Cluster Development In The Greater Williamsburg Area

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Research Questions

- **Question # 1:** Is cluster development the most efficient way to control growth outside the Primary Service Area (PSA)?

- **Question # 2:** Should rural cluster development be supported?

- **Question # 3:** What is the most Appropriate form and function of open space?

- **Question # 4:** How to Promote and Ensure Long Term Preservation?
Hypothesis

General Hypothesis

- Cluster development is an effective strategy for development outside the Primary Service Area (PSA) in the Greater Williamsburg area.
Introduction:
What is Cluster Development?

- **Focuses on** developing less sensitive areas, while preserving valuable open space.

- **A design principle** that concentrates the density of a residential development on one portion of the site.
Introduction
What is Cluster Development?

- The desire to preserve open space, sensitive lands, and historic sites has driven many localities to adopt growth control policies.

- There is widespread support by citizens of local government’s planning, managing, and limiting growth in their communities.

- Achievement of smart growth goals is more reliant on a community’s ability to control its own expansion with respect to a variety of other elements.
Introduction: Analysis of Growth in the Area

- **Current pressure to develop** land and support an increasing population is problematic.

- **“Dillon Rule” state:** Localities have no authority to manage or pace development.

- **43% of Virginians** attributed their lower quality of life to growth management issues.

- **The Primary Service Area (PSA)** is the main tool for growth control in James City County.

- The PSA has the **capacity to last for another 20-30 years.**

- **Intended to encourage** new development within the service area.
Question # 1:
Is Cluster Development the Most Efficient Way to Control Growth Outside the PSA?

- Localities may provide in its zoning or subdivision ordinance standards and criteria for clustering of single-family dwellings

- **Prince William County:**
  - “Development area”
  - “Rural area”

Promoting growth options in already developed areas
Question # 1:
Is Cluster Development the Most Efficient Way to Control Growth Outside the PSA?

- **Boundaries** intended to control growth only present basic alleviation to the problem of sprawl.

- “**Planned sprawl**” is often the result of conventional zoning regulations which includes cluster in rural areas.

- **Despite open space use regulations**, not much specifies what is placed on the lot itself.

- **Externalities** such as public transportation, total area used for development, and lot size must be regulated to effectively control growth along with the boundaries of the PSA.
Question # 2:
Should Rural Cluster Development be Supported?

- **It should be supported** as an effective land conservation design layout.

- **Achieves preservation** of open space and meets development desire of the housing market.
Question # 2: Positive Aspects of Cluster Housing Outside the PSA

- **Environmental:**
  - Higher density permits a larger amount of open space to be preserved
  - Reduces impervious surfaces
  - Less overall pressure on the water table

- **Economic:**
  - More cost-effective than lower density housing
  - Additional lot incentives
  - Proffers to localities

- **Social:**
  - Safety and seclusion from popular traffic routes
  - Mixed use lots: decrease reliance on private transportation
Question # 2: 
Negative Aspects of Cluster Housing Outside the PSA

- **Environmental:**
  - Major traffic problems and additional atmospheric emissions
  - Current density minimum requirements may detract from the rural character of the land

- **Economic:**
  - Greater short and long term design effort

- **Social:**
  - Less desirable to buyers than lots promising privately controlled land and an independent lifestyle
Question # 3:
What is the Most Appropriate Form and Function of Open Space?

- **Key benefit:** availability of potentially usable open space

- **Important Factors:**
  - Open space should contain a functioning ecosystem
  - Good guidance and evaluation of the site prior to development
  - Size: Should fragmentation be tolerated?

- At least 50% of the total available land should be preserved in perpetuity
Question # 3: 
Open Space: Various Uses

Only 10% of open space requirements specify that this land should be maintained and managed in a natural state.
Question # 3
Open Space: Suggestions

- Open space should not be completely shielded from human activity
  - Passive, non-invasive recreation
  - Hiking trails
  - Picnic areas
  - Vistas

Port Anne (South Henry St.)
Question # 3: Cases of Study: Lake Elmo, Minnesota

St. Croix: Lake Elmo, Minnesota.

- Requires at least 50% of the land to be permanently protected as open space
- Developed Area: 40%
- Open Space: 60%
- Low impact and productive uses of open space

Diagram:
- Wastewater and Stormwater management
- Shoreline Preservation
- Prairie and Oak Savanna
- Recreation Trail
- Historic Preservation
- Farmland <90
Question # 3:
Cases of Study: Larimer, Colorado

- Larimer, Colorado.
  - Conservation of 80% open space and farmland
  - Developed area: 20%
  - Number of lots remained the same

Standard Subdivision
Cluster Development
Question # 4: How to Promote and Ensure Long Term Preservation?

- **Loudoun County, VA – Clustered Density Bonus**
  - AR-1 zoning: 20 acres per lot
    - Density Bonus: 10 acres per lot
  - AR-2 zoning: 50 acres per lot
    - Density Bonus: 20 acres per lot

- **Howard County, MD – Extra Open Space Density Bonus**
  - Cluster subdivision regulations: 1 unit per 4.25 gross acres.
    - Density Bonus: If preservation parcel >25 acres, 1 extra dwelling unit is permitted.
Question # 4:
Suggestion for James City County A-1 District

- **Current Standard Subdivision**
  - 48 acres @ 3 acres per lot
  - 16 houses

- **Suggested Cluster Subdivision**
  - 48 acres @ 2 acres per lot
  - 24 houses
Question # 4
Ways to Enforce Open Space Preservation

- Community Association
- Conservation Easement
- Purchase of Development Rights (PDR)
Conclusions

1. **Enforce and maintain** control mechanisms using applicable resources to curb the exponential growth rate.

2. Clustering effectively **conserves land** while **allowing for development**.

3. Clustering is **only a design principle** which preserves open space, through higher density housing.

4. Clustering is **not a growth control mechanism** and does not combat the problem of sprawl.

5. **Externalities** such as public transportation, zoning, and the boundaries of the PSA must be regulated.

6. **Long-term protection** of natural areas demands careful design provision and continuous monitoring.
Recommendations

1. **Support the PSA** as an efficient method to controlling growth in JCC

2. **Short term:** Promote infill development inside the PSA

3. **Long term:** Support cluster developments outside the PSA

4. **Establish** a minimum requirement of 50% of the development to be set aside as permanent open space

5. **Implement** specific open space regulations which maintain and manage the land under its original intent
Follow-Up Study: Effects Of Cluster On Water Quality

- **Objective:** To determine the effects of housing density and lot sizes on water quality.
- **Hypothesis:** Higher housing density will have greater negative effects on water quality.
- **Null hypothesis:** Housing density will have no effect on water quality.
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