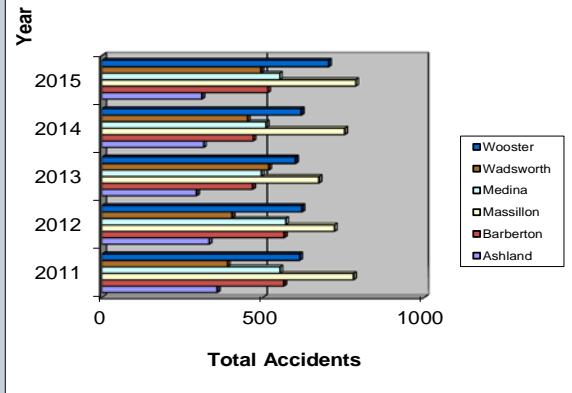
2011-2015 Total Crashes



**Traffic Accident Comparison
Totals By Neighboring Cities**

Year	Ashland	Barberton	Massillon	Medina	Wadsworth	Wooster
2011	358	565	781	553	390	614
2012	333	566	722	571	404	621
2013	294	468	674	495	518	601
2014	316	470	754	510	452	619
2015	311	515	788	552	494	704

**Traffic Accident Comparison:
Neighboring Cities**



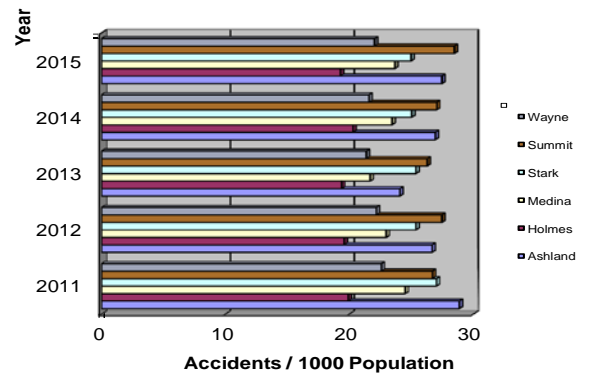
County Crash Comparison

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
2011	28.9	19.9	24.5	27.1	26.7	22.6
2012	26.7	19.6	23	25.4	27.5	22.2
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

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



*Division of Engineering
City of Wooster
2016 Annual Report*

Engineering Design Statistics – Section 5

DIVISION OF ENGINEERING
2016 Project Summary
(Projects Designed or Constructed in 2016)

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED			Contract Balance	%	
				CONST. COST	BID PRICE	FINAL COST		Complete	Retainage
North High Water Tank	Wooster Engineering		CB&I	\$3,900,000	\$3,066,000	\$3,094,906	\$0	100%	\$0
WTP - Misc. Tank Painting	Wooster Engineering		Southwest Companies	\$100,000	\$69,560	\$69,560	\$0	100%	\$0
Edgewood Fire Hydrants	Wooster Engineering		Stout	\$25,000	\$26,255	\$25,871	\$0	100%	\$0
Burbank Waterline	Wooster Engineering		Fioritto Construction	\$390,000	\$325,033	\$325,483	\$0	100%	\$0
Leroy Waterline	Wooster Engineering		Dirt Dawg	\$49,500	\$41,834	\$39,536	\$0	100%	\$0
Milltown Water Tank Painting	Wooster Engineering		D & M	\$375,000	\$283,500	\$283,500	\$0	100%	\$0
Ihrig and Sherman Waterline	Wooster Engineering		Fioritto Construction	\$320,000	\$265,740	\$269,828	\$0	100%	\$0
Secondary Transmission Contract A	Wooster Engineering		Simonson Construction	\$650,000	\$649,873	\$344,237	\$0	100%	\$0
Secondary Transmission Contract B	Wooster Engineering		Dirt Dawg	\$460,000	\$486,760	\$413,621	\$0	100%	\$0
North Street Waterline	Wooster Engineering		Dirt Dawg	\$90,000	\$80,417	\$80,405	\$0	100%	\$0
WRRF - Liquid Stream	URS	\$250,000	Kirk Brothers	\$4,840,000	\$3,817,000	UC	\$270,636	98%	\$58,602
Akron Rd - Phase 2	Engineering Associates	\$26,390	Wenger	\$3,100,000	\$3,077,862	\$2,978,011	\$0	100%	\$0
SRTS - ODOT - Parkview	Wooster Engineering		Terra Valley	\$281,000	\$320,142	\$300,551	\$0	100%	\$0
Akron Road Industrial Park	Engineering Associates	\$33,500	GE Baker	\$370,000	\$305,102	\$295,197	\$0	100%	\$0
Concrete Repairs 2016	Wooster Engineering		Denes Concrete	\$350,000	\$299,164	\$461,284	\$0	100%	\$0
ODOT Resurfacing 2016	Wooster Engineering		Melway Paving	\$945,000	\$756,984	\$679,886	\$0	100%	\$0
E. Pine Street Reconstruction	Wooster Engineering		Terra Valley	\$440,000	\$403,740	\$433,559	\$0	100%	\$0
E. Bowman & Long Road Resurfacing	Wooster Engineering		Karvo Paving	\$565,000	\$584,911	\$513,598	\$0	100%	\$0
Columbus Gateway	OHM	\$21,125	Stout Excavating	\$218,299	\$261,495	\$276,067	\$0	100%	\$0
Traffic Signal Replacement	Burgess & Niple	\$17,000	Perram Electric	\$300,000	\$254,110	\$256,012	\$0	100%	\$0
North Street Traffic Signal	Poggemyer	\$38,148	Perram Electric	\$600,000	\$505,300	UC	\$0	0%	\$0
2017 Paving ODOT	Wooster Engineering		Kokosing	\$685,000	\$479,533	UC	\$0	0%	\$0
2017 Paving	Wooster Engineering		Kokosing	\$490,000	\$479,533	UC	\$0	0%	\$0
Dix Culvert Lining	Wooster Engineering		GE Baker	\$200,000	\$105,720	UC	\$0	0%	\$0
Holmes Culvert	Wooster Engineering		Bogner	\$25,000	\$25,000	\$26,802	\$0	100%	\$0
Madison Ave. Storm	Wooster Engineering		Fioritto Construction	\$100,000	\$69,787	\$64,462	\$0	100%	\$0
Oakley Culvert	Engineering Associates	\$37,600	Denes Concrete	\$253,100	\$236,015	\$230,625	\$0	100%	\$0
Silver Road Culvert	Wooster Engineering		Dirt Dawg	\$25,000	\$22,350	\$22,350	\$0	100%	\$0
Fire Station #3	Sol Harris Day	\$29,102	CCI Commercial	\$400,000	\$439,379	\$455,077	\$0	100%	\$0
Christmas Run Basketball Court	Wooster Engineering		TR Snyder	\$65,000	\$86,832	UC	\$86,832	75%	\$0
Safety Service Building	Bowden & Associates	\$450,000	John G. Johnson	\$7,000,000	\$7,570,637	UC	\$5,499,322	30%	\$185,082
Utilities Building Addition	BA Widder	\$20,000	CCI Commercial	\$425,000	\$465,885	UC	\$420,918	8%	\$4,613
UC=Under Construction									
Subtotals		\$922,865		\$28,036,899	\$25,861,453	\$11,940,428			

DIVISION OF ENGINEERING
2016 Project Summary
(Projects Designed or Constructed in 2015)

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED CONST. COST	BID PRICE	FINAL COST	Contract Balance	% Complete	Retainage
Burbank Road Reconstruction	Wooster Engineering			\$1,995,000		DC			
Impala & Skylark Waterline	Wooster Engineering			\$460,000		DC			
							DC=Design Complete		
Subtotals		\$0		\$2,455,000					
Mechanicsburg Rd. SS	Wooster Engineering	\$0		\$200,000	N/A	UD			
SRTS - Sunset - Armstrong Sidewalks	Wooster Engineering			\$300,000	N/A	UD			
Wooster Bike Loop	Poggemeyer/Lawhon	\$127,625		\$1,050,000	N/A	UD			
Downtown Streetscape	OHM	\$100,000		\$7,032,000	N/A	UD			
Northview Dr. Waterline	Wooster Engineering			\$190,000	N/A	UD			
North Well Field Check Valve Replace.	Wolfe	\$10,000		\$200,000	N/A	UD			
Welcome Signs	OHM	\$3,500				UD			
Liberty Signals	Poggemeyer	\$35,864		\$772,000	N/A	UD			
S. Spink St. Sewer Separation	Wooster Engineering			\$560,000	N/A	UD			
Nupp Drive Lift Station	Wolfe	\$9,000		\$150,000	N/A	UD			
Wayne Ave. Culvert Replacement	Wooster Engineering			\$150,000	N/A	UD			
Geyers Chapel Culvert	Wooster Engineering	\$0		\$175,000	N/A	UD			
Lemar Storm Sewer	Wooster Engineering			\$85,000	N/A	UD			
OARDC-SR 302 Crosswalk/Signal	Wooster Engineering	\$0		\$180,000	N/A	UD			
							UD = Under Design		
Subtotals		\$285,989		\$11,044,000					

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

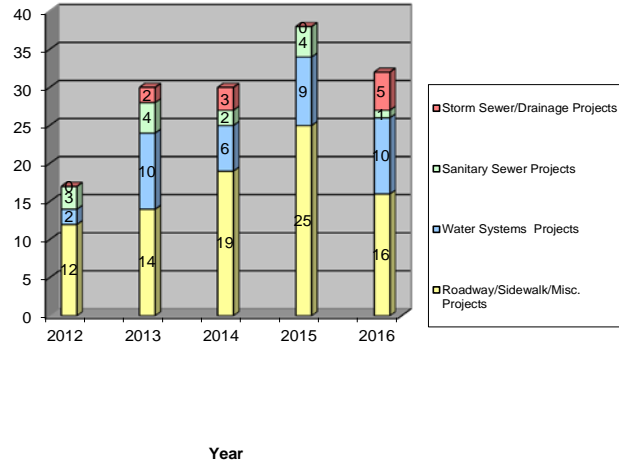
2016 Breakout for Types of Projects

The Division of Engineering staff designed 22 of the 32 projects for 2016.

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

2016 saw our design cost average to be 4.71%.

Number of Projects



Project Cost over the years

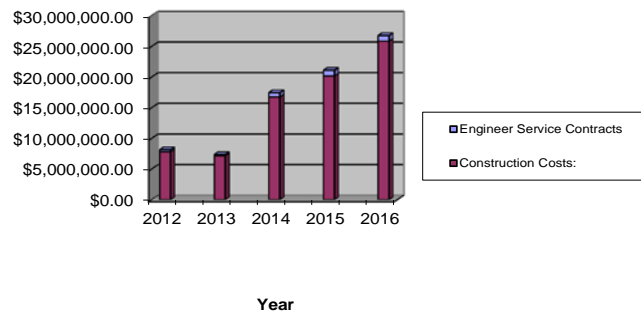
The Engineering Division oversaw \$25,861,453 of infrastructure construction projects in 2016.

Outside design contracts totaled \$922,865.

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

Infrastructure Project Costs

Construction Costs



Engineering Value Calculations

Project	Design Cost	2016 Design Costs Paid	2015 Design Costs Paid	2014 Design Costs Paid	2013 Design Costs Paid	2012 Design Costs Paid	Engineer's Estimate	Contractor	Bid Price	Final Cost	2016 Const. Payments
North High Water Tank							\$3,900,000	CB&I Southwest Companies	\$3,066,000	\$3,094,906	\$3,094,906
WTP - Misc. Tank Painting							\$100,000	Stout	\$69,560	\$69,560	\$69,560
Edgewood Fire Hydrants							\$25,000	Fioritto Construction	\$26,255	\$25,871	\$25,871
Burbank Waterline							\$390,000	Dirt Dawg	\$325,033	\$325,483	\$325,483
Leroy Waterline							\$49,500	D & M	\$41,834	\$39,536	\$39,536
Milltown Water Tank Painting							\$375,000	Fioritto Construction	\$283,500	\$283,500	\$283,500
Ihrig and Sherman Waterline							\$320,000	Simonson Construction	\$265,740	\$269,828	\$269,828
Secondary Transmission Contract A							\$650,000	Dirt Dawg	\$649,873	\$344,237	\$344,237
Secondary Transmission Contract B							\$460,000	Dirt Dawg	\$486,760	\$413,621	\$413,621
North Street Waterline							\$90,000	Dirt Dawg	\$80,417	\$80,405	\$80,405
WRRF - Liquid Stream	\$250,000	\$43,613	\$99,973	\$93,525	\$152,150		\$4,840,000	Kirk Brothers	\$3,817,000	UC	\$4,116,897
Akron Rd - Phase 2	\$26,390					\$26,390	\$3,100,000	Wenger	\$3,077,862	\$2,978,011	\$2,978,011
SRTS - ODOT - Parkview							\$281,000	Terra Valley	\$320,142	\$300,551	\$300,551
Akron Road Industrial Park	\$33,500	\$33,500					\$370,000	GE Baker	\$305,102	\$295,197	\$295,197
Concrete Repairs 2016							\$350,000	Denes Concrete	\$299,164	\$461,284	\$461,284
ODOT Resurfacing 2016							\$945,000	Melway Paving	\$756,984	\$679,886	\$679,886
E. Pine Street Reconstruction							\$440,000	Terra Valley	\$403,740	\$433,559	\$433,559
E. Bowman & Long Road Resurfacing							\$565,000	Karvo Paving	\$584,911	\$513,598	\$513,598
Columbus Gateway	\$21,125		\$17,787	\$3,337			\$218,299	Stout Excavating	\$261,495	\$276,067	\$276,067
Traffic Signal Replacement	\$17,000		\$17,000				\$300,000	Perram Electric	\$254,110	\$256,012	\$256,012
North Street Traffic Signal	\$38,148	\$30,889					\$600,000	Perram Electric	\$505,300	UC	\$0
2017 Paving ODOT							\$685,000	Kokosing	\$479,533	UC	\$0
2017 Paving							\$490,000	Kokosing	\$479,533	UC	\$0
Dix Culvert Lining							\$200,000	GE Baker	\$105,720	UC	\$0
Holmes Culvert							\$25,000	Bogner	\$25,000	\$26,802	\$26,802
Madison Ave. Storm							\$100,000	Fioritto Construction	\$69,787	\$64,462	\$64,462
Oakley Culvert	\$37,600	\$37,600					\$253,100	Denes Concrete	\$236,015	\$230,625	\$230,625
Silver Road Culvert							\$25,000	Dirt Dawg	\$22,350	\$22,350	\$22,350
Fire Station #3	\$29,102	\$1,102	\$28,000				\$400,000	CCI Commercial	\$439,379	\$455,077	\$455,077
Christmas Run Basketball Court							\$65,000	TR Snyder	\$86,832	UC	\$0
Safety Service Building	\$450,000	\$373,600					\$7,000,000	John G. Johnson	\$7,570,637	UC	\$2,016,916
Utilities Building Addition	\$20,000	\$11,436					\$425,000	CCI Commercial	\$465,885	UC	\$0
	\$922,865	\$531,740	\$162,760	\$96,862	\$152,150	\$26,390	\$28,036,899		\$25,861,453		\$13,207,699
Industry Standard for Design Engineering* =	8.5%								\$2,198,224		

Design Completed	Design Cost	2016 Design Costs Paid	2015 Design Costs Paid	Engineer's Estimate	Under Construction (2016)		
					Value of Construction Engineering	10.00%	\$789,029.90
Burbank Road Reconstruction				\$1,995,000	Design Value Provided in 2016	12.0%	\$147,398.58
Impala & Skylark Waterline				\$460,000	Design Completed (2016)		
					Value of Design Engineering		\$208,675.00
	\$0	\$0		\$2,455,000			

Under Design	Design Cost	2016 Design Costs Paid	2015 Design Costs Paid	Engineer's Estimate	Under Design (2016)		
					Value of Design Engineering		
Mechanicsburg Rd. SS				\$200,000			
SRTS - Sunset - Armstrong Sidewalks				\$300,000			
Wooster Bike Loop	\$127,625	\$106,067		\$1,050,000			
Downtown Streetscape	\$100,000	\$12,190	\$30,000	\$7,032,000			
Northview Dr. Waterline				\$190,000			
North Well Field Check Valve Replace.	\$10,000	\$8,800		\$200,000			
Welcome Signs	\$7,000	\$4,000					
Liberty Signals	\$35,864			\$772,000			
S. Spink St. Sewer Separation				\$560,000			
Nupp Drive Lift Station	\$9,000			\$150,000			
Wayne Ave. Culvert Replacement				\$150,000			
Geyers Chapel Culvert				\$175,000			
Lemar Storm Sewer				\$85,000			
OARDC-SR 302							
Crosswalk/Signal				\$180,000			
					Value of Design Engineering		\$649,251.00
	\$289,489	\$131,057	\$30,000	\$0	\$11,044,000		

Preliminary Engineering, Planning & Funding					Planning (2016)		
Water Projects (1)	\$0			\$1,200,000	Value of Preliminary Engineering	3.00%	\$316,116
Sewer projects (1)	\$0			\$740,000			
Storm (1)	\$0			\$1,755,000			
Roadway Projects (1)	\$0			\$6,842,216			
	\$0			\$10,537,216	Total Engineering Services Provided in 2016		
							\$2,110,471

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.

Consultant Services	% of
Paid	Construction
Under Construction	3.46%
\$969,902.00	
Design Completed	0.00%
\$0.00	
Under Design	1.46%
\$161,057.00	
\$1,130,959.00	4.71%