# Chapter 6
# Infrastructure

## A. OVERVIEW

The importance of infrastructure to a city should never be understated, because infrastructure makes up the necessities on which a city is built. Streets provide access and circulation. Water is essential to all human activities and necessary for industrial processes. The necessity of sewerage systems for the protection of the public health safety and general welfare in urban settings is indisputable. It has been well documented by the American Planning Association that development follows infrastructure. Based on this principle, the location and capacity of infrastructure will play a large role in the rate of growth, direction and size of development in and around the City of Fairmont. The condition of a city's infrastructure and the level of service it provides is a quality of life issue that indicates a community's livability, and appeal for development and economic growth.

## B. GOALS AND ACTIONS

**Goal:** Ensure that the infrastructure system in Fairmont is of the highest quality while meeting the current and future needs of its users.

**Actions:**

- Support, plan and implement programs that ensure high quality facilities and service to meet the present needs of residents and any additional future demand.
- Recognize the interagency aspects of programming the future development and expansion of city infrastructure.
- Explore the extension of services to underdeveloped and/or underserved areas in and around Fairmont to induce economic development.

## C. EXISTING CONDITIONS

### I. City operated and maintained infrastructure

a. Water System

The City of Fairmont recently completed a $30 million dollar water system improvement project, which included the replacement and upgrade of transmission lines and the construction of a $10 million dollar ultra filtration membrane water filtration plant. The plant uses membrane technology to filter the raw water so that chlorine is used only to maintain sanitary conditions in the transmission lines. This greatly reduces the amount of chlorine used to treat the water. The new plant has a production capacity of 10 million gallons of water per day. Demand is currently averaging around 6 million gallons of water per day. The plant was designed and

built so that new membranes could be added which would increase capacity to 12 million gallons per day. The membrane technology is advancing to the point that some time in the near future the plant could ultimately produce 15 million gallons of water per day.

In anticipation of the new filtration plant the city has over the course of the past five years aggressively upgraded the transmission and storage capacity of the system. The water transmission system for Fairmont consists of three connected loops. There is a loop around the service area just south of Fairmont, which is connected to loop around Fairmont City and then connected to a loop around the northern service area. Connecting the three loops makes it possible to work on the system without creating a large interruption of service. Fairmont has 3 million gallons of stored water at the filtration plant, 4 million gallons stored in two separate 2 million gallon storage tanks, and 1 million gallons in the transmission lines, which creates a 2 million gallon surplus over the daily use if filtration service were to be interrupted for any reason.

b. Sanitary Sewer

Sewers were first constructed in the City of Fairmont during the late 1800's and continued through the mid 1900's, consisting of a collection system with untreated direct discharges into the Tygart, West Fork and Monongahela Rivers as well as Buffalo Creek.

As the City expanded, the upgrading of the sanitary sewerage system became necessary, but it was not until the late 1970's when interceptors and interceptor tie-ins were constructed to facilitate the construction of a Wastewater Treatment plant in the City of Fairmont. Fourteen lift stations were added to the system and after two years of construction, in 1983 the treatment plant located on Washington Street was operational and treating sewage before being discharged in the aforementioned receiving waters.

The plant's original National Pollutant Discharge Elimination System (NPDES) Permit allowed an average daily discharge of six million gallons per day (MGD), but was increased to nine MGD in December of 1993. On average, the plant discharges 5.0-6.0 MGD. The City of Fairmont is a combined sewer system community. This means that the sanitary sewage and storm water runoff flows are carried to some extent by the same pipes. Rain events can cause the combined system to become overloaded. When this happens excess flows are discharged at dedicated points throughout the collection system. These dedicated points are referred to as Combined Sewer Overflows (CSO'S).

Today there is approximately 200 miles of sanitary lines within the City limits. The treatment facility, located near the Bellview area (south of Buffalo Creek), serves approximately 10,000 customers. This consists of 8,500 residential customers and 1,500 commercial customers. The City of Fairmont also collects and treats wastewater from the surrounding communities and Public Service Districts including

Barrackvi1le, Monongah, Westchester, Greater Paw Paw, White Hall, Pleasant Valley, and Kingmill Valley. The City partnered with the Marion County Commission to complete a conventional gravity collection system for the Dakota Camp and Meredith Springs communities. This system is tied directly to Fairmont's for treatment and discharge. The only surrounding areas of Fairmont that do not have public sewer service are Meadowdale, and Winfield. The wastewater facility is capable of serving these additional areas through existing capacity at the treatment plant, but would require the construction a collection system. The Fairmont sewage system continues to have ongoing upgrades to replace aging lines, increase capacity and reduce/eliminate CSO's.

c. Storm Sewer

The storm sewer system in Fairmont was created in a piecemeal fashion, as residential, commercial and industrial projects were constructed. In some cases, the storm water systems were built to serve the development then dedicated to the city after the project was completed, some are privately owned and maintained. In essence the storm water system evolved over time and consequently there was no comprehensive study conducted to guide the storm water control system for the City of Fairmont. The Public Works Department is charged with maintenance and in some cases the construction of the system. Under recent regulatory controls issued by the United States Environmental Protection Agency and the WV Department of Environmental Protection, the City of Fairmont is undertaking compliance with the The Stormwater Phase II Final Rule, which requires operators of regulated small municipal separate storm sewer systems (MS4s) to obtain a National Pollutant Discharge Elimination System (NPDES) permit and develop a stormwater management program designed to prevent harmful pollutants from being washed by stormwater runoff into the MS4 (or from being dumped directly into the MS4) and then discharged from the MS4 into local waterbodies.

d. City Streets

The City of Fairmont Public Works Department is responsible for the maintenance and upkeep of over 110 street miles, the equivalent of 220 miles of single lane road. The Public Works Department is tasked with snow removal, repairs and resurfacing of the city's streets. The current resurfacing schedule is on a twenty to twenty-five year cycle, based on a rating system that prioritizes the resurfacing of streets in the City system.

e. Bridges

The City of Fairmont currently has three bridges that are the city's responsibility.

The Low Level Bridge has been out of service for over a decade and is slated for demolition. The abutments and center pier will be saved and used to carry the proposed pedestrian bicycle bridge for the Fairmont Rail Trial across the Monongahela River to connect downtown with Palatine Park.

The Fourth Street Bridge was originally constructed about 1930. The bridge is a four

span continuous, cast-in-place, concrete rigid frame with a steel reinforced concrete deck. The bridge's length is 250' and the clear traveled way width is 20' with 5' sidewalks. The bridge is perpendicular to Coal Run and Benoni Avenue. The 2001 average daily traffic (ADT) was 4,800 vehicles per day (VPD). Currently, Fourth Street north and south of the bridge is 28' wide curb to curb with sidewalks on both sides. The bridge is classified and used as a two-lane bridge with a three-ton posting (no truck or school bus traffic). The posted speed limit is 25 miles per hour (mph) and sight distance is satisfactory. The clear traveled width makes the bridge functionally deficient and the three-ton posting and overall deteriorated condition signifies structural deficiency that must be addressed that will need to be addressed in the near future. The City of Fairmont and the West Virginia Department of Transportation are investigating alternatives for the replacement of this bridge

The Everest Drive Bridge carries vehicular traffic over Kirk Way near the Mid City parking lot. A commitment by previous state administration to take the Everest Drive Bridge into the State Highway System will allow the bridge to be maintained and replaced using Federal Highways Administration as a funding source. This will require matching funds by the City of Fairmont.

Other bridges inside the city that are maintained by the West Virginia department of highways are the Watson Bridge, the Colonel James "Spanky" Roberts Memorial Bridge, The Robert H. Mollohan High Level Bridge, and the Johnnnie Johnson Senior Citizens Bridge.

f. Parking

The City of Fairmont maintains several parking facilities citywide. The City maintains 5 parking lots in the Central Business district. The Mid City lot along Kirk Way and the lot at Madison Street and Hull Alley is free long-term parking. The lot at Madison and Quincy Street is free short term parking which primarily serves the Post Office. A lot on Jefferson Street is designated for City and County employee parking. The Elks Lot at the corner of Adams and Madison Street is a paid parking lot. It is also the location for a new four deck parking garage. The city also has approximately 375 spaces of on street parking in the Central Business District.

Outside the Central Business District the City Maintains a large free parking lot between Merchant and Water Streets. This lots serves some of the businesses on Merchant Street, and is very well used for festivals and events at Palatine Park.

The other city maintained parking is a smaller lot on the corner of Morgantown Avenue and East Park Avenue next to the East Side Fire Station.

**II. Privately operated and maintained infrastructure**

a. Natural Gas

Natural gas transmission systems and pumping stations in Fairmont are owned by either Dominion Hope, or Equitable. Both are privately operated gas companies that provide service in Fairmont

b. Electricity

All electrical infrastructure in the city is the owned and maintained by Allegheny Energy.

c. Telecommunication

There are two privately owned television cable service operators in Fairmont who own and maintain their own systems and equipment. Time Warner provides service for most of the city's residents, with Aldelphia providing service in Bellview.

Telephone service is provided by Verizon, Fibernet, AT&T, and Pro Com. These privately owned service providers are responsible for their own infrastructure.

Wireless communication services such as cell phone, pagers and internet is available from numerous providers.

d. Solid Waste

The City of Fairmont is under contract with Browning Ferris Industries for residential solid waste collection and recycling. Smallwood and Waste Management are the contracted waste haulers for commercial customers.

e. Sidewalks

Property owners are responsible for maintenance and clearing of the sidewalks adjoining their property.

f. Street Lighting

Allegheny Energy owns all the street lighting within the City of Fairmont with the exception of the decorative antique lighting in downtown along Adams, Jefferson, and Jackson Streets. Similar lighting is planned for Merchant and Quincy Streets and should be installed by the spring of 2006. Allegheny Energy is under contract with the City for energy and maintenance for all of the Street Lighting in Fairmont. This contract includes relamping lights that are weakened by age and ready to burn out. The city is responsible for damage to the decorative light standards and fixtures.

Since the antique decorative lighting was installed on Adams Street in the mid 1990's decorative lighting is a streetscaping design element that has become very popular in Fairmont. The Adams Street Project demonstrated to the community that street lighting can be used as a design element that functions as a utility and

still provides warmth and character to a streetscape. This concept has carried over into other streetscaping projects within the city. There is a decorative lighting component to the Maple Ogden Avenue Gateway Project, the Downtown Revitalization Plan, and streetscaping of the Fairmont Gateway Connector.

## C. BASIC ISSUES

The completion of the $30 million water system upgrade including the new filtration plant puts Fairmont's water infrastructure in an excellent position to continue to provide high quality service to existing customers as well as additional customers as the demand arises.

Fairmont's waste water treatment plant has won several state and national awards from WVDEP and EPA for excellence in compliance, and the plant is operated and maintained extremely well, however, it is slowly reaching the point of diminishing returns on the maintenance investment. The plant currently operates a Rotating Biological Contact system which was is a mechanical system that staring to fail and will require a major upgrade over the course of 5 to 10 years. Advances in technology have created systems that are superior to the RBC system because they are less prone to mechanical failure.

Communities with Combined Sewer Overflows (CSO's) are currently under an EPA mandate to mitigate and reduce their CSO's. The burden of funding this mandate falls squarely on the communities. The City of Fairmont is working toward long-range control of its CSO's through best management practices and monitoring.

The City of Fairmont has applied and is in the process of obtaining its National Pollution Discharge Elimination System Program Permit for storm water management. As a part of the management practices required under this permit program the system should be mapped so that discharges can be inventoried and qualified.

When completed the Gateway Connector will greatly improve vehicle access between Interstate 79 and Downtown Fairmont, however access between West Fairmont, Watson and Interstate 79 will not improve until Route 250 from downtown Fairmont is upgraded. Traffic tends to become congested at the intersection of Locust Avenue and Country Club Road, and also at the intersection of Fairmont Avenue and Country Club Road. This also limits the accessibility to the Interstates from this section of the city.

While sidewalk maintenance is the responsibility of the adjoining property owners, and City Code requires owners to keep them in good repair, there is no fair and equitable way to enforce this provision of the code.

## D. RECOMMENDATIONS

**Short Range (2005 – 2008)**

- Each utility should conduct a needs assessment to determine what equipment, and facility upgrades are necessary to continue to provide quality service to the city ‘s residents.
- Begin to explore technology and funding to replace the RBC system at waste treatment plant
- Develop sidewalk assessment program to ensure that the sidewalks are kept in good repair without creating a financial burden for property owners.
- Plans for infrastructure upgrades should take a coordinated approach. The approach should identify the relationships between City Departments and other entities for proper design and implementation.
- Plans for development should be reviewed and approved based on their potential impact on infrastructure.
- Work within the National Pollution Discharge Elimination System Program to mitigate and reduce CSO’s through the long-term control plan.
- Work within the National Pollution Discharge Elimination System Program in order to comply with the Federal EPA mandate for Storm Water Management.
- Explore and study the land use along the outside of the clear access right of way of the Gateway Connector so that infrastructure will support the proposed land use.

**Medium Range (2008 – 2011)**

- Install decorative lighting throughout the Central Business District.
- Implement sidewalk assessment program to ensure that the sidewalks are well maintained and in good repair.
- Continue to work within the National Pollution Discharge Elimination System Program to mitigate and reduce CSO’s through the long-term control plan.
- Continue to work within the National Pollution Discharge Elimination System Program in order to comply with the Federal EPA mandate for Storm Water Management.
- Support the WV DOH in the widening of Locust Avenue and the replacement of the 4th Street Bridge.

**Long Range (2011 – 2015)**

- Continue to develop priorities list for upgrades to city infrastructure and implement and revise needs assessments for facilities and equipment.
- Begin replacement of RBC system at Waste Treatment plant.
- Continue to work within the National Pollution Discharge Elimination System Program to mitigate and reduce CSO's through the long-term control plan.
- Continue to work within the National Pollution Discharge Elimination System Program in order to comply with the Federal EPA mandate for Storm Water Management.