Convenience & Recycling Center

October 9, 2018

Background

- Board received citizen requests for a closer location for garbage/recycle drop-off in District 2

- What would the County need to do in order to provide another Convenience & Recycling Center?

Key Factors

Service Area

Capital Costs(Services, Layout)

Operation (Operator, Fees)

Land Use Compatibility

General Process for New Convenience & Recycling Center

October 9, 2018

↓ What would it take to add an additional convenience & recycling center for the County?

1

Research & Review
- Staff completed initial research and background investigation
- Board reviews findings

2

Go ahead?	
YES	NO

3

Define Project
- Board makes Key Decisions

4

Initiate Staff Actions
- General Services requests quotes
- Establish budget and financing
- Planning Division drafts Zoning Amendments and schedules public hearing
- Staff refine site search criteria and begin search

5

Site Selection
- Zoning Amendments in progress or completed
- Staff creates conceptual layout
- Staff assembles list of 3-10 sites that fit established criteria

6

Site Evaluation
- Staff works with Engineer to evaluate development costs for each site
- Staff presents recommendations to Board

7

Site Selection
- Board selects site
- Planning Division begins Zoning Approval process for site
- Development contracting
- Operation contracting

8

Approval
- Planning Division begins Zoning Approval process for site, subject to Zoning Amendments
- Planning Commission reviews (if req.)
- Board of Supervisor reviews (if req.)
- Site Plan Approval Process (administrative)

9

Construction
-Public announcement and awareness
- Final contracting and purchasing
- Construction

10

Opening

Capital Costs for New Convenience & Recycling Center

General Assumptions:

2 acres purchased, 1 acre site area
200 x 200' level pad = 40,000 SF (4,444 SY)
200' entrance road (variable)
Generally level, some trees

Base Model Convenience Center

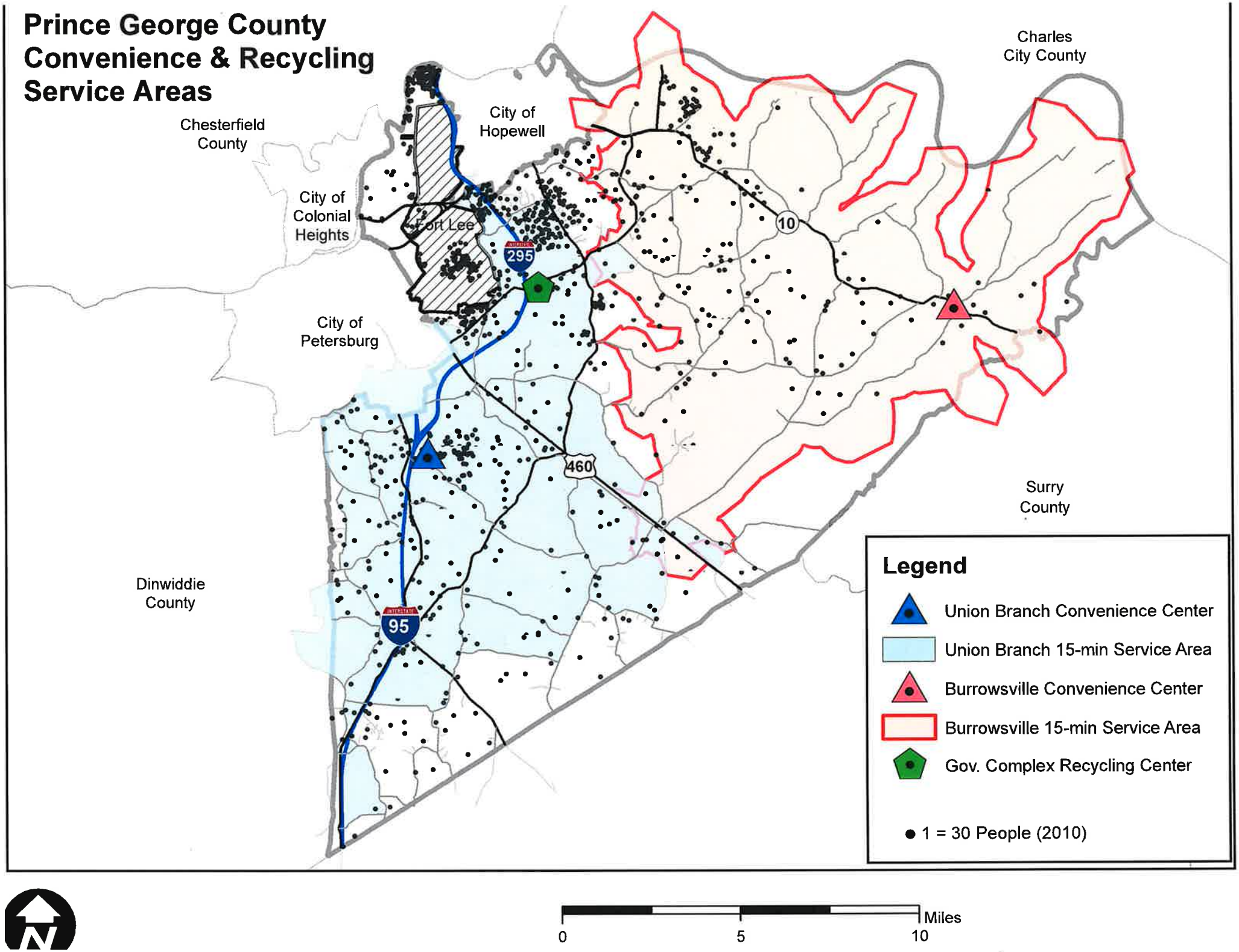
Component	Estimated Total Cost	Cost estimation details
Land (1-2 acres)	$ 20,000	Dinwiddie paid $5-22k per acre depending on location. Assume purchasing of 1-2 acres.
Engineering costs (site plan, etc.)	$ 13,000	Assuming 7-10% of construction estimate, and a construction estimate of $130,000 from Dinwiddie's experience. 10% x $130k = $13k.
Entrance road	$ 20,000	Dinwiddie paid $15-20k per entrance road to VDOT specs. Complete assumptions are $40/SY for 6" base stone, 3" base asphalt, 2" surface asphalt on a 200' x 24' (4,800 sf) entrance road. 40 x 4800/9 = $21,400
Clearing and Grading	$ 5,000	Includes tree removal, levelling, etc. $4-6k/acre
Concrete pads for building and equipment	$ 4,000	Dinwiddie $2,000 for two 10'x50' pads for trash compactors, and the building pad. Add $2k labor.
Surfacing (Crushed Rock)	$ 15,000	Dinwiddie paid $10,000 for slag. Quote received by General Services: 4" base of 21a/b gravel = approx. 825 tons, or 6" would be approx. 1250 tons. Price is approx. $18.50 per ton delivered. = $15-23k
Stormwater Management	$ 10,000	Prices vary widely based on site features, and temporary vs. permanency for BMPs, and location inside or outside of the Chesapeake BPA. Base prices around $2,500-$10,000, or up to $7,500 more if using asphalt surfacing.
Metal fence around site + Gate	$ 16,000	Dinwiddie fence was $15-18k. A 6' chain link fence is $12-15/SF with installation. 15 x 800' = $12,000. Adding slats for screening and $16k is not unreasonable.
Landscaping	$ -	General Services and Parks & Recreation departments could work together on this within budget.
Signage	$ 800	Assume about 10 aluminum signs at $50 a piece, plus a $300 wood frame entrance sign. $500 + $300 = $800
Site Lighting & Electrical	$ 5,400	recent estimate for new light + pole + 1 year of service was about $1,100 per light. Assume 4 lights, maybe just need 3. Add $1k for electrical
10'x10' building	$ 4,000	Dinwiddie building cost $4k in materials for a 10x10 building, they built it themselves. Rowanty Technical Center or other community group could build the building. Union branch was 16x12 and has a bathroom.
Well + Pump	$ 5,000	Greatly depends on the depth to the source water. Dinwiddie paid $5k. Engineering suggested assume $8k if drinking water is needed.
Carport/pavilion	$ 2,000	Shelters hazardous waste, textile bins, etc. Approx. $2,000 each based on recent County purchase (approx. 12' wide x 21' long x 6' tall).
Metal Roll-off containers for general refuse or recycling (x4)	$ 16,000	$4,000 purchase or $433/mo rental (national average) (internet). There are currently 10 such bins on Union Branch site. For new site, assume 1 each for metal, electronics, cardboard, tires = 4.
Enclosed and segmented roll-off containers (x2)	$ 8,000	Assume 2 containers, just like Union Branch. Cost about $4,000 each. (internet). This is one option to handle multi-stream recycling.
Waste Oil Collection Tank	$ 1,000	$1,000 each (internet). A 120-gallon container is 33" D x 51" H.
Dumpster bins (x6)	$ 6,000	Dinwiddie has 6 for single-stream recycle drop-off. Approx $1,000 each. (internet)
Compactors (rolloff) (x2)	$ 20,000	Internet research for used compactor showed about $8,000. Each compactor seems to fit about 3x the capacity of a rolloff bin. Estimate here shows 2 plus delivery.

Summary of Total Costs

Base Model Convenience Center, with Equipment	**$ 171,200**	**Amount varies based on site and exact materials pricing. Includes equipment: 4 open top rolloff containers for large items, 6 dumpsters for single stream recycle, 2 compactors for trash, 1 carport for miscellaneous shelter. That's about $51k of equipment, which helps dictate how the site is used.**
Dinwiddie Comparison	$ 130,000	Dinwiddie spent approximately $130,000 per site, including operation equipment. However they buy in larger bulk for more sites and do a lot of the labor in-house.
Sussex Comparison	$ 150,000	Theirs ranged from $120-150k and found additional site complications include securing electrical easements.

Optional Components

Component	Estimated Total Cost	Cost estimation details	Why might this be of interest?	Why not included in Base Model?
Asphalt Surfacing (replaces gravel cost)	$ 60,000	$22/SY for asphalt (6" base stone, 2" surface asphalt). $22 X 40,000/9 = 97778. We are expecting closer to $50k but General Services is awaiting response on a quote. Cost replaces cost of crushed rock surfacing.	Allows for a cleaner site, in smell and appearance.	Higher capital cost.
Retaining Walls for grade-level dropoff	$ 25,000	Concrete is $100/CY. 120 linear feet of wall, 6 feet high, 2' thick, plus foundation = 100 CY = $10k. Structural rebar ($2k) and labor ($11k). = $21-25k. Also requires ~50' longer site.	Allows for grade-level dropoff of garbage or recycle	Higher capital cost.
Bathroom (fixtures + larger building)	$ 10,000	Assuming costs for adding plumbing and fixtures to a prefabricated shelter. Factor in $5,000 more in materials for building size of 16'x12'.	Bathroom in the building	Unnecessary expense.
Septic Tank and Drainfield	$ 8,000	Only included if including a bathroom and not connected to sewer. Greatly depends on the soil conditions. Engineering suggested $8k assumption. Also requires a larger site.	Bathroom in the building	Unnecessary expense.
Water extension from Road	$ 10,000	$4,000 is best case scenario for connection line if the water line is adjacent to the site. Add any costs of extension if not adjacent site. Add $3k connection fee. Total costs greatly depends on site location, likely to be much greater than a well installation.	Bathroom in the building	Unnecessary expense.
Sewer extension from Road	$ 14,000	$4,000 is best case scenario for connection line if the gravity sewer is adjacent to site. Otherwise add costs of extension. Add $6-8k to install lift station that connects to gravity. Plus $4k connection fee. Total costs greatly depends on site location and availability and depth of sewer.	Bathroom in the building	Unnecessary expense.
Scale & Concrete Ramps	$ 30,000	Assume $70/SY for concrete and found oline a budget amount of $30,000 for a scale. This component is only required if charging users, or in lieu of a flat rate, and is NOT a normal feature of "convenience centers". It is is usually found on landfills and transfer stations.	Required if using weight-based fees	Depends on operation decisions.


Prince George County
Convenience & Recycling
Service Areas
Chesterfield
County
City of
Hopewell
Charles
City County
City of
Colonial
Heights
Fort Lee
295
10
City of
Petersburg
460
Surry
County
Dinwiddie
County
95
Legend
Union Branch Convenience Center
Union Branch 15-min Service Area
Burrowsville Convenience Center
Burrowsville 15-min Service Area
Gov. Complex Recycling Center
1 = 30 People (2010)
0
5
10
Miles

What is a "Convenience Center"?

Definition (DEQ):

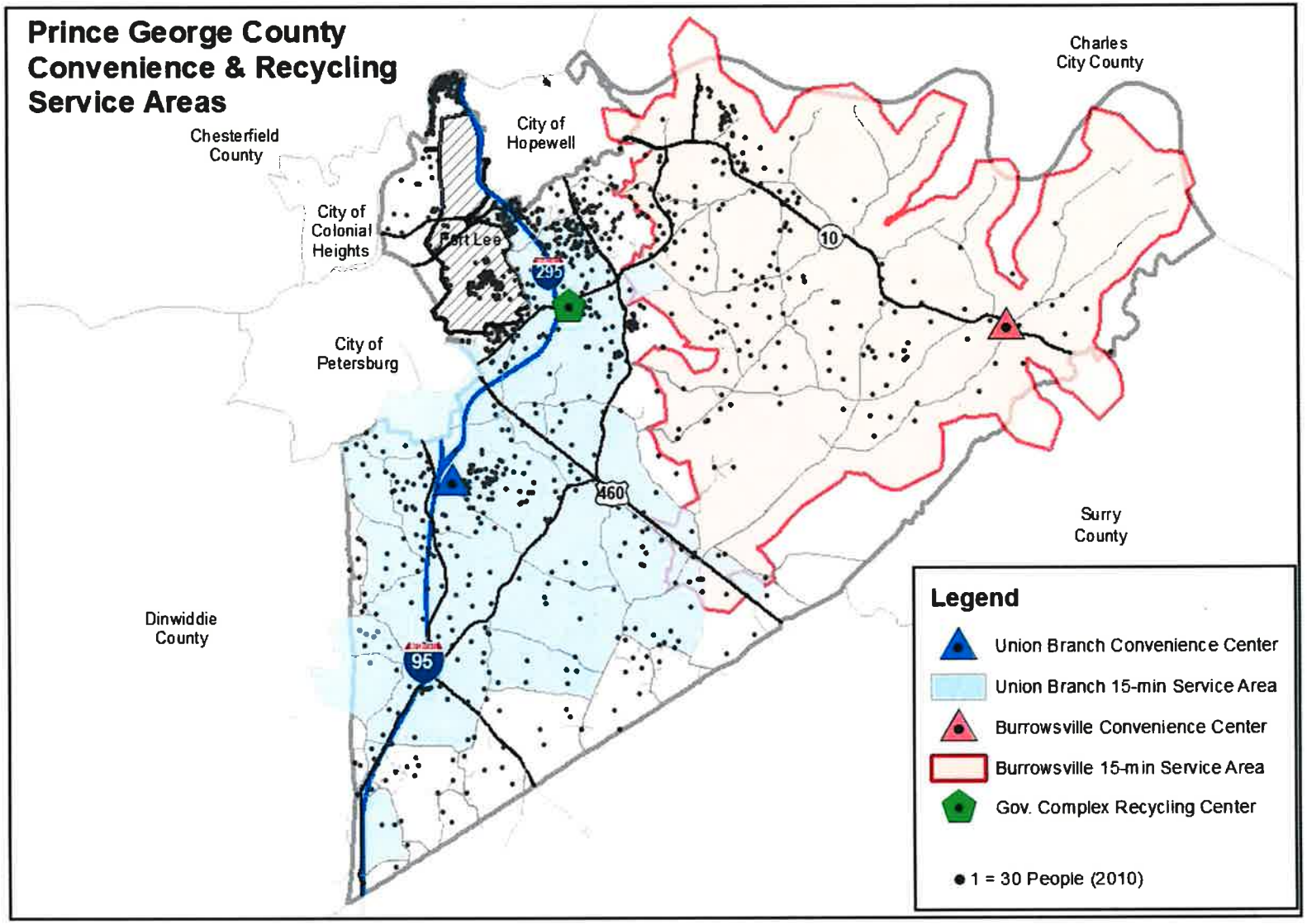
- Strategically located drop-off site for residents
- Waste and recycle is transported off-site once containers are filled
- May not receive waste from vehicles that have collected waste from more than one property owner

What is NOT a "Convenience Center"?

Transfer Station

Landfill

Service Area



Capital Costs

What will go on the site?

- What components and services do you already have?
- What do the neighbors have?

What does Prince George have now?

Dropoff Site	Fees	Operating Hours	Annual Usage
Union Branch (Southwest)	Per Pound ($.06 per pound, $3 min charge). Waste fees charged for metals and yard waste.	Monday-Sunday, 7am-6pm or 8am-5pm	1,743 Tons Waste 631 Tons Recycling
Burrowsville (Northeast)	Per Bag ($1.00 per 30-gal bag)	Saturday Only 8am-4pm	94 Tons Waste
Gov Complex (North-central)	N/A	Always open (Not posted)	210 Tons Recycling

Services Provided

Union Branch (Main Site):

- Garbage: Grade-level drop-in
- Recycling: Glass, Mixed Paper, Metal, Appliance Scrap Metal (fee), Wood, Propane Tanks, Batteries, Yard Waste (fee), Oil

Government Complex:

- Recycling Only: Accepts Glass, Newspaper, Mixed Paper, Metal Cans, Plastic, Clothing

Burrowsville:

- Garbage bags, Saturday only

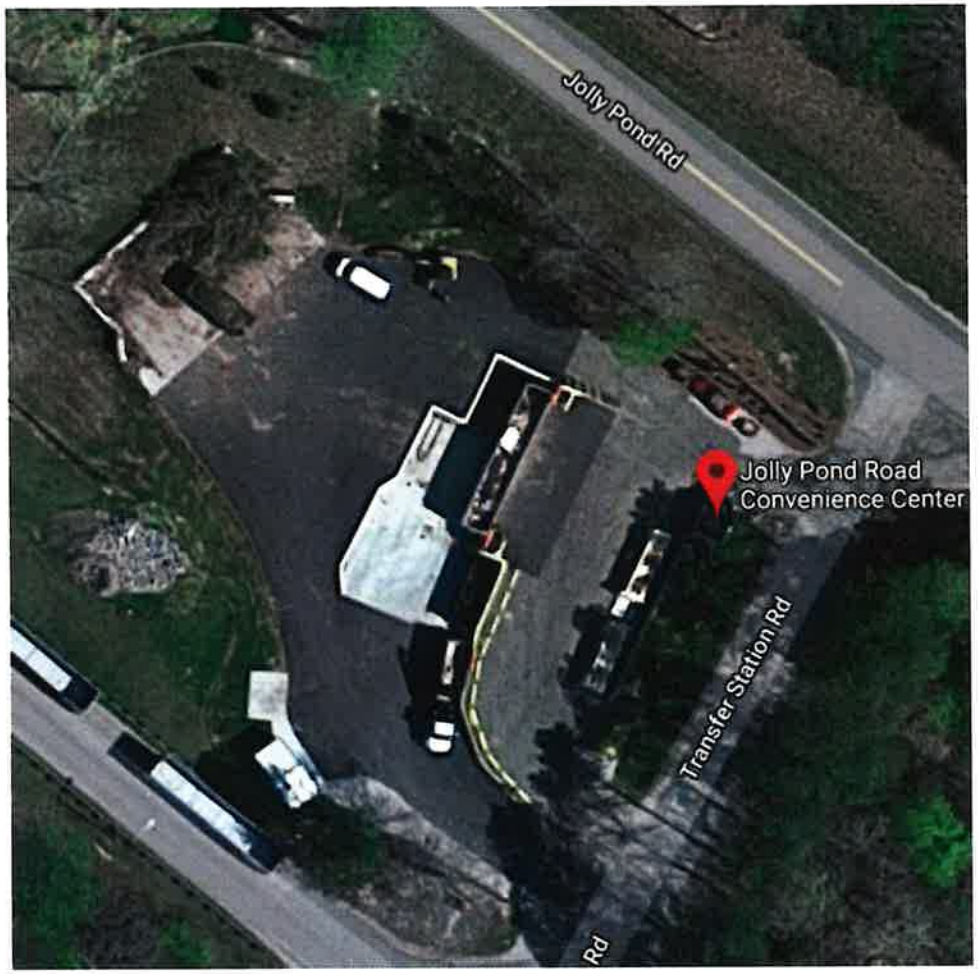
What does Prince George have now: Union Branch Site

How does Prince George compare to its neighbors?

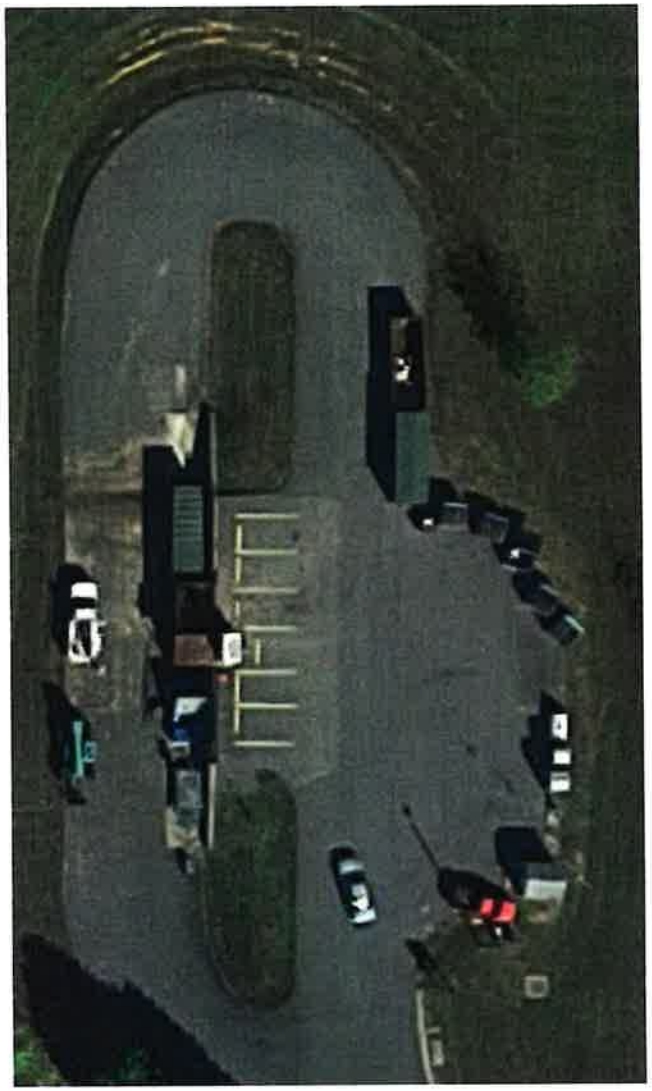
County	Population (2015)	Waste & Recycling Sites	Fees	Garbage (Tons, Annually)	Operator
Prince George	37,862	1 Convenience Center, 1 Garbage site (Sat only), 1 Recycling site	Per Weight or Per Bag	1,837	Contractor
Dinwiddie	27,852	7 convenience centers, 1 landfill	No fees for residents	32,850 (based on 90/day)	County
Sussex	11,715	8 convenience centers and 1 landfill	No fees for residents	5,340	County, 3rd party
Surry	6,709	4 convenience centers	No fees for residents	3,700	County
James City County	73,147	3 convenience centers and 1 transfer station	Coupons per visit and quantity	4,346	County

Dinwiddie County Example

Other Example Sites



James City County



Spotsylvania County

What are the costs?

Base Model: **$171,000**

- 200’ x 200’ square site
- Gravel
- Entrance road
- Equipment

Other Cost Factors

- Site-specific development
- Equipment
- At-grade drop-in area
- Asphalt surfacing
- Scale

Operation: Fees

- Currently charged for residents
- Not charged by most other counties
- Impact on usage
- If used, must be measurable

(Scale is non-standard and additional expense)

Operation: Operator

- Use existing operator (CFS/Meridian)
- Open bidding for a new contractor
- Explore County operation

Land Use Compatibility

- "Convenience center" not currently defined in the code
- Existing sites have unique histories
- New site = first official "convenience center"
- Staff recommends Land Use action:

1. Zoning Amendments to include defining "Convenience Center" as a Special Exception in certain zoning districts
2. A new site would then likely require a Special Exception
3. Bring existing sites into compliance

Key Factors and Decisions

Service Area

- Who will be served?

Capital Costs(Services, Layout)

- What will be on the site?

Operation (Operator, Fees)

- Who will operate it?
- What are the fees?

Land Use Requirements

- What should be completed?

Next Steps / County Process

1. Do you want to move forward?
2. Make Key Decisions = Define the Project
3. Initiate Staff Actions
4. Site Selection
   - Use criteria from Project Definition for site search
   - Compare development costs for each site
   - Staff recommends site alternatives
   - Board selects and funds site
5. Approvals
6. Construction
7. Opening