

Planning Commission Waste Reduction Challenge

Introduction

Your team is serving as an environmental planning commission for the (fictional) City of Frankville and Jones County, West Virginia. Frankville is the county seat, and main business hub for the area. The two governmental bodies are responsible for providing numerous services to their residents that relate to solid waste management.

City and county leaders must submit their five-year comprehensive plan to the State of West Virginia in upcoming months. City and county leaders asked local landowners, natural resource professionals, biologists, planners, and government agency heads to serve on an environmental planning commission to provide recommendations in target areas to reduce waste and improve operational efficiency. The planning commission's recommendations will be included in the comprehensive plan.

You will have seven minutes to present your proposed improvements at a joint meeting with the City Council and County Commission. Prior to the meeting, you are expected to research current City and County operations and various strategies for improvement, as well as address residents' concerns that were expressed during a recent town hall meeting. During your initial research and analysis of the town hall meeting notes, the following key topics emerged as priorities:

- landfills and hazardous materials,
- reuse, recycling, and waste diversion,
- composting and food waste,
- human and animal waste treatment, and
- brownfields and the restoration of degraded lands.

You should include these key topics in your presentation.

Background Information

Current Operations

Landfill

The City of Frankville Waste Department collects household waste from residents of both the city and Jones County. It also collects waste from businesses and other large facilities, including the hospital, within the county. The waste is transported to the nearby landfill, which is operated by a private company. The current rate is \$48.55 per ton, but a rate increase has been requested and is expected to be approved for \$52.00 per ton.

Recycling Center

The City of Frankville Waste Department also operates a recycling center. Currently, it has one dropoff center, which is located adjacent to the processing facility. It is on the outskirts of town, and is open 9 a.m. to 2 p.m. Monday through Friday. It accepts newspaper, office paper, cardboard, aluminum cans, steel cans, and plastics No. 1 and 2. Sometimes people throw trash into the bins instead of accepted items, or leave recycling outside of operating hours. There is no curbside recycling pick-up available to city residents.

Composting

The City of Frankville and Jones County do not have a composting program at this time. The supervisor of the Parks Department is interested in initiating a composting program that would incorporate residents' yard waste, such as lawn clippings, with food waste from residential collection or a large community partner that could collect food scraps for the program. The supervisor is interested in learning more about existing composting programs in other areas, economic feasibility of such a program, and benefits to the city's parks and beautification projects.

Municipal Sewer Plant, County Public Service Districts with Sewer, Residential Systems

The City of Frankville Sewer Department operates a sewer plant and 110 miles of collection lines under the city. It also accepts the sewage from four public service districts that maintain sewer lines serving residents of the county outside of the city limits. Residents who are not in city limits or in a public service district must collect and treat their own sewage through an approved septic system. The County Health Department is tasked with ensuring that all residences are tapped into a public sewer or are maintaining their own septic system at their home, but the department is understaffed and inadequately funded. Recent water quality monitoring by the West Virginia Department of Environmental Protection and the local watershed association indicates that fecal coliform bacteria are present in the river at high rates, especially after heavy rain events.

Animal Waste: Agricultural, Pet

The City of Frankville has numerous parks, a dog park, a walking trail, a network of trails and sidewalks that are all heavily used by pet owners. While the dog park requires that users pick up pet waste, there is no requirement to do so at other parks or along trails and sidewalks. Bags for pet waste are not provided. Jones County has large agricultural operations along Mill River, which runs through the county. The river is also the source of water for the City Water Plant, which serves all city residents and county residents within the public service districts. The Water Plant supervisor notes that the Water Plant budgets \$350,000 annually for chemical treatment related to bacteria contamination in the water. If the river's water quality were improved, this could be reduced, saving the Water Board money for other projects. The park supervisor also is interested in improving the water quality in the river so the adjacent park can offer seasonal water activities, such as swimming and boating.

Brownfield

There are three identified brownfield sites in Jones County. A brownfield site is a former industrial or commercial property that has environmental contaminants. One is a former rail yard near Frankville's historic downtown area. Another is an old steel manufacturing plant outside of city limits, and the third site is an old gas station located near a city park. City and county leaders are interested in how they can remediate these sites and improve the area's environmental quality, economic vitality, and recreational opportunities for residents.

Town Hall Meeting

During a recent town hall meeting, the Planning Commission invited residents to learn about the comprehensive planning process and share their ideas for how the city and county can improve their operations as related to waste management. The town hall meeting was recorded and analyzed for trends and recurring themes. Residents were most concerned about:

- Desire for increased focus on beautification, such as planting flowers and trees
- Desire for restoring blighted areas and reducing litter in problematic areas
- Some residents who do not currently have access to public sewer wished to have access, but also expressed concern about the cost

- Residents wanted better access to recycling services and wanted electronics recycling available
- Many residents were concerned about the costs of any utility improvements, and whether there would be rate hikes
- All residents expressed interest in improving the water quality for recreational purposes and to lessen treatment needs at the Water Plant. The local watershed association offered to help meet these goals.

Key Questions

1. How can the City of Frankville and Jones County improve their solid waste management plan to reduce the tonnage going to the landfill and increase recycling?
2. From what you know from the scenario, what hazardous wastes might be present in the city and county waste collection operations, and how should they safely be disposed of?
3. How could a composting facility reduce waste and benefit the community? What organizations could partner with the city and county to initiate a large-scale composting program?
4. What problems currently threaten the river's water quality, both upstream and downstream from the city and county, and what changes would improve water quality in the river for boating, fishing, and swimming?
5. What recommendations do you have for brownfield remediation and redevelopment in the city and county? How would the remediation project address one or more of the key topics or town hall feedback?

Resources by Key Topic

Landfills & Hazardous Materials:

Land, waste and cleanup topics from the United States Environmental Protection Agency

<https://www.epa.gov/environmental-topics/land-waste-and-cleanup-topics>

West Virginia Operational Solid Waste Facilities

<https://www.state.wv.us/swmb/facilities.htm>

West Virginia Solid Waste Management Plan

<https://www.state.wv.us/swmb/State%20Plans/2021%20WV%20Solid%20Waste%20Plan.pdf>

Reuse, Recycling, and Waste Diversion:

United States Recycling Information

<https://www.epa.gov/amicarecycles/us-recycling-system>

Recycling Basics from the United States Environmental Protection Agency

<https://www.epa.gov/recycle/recycling-basics>

West Virginia Rehabilitation Environmental Action Plan

<https://dep.wv.gov/environmental-advocate/reap/Pages/default.aspx>

Composting and Food Waste:

Composting At Home

<https://www.epa.gov/recycle/composting-home>

Community-scale Composting

<https://www.calrecycle.ca.gov/organics/compostmulch/community>

Human and Animal Waste Treatment:

Municipal Wastewater

<https://www.epa.gov/npdes/municipal-wastewater>

Septic System Frequently Asked Questions

<https://www.septic.com/septic-faq.html>

WVDEP Integrated Water Quality Monitoring & Impaired Streams

https://dep.wv.gov/wwe/watershed/ir/pages/303d_305b.aspx

WVDEP Water Quality Standards

<https://dep.wv.gov/WWE/Programs/wqs/Pages/default.aspx>

Bacteria in Water:

<https://www.usgs.gov/special-topics/water-science-school/science/bacteria-and-e-coli-water>

EPA Septic Smart Homeowners

<https://www.epa.gov/septic/septic-smart-homeowners>

Brownfields and the Restoration of Degraded Lands:

Brownfield Information from West Virginia Department of Environmental Protection

<https://dep.wv.gov/dlr/oer/brownfieldsection/Pages/default.aspx>

Brownfield Grant Recipients from the United States Environmental Protection Agency

<https://www.epa.gov/brownfields/brownfield-grant-recipient-success-stories>

Brownfield success story and initiated by a retired DEP employee, Don “Woody” Martin:

<https://www.mybuckhannon.com/upshur-county-youth-camp-turns-tar-pit-into-grassy-green-space/>

Virtual Seminar Series

[WVU Water Research Institute Webinar on Brownfields](#)

NCF-Envirothon Ohio Resources

The Ohio Envirothon Committee provides resources for their current issue, from which the West Virginia Envirothon Fifth Topic is modeled. You are encouraged to use their suggested resources, but note that a few are Ohio-specific. In that case, you should try to find the corresponding West Virginia data/resource rather than Ohio's. Most of what they have provided is national/global in scale and applicable to the WV Fifth Topic.

Link to Ohio 2022 Current Issue (Fifth Topic) Study Resources:

https://envirothon.org/wp-content/uploads/2021/09/2022NCFE-Ohio_CurrentIssue-9.16.21.pdf