

CITY OF WOOSTER  
DIVISION OF ENGINEERING  
2010 Annual Report



Beall Avenue Streetscape – Intersection of Beall and Wayne

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January, 2011

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*Division of Engineering  
City of Wooster  
2010 Annual Report*

**Summary & Narrative – Section 1**

## **Division of Engineering 2010 Annual Report Executive Summary**

The 2010 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, 2010. 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 near 3% for 2010. 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 major projects alone was over \$1,100,000 in 2010.

The Engineering Division managed 10 infrastructure projects in 2010. The total dollar value of construction projects completed or under construction in 2010 was over \$12,000,000. For projects completed in 2010, final construction costs were almost \$300,000 less than anticipated which amounted to an almost 3% savings in actual construction costs for the City. Average bid prices for the year were very close to the estimated project costs, therefore, much of the savings in actual bid prices compared to estimates, can be attributed to an extremely competitive bid environment.

The Engineering Division is responsible for managing the replacement and improvement of the City's infrastructure. Including construction and development in 2010, 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. 189 permits were issued in 2010 compared to 70 in 2009. The increase in permit activity came strictly from right-of-way permits. We have been diligent in our enforcement of the need for the utility companies to apply for the right-of-way permits and this year has shown a marked increase.

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 2010 we processed our greatest number of OUPS requests (2417) with most utility locations being marked within 24 hours of the request.

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.

**2011 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.

**Personnel:**

<i>Name</i>	<i>Title</i>	<i>Years Experience</i>
Joel Montgomery	City Engineer, Licensed Professional Engineer	18
Roger Kobilarcsik	Staff Engineer, Licensed Professional Engineer	21
Ronald Middleton	Inspector II, Licensed Professional Surveyor	39
BJ Hoffman	Inspector II, B.S. Degree Construction Technology	23
Dave Case	Inspector II, Assoc. Degree Civil Eng. Technology	17
Matt Hill	Inspector II, ODOT Right-of-Way Certification	26
Spencer Gray	Engineering Technician/Drafter	26
Tom Hart	Engineering Technician/GIS Technician	28
Lynne DePaulo	Engineering Clerk/Prevailing Wage Coordinator	32

Personnel costs were kept as low as possible by eliminating an intern position, and significantly reducing overtime, training and education to only that necessary to maintain required professional licensures.

**Operations:**

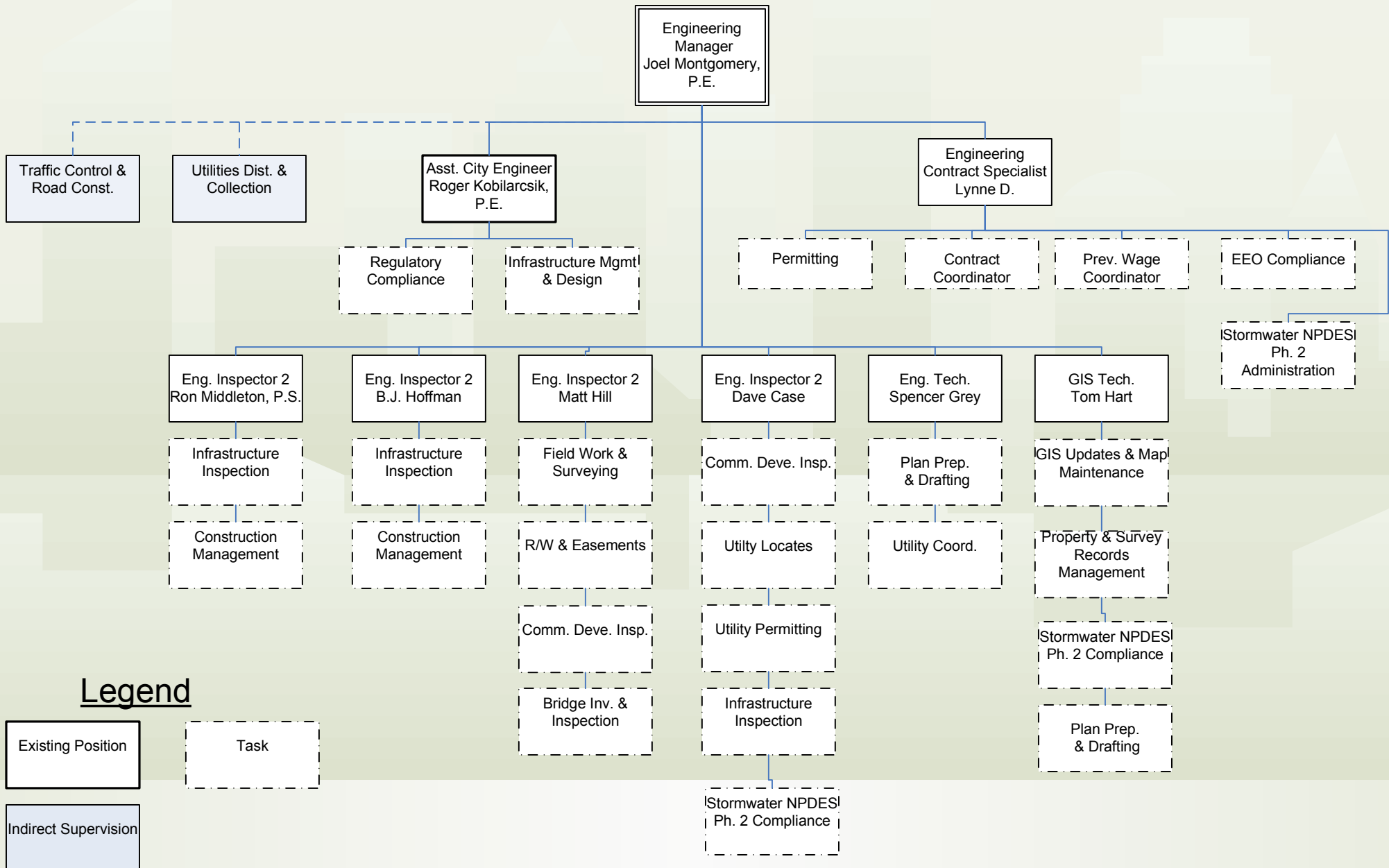
O&M costs have been reduced by reducing equipment, supplies and materials to only those items absolutely essential to perform job duties.

**Capital:**

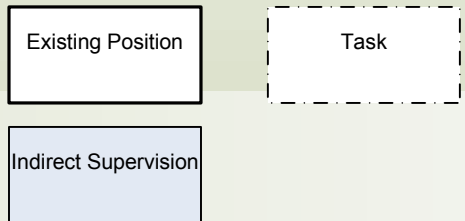
Infrastructure expenditures have been reduced to only those items receiving outside funding. In addition, the City participation amounts have been reduced by eliminating contractual services where possible and providing surveying, design and construction administration services with in-house staff.

Infrastructure cost reductions are the result of the Engineering Division obtaining more than \$2,500,000 in grant money. An additional \$500,000 in zero interest loan money has been applied for.

# City of Wooster Division of Engineering Organizational Chart



## Legend



**Division of Engineering  
2010 Project Narrative  
January, 2011**

**INFRASTRUCTURE PROJECTS COMPLETED OR UNDER CONSTRUCTION IN 2010:**

1. **Beall Avenue Streetscape:** This project consisted of complete roadway reconstruction and utility improvements on Beall Avenue from Liberty Street to Bloomington Avenue. New roadway was constructed complete with curb and gutters, turn lanes, storm sewer and a boulevard section through the College of Wooster. Engineering plans were completed in 2006. The engineer's estimate for construction of this project was \$7,130,000.00. Funding for this project was obtained from CDBG, ODOT, EPA, College of Wooster and local government. Northstar Asphalt was awarded the contract in July 2008 with a bid price of \$7,005,938.80. The final walk-through and paperwork was completed in July 2010 with a total contract cost of \$6,850,000.00

2. **Freedlander Building Demolition:** The Wooster Engineering Division worked with BCMS and the Wooster Growth Association to help coordinate the demolition of the Freedlander Building. The Engineering Division designed and managed the entire project. The project was bid in July 2009 with 15 bids being submitted. This project was divided into separate contracts for the purpose of hazardous material removal, demolition and common wall stabilization.

**Contract A: Demolition:** B & B Wrecking was awarded the demolition portion of the project with a low bid of \$509,308.00. The contract was finalized in December 2010 for a final construction amount of \$525,981.66.

**Contract C: Common Wall Stabilization:** Once the demolition was complete, it became apparent that the common wall would need stabilization. Bogner Construction agreed to do the work for \$58859.18. Stabilization began in December 2009 and the project was completed in June 2010 with a final project cost of \$58,859.18.

3. **Point-of-View Lift Station Replacement:** This project was designed by the Engineering Division and consists of replacing the existing lift station on Point-of-View Drive to meet current sanitary sewer flows and Ohio EPA regulations. The upgrade includes new non-clog submersible pumps, 8' diameter wet well, electric work, standby generator, and telemetry and control. The engineer's estimated construction costs for this project was \$600,000. Stout Excavating was awarded the contract with a bid price of \$629,512.50. Construction was completed in August 2010 with a final cost of \$674,875.40.

4. **Highland Tank Demolition:** With the completion of the Intermediate Water Tank, the Highland tank became obsolete. A contract for the demolition of the Highland tank was entered into with Iseler Demolition in late December 2009 in the amount of \$20,770.00. Demolition was completed in April 2010.

5. **Frito-Lay Sanitary Sewer – Contract B:** This project was a sanitary sewer replacement being done in conjunction with the BioTower. The engineer's estimate was \$175,000 and Stout Excavating was awarded the contract with a bid price of \$148,892.00. Construction was completed in August 2010 with a final contract amount of \$151,620.00.

6. **Frito-Lay Bio-Tower – Contract A:** A bio-tower is under construction at the Frito-Lay discharge location. The Bio-tower project was designed by ATS Engineering and has an estimated construction cost of \$2,481,400.00. Seven bids were received in January for construction of the Bio-Tower. Workman Industrial was awarded the contract with a bid price of \$2,377,738. Approximately 64% of the work was performed in 2010 with the balance to be completed by spring 2011.

7. **Gasche Street Sewer Separation:** This project was designed by the Engineering Division and consists of the installation of storm sewer and storm laterals for the purpose of separating storm sewer flows from the sanitary sewer per Ohio EPA mandates. The engineer's estimate for construction is \$1,100,000. The bid opening was held in June with Stout Excavating being awarded the contract for \$991,185.00. Close to 30% of the project was completed in 2010. The project has a scheduled completion date of March 2011.

8. **Kieffer Street Sewer Replacement:** The Wooster Engineering Division designed the project which consisted of replacing a damaged sanitary sewer line with new HDPE conduit. The engineers estimated for construction is \$62,500. G.E. Baker was the only bid received and was awarded the contract with a price of \$59,900. The project was completed in December 2010 with a final contract price of \$61,400.

9. **Transmission Valve Replacement:** This project was designed by the Wooster Engineering Division and consisted of the replacement of 6 16" existing watermain valves and the addition of 4 16" gate valves on an existing 16" transmission line. The project replaced existing valve vaults with new valves and added additional valves that will allow for better control of the transmission line. The cost estimate for this project was \$100,000 part of which is being funded from the OPWC.

The bid opening was held in May and received 4 bids for construction. Stout Excavating was awarded the contract with a bid price of \$96,274.00. The project was completed in August 2010 with a final contract amount of \$98,019.00.



## **INFRASTRUCTURE PROJECTS SCHEDULED/PLANNED FOR 2011:**

1. **North High Water Tank :** This project is under design by the Division of Engineering with a current estimate of \$1,605,000. This project will provide water storage in a portion of the City's water system which currently provides less than ½ day of storage based on current average water usage.

2. **SR585/Akron Road Reconstruction – Phase 1 :** This project was designed with the intent to reduce congestion and improve safety by installing storm sewers, curb, gutter and sidewalks, bike lane, adding a turn lane, flattening the curve and reconfiguring lane usage at Portage Road and providing a new surface coarse over the existing roadway between Old Airport Road and Gateway Drive. The project estimate for Phase 1 is \$1,700,000 and will be partially funded by ODOT.

Right-of-way acquisition is completed and preliminary assessment calculated. The anticipated bid date is March 2011 with construction beginning shortly thereafter.

3. **SR585/Akron Road Reconstruction – Phase II :** This project is being designed with the intent to reduce congestion and improve safety by installing storm sewers, curb, gutter and sidewalks, bike path, adding a turn lane and providing a new surface coarse over the existing roadway between Gateway Drive and Long Road. The project estimate is \$2,529,940.00 and will be partially funded by ODOT.

4. **Melrose Drive Improvements:** The Wooster Engineering Division has completed the design to improve approximately 4,200 linear feet of Melrose Drive by widening the roadway, improving intersections and upgrading utilities. The construction estimated cost for this project is \$2,200,000 with OPWC providing a \$500,000 grant. Right-of-way acquisition is underway and the assessment process initiated in 2010. The project is slated for a spring bid opening.

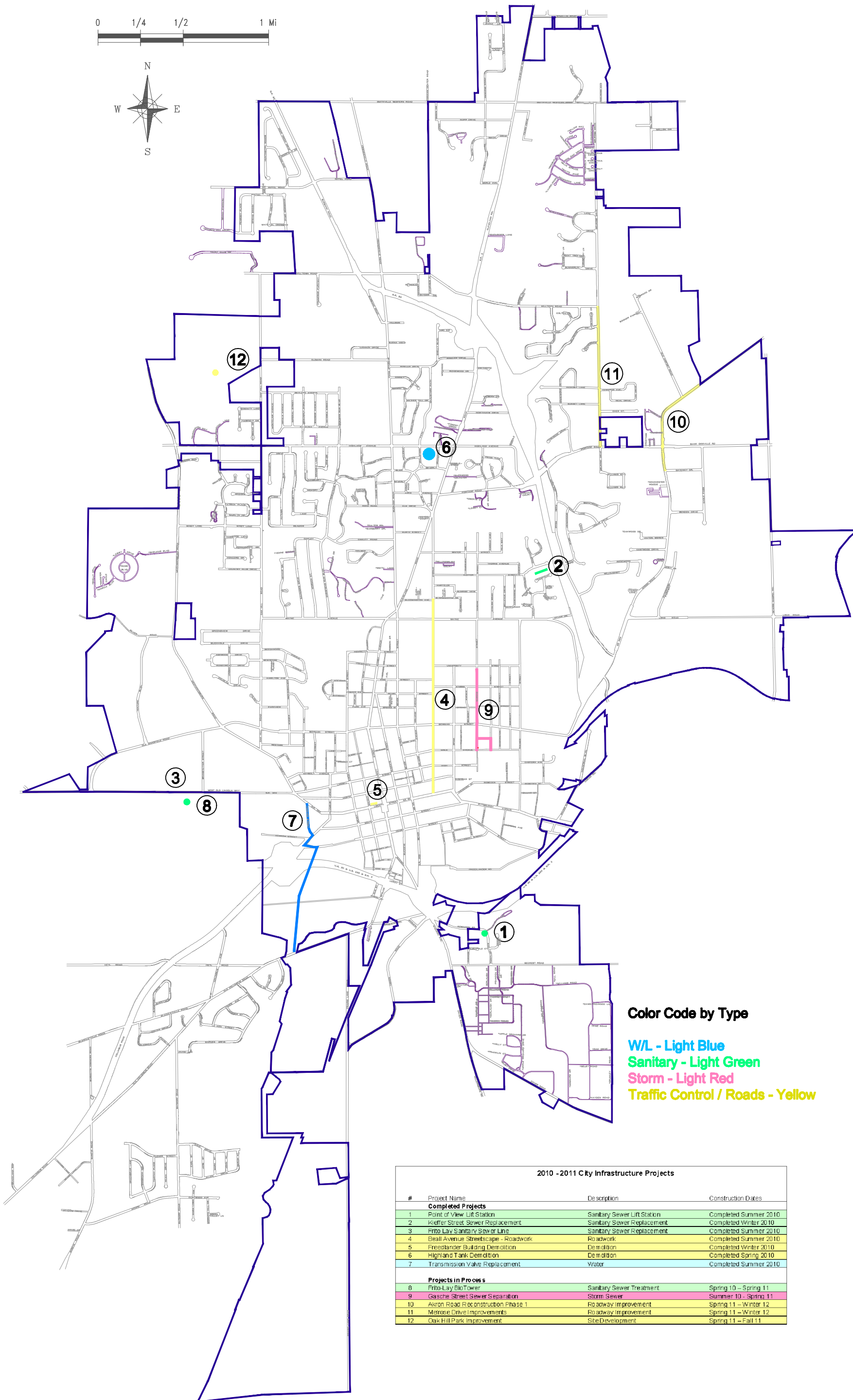
5. **South Street Renovation:** This project consists of upgrading South Street between Walnut Street and Grant Street. This project is part of the renovation of the Library Campus. Improvements include updating an existing cast iron waterline, new curb and gutter, new sidewalks and new pavement and new signal at the intersection of Liberty and Walnut. The estimated construction cost is \$245,000. A portion of this project is being funded by the Cultural Facilities Commission and OPWC.

6. **OARDC – SR 302 Crosswalks:** This project is being coordinated with the OARDC/ATI to install crosswalks and sidewalks in the recently annexed area on SR 302 adjacent to the campus. Construction of these crosswalks is part of the annexation agreement between the OARDC with costs being shared. The engineer's estimate for this project is \$23,000.

- 7. Burbank Road W/L – Phase 1:** This project will be designed by the Wooster Engineering Division and consists of replacing existing under-sized and corroded cast iron water mains, upgrading water services and replacing fire hydrants. The project limits are from the intersection of Burbank and Cleveland Road to the south and north to Elm Drive. Funding for this project will be a combination of local funds and OPWC funding. Construction cost estimate for this project is \$660,000. Field work has begun on this project.
- 8. Melrose Booster Station :** This project consists of construction of a booster station to pump water from the intermediate zone to the proposed north high zone tank. The station includes a pump building, pumps, electrical, telemetry, waterline piping and backup generator. Construction cost estimate for this project is \$644,500.
- 9. Spring Street W/L :** This project will be designed by the Wooster Engineering Division and consists of replacing an existing cast iron waterline with a new larger ductile iron waterline. Improvements include upgrading water services and new fire hydrants. The construction cost estimate for this project is \$500,000.
- 10. Friendsville Road Reconstruction:** This project is being designed by GPD Associates and consists of replacing curb, gutter and sidewalks and widening the road to accommodate the additional traffic between Riffel and Burbank Roads. The construction cost estimate is \$2,000,000.
- 11. Oak Hill Park:** The Wooster Engineering Division is in the process of designing the hiking and biking trails for the development of the Oak Hill Park. Phase 1 will be the grading and development of the trails, Phase 2 will consist of construction of the pavilion and parking area. The estimated cost of development will be \$1,000,000. Phase 1 will be out for bid March 2011.
- 12. Merchant Block Parking Lot Improvements:** The parking area will be improved at Liberty and Walnut as part of the development of Merchant's Block.
- 13. Wooster Gateway Projects:** The project is located at the intersection of SR 30 and Madison Avenue (SR 302) adjacent to downtown Wooster, Ohio. It consists of landscaping elements including trees, shrubs and wildflower plantings. Other design elements include identity and directional signage, minor sidewalk improvements, and site elements. Engineers estimate is \$375,000.

# 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

2010 - 2011 City Infrastructure Projects

#	Project Name	Description	Construction Dates
<b>Completed Projects</b>			
1	Point of View Lift Station	Sanitary Sewer Lift Station	Completed Summer 2010
2	Kieffer Street Sewer Replacement	Sanitary Sewer Replacement	Completed Winter 2010
3	Frito Lay Sanitary Sewer Line	Sanitary Sewer Replacement	Completed Summer 2010
4	Beall Avenue Streetscape - Roadwork	Roadwork	Completed Summer 2010
5	Freedlander Building Demolition	Demolition	Completed Winter 2010
6	Highland Tank Demolition	Demolition	Completed Spring 2010
7	Transmission Valve Replacement	Water	Completed Summer 2010
<b>Projects in Process</b>			
8	Frito-Lay Bio Tower	Sanitary Sewer Treatment	Spring 10 - Spring 11
9	Gasche Street Sewer Separation	Storm Sewer	Summer 10 - Spring 11
10	Akron Road Reconstruction Phase 1	Roadway Improvement	Spring 11 - Winter 12
11	Mérose Drive Improvements	Roadway Improvement	Spring 11 - Winter 12
12	Oak Hill Park Improvement	Site Development	Spring 11 - Fall 11

**Private Developments**

1. **Private Subdivisions/Commercial Property under Construction:** The City saw an increase in development in the education and healthcare fields, while development in the industry and retail areas was minimal.

The College of Wooster began construction on a new \$30 million Student Recreation Center. Coinciding with the new center, the College also had to relocate their track field events from the football stadium area to along the south side of Wayne Avenue.

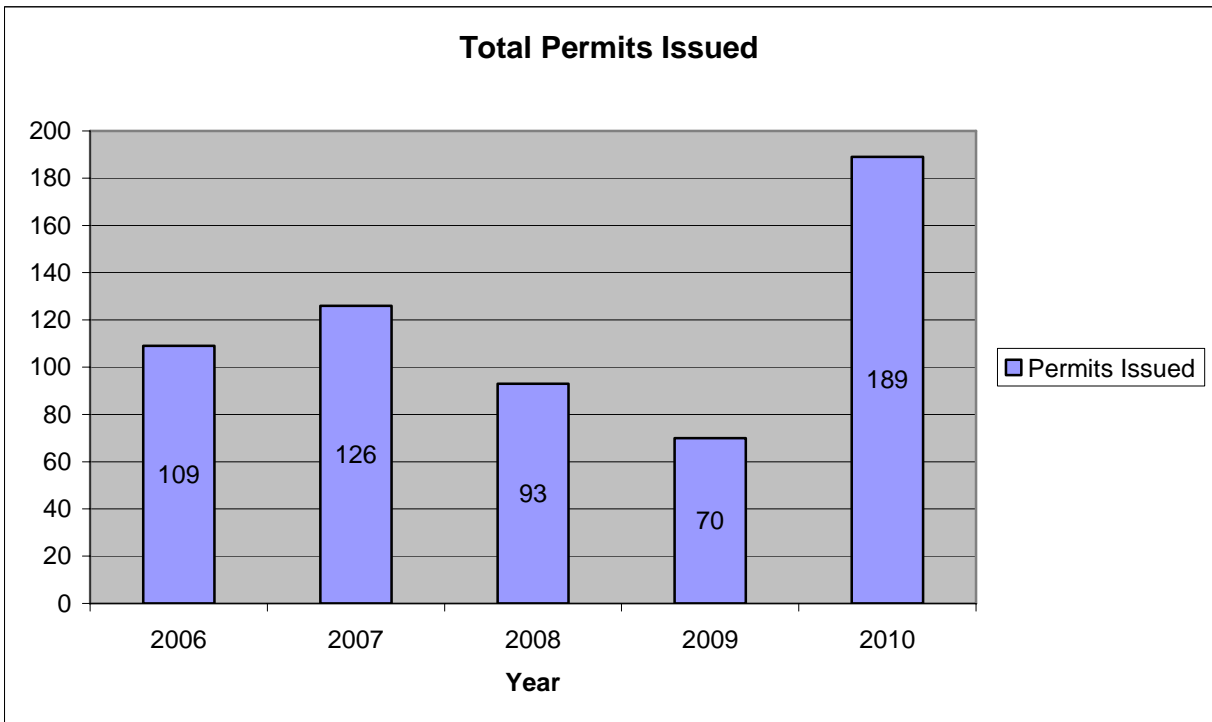
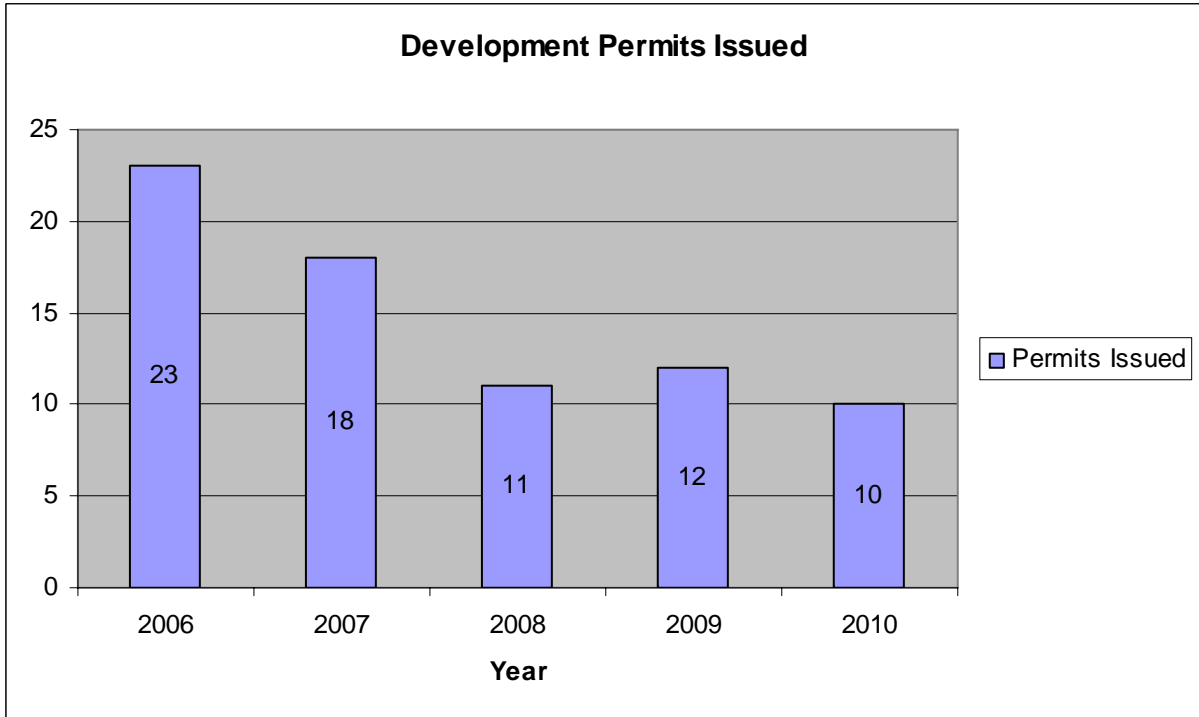
The Cleveland Clinic and Healthpoint facilities both are in the midst of major expansions which include building additions and site improvements.

Burger King demolished their old restaurant on Cleveland Road and began construction of a new facility in December.

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.

2. **Subdivision Plan Review Table:** The table below lists all subdivisions and developments submitted for review in 2010.

City of Wooster						
Engineering Development Permits						2010
DEVELOP. #	PERMIT NO.	PROJECT NO.	NAME / DESCRIPTION	SITE IMP.S COST ESTIMATE	PLAN REVIEW FEE	DATE RECEIVED
1	2010001	103009	Cleveland Clinic Addition	\$4,000,000	\$ 1,581.00	03/04/10
2	2010002	103008	COW Rec Center	\$25,000,000	\$ 13,705.50	5/4/2010
3	2010003	093013	Wayne Elementary	\$150,000	\$ 1,182.30	05/06/10
4	2010004	103019	Healthpoint Addition	\$1,000,000	\$ 1,192.00	06/15/10
5	2010005	103020	Grace Brethren Church	\$17,000	\$ 872.00	06/17/10
6	2010006	103021	Certified Angus Beef	\$10,000	\$ 433.00	7/23/2010
7	2010007	103023	1847 Cleveland Road - Tank Removal	\$2,500	\$ 200.00	08/02/10
8	2010008	103024	COW Field Events Relocation	\$10,000	\$ 200.00	08/26/10
9	2010009	103025	Daily Record Parking	\$7,500	\$ 433.00	08/30/10
10	2010110	103028	Burger King	\$150,000	\$ 370.00	09/30/10
				\$30,347,000	\$ 20,168.80	



The increase in the total number of permits issued for 2010 can be attributed to Dominion East Ohio Gas's compliance with the Engineering Divisions right-of-way permit regulations. Permits for right-of-way work increased from 42 in 2009 to 174 in 2010.

**ENGINEERING FEES AND REVENUES :**

The following chart details the revenues received the past few years by the Division of Engineering. The increase in revenue for 2010 can be attributed to the College of Wooster, Cleveland Clinic, Healthpoint and Vinton Woods development permits issued.

	2007	2008	2009	2010
Single Inspection	\$2,692.00	\$640.00	\$1,600.00	\$6,240.00
Construction Inspection	\$29,268.00	\$12,635.15	\$7,094.79	\$27,676.69
Plan Review Fee	\$55,548.00	\$18,910.80	\$14,431.80	\$52,900.80
Plan Copies	\$2,765.00	\$8,400.60	\$5,785.05	\$1,796.70
Yard Pipe Permit	\$476.00	\$120.00	\$120.00	\$120.00
Sanitary Sewer Permit	\$5,850.00	\$520.00	\$800.00	\$1,260.00
San. Sewer Availability Charge	\$72,225.00	\$13,037.00	\$16,388.20	\$1,760.00
Water Availability	\$39,819.00	\$12,840.00	\$14,236.00	\$3,600.00
Water Service Permit	\$960.00	\$760.00	\$1,240.00	\$120.00
Development Permit Waiver	(\$37,500.00)	(\$18,750.00)	\$0.00	\$0.00
<b>TOTAL FEES COLLECTED</b>	<b>\$172,103.00</b>	<b>\$49,113.55</b>	<b>\$61,695.84</b>	<b>\$95,474.19</b>

**Permissive Tax Revenue:                    \$111,579.73    \$109,281.06    \$108,009.03    \$107,573.13**

Permissive tax revenue represents the portion of the state vehicle license tax received by the city. These funds are released to the city based on roadway construction expenditures for projects managed by the Division of Engineering. The Division requests disbursement of these funds on a bi-monthly basis. The total funds requested and released from 1969 to December 2010 is \$3,699,169.36.

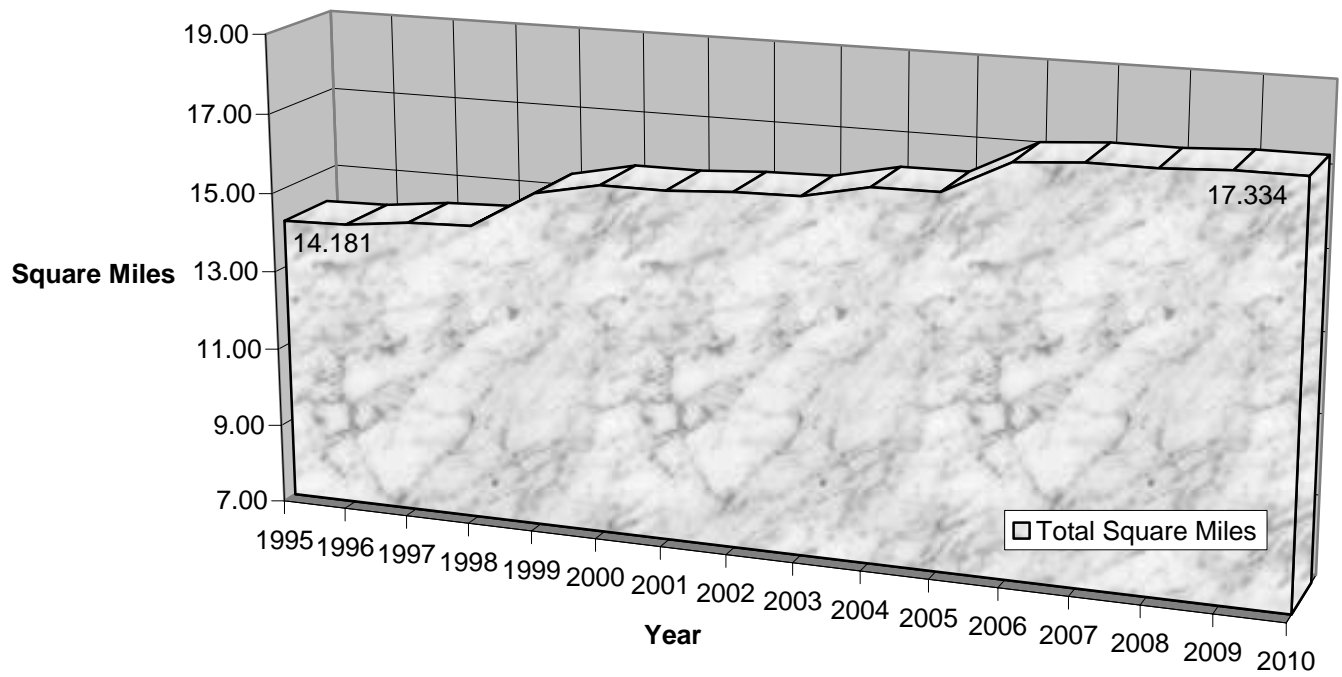
Total general fund expenses were just over \$145,000 for Engineering Operations and Maintenance. General fund revenues were just over \$86,000; therefore the net cost of the Engineering Division attributed to the general fund is \$60,000. Engineering revenues recovered just under 60% of costs to the general fund.

Overall, the value of engineering services provided based on construction project costs alone exceeded \$1,100,000 which exceeds the entire Engineering budget across all cost centers.

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**City Growth Statistics – Section 2**

# City Growth Total City Area





## 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

### 2010 Annexations

No.	Description	Date	Area
None			

### 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
2001	25,047 (b)	15.772 Sq. Mi.	120.79 Miles
2002	25,342 (b)	15.872 Sq. Mi.	121.55 Miles
2003	25,420 (b)	15.910 Sq. Mi.	122.87 Miles
2004	25,801 (b)	16.264 Sq. Mi.	125.39 Miles
2005	26,166 (b)	16.282 Sq. Mi.	127.20 Miles
2006	26,411 (b)	17.126 Sq. Mi.	129.76 Miles
2007	26,527 (b)	17.244 Sq. Mi.	131.98 Miles
2008	27,112 (b)	17.244 Sq. Mi.	132.67 Miles
2009	27,288 (b)	17.344 Sq. Mi.	133.10 Miles
2010	27,578 (b)	17.344 Sq. Mi.	133.10 Miles

(a) Census

(b) Estimated from Housing Starts

**NOTES**

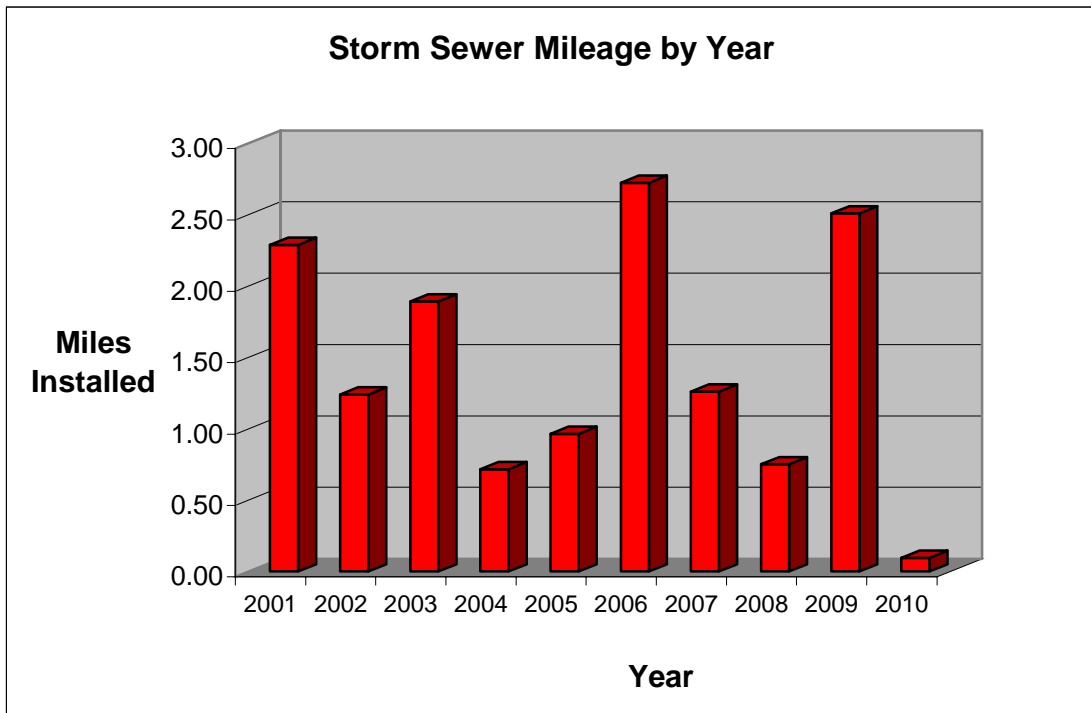
- 1) City-data.com estimates the population in July 2009 to be 26,213 with a population change since 2000 of +5.7%.
- 2) The estimates noted as (b) above represent a 10% - 11% population change since 2000.

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**Utility Statistics – Section 3**

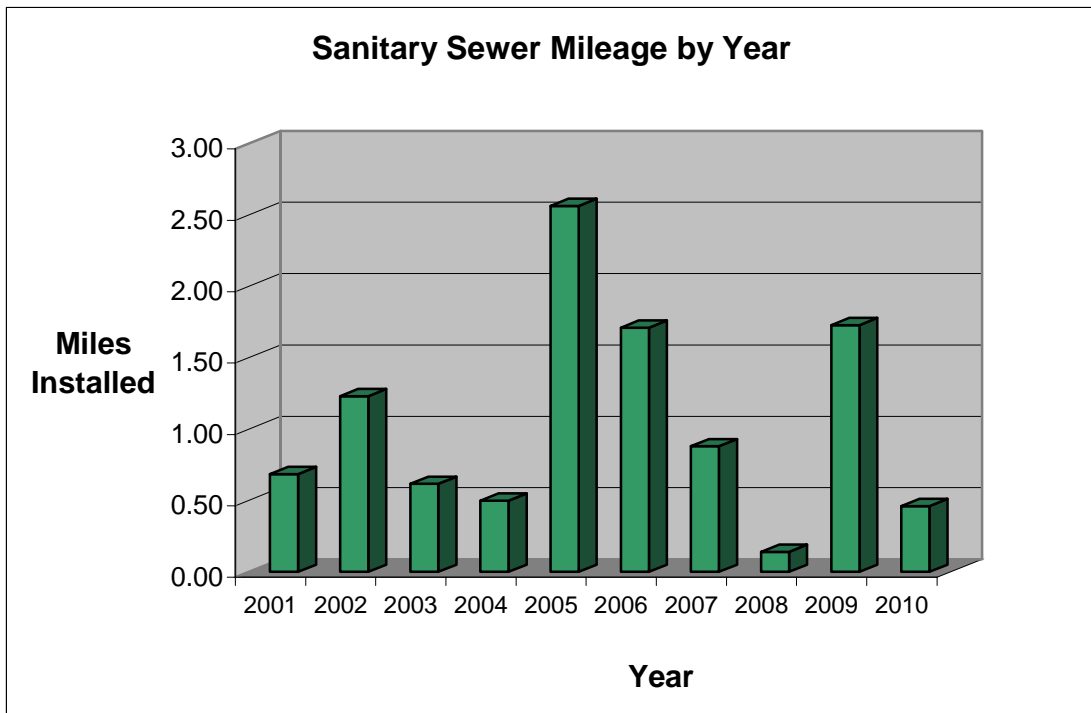
## Storm Sewer Mileage

Year	Increase in Miles	Total Mileage	% Increase
		105.95	
2001	2.29	108.24	0.00%
2002	1.24	109.48	1.15%
2003	1.89	111.37	1.73%
2004	0.72	112.08	0.64%
2005	0.96	113.05	0.86%
2006	2.72	115.77	2.41%
2007	1.26	117.03	1.09%
2008	0.75	117.78	0.64%
2009	2.51	120.28	2.13%
2010	0.10	120.38	0.08%



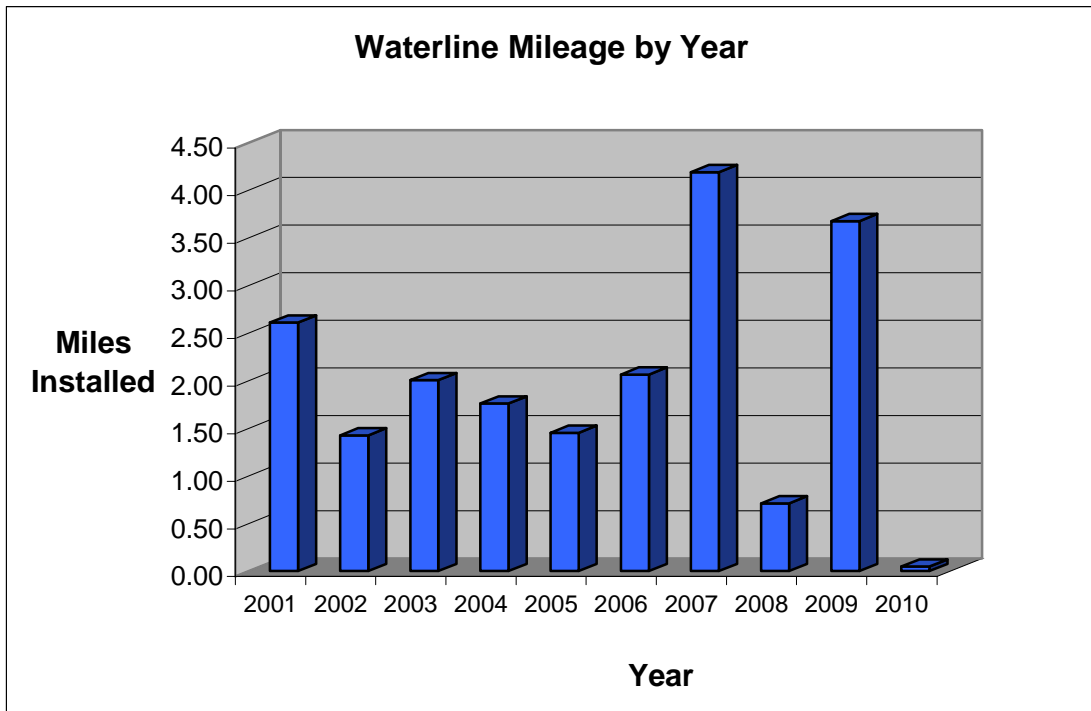
### Sanitary Sewer Mileage

Year	Increase in Miles	Total Miles	% Increase
		110.11	
2001	0.68	110.79	0.62%
2002	1.23	112.02	1.11%
2003	0.62	112.64	0.55%
2004	0.50	113.14	0.44%
2005	2.56	115.70	2.26%
2006	1.71	117.41	1.48%
2007	0.88	118.29	0.75%
2008	0.14	118.43	0.12%
2009	1.73	120.16	1.46%
2010	0.46	120.62	0.38%



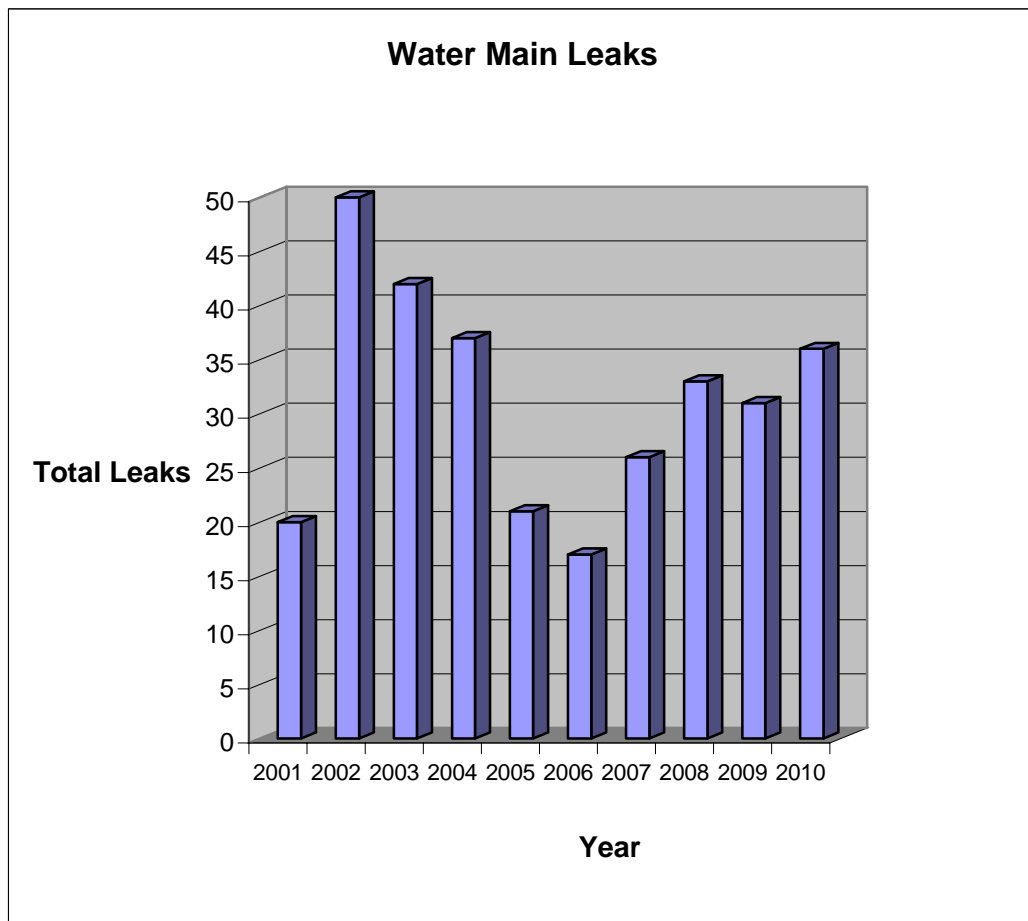
### Waterline Mileage

Year	Increase in Miles	Total Miles	% Increase
		114.82	
2001	2.61	117.43	2.27%
2002	1.43	118.86	1.21%
2003	2.00	120.86	1.69%
2004	1.76	122.62	1.46%
2005	1.45	124.07	1.18%
2006	2.06	126.14	1.66%
2007	4.19	130.33	3.32%
2008	0.71	131.03	0.54%
2009	3.68	134.71	2.81%
2010	0.05	134.76	0.03%



## Water Main Leaks

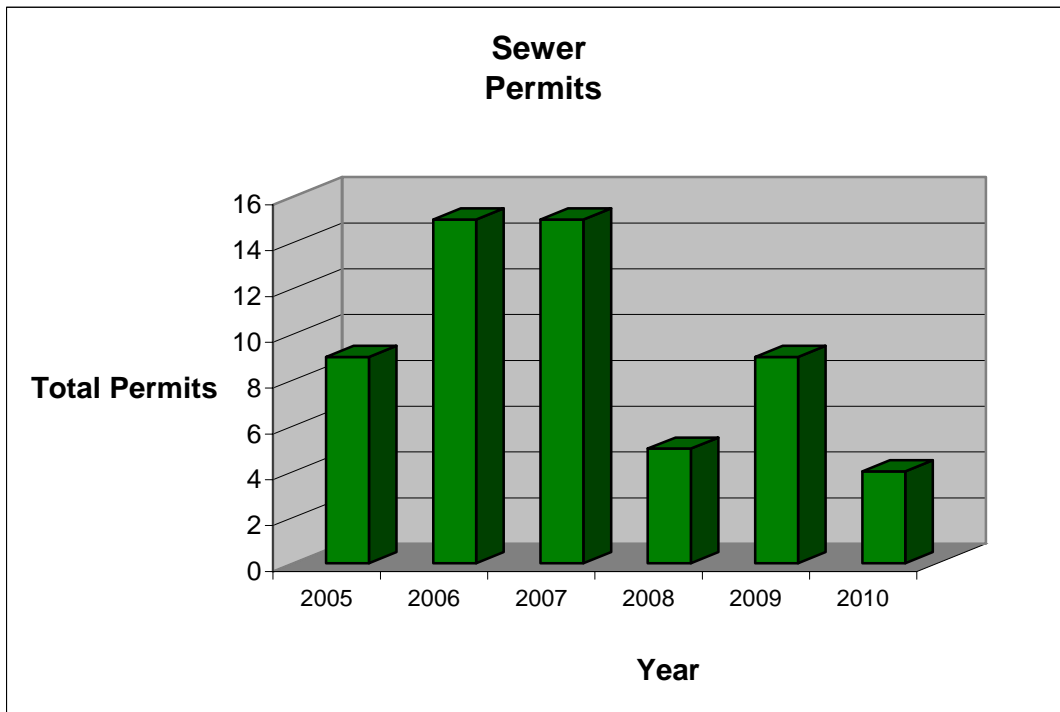
<u>Year</u>	<u>Number</u>
2001	20
2002	50
2003	42
2004	37
2005	21
2006	17
2007	26
2008	33
2009	31
2010	36



Even with significant waterline replacements over the past few years, water leaks continue to be consistent due to the age and deterioration of the infrastructure still in place. Many leaks occurred on water mains originally scheduled for replacement, but postponed due to budget shortfalls.

## Sewer Permits

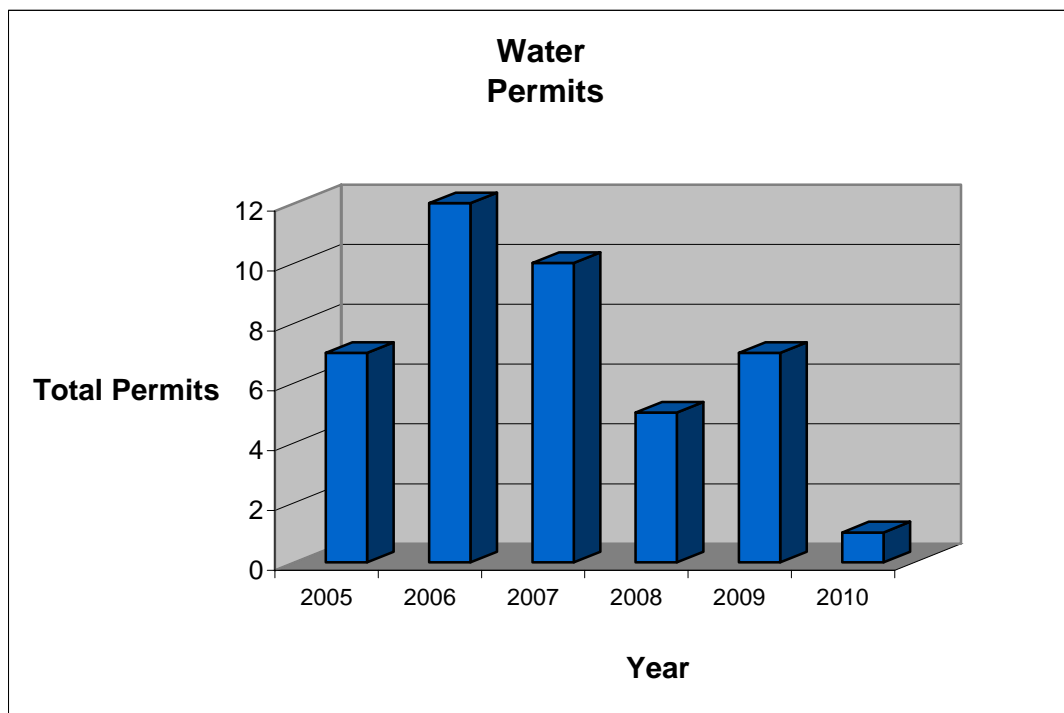
Year	Number
2001	24
2002	14
2003	17
2004	28
2005	9
2006	15
2007	15
2008	5
2009	9
2010	4





## Water Permits

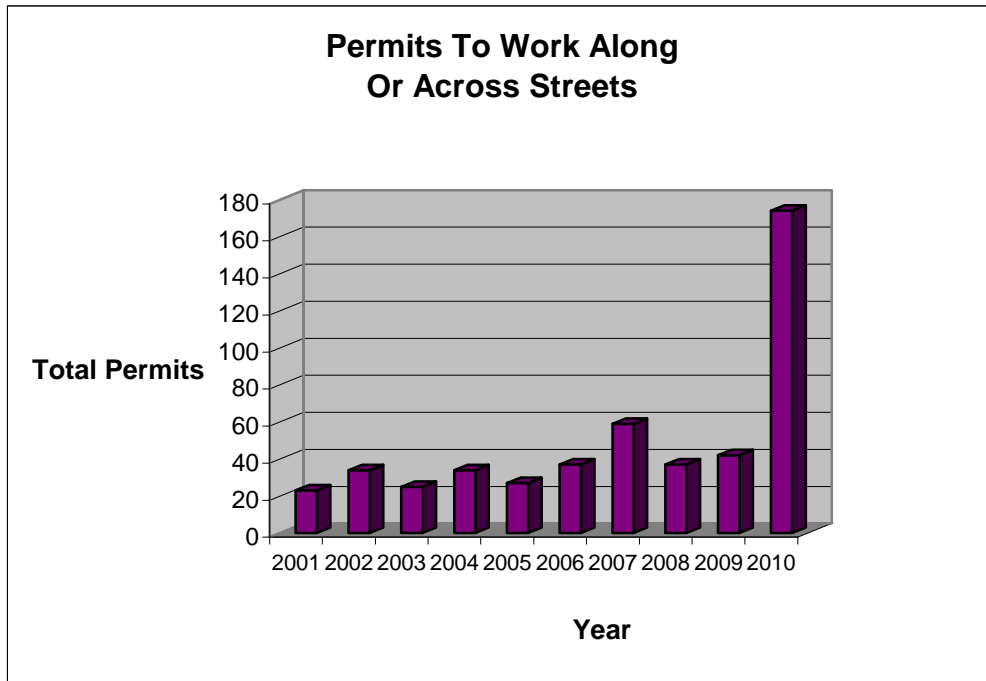
Year	Number
2003	7
2004	14
2005	7
2006	12
2007	10
2008	5
2009	7
2010	1



The majority of water permits are for new connections to new construction. The drop in water permits is a direct result of the drop in new construction since 2006.

**Permits To Work Along  
Or Across Streets**

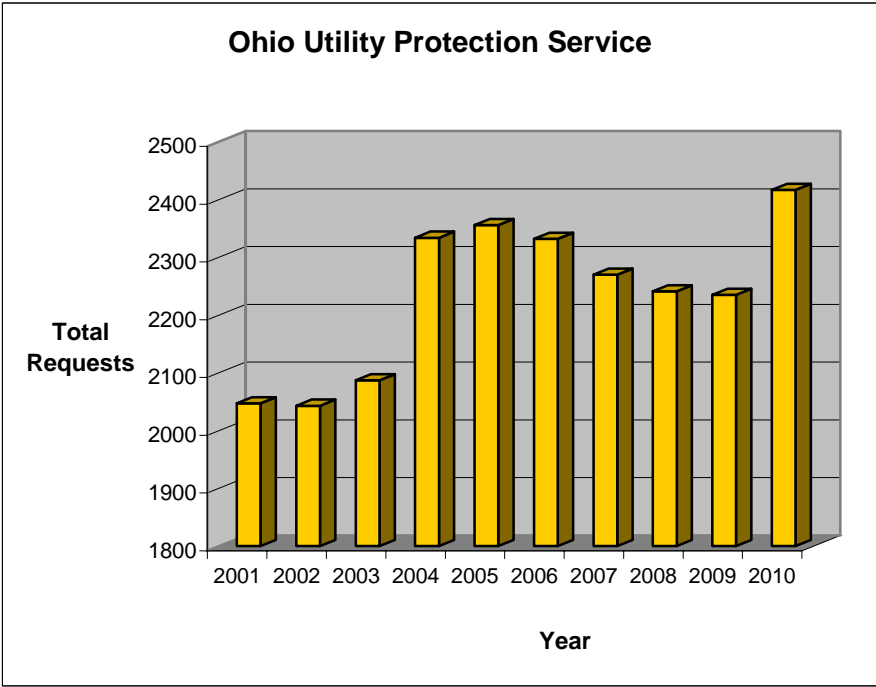
<u>Year</u>	<u>Number</u>
2001	23
2002	34
2003	25
2004	34
2005	27
2006	37
2007	59
2008	37
2009	42
2010	174



The increase in the number of permits issued for 2010 can be attributed to Dominion East Ohio Gas's compliance with the Engineering Divisions right-of-way permit regulations. Permits for right-of-way work increased from 42 in 2009 to 174 in 2010.

**Ohio Utility Protection Service**  
**Location Requests**

<u>Year</u>	<u>Number</u>
2001	2047
2002	2043
2003	2087
2004	2334
2005	2356
2006	2332
2007	2270
2008	2241
2009	2235
2010	2417

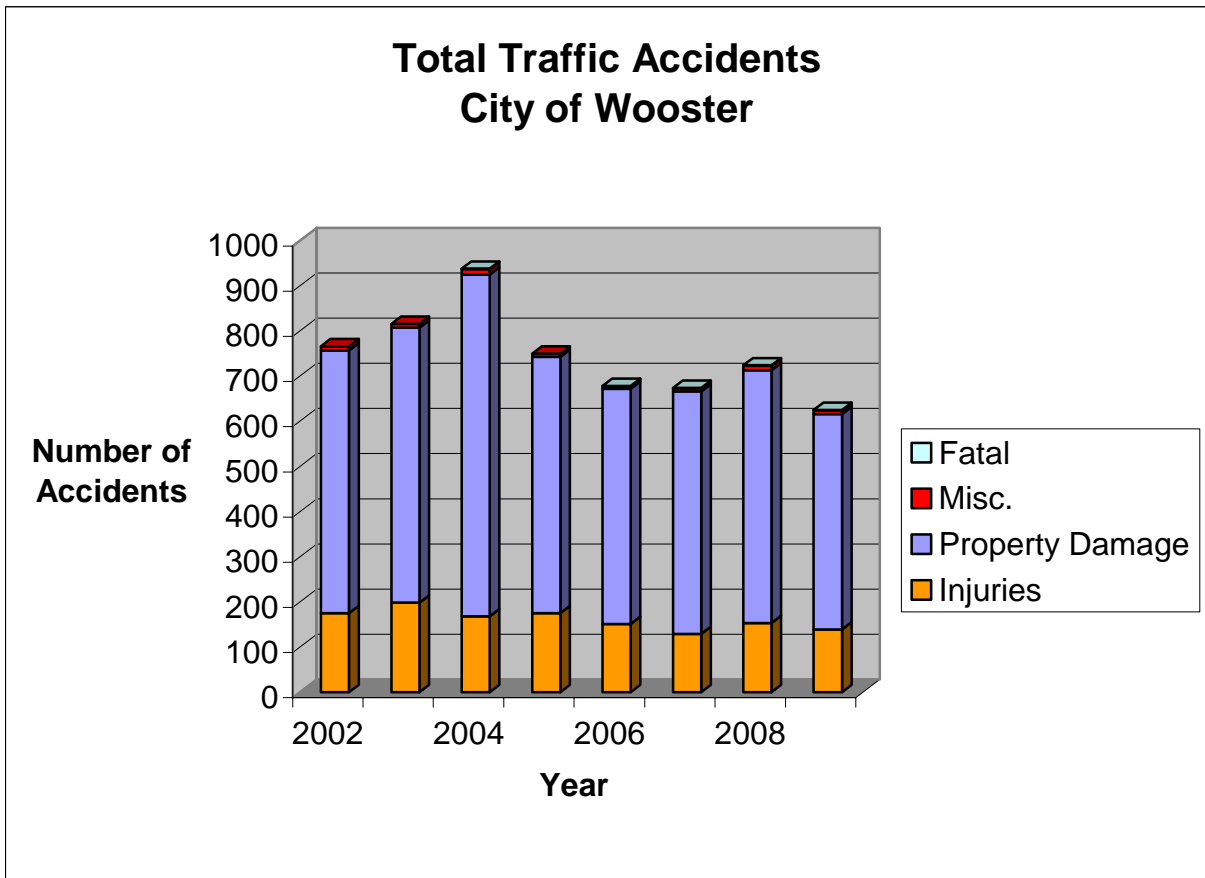


*Division of Engineering  
City of Wooster  
2010 Annual Report*

**Traffic Statistics – Section 4**

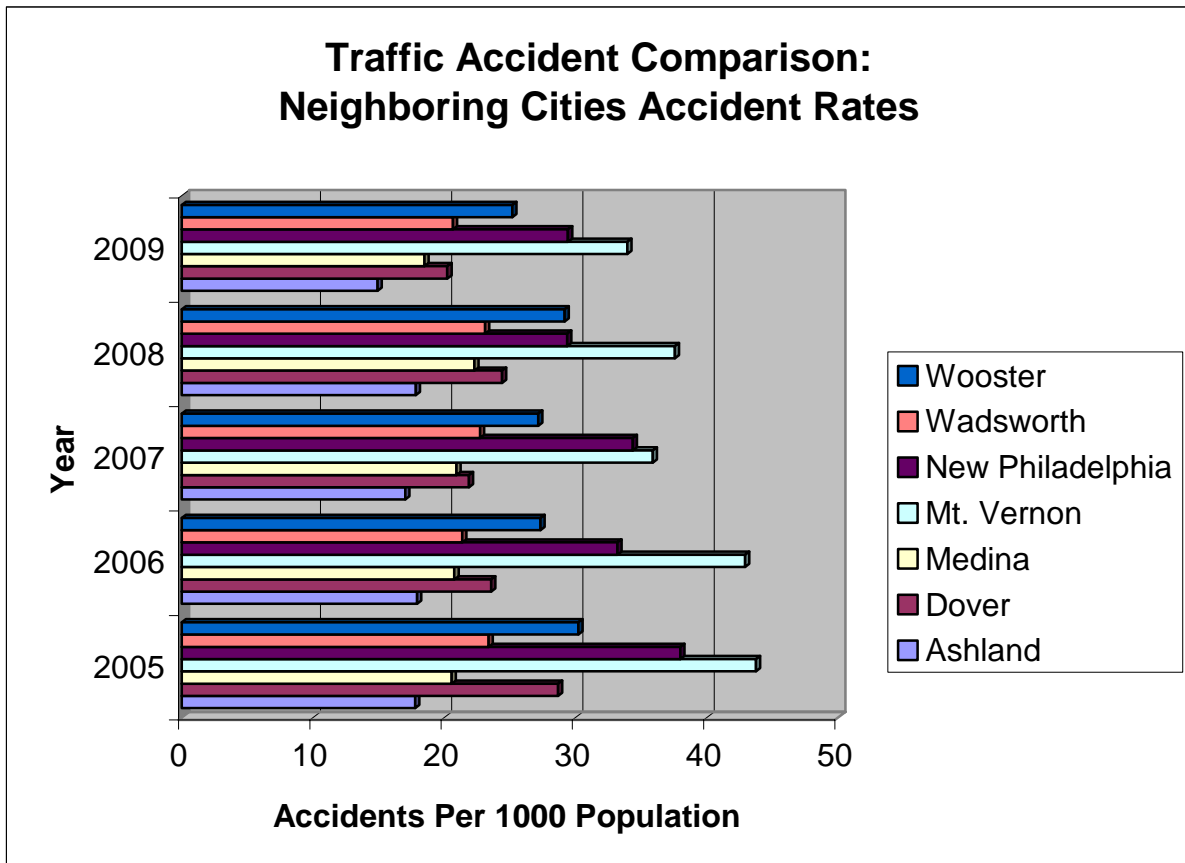
**City of Wooster**  
**Traffic Accidents**

Year	Injuries	Property Damage	Misc.	Fatal
2000	197	587		
2001	197	609	19	1
2002	175	582	9	
2003	198	609	9	
2004	168	757	12	1
2005	175	568	7	
2006	151	521	5	1
2007	129	537	7	1
2008	153	560	10	1
2009	139	477	8	1



Accidents Per 1000 People

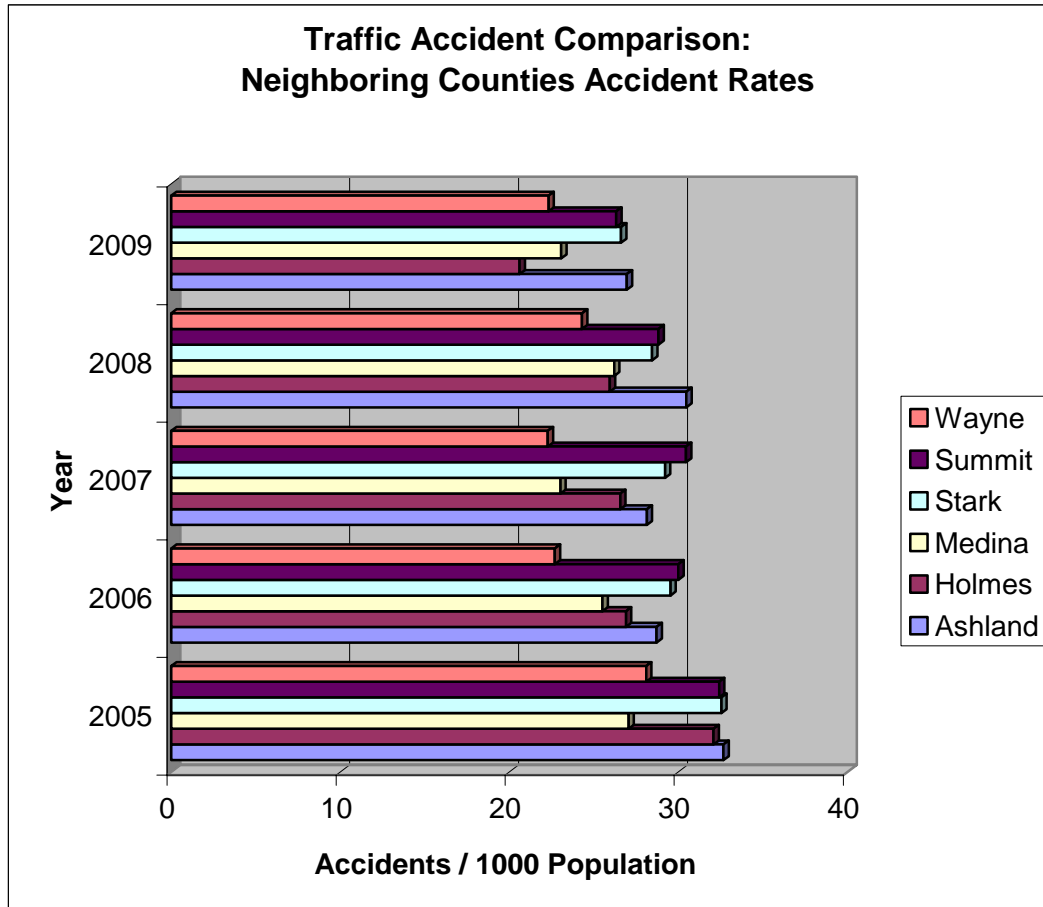
Year	Ashland (2000 Pop.)	Dover	Medina	Mt. Vernon	New		
					Philadelphia	Wadsworth	Wooster
	21249	12210	25139	14375	17056	18437	24811
2001	20.28	28.58	25.98	52.38	40.10	20.45	33.29
2002	22.73	32.60	25.02	46.82	40.45	18.93	30.87
2003	18.64	30.14	25.74	44.94	37.88	21.75	32.89
2004	20.71	26.13	21.08	48.49	38.11	22.45	30.51
2005	17.79	28.67	20.57	43.76	37.99	23.38	30.23
2006	17.93	23.59	20.76	42.92	33.18	21.37	27.33
2007	17.04	21.87	20.92	35.90	34.36	22.73	27.17
2008	17.84	24.41	22.28	37.57	29.37	23.11	29.18
2009	14.92	20.23	18.50	33.95	29.43	20.66	25.19



**Traffic Accident Comparison**  
**Rates by Neighboring Counties**

Accidents Per 1000 People

Year	Ashland	Holmes	Medina	Stark	Summit	Wayne
1999	36.16	31.13	27.68	34.29	38.45	30.37
2000	38.67	31.51	26.81	34.75	27.97	30.36
2001	34.37	30.35	26.55	31.13	36.19	28.12
2002	38.26	31.02	28.12	35.28	36.59	29.26
2003	37.05	33.84	29.14	36.51	36.27	32.01
2004	35.22	33.99	28.73	35.52	34.79	30.44
2005	32.67	32.09	27.06	32.55	32.42	28.1
2006	28.71	26.91	25.52	29.54	30.01	22.7
2007	28.14	26.57	23.03	29.22	30.46	22.28
2008	30.48	25.96	26.21	28.45	28.83	24.3
2009	26.96	20.62	23.08	26.62	26.33	22.33



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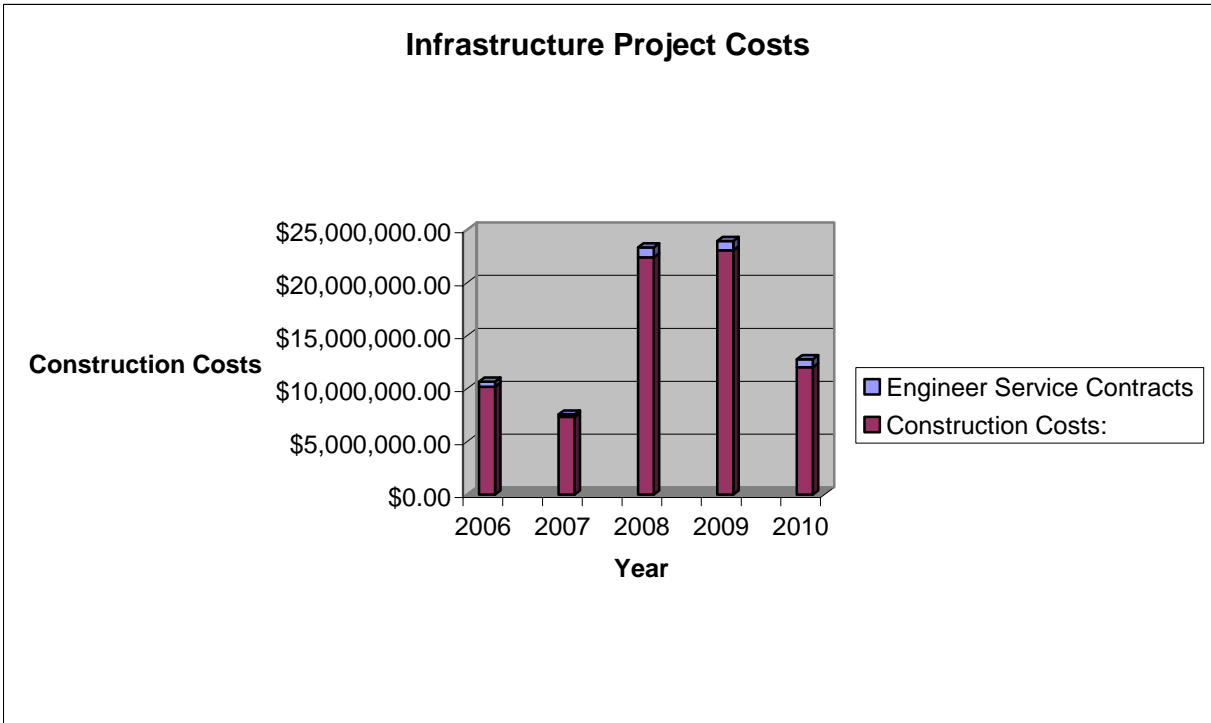
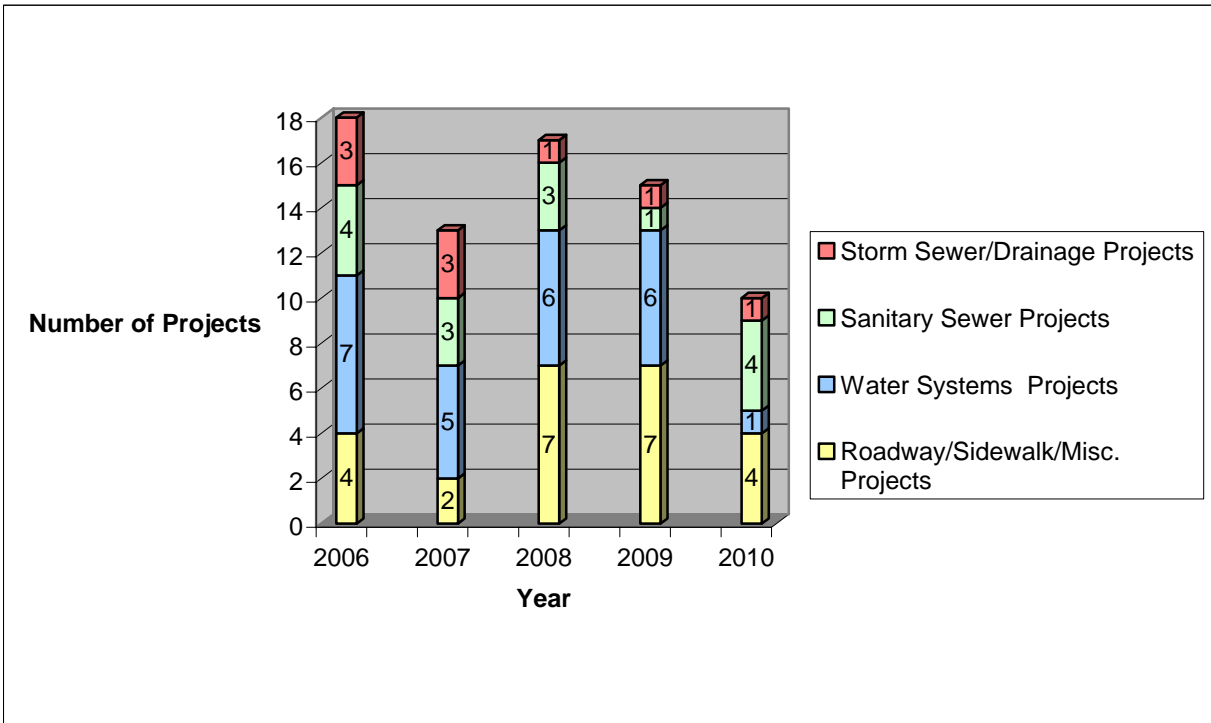
**Engineering Design Statistics – Section 5**



**DIVISION OF ENGINEERING**  
**2010 Annual Report - Project Summary**  
**(Projects Designed or Constructed in 2010)**

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED CONST. COST	BID PRICE	FINAL COST	Contract Balance	% Complete	Retainage
Freedlander Bldg. Demolition	Wooster Engineering	\$0	B & B Wrecking	\$500,000	\$509,308	\$535,801		100%	
Freedlander Bldg. Demolition	Wooster Engineering	\$0	Bogner	\$58,859	\$58,859	\$58,859		100%	
Highland Tank Demolition	Wooster Engineering	\$0	Iseler	\$23,000	\$20,770	\$20,770		100%	
Kieffer St. Sewer Replacement	Wooster Engineering	\$0	G.E. Baker	\$62,500	\$59,900	\$61,400		100%	
Point-of-View Lift Station	Wooster Engineering	\$6,075	Stout	\$600,000	\$629,513	\$674,875		100%	
Beall Avenue Streetscape	Brandstetter, Carroll Inc.	\$645,000	Northstar Asphalt	\$10,046,750	\$7,122,383	\$6,804,774		100%	
Transmission Valve Replacement	Wooster Engineering	\$0	Stout	\$110,000	\$96,274	\$98,019		100%	
Frito/Sanitary Sewer - Contract B	Wooster Engineering	\$0	Stout	\$175,000	\$148,892	\$151,620		100%	
Gasche St. Sewer Separation	Wooster Engineering	\$0	Stout	\$1,100,000	\$991,185	UC	\$689,126	30%	\$26,265
Frito Biotower - Contract A	ATS	\$79,750	Workman Ind.	\$2,481,400	\$2,377,738	UC	\$721,328	64%	\$132,769
<b>Subtotals</b>		<b>\$730,825</b>		<b>\$15,157,509</b>	<b>\$12,014,822</b>	<b>\$8,406,119</b>			
Friendsville Rd. Improvements	GPD	\$84,760	N/A	\$2,000,000	N/A	DC			
Melrose Dr. Improvements	Wooster Engineering	\$0	N/A	\$2,200,000	N/A	DC			
Akron Rd - Phase 1	Engineering Associates	\$255,000	N/A	\$1,700,000	N/A	DC			
South Street	Edsall	\$9,500	N/A	\$727,000	N/A	DC			
<b>Subtotals</b>		<b>\$264,500</b>		<b>\$4,627,000</b>					
Akron Rd - Phase 2	Engineering Associates	\$385,000	N/A	\$2,800,000	N/A	UD			
Mechanicsburg Rd. SS	Wooster Engineering	\$0	N/A	\$200,000	N/A	UD			
North High Water Tank	Wooster Engineering	\$0	N/A	\$2,000,000	N/A	UD			
Melrose Booster Station	GGJ	\$48,900	N/A	\$644,500	N/A	UD			
Burbank Rd. W/L Phase 1	Wooster Engineering	\$0	N/A	\$660,000	N/A	UD			
Freedlander Parking Lot	Wooster Engineering	\$0	N/A	\$335,000	N/A	UD			
Fire Station #2	Architectual Resources Inc.	\$334,000	N/A	\$4,000,000	N/A	UD			
Oak Hill Park Improvement	CDP	\$23,300	N/A	\$1,200,000	N/A	UD		UD = Under Design	
Spring St. W/L	Wooster Engineering	\$0	N/A	\$500,000	N/A	UD		DC = Design Complete	
OARDC-SR 302 Crosswalk	Wooster Engineering	\$0	N/A	\$25,000	N/A	UD		UC = Under Construction	
<b>Subtotals</b>		<b>\$791,200</b>		<b>\$12,364,500</b>					

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



The City had \$12,014,822 of infrastructure projects in 2010 and associated engineering contracts of \$730,825. Industry averages for design fees are 8% to 11% of construction costs. The Division of Engineering staff designed 7 of the 10 projects providing an estimated savings of almost \$300,000 in design services.

## Engineering Value Calculations (Major Projects Only)

Project	Design Cost	2010 Design Costs Paid	2009 Design Costs Paid	Engineer's Estimate	Contractor	Bid Price	Final Cost	2010 Const. Payments	2009 Const. Payments
<b>Under Construction</b>									
Freedlander Bldg. Demo. (A)	\$0			\$500,000	B & B Wrecking	\$509,308	\$535,801	\$402,769	\$133,032
Freedlander Bldg. Demo. (C)	\$0			\$58,859	Bogner	\$58,859	\$58,859	\$58,859	
Highland Tank Demolition	\$0			\$23,000	Iseler	\$20,770	\$20,770	\$20,770	
Kieffer St. Sewer Replacement	\$0			\$62,500	G.E. Baker	\$59,900	\$61,400	\$61,400	
Point-of-View Lift Station	\$6,075			\$600,000	Stout	\$629,513	\$674,875	\$311,129	\$363,746
Beall Avenue Streetscape	\$645,000	\$0	\$19,989	\$10,046,750	Northstar Asphalt	\$7,122,383	\$6,804,774	\$1,387,399	\$5,417,375
Transmission Valve Replacement	\$0			\$100,000	Stout	\$96,274	\$98,019	\$98,019	
Fairgrounds Sewer	\$0			\$175,000	Stout	\$148,892	\$151,620	\$151,620	
Gasche St. Sewer Separation	\$0			\$950,000	Stout	\$991,185	UC	\$302,059	
Frito Biotower	\$79,750			\$2,481,400	Workman Ind	\$2,377,738	UC	\$1,656,411	
	\$730,825	\$0	\$19,989	\$14,997,509		\$12,014,822		\$4,450,435	\$5,914,153
Value of Design Engineering* =	8.5%					\$1,021,260	Avg. =	\$445,043	

### Design Completed

Akron Rd - Phase 1	\$255,000	\$6,398	\$242,474	\$1,700,000
Melrose Dr. Improvements	\$0			\$2,200,000
South Street	\$9,500		\$8,421	\$727,000
	\$264,500	\$6,398	\$250,895	\$4,627,000

### Under Design

Akron Rd - Phase 2	\$385,000	\$230,668	\$140,704	\$2,800,000
North High Water Tank	\$0		\$4,125	\$2,000,000
Melrose Booster Station	\$48,900		\$48,900	\$644,500
Friendsville Road	\$24,341	\$24,341		\$2,000,000
	\$458,241	\$255,009	\$193,729	\$7,444,500

### Preliminary Engineering, Planning & Funding

Burbank Rd. W/L Phase 1	\$0			\$660,000
Freedlander Parking Lot	\$0			\$335,000
Fire Station #2	\$334,000		\$75,000	\$4,000,000
Oak Hill Park Improvements (1)	\$23,300		\$20,000	\$1,000,000
Water Projects (3)	\$0			\$1,200,000
Sewer projects (3)	\$0			\$480,000
Storm (3)	\$0			\$1,580,000
Roadway Projects (3)	\$0	\$0		\$600,000
	\$357,300	\$0	\$95,000	\$9,855,000

Under Construction (2010)		
Value of Construction Engineering	10.00%	\$445,043
Design Value Provided in 2010 (2)	12.0%	\$102,563

Design Completed (2010)		
Value of Design Engineering	8.50%	\$136,002

Under Design (2010)		
Value of Design Engineering	8.50%	\$184,044

Planning (2010)		
Value of Preliminary Engineering	3.00%	\$286,150

<b>Total Engineering Services Provided in 2010</b>		<b>\$1,153,803</b>
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Consultant Services Paid	% of Construction
\$19,988.64	0.34%
\$257,292.55	5.56%
\$448,738.08	6.03%
\$95,000.00	0.96%

<b>\$821,019.27</b>	<b>2.95%</b>
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### 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) Original quote for engineering services was \$103,300. City Engineering Division providing \$80,000 of services in 2009 & 2010.

(2) This value represents the amount of design that occurred in 2010 only.

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