



DRAFT – 03/10/2009

Achieving the Vision
A Recommended Slate of Planning
Tools to Implement the
Shenandoah County Comprehensive Plan

This recommended slate of planning tools has been prepared by the Shenandoah Forum as a means of advancing the discussion of Shenandoah County's Community Planning Project. These tools are intended to provide a comprehensive outline for revision of Shenandoah County's zoning and subdivision ordinances.

With regard to land use, growth, and community development, the Shenandoah County Comprehensive Plan envisions that, "In the year 2025, Shenandoah County will still be a primarily rural community that...Protects its natural resources...Directs its growth to the towns ensuring its open, agricultural character...Maintains moderate growth of a demographically varied population...(and) Ensures preservation of its natural beauty and unique, historical character..."

This vision was confirmed during the public meetings for the Community Planning Project.

By adopting this slate of growth management tools, the county can move forward with achieving the vision of the comprehensive plan (the objective of the Community Planning Project) by encouraging 90 percent of new development to occur in and around the towns.

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Summary of Tools:

1. Ensure that New Development in the Rural Area is Compatible with Farming

- A. Setbacks from Agriculture in Rural areas* -- The county should adopt setbacks for the rural area so that new residential and commercial (nonagricultural) development will not crowd out existing farm and forest uses.
- B. Require a Special Use Permit for New Residences in Rural Areas* -- The county should require a special use permit under certain circumstances for new homes in rural areas to give the board of supervisors an opportunity to determine whether a particular construction project will conflict with the rural character and farming practices of its neighbors.
- C. Limit the Pace of Development in Rural Areas* -- The county should maintain and consider increasing its “one in three” rule.

2. Decrease the Number of Existing Lots in the Rural Area

Shenandoah County planners, in a report prepared for the Agricultural Task Force in 2006, documented a total of:

- 3,120 lots smaller than seven acres in the A-1 agricultural zone and
- 3,164 lots smaller than 20 acres in the C-1 conservation zone.

Since only 201 housing units were added on average in the rural areas between 2000 and 2007 (see chart below), this represents a 31-year supply of rural lots at current building rates.

- A. The Definition of “Parcel”* – The county should ensure that landowners are treated equitably regarding the by-right subdivision and development potential of their land.
- B. Transfer Development Rights from Rural Areas* -- Shenandoah County should encourage the transfer of development potential from rural to growth areas. Development transfer will allow landowners in rural areas to benefit financially from development in growth area without selling off lots.
- C. Purchase Development Rights from Rural Areas* -- The county should provide substantial funding for purchase development rights (PDR). A funded PDR program would absorb existing development rights in the rural area and allow landowners to get equity out of their land without converting it to non-farm uses.

3. Replace the Existing Agriculture (A-1), Rural-Residential Agriculture (RRA), Conservation (C-1,) and Rural-Residential Conservation (RRC) Zoning Districts with Density Based Scaled Zoning

- A. Scaled Allocation* -- The county should adopt scaled allocation of development rights to reduce the overall density of development in the rural area equitably by allowing smaller parcels to retain some development potential.
- B. Density Based Allocation* -- The county should adopt density based zoning that allocates development rights on a maximum density instead of a minimum lot size. Land can be developed more efficiently if the amount of development allowed is based on average density rather than lot size.

4. Encourage New Development in Growth Areas

- A. Define Growth Areas* -- The county should initiate negotiations with each town to establish growth areas around each town that define the limits of sewer and water expansion.
- B. Joint Planning between the County and Towns* – The county should:
 - include the towns in its day-to-day planning;
 - develop comprehensive plans that designate the areas where growth will be encouraged and describe the types and amount of growth that should occur in those areas, and
 - develop zoning provisions that encourage new development in the growth areas.
- C. Open Space Subdivisions* -- The county should encourage landowners to use open space subdivisions by offering them density bonuses when the property or properties involved include land that is inside a growth area and land that is outside a growth area. The county should also allow clustering between non-contiguous parcels where all of the development resulting from the non-contiguous clustering is located inside a growth area and most of the land that is preserved as open space is in the rural.
- D. Create Design Guidelines in Growth Areas* -- Through the zoning ordinance or as part of the comprehensive planning process, the county should work with the towns to define how each community wishes for development to occur within the growth area.

Growth Management Tools: Detailed Descriptions

1. Ensure that New Development in the Rural Area is Compatible with Farming

A. Setbacks from Agriculture in Rural areas

The county should adopt setbacks for the rural area so that new residential and commercial (nonagricultural) development will not crowd out existing farm and forest uses. Setbacks from agricultural uses should mirror setbacks required of new agricultural uses from non-agricultural uses. For instance, if a barn has to be 900 feet from the nearest house then a new house should have to be at least 900 feet from any existing barn.

The county currently requires that farmers “setback” new buildings, operations, and other facilities from property lines, residences, and other non-rural uses.

New farm operations are required to be up to 900 feet from non-farm uses, even in areas zoned for farming. The county should require that new residences and other non-farm uses in the rural area be located away (set back) from farm operations.

Article I2 of the Shenandoah County Zoning Ordinance requires the following setbacks of new agricultural operations from existing non-rural uses in agricultural zoning districts. Equivalent setbacks should be required of new non-agricultural in rural areas.

- 600 feet from an dwellings, schools, churches, and other nonagricultural uses in a sparsely settled area.
- 900 feet from any dwellings, schools, churches, and other nonagricultural uses in a densely settled area.
- 150 feet from any property line, except a property line shared with an interstate highway.

B. Require a Special Use Permit for New Residences in Rural Areas

The county should require a special use permit under certain circumstances for new homes in rural areas to give the board of supervisors an opportunity to determine whether a particular construction project will conflict with the rural character and farming practices of its neighbors.ⁱ

C. Limit the Pace of Development in Rural Areas

The county should maintain and consider increasing its “one in three” rule. As Shenandoah County has learned in recent years, limiting the timing of when new lots are created discourages the development of major subdivisions in the rural areas.

These “time release” provisions have the effect of discouraging land speculation because larger parcels cannot be purchased, subdivided, and then immediately resold at a higher value unless they are rezoned.

2. Decrease the Number of Existing Lots in the Rural Area

Shenandoah County planners, in a report prepared for the Agricultural Task Force in 2006, documented a total of:

- 3,120 lots smaller than seven acres in the A-1 agricultural zone and
- 3,164 lots smaller than 20 acres in the C-1 conservation zone.

Since only 201 housing units were added on average in the rural areas between 2000 and 2007 (see chart below), this represents a 31-year supply of rural lots at current building rates.

Table 1: Shenandoah County Housing Unit Additions 2000 to 2007

	Unincorporated		Total
	County	Towns	
Housing additions 2000 to 2007	1,807	1,876	3,683
Annual additions	201	208	409
Percent of total county	49%	51%	

Source: Shenandoah County Department of Planning and Zoning. 2008. 2007 Annual Planning Commission Report, page 19. January.

With this substantial supply of existing development rights, it is obvious that simply lowering zoning densities will not curtail residential development in the rural area.

A. The Definition of “Parcel”

Under Shenandoah County’s existing subdivision and zoning ordinances landowners are not treated equitably with regard to the by-right subdivision and development potential of their land.

For instance, based upon the number of tax lots recorded on a parcel (all else being equal):

- the owner of 100 contiguous acres of land that is recorded as five tax lots can subdivide his property five times in any given three year period but
- the owner of 100 contiguous acres of land that is in one tax lot may only subdivide his property once in any given three year period.

This inequity among landowners contributes to the fragmentation of land in the county’s rural area, threatening the availability of land for farming in the future. The situation could be remedied by adding to the subdivision ordinance and to the zoning ordinance a new definition of the word “Parcel” as follows.

PARCEL -- Two or more contiguous lots of record under common ownership and not in a subdivision as defined in this ordinance.ⁱⁱ

B. Transfer Development Rights from Rural Areas

Shenandoah County should encourage the transfer of development potential from rural to growth areas. Development transfer will allow landowners in rural areas to benefit financially from development in growth area without selling off lots.ⁱⁱⁱ

There are a number of ways that development rights can be “transferred” from rural areas to growth areas. Virginia law allows localities to establish formal transfer of development rights (TDR) programs. The City of Suffolk has established such a program. The success of any TDR effort is probably contingent on adequate incentives including a formula that provides two or more additional development rights in growth areas for each development right extinguished in rural areas.

Other localities have made less structured provisions that allow landowners to increase the density of allowable development in established growth areas through the purchase of conservation easements that extinguish the development potential of property in rural areas.

One way to encourage such transfer is to include the conservation of land in the rural area in a proffer policy and a capital improvements plan. This would notify landowners who seek to develop land in the growth areas that the county would look favorably on rezoning requests that include the proffer of land conservation through the purchase of conservation easements in the rural area and / or the provision of funds for the same.^{iv}

The transfer of development rights can also be used to fund the purchase of development rights, described below. If the county was to purchase the development rights of a property in the rural area (via a conservation easement) it could effectively “bank” those rights by allowing a property owner in the growth area to pay for that easement in exchange for an increase in density on the growth area property. Funds from the growth area property owner could then be reinvested in the purchase of additional easements in the future. This concept could be extended to include conservation purchases by county partners such as the Shenandoah Valley Battlefields Foundation.

C. Purchase Development Rights from Rural Areas

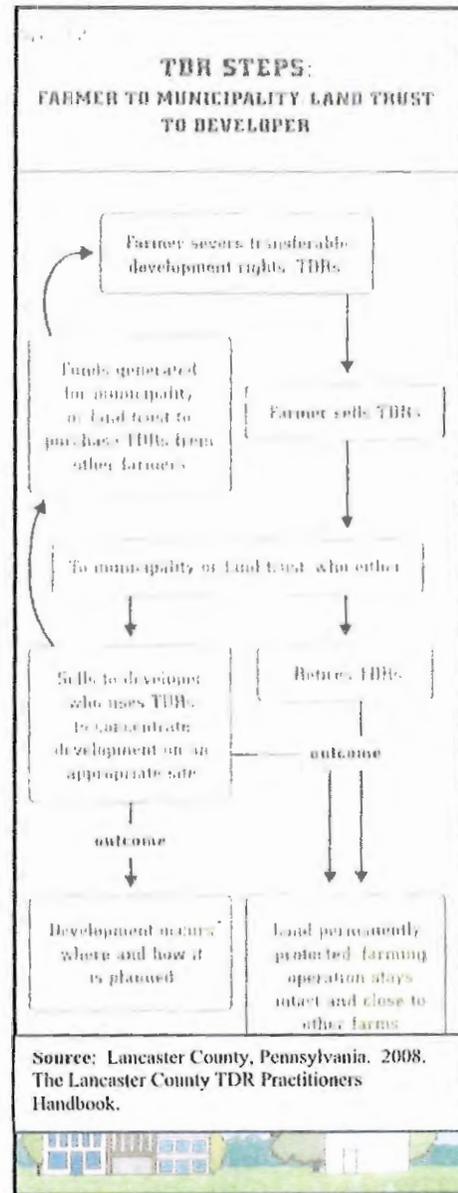
The county should provide substantial funding for purchase development rights (PDR). A funded PDR program would absorb existing development rights in the rural area and allow landowners to get equity out of their land without converting it to non-farm uses. Development rights should be purchased from landowners through the purchase of conservation easements.

A successful PDR program will require a significant investment of money from the county. Existing PDR programs in Virginia are spending about \$2,300 per acre on average to acquire easements with localities near urban areas spending \$3,000 or more per acre and more rural localities spending \$1,000 to \$1,300 per acre.^v

PDRs will save Shenandoah County money over the long term. As noted by the Shenandoah County Agricultural Task Force in 2006, agricultural and forestal land is revenue positive to local governments while residential development in rural areas increases a county’s costs of providing essential services like schools, roads, and emergency services by more than the increased tax revenues they generate, usually substantially more.

Residential development is less expensive to local and state government when it is densely concentrated around existing communities and more costly when scattered at low densities across the rural landscape.

As shown in the Table 2, the up front public infrastructure cost of well-planned residential development is routinely 47 percent less than the costs of scattered low-density development. Likewise a locality’s annual public operating and maintenance costs of serving well-planned



dense development can be substantially less (14 percent lower) than the cost of serving scattered low-density development.

Type of Impact	Low Density Sprawl	High Density Planned	Percent Saved High Density
Capital Costs per Unit			
Infrastructure			
Recreation	\$268	\$297	-11%
Schools	\$4,538	\$4,538	0%
Public Facilities	\$1,662	\$1,630	2%
Roads/Streets	\$3,797	\$2,286	40%
Utilities	\$6,197	\$2,243	64%
Subtotal Infrastructure	\$16,462	\$10,994	33%
Construction/Other*	\$34,994	\$17,711	49%
Total Units Costs	\$51,456	\$28,705	44%
Public Portion	19%	18%	
Public Costs	\$9,776	\$5,167	47%
Annual Operating and Maintenance Costs**			
Operating Costs	\$2,111	\$1,873	11%
Public Portion	57%	55%	
Public Costs	\$1,203	\$1,030	14%

*Includes construction cost of the unit and other expenses such as land dedication
 **Annual Nonresidential Operating and Maintenance Costs per Unit (in Year 10)
 Source: Real Estate Research Corporation (RERC). 1974. *The Costs of Sprawl: Environmental and Economic Costs of Alternative Residential Development Patterns at the Urban Fringe.*

3. Replace the Existing Agriculture (A-1), Rural-Residential Agriculture (RRA), Conservation (C-1,) and Rural-Residential Conservation (RRC) Zoning Districts with Density Based Scaled Zoning

A. Scaled Allocation

Scaled allocation of development rights will reduce the overall density of development rights in the rural area more equitably than “large lot” zoning because some development potential will remain with smaller parcels. The density of development rights will decrease as parcel size increases.

A recommended zoning scale may be found in Table 3. For instance, under this scale a parcel 15 to 39.99 acres in size is allowed to be subdivided for two additional homes while a 100-acre parcel is allowed four new development rights.

Acres in Tract	New Development Rights Permitted
0 - 14.99	1
15 - 39.99	2
40 - 79.99	3
80 - 129.99	4
130 - 179.99	5
180 - 229.99	6
230 - 279.99	7
280 - 329.99	8
330 - 399.99	9
400 - 499.99	10
500 - 599.99	11
600 - 729.99	12
730 - 859.99	13
860 - 1,029.99	14
> 1,029.99	15

B. Density Based Allocation

Density based zoning allocates development rights on a maximum density instead of a minimum lot size. Shenandoah County currently bases the allowable development of a given parcel on the minimum lot size. If a landowner wants to sell a parcel, it must meet that minimum size. The result is often a parcel that is “too small to farm and too big to mow.” Minimum lot sizes in the range of two to 20 acres can result in an even greater loss of farmland than smaller minimums.

Land can be developed more efficiently if the amount of development allowed is based on average density rather than lot size. Shenandoah County should combine the A-1, RRA, C-1, and RRC zoning districts into one rural zoning district. It should change the allowable development in this combined district to a scaled, density based allocation with a 0.75-acre minimum lot size.^{vi}

The county should also require that all new lots be grouped on a discrete portion of the parent parcel, based on a combination of maximum lot size and percentage of the parent parcel. A recommended range of maximum parcel size is provided in Table 4 below.

Table 4: Recommended Range of Maximum Parcel Size

Range of Acres in Tract	New Development Rights Permitted	Maximum New Lot %	Maximum New Lot Size Range (acres)	Range of Acres Developed
5	14.99	1	0.75 acres	0.75
15	39.99	2	15%	0.75 3.00
40	79.99	3	15%	3.00 4.00
80	129.99	4	15%	4.00 4.87
130	179.99	5	15%	4.87 5.40
180	229.99	6	15%	5.40 5.75
230	279.99	7	15%	5.75 6.00
280	329.99	8	15%	6.00 6.19
330	399.99	9	15%	6.19 6.67
400	499.99	10	15%	6.67 7.50
500	599.99	11	15%	7.50 8.18
600	729.99	12	15%	8.18 9.12
730	859.99	13	15%	9.12 9.92
860	1,029.99	14	15%	9.92 11.04
1,029.99 or greater	15	15%	10.3	154.50

Additionally, owners of parcels 100 acres or larger in size should have the option of creating a traditional subdivision in which all parcels are at least 50 acres in size.

4. Encourage New Development in Growth Areas

A. Define Growth Areas

The county should initiate negotiations with each town to establish growth areas around each town that define the limits of sewer and water expansion.

Under Virginia law the county must amend its comprehensive plan by July 2011 to incorporate one or more urban development areas (UDAs). A UDA “is an area designated by a locality that is appropriate for higher density development due to proximity to transportation facilities, the availability of a public or community water and sewer system, or proximity to a city, town, or other developed area “ (§ 15.2-2223.1 Code of Virginia).

The UDAs must:

- have a minimum floor area ratio of 0.4 per gross acre for commercial development;
- have residential densities of at least four units per gross acre;
- meet projected residential and commercial growth demand for at least 10 but not more than 20 years; and
- incorporate principles of new urbanism and traditional neighborhood development.

The county may designate UDAs inside towns if the towns also designate the same UDAs with at least the same density.^{vii}

B. Joint Planning between the County and Towns

Shenandoah County’s comprehensive plan encourages greater coordination in land use planning between the county and the towns and calls on the county to “identify potential public service areas and seek annexation agreements or urban growth area plans with towns to define those areas.” The county’s fundamental growth management strategy is based on the premise that most growth will take place in and around its six towns and two public service authorities. It also relies on the towns for the provision of water and sewer service.

To accomplish these goals the county must cooperate with the towns to:

- include the towns in its day-to-day planning;^{viii}
- develop comprehensive plans that designate the areas where growth will be encouraged and describe the types and amount of growth that should occur in those areas^{ix} and
- develop zoning provisions that encourage new development in the growth areas.^x

C. Open Space Subdivisions

Open space subdivisions should be encouraged with public utilities on properties that are astride or adjacent to growth area boundaries. At the margins of the growth areas, concentrating new development on the portion of a property that is closest to an existing town, while leaving the portion of the property that is furthest from the town in farm and forest uses will create a buffer between the rural areas and towns while creating a “hard edge” to the growth area.^{xi}

The county can encourage the proper use of open space subdivisions by offering them a density greater than the density permitted in the underlying zoning district when the property or properties involved include land that is inside a growth area and land that is outside a growth area. The county could also allow clustering between non-contiguous parcels where all of the

development resulting from the non-contiguous clustering is located inside a growth area and most of the land that is preserved as open space is outside a growth area.^{xii}

D. Create Design Guidelines in Growth Areas

Through the zoning ordinance or as part of the comprehensive planning process, the county can work with the towns to define how each community wishes for development to occur within the growth area.

The development community often asks for clarity and consistency in planning and zoning regulations. Developers have been heard to say, “Just tell me what I can build and how to build it and don’t change the rules.” Such clarity can be provided through design guidelines.^{xiii}

Endnotes

ⁱ Require residential special use permits in the rural area

Rockingham County requires a special use permit for new homes in its prime agricultural (A-1) district if the dwelling is on a parcel created after 1991, the parcel is smaller than 15 acres, and the home is not associated with a farm.

ⁱⁱ New definition of “parcel.”

Add to the subdivision ordinance and to the zoning ordinance a new definition of the term “Building Lot” as follows.

BUILDING LOT -- A lot of land occupied or to be occupied by a main structure or group of main structures and accessory structures, together with such yards, open spaces, lot width and lot areas as are required by this chapter, either shown on a plat of record or considered as a unit of property and described by metes and bounds. (This is currently the definition of “lot” used in the Subdivision ordinance.)

Add to the subdivision ordinance and to the zoning ordinance a new definition of the word “Lot” as follows.

LOT -- A measured portion of land separated from other portions of land by a metes and bounds description or described as a separate, discrete tract in an instrument of conveyance or devise and recorded with the Clerk of the Circuit Court. (This is currently the definition of “parcel” used in the Subdivision ordinance.)

Add to the subdivision ordinance and to the zoning ordinance a new definition of the word “Parcel” as follows. (This definition was adapted from a presentation made by Rockingham County Attorney Thomas H. Miller.)

PARCEL -- Two or more contiguous lots of record under common ownership and not in a subdivision as defined in this ordinance.

(a) “Common ownership”, as used in this Section, shall include but not be limited to the following arrangements of ownership and shall also include similar arrangements to those listed:

- (1) an individual owning any interest in both parcels;
- (2) a business entity, or an estate planning entity such as a trust, owning any interest in both parcels;
- (3) an individual owning any interest in one parcel and owning any interest in a business entity that owns any interest in the other parcel, or;
- (4) an individual owning any interest in one parcel and having any interest or participation in an estate planning entity such as a trust as either the trustor, trustee or beneficiary, which estate planning entity owns any interest in the other parcel.
- (5) A parcel shall be deemed to be, or to have been, owned by the same owner for purposes of this Section if there is common ownership as described in this Section when viewed at the time of each subdivision or proposed subdivision.
- (6) The phrase “an individual owning any interest”, either in a parcel or an entity, shall include interests owned by the spouse, parent or child of an individual.

(7) “Owning any interest in both parcels” shall include having any further interests of whatever nature in a parcel, or in the future sale of the parcel or the proceeds from the sale, whether that interest appears in the public record, in private written contracts, or in private informal, or oral, agreements. Such further interests shall include, but not be limited to, a percentage, commission, kickback, or any other payment owed upon the further sale or subdivision of the parcel.

(8) Subdivisions which, on their face, are to someone or some entity other than the grantor or to an entity in which the grantor owns an interest shall be deemed subdivisions to self if, among other situations, subparagraph (7), immediately above, pertains.

(b) For purposes of this Section, parcels that are “contiguous” shall mean parcels that:

(1) share a common boundary or portion of a boundary, or:

(2) are contiguous to a parcel that is itself contiguous to another parcel such that there is a continuous chain of parcels connecting the parcel submitted for subdivision to another parcel that has been or is proposed to be subdivided, and there is common ownership of all parcels in the chain, as common ownership is defined in this Section.

(c) When submitting an application for approval of a subdivision under the Shenandoah County Subdivision Ordinance the applicant shall submit with the application, on a form approved by the Subdivision Agent, all pertinent information regarding all ownership interests in real estate of the applicant (or applicants) in parcels that are contiguous to the parcel under consideration for subdivision, as “contiguous” is described in this Section, so the Subdivision Agent can make those determinations called for by this Section. The form shall be signed by all those having an ownership interest in the parcel to be divided, which signature shall be acknowledged in the presence of a notary, the signor having first been placed under oath or affirmation, under penalty of perjury.

iii Transfer density from the rural areas to growth areas

City of Suffolk

In the City of Suffolk, development rights may be transferred with a special use permit from the agricultural preservation zone to growth areas. A conservation easement that extinguishes the transferred development rights is recorded on the agricultural parcel.

Since new homes are permitted in the agricultural zone at a density of one unit per acre, a developer can add one additional dwelling unit to a project in a growth area for each acre protected under conservation easement in the rural area.

Fauquier County

Fauquier County’s zoning ordinance contains special and overlay district regulations that permit developers to increase the density of projects in designated growth areas by purchasing development rights (a purchased conservation easement) from landowners in designated conservation areas. There is no formal TDR program in Fauquier County.

iv Transfer of density through the use of proffers

The Town of Blacksburg encourages the transfer of development rights within and between parcels through the use of proffers. To do so it created the Rural Residential 2 (RR-2) District.

The purpose of the (RR-2) District is to encourage high-quality planned residential development, to preserve agricultural and forestal lands, to maximize the conservation of scenic and recreational open space, and to implement the comprehensive plan through the use of open space design and a density bonus system.

Each RR-2 development is subject to the following site development standards.

- (a) Minimum district size: 30 acres.
- (b) Minimum open space: A minimum of 50 percent of the total area shall be designated as permanent open space.
- (c) Maximum gross density: one dwelling unit per acre, excluding acreage within the 100 year floodplain.
- (d) The maximum gross density may be increased up to a maximum of two units per acre excluding acreage within the 100 year flood plain. The town council considers the suitability of the site for the proposed density as well as the quality and quantity of off-site open space proffered by the applicant in determining whether to permit the increased density. Approximately 75 percent of proffered open space may be on the off-site parcel.

Local PDR programs in Virginia

Virginia Beach

The City of Virginia Beach, one of the largest and fastest growing localities in the Commonwealth in terms of population, also has Virginia's oldest PDR program.

The program was established in 1995 with a goal of placing 20,000 acres in the southern portion of the city that is still quite rural and supports high-value production agriculture.

The Virginia Beach program targets development rights as well as gross acres. It has extinguished 684 development rights on 7,798 acres through November of 2008.

The city pays the appraised fair market value for easements. Through 2005, the average cost per acre was \$3,239, as shown in the table below.

Local PDR Costs in Virginia			
	Acres Under Easement	Total Cost	Cost per Acre
Albemarle County	2,202	\$2,079,700	\$944
Clarke County	140	\$225,000	\$1,607
Fauquier County	6,100	\$8,129,586	\$1,333
James City County	364	\$1,087,000	\$2,986
Loudoun County	2,535	\$8,900,000	\$3,511
Virginia Beach	6,650	\$21,542,452	\$3,239
	17,991	\$41,963,738	\$2,332

Note: The time period for costs and acreages in each county varies.

Albemarle County

Albemarle County first funded its PDR program in 1999. By 2006 the program had protected 5,332 acres under easement. Its average cost per acre through 2005 was \$944.

Albemarle bases the value of its offers on appraised values but uses a sliding scale based on the seller's income to ensure that the program is not buying easements from high-income landowners who are likely to donate easements. The county pays 100 percent of the appraised value to landowners whose annual income is less than \$55,000 but only four percent of value to owners whose annual income \$205,000.

Fauquier County

Fauquier County's PDR program has protected 6,100 acres since it was first funded in 2004. Unlike other Virginia localities, Fauquier pays a flat amount of \$30,000 for each development right extinguished in the easements it acquires.

County funding of the program comes from the general fund and was initially based upon a percentage of the real property taxes collected. In 2005, \$0.02 per \$100 of property tax resulted in a \$1.3 million county contribution to the PDR program. Significantly, 32 percent (\$2.8 million) of funding for the program through 2007 came from non-county sources including state and federal grants and other funders.

vi Density based zoning

Rappahannock County applies a maximum density of 25 acres per development right in its rural areas. The minimum lot size in the agricultural district is two acres. So a 100-acre parent parcel can be divided into four new lots, averaging 25 acres each. An owner could sell three lots of two acres each and retain 94 acres, create four 25-acre lots, or any combination in between.

All of the localities in Virginia that use a sliding scale also allow (or require) new lots to be grouped on a portion of the parent parcel because the number of development rights is based on density rather than minimum lot size.

For instance in Montgomery County, a 58-acre parcel is allowed six development rights. The minimum lot size in the rural area is one acre. The owner of a 58-acre parcel could create five, one-acre lots and leave the remaining 53 acres in a single parcel.

Fauquier requires that 85 percent of a parent parcel remain intact when parcels larger than 30 acres in size are subdivided and has a 0.7-acre minimum lot size in its rural areas. A 100-acre parcel is allowed six development rights. An owner could sell five lots on as little as 3.5 acres or as much as 15 acres and retain between 96.5 and 85 acres of farmland.

vii Define urban development areas (UDAs)

UDAs can be used in conjunction with comprehensive planning, design guidelines, low density rural zoning, transfer of development rights, and cluster zoning to focus new development in and around the towns. No Virginia locality has consistently applied all of these tools over a sustained period of time but there are several new examples where a number of these tools are in use.

Charlottesville and Albemarle County

Population in the Charlottesville / Albemarle Growth Area		% of Land Area	Current Pop. %	Permitted Pop. %
County RA	445,000	94%	36%	22%
County UDA	23,000	5%	35%	47%
City	6,000	1%	29%	31%
Total	474,000			

The Albemarle Comprehensive Plan divides the county into growth areas (5 percent) and rural areas (95 percent). Albemarle surrounds the City of Charlottesville, whose land area is 6,700-acres. Combined, the city and the county growth area provide roughly 30,000 acres where new development is encouraged.

In the development pipeline — via rezoning requests, site plan approvals, etc. — are about 16,000 new dwelling units proposed for the county's growth area and about 4,000 dwelling units in the city. Assuming an average of 2.3 persons per dwelling unit, the development community has proposed new homes that will accommodate 46,000 new residents. The total city / county population is only projected to increase 27,882 before 2030.

Fauquier County

More than 30 years ago, Fauquier County created nine service districts around its existing towns with the goal of protecting natural resources and the county's agricultural industry by concentrating new development around existing towns and settlements. The districts total four percent (16,660 acres) of the county's land area.

Three primary zoning ordinances were employed to encourage housing and other development in the growth areas:

- restrict public water and sewer to the service districts
- apply sliding scale and cluster zoning in rural areas, and
- require central water systems for major subdivisions in rural areas.

As a result, Fauquier managed to direct 93 percent of new development to the nine service districts between 1980 and 2000.

Montgomery County

Montgomery County established growth areas as in its 2004 comprehensive plan and set specific goals for directing new development into those areas. Because Montgomery is home to two large towns (Christiansburg and Blacksburg) and is adjacent to the City of Radford, multi-jurisdictional cooperation is a hallmark of local planning and a key to the success of its growth areas.

The county's goal is for 93 percent of its future growth to occur in about 20 percent of its land area, including the towns.

The towns are slated to accommodate two-thirds of the county's growth on about 10 percent of its land area. Additional growth areas around the towns, the city, and established villages are targeted about a quarter (27 percent) or more of the county's growth on about 10 percent of its land area. Rural areas are to receive about one-third of the county's growth on about 80 percent of its land area.

A snap shot of residential growth that occurred in 2007 suggests that the growth area concept is succeeding.

- Ninety percent of new homes were built in towns or the unincorporated development areas and
- the rural areas received only 10 percent of the new homes.

viii Include the towns in day-to-day planning

Virginia law allows any two or more counties, cities, or towns to establish joint local planning commissions. Participating localities determine the membership of such commissions (Code, §§15.2-2218 and 15.2-2219). This provision of the code has been utilized in various ways by a number of towns and their respective counties.

Northampton County

Northampton County and the towns of Cheriton, Eastville, and Nassawadox cooperate in planning and zoning through the Northampton County Joint Local Planning Commission. This ten-member advisory body is appointed by the board of supervisors and three participating incorporated towns. The joint commission deals with planning for unincorporated areas of the county and within the boundaries of participating towns. The initial agreement under which the joint planning commission operates was adopted in 1978. It provides for the participation of all five towns within the county (Cape Charles, Exmore, and the three listed above). Cape Charles has never participated and Exmore withdrew from the agreement in 2006.

Highland County

Highland County and the Town of Monterey, Virginia have operated completely integrated planning and zoning functions since the initial adoption of the *Highland County-Town of Monterey Comprehensive Plan* in 1978 and the *Zoning Ordinance of Highland County and the Town of Monterey, Virginia* in 1981. The planning commission is appointed by the town and the county. Its recommendations are forwarded to the appropriate governing body which makes decisions in the respective locality.

The county does not employ a planner but the Zoning Administrator is jointly appointed by and serves at the pleasure of the Highland County Board of Supervisors and the Monterey Town Council. Likewise a single Board of Zoning Appeals consisting of five members (appointed by the Circuit Court of Highland County) serve both localities.

ix Comprehensive planning for growth areas

Loudoun County

There are seven incorporated towns in Loudoun County (Leesburg, Hamilton, Purcellville, Round Hill, Lovettsville, and Hillsboro). In 1991 the county established “Urban Growth Areas” (UGAs) for the Towns of Leesburg, Hamilton, Purcellville, Round Hill, and Lovettsville to provide an expansion area and concentrate development around the towns. The UGA’s (since renamed “Joint Land Management Areas” (JLMAs) set the limits of municipal water and sewer extension and mark the edge of future town limits.

The towns are responsible for the planning and zoning within their boundaries while the county and the towns share responsibility for planning of the JLMA under the county's zoning ordinance with varying degrees of success.

Joint policy review committees are established between the county and some towns, including Purcellville. The committee is composed of one member each of the town council, county board of supervisors, and each locality's planning commission. It reviews policy and land development proposals in the JLMA and makes recommendations to the respective jurisdictions. This body has been an important vehicle to achieving policy coordination between the Towns and the County.

The county has adopted area plans for Leesburg, Round Hill, and Purcellville but only Purcellville and Hamilton have jointly adopted plans with the county.

New Market

With encouragement from Shenandoah County, the Town of New Market created a concept plan to delineate where it wants to grow in adjacent areas of the county over the next 30 to 40 years. The plan was adopted into the town and county comprehensive plans. This process should be completed with all of the towns in the county.

The plan's goal is for New Market to be a town of about 4,000 residents in around 2040, having attracted most of the growth that might have occurred in adjacent areas of Shenandoah and Rockingham counties.

The proposed growth area covers 1,724 acres surrounding New Market. When land is subtracted for flood plains, protected battlefields, and roads, the growth area has about 764 acres of land available for residential uses and 143 of land available for non-residential uses.

All totaled, the proposed growth areas can accommodate:

- o between 1,000 and 1,500 new homes;
- o 500,000 square feet of retail, office, and commercial uses; and
- o 400,000 square feet for manufacturing or white collar employers.

The space planned can accommodate the new development that can reasonably be anticipated to occur in southern Shenandoah County and northern Rockingham County over the next 30 to 40 years.

x Amend zoning in growth areas to encourage new development

The following example of zoning for growth areas is adapted from draft zoning ordinance amendments currently being considered in Northampton County.

The proposal would create a primary zoning district called the "Town Edge District (TE)" to provide potential development areas adjacent to incorporated towns which may, in the future, be served by extensions of public water and sewer services from the towns. Growth and increased development are intended to occur simultaneously with the provision of public infrastructure, including, but not limited to, public sewer and water, to support such growth and development. Four secondary districts are provided as follows.

1. Town Edge -- 1 District (TE-1) to provide for a mix of compatible residential, light commercial and manufacturing/light industrial uses at a density/intensity higher than that

of the surrounding agricultural areas, but lower than may be appropriate in the TE-2 district.

2. Town Edge - 2 District (TE-2) to provide for a mix of residential and commercial uses at a density/intensity similar to that of the adjacent town, taking into consideration the feasibility of and impacts from infill development within the town.

3. Town Edge-Neighborhood Business (TE-NB) to provide for a compatible mix of neighborhood-scale commercial, community service, very light industrial, and residential uses at a density higher than that in the Town Edge-1 District and similar to that of the adjacent town.

4. Town Edge-Commercial General (TE-CG) to provide for a mix of commercial, community-service, and light manufacturing/industrial uses adjacent to incorporated towns and at a density similar to that of the adjacent town.

The entire growth area will initially be rezoned to the TE-1 secondary zoning district if the new ordinance is adopted. The TE-1 secondary zoning district provides for uses and densities very similar to the agricultural zoning district (for instance one residence per ten acres). When landowners wish to develop more densely, they must apply for rezoning to one of the other secondary zoning districts which provide for much greater density and more urban uses (for instance the TE-2 and TE-NB secondary districts provide for densities of up to five residences per acre).

^{xi} **Open Space Subdivisions**

The 850-acres at Saint Leonard's Farm in Fauquier County crosses Warrenton's service district boundary and serves as a green boundary to the rural area. A rezoning took advantage of both aspects of the farm. An open space subdivision was used to create 41 lots on the 50 acres closest to town (nearly double the property's by right density of 23 lots). The owners placed the remaining 800 acres in a conservation easement. The planned cluster lots will be served through public water and sewer, while a valued open space gateway to the Town of Warrenton was preserved.

^{xii} **Clustering of non-contiguous parcels**

Blacksburg

In Blacksburg's Rural Residential 2 (RR-2) District each development is subject to the following site development standards.

- (a) Minimum district size: 30 acres.
- (b) Minimum open space: A minimum of 50 percent of the total area shall be designated as permanent open space.
- (c) Maximum gross density: one dwelling unit per acre, excluding acreage within the 100 year floodplain.
- (d) The maximum gross density may be increased up to a maximum of two units per acre excluded acreage within the 100 year flood plain.
- (e) Approximately 75 percent of proffered open space may be on the off-site parcel.

Frederick County

In 2001 Frederick County accepted a proffer of \$1,000 per unit for “historic battlefield and open space preservation” when rezoning a 157-acre parcel from its rural area zoning district to its residential performance zoning district. The applicant also proffered the donation of a 27-acre portion of the site to the Virginia Department of Game and Inland Fisheries to protect a cold water fish stream (Red Bud Run). A 300-unit residential subdivision was planned for the site.

The county used the proceeds of the per-unit proffer to establish the Historic and Open Space Preservation Fund. Portions of the monies from this fund were granted to the Shenandoah Valley Battlefields Foundation to purchase a conservation easement in 2003 and to purchase land in fee in 2009.

^{xiii} Create design guidelines in growth areas

In 2004 Albemarle County adopted a master plan for a 3,000-acre segment of the county’s growth area, around Crozet. The master plan is a general guide for future. It is advisory in nature and, uses maps, charts, and other supplementary information to set forth long-range recommendations for the development of land in Crozet and the corresponding transportation improvements and other public infrastructure necessary to accommodate that projected development.

The Crozet Master Plan encourages a mix of lot sizes, densities, and housing types. The range of developments and the high densities proposed by builders clearly indicate that the development community recognizes the market opportunities for these types of communities.

Since adoption of the plan, the county has approved eight rezoning requests for projects totaling 2,673 new residences and various mixed-use developments. All are consistent with the master plan. In the pipeline are proposals for an additional 718 homes. In total, over 20 separate proposals for roughly 3,400 new residences have been approved at an average density of 6.8 dwelling units per acre.

**Report to the Steering Committee:
*Refined Tools for Implementing the Vision***

**Community Planning Project
Shenandoah County, Virginia**

March 17, 2009

Herd Planning & Design, Ltd.

in association with Renaissance Planning Group and Patton Harris Rust & Associates





Community Planning Project

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Report to the Steering Committee: *Refined Tools for Implementing the Vision*

March 17, 2009

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1. Introduction and Executive Summary

Purpose. This report presents a detailed outline of each of the potential implementation tools selected by the project Steering Committee for further consideration, based upon the public input to date.

As noted in the earlier report on public input (11-14-08), the purpose of the Community Planning Project is “to prepare the necessary amendments to the Comprehensive Plan and Zoning/Subdivision Ordinances in order to accomplish the Vision Statement set forth in the current Comprehensive Plan.”

The central element of the Vision Statement is that the County remains a primarily rural community, by directing future growth to the County’s towns [and public service areas around the towns] so as to ensure the retention of the County’s open, agricultural character. There are several other important elements of the vision, which are supported if this central element is achieved. These include protecting natural resources, preserving natural beauty and historic character, and providing a variety of jobs in business, light industry, tourism and sustainable agriculture.

The process for preparing these amendments includes an analysis and evaluation of current land use trends, existing regulations, and potential tools, in the context of active involvement of citizens, to help determine the best solutions for implementation.

Public Input. The four public forums held in the autumn of 2008 indicated that a broad consensus exists regarding the County’s Vision and expectations for long-term population growth; however, some of that support is contingent on the precise mechanisms for how the vision would be achieved, i.e., the cost and impact of any public investments or land development regulations.

The challenge facing the County can be summarized as follows:

- If trends continue, the agricultural and forest landscape will gradually convert to rural residential uses, and the County will lose a significant portion (up to a quarter) of its agricultural land base to residential development during the next 20 to 40 years, nearly doubling the amount of rural land used for housing. This is due mainly to the expected long-term market demand for rural housing, combined with the number of potential lots that could be created under current zoning regulations (approximately 35,000 to 40,000 new lots).
- The County *cannot mandate* the location or rate of new houses, and cannot mandate the vacation (elimination) of the existing 7,000+ undeveloped rural lots. (Even though some of these existing lots are assumed to have various constraints to full development, it is prudent to expect that many can be developed, especially in light of advances in wastewater disposal technology).
- The County *can mandate* the density and pattern of development through regulations (except for the existing lots), and thereby encourage the preferred location of new housing.

Tools Available. The general categories of tools are:

1. Police Power (including Zoning and Subdivision Regulations)
2. Financial Power (Taxation, Public Investment, including land acquisition)
3. Combined Powers (Policies, Guidelines, Incentives, combined with Regulations)

How the Vision Could Be Achieved. If 90% of new houses were to be located within the Public Service Areas (PSA), including towns, only about 800 new rural lots would be needed by 2030, and thus only 3,000 acres would be converted to residential uses at the *current trend pattern of large lots* (this is less than 20% of the acreage needed at current trends).

Only about 1,500 acres would be converted if developed in a *cluster pattern* (this is less than 10% of the acreage needed at current trends). This level of compactness would be considered a successful achievement of the vision in that it would allow a moderate amount of accommodation of new rural residents, yet only an additional 1% to 2% of the total land now in farm and forest uses would be developed.

These measures translate into a logical objective to define successful achievement of the vision: ***to limit total rural land conversion to not more than 2% over the next 20 years.*** That would mean that up to 20% of total housing demand could locate in the rural areas if it was built in a clustered pattern, but only 10% of housing could locate in rural areas if the large lot pattern continued.

Unfortunately, the two most obvious options that would provide a high degree of assurance in achieving the vision would require either very severe zoning restrictions (downzoning to 45 acres per new lot) and/or extremely high costs for acquiring permanent easements (PDRs) on at least 100,000 acres of land (likely more than \$200,000,000), and would still not address the existing oversupply vacant lots.

It may be feasible to acquire term-easements (LDR) on a large amount of land at a similar cost to that of the current Use Value Assessment program. The challenge, however, would be in achieving a level of participation in that voluntary program to assure success. The other key limitation of term easements is that they achieve the vision for up to 20 years or so, but beyond that there would be uncertainty. (That uncertainty is also true with any zoning regulation, as zoning is subject to legislative change).

Major Tools Recommended by the Steering Committee. The Committee recognized that there is no single “magic bullet” for achieving the vision that is also practical to implement, as described in the above summary.

Thus, a *combination of tools* would balance the impacts and benefits among all citizens, landowners, and taxpayers in the County, and together would offer the best prospects for success in achieving the vision. This combination of tools acknowledges that virtually every participant at the public forums took some issue with one or more of the tools that are available to the County, yet virtually all participants also wanted to achieve the vision. Thus, striking a balance is a delicate matter. These tools are summarized briefly below, and set out in detail beginning on page 30.

1. Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns

This strategy received broad support at the public forums and is fully consistent with current County policy. The underlying principle is that by making the towns and PSAs better able to accommodate and attract growth, the objective of the vision can be achieved – 90% of future housing development locating in the PSAs during the next 20 years. Many tools are available for the PSAs; the following three stand out as priorities for implementation.

a. Joint Comprehensive Plans with the Towns

Shenandoah County is a leader in planning with its incorporated towns. These efforts could be formalized and expanded. Joint comprehensive plans could be prepared for the surrounding growth area of each town, adopted by both the County and the Town. Such plans would establish areas into which the extension of water and sewer service would be phased over several decades, as growth demand warranted, in conjunction with phased town expansions through voluntary settlement agreements.

Joint plans would *increase the predictability for landowners* adjacent to the towns, would *improve the coordination of government services and facilities*, would support an *efficient and compact land use pattern*, and would encourage *shared responsibility* between the towns and county, with gradual transition of land use powers from the County to the town as areas are annexed in an orderly fashion.

Draft policy language to add to the County Comprehensive Plan is shown on page 32.

b. Ensure adequate utility capacity for the expected population

The County and its towns generally have adequate overall public water and sewer capacity and service for the immediate future. However, these systems need to be monitored, upgraded, and expanded as needed, in advance of expected demand. Additional capacity will need to be added to the public water and wastewater treatment systems in order to meet the objective of locating 90% of the new population within the PSAs over the long term.

Draft policy language to add to the County Comprehensive Plan is shown on page 33.

c. Adopt zoning standards for traditional, compact development patterns

Many communities throughout Virginia and other areas of the United States are embracing a return to traditional forms and patterns of development, modeled after the historic districts that are held in high esteem by citizens and visitors. This form of development is often referred to as “new urbanism” or “traditional neighborhood design” (TND), which simply means designing and building new neighborhoods and communities with the beneficial elements of historic districts, but in a way that also accommodates modern technologies and lifestyles.

Neighborhoods and main streets with mixed-uses, “human-scale” streetscapes, connected street networks, parks, trails, and sidewalks, make “in-town” living highly desirable to all age and income groups. This can be a major attractor of future population and jobs, and help take pressure off of the rural landscape to accommodate new housing. Recent state legislation (§ 15.2-2223.1) now requires certain counties (including Shenandoah) to incorporate one or more urban development areas, and the principles of new urbanism, into the comprehensive plan.

The County would coordinate with the towns in preparing zoning ordinance amendments as needed, to ensure that TND can be built within the defined PSAs and within the towns to ensure that Shenandoah County can accommodate and encourage TND in appropriate areas.

2. Invest in Voluntary Land Conservation Programs

The underlying principle of this set of tools is that the costs of land conservation should be shared broadly across the community, since the benefits are also shared broadly. Further, to the greatest extent possible, land conservation should be voluntary. Each of the voluntary tools available has strengths and weaknesses.

Generally, the strength is the certainty of success if the tool is fully applied. The weakness is cost, and thus the limitations on the magnitude of success. Therefore, the Steering Committee sees the logic in using most of the available tools. Three stand out and are listed below as top priorities (a, b, and c), to be used in combination.

Note that item d., Transferable Development Rights (TDR), was identified by the Committee as having great promise in theory, but also great technical uncertainty, and thus worthy of further exploration but not as the key method of achieving the vision.

a. Establish an Agricultural Economic Development program (this option has a relatively low cost compared to the others)

The concept of promoting agricultural economic development received the strongest overall support from citizens at the public forums in the autumn of 2008. Formal local government programs for agricultural economic development have been initiated in many counties throughout Virginia

Typically, these offices are based in the County departments of economic development, and carry out a variety of tasks, including promoting agricultural products, assisting in the development of new agricultural businesses, producing informational materials, including brochures and agricultural guides, and sponsoring farm tours, and other agri-tourism events and initiatives, as well as promoting farmers’ markets and community supported agriculture (CSA). Some departments also manage local Agricultural and Forestal District Programs (AFD), Farm Viability Grants, Farmland-for-Lease Programs, and Purchase of Development Rights (PDR) programs.

A detailed list of typical duties and program activities is included on pages 35 and 36.

b. Fund a Purchase of Development Rights (PDR) (from one to five cents on tax rate)

The County recently adopted an ordinance establishing a PDR program but has not yet funded it. The County could fund the program on a “pay as you go” basis, or it could issue bonds to finance easement purchases, or some combination of the two.

Expectations for permanent land preservation through a voluntary, locally funded PDR program would likely range from 3,600 acres to over 18,000 acres over a 20-year planning period, depending on funding levels (assuming 1 to 5 cents on the tax rate).

Note that the estimates in this report are based on relatively conservative estimates of land values – with a competitive acquisition process the County might be able to acquire about 30% more land. Also, the County would expect to “leverage” additional easements through state and private grants, as well as donations, thereby further increasing the total land preserved.

The County cannot expect PDR to “achieve the vision” by itself, but it could be a very important underpinning of all other combined efforts.

More detailed analysis is included on page 36 and in Appendix A.

c. Establish and Fund a Leasing of Development Rights (LDR) Program (possibly linked to the existing Use Value Assessment program)

Under an LDR program, the County would pay participating landowners for short-term easements, rather than the permanent easements of PDR. Term easements can be as short as 5 years, with no upper limit in duration. An LDR program would function much like the current Use Value Assessment program, but would likely focus on the 10 to 20 year time frame for easement duration. Thus, costs would be somewhat higher on a per-acre basis than the current Use Value Assessment program, but the taxpayer (and the landowner) would be getting a longer commitment of preserved, open land.

At funding levels similar to Use Value (about 5 cents on the tax rate), LDR would be expected to preserve about 75% as much land, but for 10 to 20 years, rather than only one year. There are a wide range of approaches to implementing LDR, including offering it to landowners as an alternative to Use Value, or gradually converting the Use Value program to an LDR program.

More detailed analysis is included on page 38 and in Appendix A.

d. Explore Transferable Development Rights (TDR)

The project Steering Committee recognizes the potential benefits of the TDR concept – allowing farmland owners to sell their development rights to developers who then apply those development rights to land within the PSAs. However, given the difficulty and uncertainty of implementing TDR - the track record of localities nationwide is not

encouraging - the County should be very cautious to avoid putting undue effort into developing a TDR program at the expense of efforts on other, more viable tools.

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

Regulation of land use is a long-standing method of achieving a variety of planning goals, particularly facilitating convenient, attractive and harmonious communities, facilitating the provision of public facilities, preserving agricultural and forest land, and protecting ground and surface water resources (*see §15.2-2283 Purpose of Zoning Ordinances, in the Virginia Code*).

It is clear from the analysis, that the County's existing zoning and subdivision regulations will not, in and of themselves, support the County's achievement of its vision. Thus, some improvements are needed.

The primary objectives of the proposed amendments to the zoning regulations are to:

- Reduce the total, overall amount of housing development that is permitted in the rural areas, particularly on lands zoned for agriculture, and
- Provide incentives to landowners who wish to develop their land with houses, to develop those houses in a clustered pattern that will save significant pieces of open land that can remain in farm and forest use.

The effect of these zoning changes would be to reduce the potential overall amount of future development in the rural areas, while actually facilitating – and in some case improving - the development potential of most rural land through a more liberal cluster development option.

This approach attempts to strike a balance between the ideal land preservation option of substantially reducing the allowable density in the A-1 and C-1 districts, with the impact on landowners' expectations for future development.

The proposed amendments to current regulations are summarized as follows:

- a. **Adopt Low Density Zoning Regulations for the A-1 and C-1 Zoning Districts**, allowing one lot per 15 to 20 acres on average, while allowing a cluster development option that would provide a “density bonus” allowing up to one lot per 10 acres, as well as a small density bonus to reduce the impact of the zoning amendment on smaller existing parcels.

Impact on the landowner. These amendments would not reduce the development potential of land in the C-1 District, because the cluster option would allow a density of one lot per 10 acres, which would yield the same or slightly more lots than the existing minimum lot size of 10 acres.

In the A-1 District, the impacts of reduced development density would be partially mitigated in two ways:

- the amended cluster option would reduce the impact on development potential by allowing one lot per 10 acres rather than 15 or 20 acres, and,
- bonus lots would be provided for existing parcels of less than 32 acres (the size at which clustering would be feasible), because of the proportionately greater impact that stricter regulations would have on those smaller existing parcels.

b. Amend the Open Space Cluster Zoning Option for the A-1 and C-1 Zoning Districts, so that the cluster option would not require public water and sewer, and would save at least 80% of each tract in very large, “conservation lots” as part of any subdivision, with incentives for recombining existing lots and facilitating family subdivisions.

The proposed amendments to the cluster provisions would provide several key features that would make it a viable land preservation tool:

- Cluster development in the C-1 and A-1 zoning districts would be permitted using individual wells and septic systems.
- Average overall maximum development density of a site would be one lot per 10 acres (same as current C-1 zoning district)
- At least 80% of the parent tract would be preserved either in common open space or in large “conservation lots” of at least 30 acres each, which could be sold and used just like any other lot.
- The cluster lots would be a minimum of one acre in size.
- Off-site septic fields would be permitted on conservation lots in order to facilitate the creation of smaller cluster lots.
- Private roads would be permitted to ensure compatibility with the rural character of the landscape, and to reduce costs.
- Cluster development subdivisions would be approved administratively.
- Construction of a cluster development could be completed in phases.

Drafts of these amendments to the County Zoning regulation are shown in “mark-up” style beginning on page 44.

2. Background and Analysis

A. Public Input and Initial Analysis

Public Forums. Four public forums were conducted in September and October 2008. A report of the input from these meetings was compiled and submitted to the County on November 14, 2008.

(Note that in addition to the above meetings, which were part of the scope of work for the project, a meeting of farmers organized by local farmer Laura Long, was held in January in Forestville. A representative from the consulting team and one from the county staff attended this meeting to provide information and answer questions about the project).

The public forums indicated that a broad consensus exists regarding the County's Vision and expectations for long-term population growth; however, some of that support is contingent on the precise mechanisms for how the vision would be achieved, i.e., the cost and impact of any public investments or land development regulations.

At the fourth public forum (October 29, 2008), citizens reviewed and discussed two optional "packages" or combinations of these tools that the consulting team had assembled after the third forum. While no formal consensus was sought or determined, participants appeared to appreciate the benefit of using multiple tools to address the problem. Their questions, comments, and interest focused mostly on the concept of rural cluster development. Concerns continued to be expressed about compatibility of rural residential uses with farming activities, potential zoning restrictions on farmers, and whether the cluster concept might actually undermine the Vision by overly promoting rural residential development.

Data Analysis. Analysis of key data has been conducted by the consulting team and is summarized below. Further refinement and additional analysis will be conducted as needed during the coming weeks as the proposed implementation tools are reviewed and refined.

Steering Committee Meetings. The project Steering Committee has met five times to date, the most recent on December 4, 2008. At this meeting, the committee reviewed the potential implementation tools that appear to offer the best promise of success, in light of the challenges and dilemmas facing the county, and the input received at the four public forums. The Committee provided some affirmation and direction to the consulting team for refining and detailing these potential tools.

B. The Challenge Facing the County

Conflict Between the County’s Vision and Recent Development Trends. As reported in the November 14 report on public input, an initial analysis of the current situation shows that the County’s existing land development programs and regulations will not ensure the achievement of the Vision during the next few decades.

Current Situation. Despite the current economic downturn, the County should expect to experience growth pressures *over the long-term* that will add about 15,000 new residents by the year 2030, and another 20,000 people by 2050. Thus, the County should expect to grow from 40,000 people today, to about 75,000 people by 2050. *(Note that at the second public forum, citizen participants affirmed this forecast as being a reasonable one – not so much a prediction or preference as much as a potential outcome for which the County should prepare).*

The County now has about 229,000 acres (70% of County land area) which are zoned for rural land use (total in the A-1 and C-1 zoning districts outside of the National Forest). Approximately 45,000 acres of that is developed (20% of the rural area), with about 12,000 rural houses.

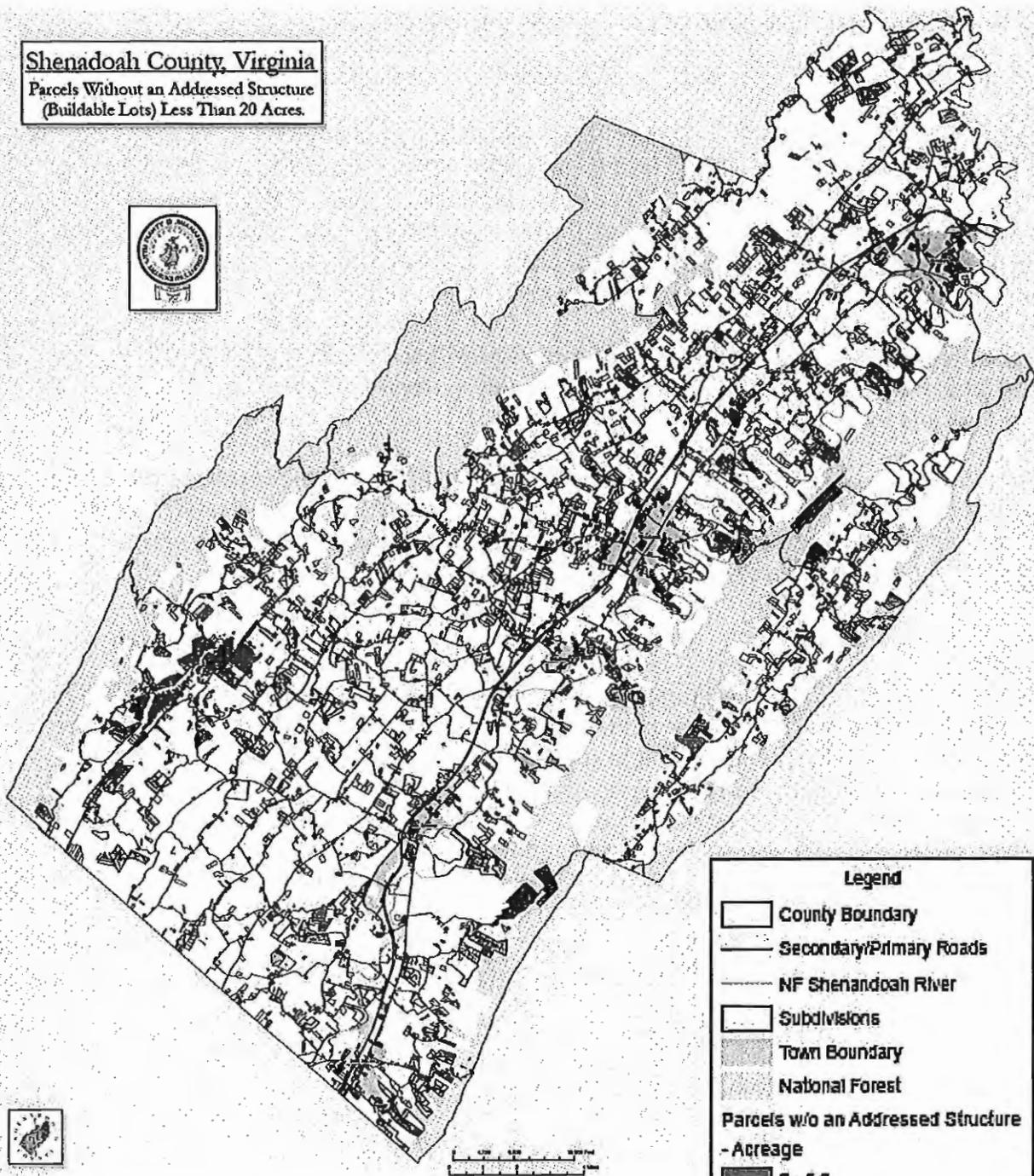
For purposes of comparison, the County now has about 145,000 acres of land in the Use Value Assessment program. Land is enrolled in Use Value Assessment for only one year at a time. Approximately 40,000 acres of land – most of which is presumed to be enrolled in Use Value – is also in voluntary Agricultural and Forestal Districts, which run for up to ten year terms.

Current zoning regulations in the A-1 and C-1 zoning districts would allow for 35,000 to 40,000 new rural houses (more than a 150-year supply at the trend growth rate). While this potential capacity is subject to current restrictions on the rate of subdividing rural property, those restrictions will not have a substantial effect on the total number of lots in the *long term* (20+ years).

In addition to the supply of *potential* lots, there are more than 7,000 *existing* vacant rural lots smaller than 20 acres each. This represents more than a 30-year supply of rural lots. (see Figure 1). (Note, however, that the actual suitability of these lots for development based on access, soils, topography, etc., is not known. Yet although some of these existing lots are assumed to have various constraints to full development, it is also prudent to expect that many can be developed, especially in light of advances in wastewater disposal technology).

The County’s traditional patterns of ownership and use have created significant fragmentation of land parcels. While the average *farm size* is 135 acres (2002), the average *parcel size* in the A-1 zoning district is only 14 acres. The average *vacant parcel size* in the A-1 zoning district is 15 acres. Of vacant parcels greater than 14 acres in the A-1 zoning district, the average is 45 acres.

Shenandoah County, Virginia
Parcels Without an Addressed Structure
(Buildable Lots) Less Than 20 Acres.



Legend

- County Boundary
- Secondary/Primary Roads
- NF Shenandoah River
- Subdivisions
- Town Boundary
- National Forest

Parcels w/o an Addressed Structure - Acreage

- 0 - 5.9
- 7 - 14.9
- 15 - 20

1/2009

Due to some unknown parcel boundaries there are some errors in the color associated with a parcel's legal acreage.

Existing Vacant Lots of Less Than 20 Acres

The Long-Term Problem. The major long-term problem centers on the *trends in* rural residential development, in terms of pattern, location, and rate.

The ultimate amount of rural residential development can be estimated as follows:

Next 20 years. During the past two decades, about half of new houses in the County have been built in the rural areas rather than in the Public Service Areas (PSAs), which include the towns. If trends continue, approximately 8,000 total new houses are expected during the next 20 years, about 4,000 of which will be in and around the towns, and about 4,000 in rural areas on large lots. These 4,000 new rural houses will require that 16,000 to 20,000 acres of land be converted from farm and forest uses to rural houses (depending on the average rural lot size).

Next 40 years. If trends continue, 18,000 new houses will be built during the next 40 years, 9,000 in towns, and 9,000 in rural areas. From 36,000 to over 40,000 acres will be converted from farm and forest use to rural houses.

With a 150-year supply of zoned land and a 30+ year supply of existing rural lots, the conclusion from this analysis is that the County's rural area is "over-zoned" and "over-subdivided" in relation to the expected future need for rural housing during the next few decades, and in relation to the goals expressed in the County's adopted vision.

Summary of the Challenge:

- If trends continue, the agricultural and forest landscape will gradually convert to rural residential uses, and the County will lose a significant portion (up to a quarter) of its agricultural land base to residential development during the next 20 to 40 years, nearly doubling the amount of rural land used for housing.
- The County *cannot mandate* the location or rate of new houses and cannot mandate the vacation (elimination) of the existing 7,000+ undeveloped rural lots.
- The County *can mandate* the density and pattern of development (except for the existing lots), and thereby encourage the preferred location of new housing.
- Key Concerns and Trade-offs:
 - rate (speed) of rural subdivision/development
 - intensity of rural development (number and density of new rural houses)
 - “desire to live in a rural area” vs. the fiscal burden on tax payers for providing services to scattered, low-density housing pattern
 - “affordability” of rural lots (inherent conflict: high property values are good for household wealth, but bad for real property tax burden)
 - “property rights” (inherent conflict: a person has certain rights to use his own property as he sees fit, yet his neighbor also has the right to quietly enjoy his own property without interference from activities on his neighbor's land).

C. Tools Available to Help Achieve the County's Vision

As noted in the 11-14-08 report, and as indicated by the analysis summarized above, a further complication facing the County is that none of the tools available for managing growth offers a certain or total solution to the problem of rural residential development. Further, the citizens and landowners in the County have a wide range of views about the extent and urgency of the problem, as well as which tools should be used to help solve it. The major tools available to the County fall into three broad categories (these are described in greater detail in Appendix B):

1. Police Power (Regulations)

- *Zoning Regulations* – controls the use of land as well as density/lot size (the county now uses this tool, but not to the maximum degree possible).
- *Subdivision and Site Plan Regulations* – controls how land is subdivided but not the use or density of development (the County now uses these tools, but not to the maximum degree possible).
- *Special Exception or Special Use Permitting* – controls the use of land as part of zoning regulations (the County now uses this tool, but not to the maximum degree possible).

2. Financial Power (Taxation, Public Investment)

- *Tax benefit tools* include Use-Value Assessment (“Land Use Tax”) (the County now uses this tool, but not to the maximum degree possible).
- *Public investments to preserve land* can include purchase or leasing of conservation easements (“development rights”) (the County has adopted an easement purchase program – “PDR” - but it is currently unfunded).
- *Public investments in designated development areas* include budgeting tools such as Capital Improvements Programming (CIP), and funding/taxing tools such as Service Districts and Community Development Authorities. (The County has a CIP, and two sanitary districts for utility systems).

3. Combined Powers (Policies, Guidelines, Incentives, combined with Regulations)

- *Urban Growth Boundaries* define the location and extent of public utility service in order to coordinate land use and infrastructure investments. (The County's designated “public service areas” essentially reflect this concept).
- *Community Design and New Urbanism* – creating new developments that are walkable, mixed-use, and vibrant, primarily through zoning mechanisms.
- *Conditional Zoning (proffers)* – developers voluntarily provide land, cash, or other benefits to mitigate the impact of their development as part of a rezoning approval. (The County uses this tool, but not to the maximum degree possible).
- *Joint Comprehensive Plans / Joint Service Delivery* – County and Towns can coordinate planning around the Towns and share authority for land use and utility

- provision. (The County uses this tool, but not to the maximum degree possible).
- *Agricultural Economic Development and Promotion* – County can actively assist the local agricultural industry in pursuing new products and new markets for agricultural goods.
 - *Agricultural and Forestal Districts* – County can adopt voluntary AFDs. (The County has over 40,000 acres in 21 distinct AFDs, at end of 2007).
 - *Transferable Development Rights (TDR)* – A quasi-zoning mechanism in which the “right” to develop a parcel of land is sold through a private transaction, from a farmer’s rural land parcel to a designated urban parcel owned by a developer, thereby allowing the developer to apply that development right to his urban site to achieve greater density.

D. How the Vision Might Be Achieved - Possible Options

The Community Planning Project is aimed at identifying and implementing the tool or combination of tools that can best achieve the County’s vision. While the vision is descriptive in nature, the project Steering Committee has identified that the level of dispersion or compactness of the overall residential development pattern in the County is a valid and objective method for judging overall success.

Note that this analysis focuses primarily on the overall development patterns because those underpin every other effort at growth management, economic development, and resource protection. However, zoning regulations in particular may contain specific provisions that address a variety of important concerns that are directly or indirectly a part of the County’s vision, including fiscal impacts (cost of public services), water quality, transportation, and job growth, among others. These elements are considered in the tools developed to date.

If 90% of new houses were to be located within the Public Service Areas (PSA), including towns, only about 800 new rural lots would be needed by 2030, and thus only 3,000 acres would be converted to residential uses at the *current trend pattern of large lots* (this is less than 20% of the acreage needed at current trends); and only about 1,500 acres would be converted using a *cluster pattern* (this is less than 10% of acreage needed at current trends). This level of compactness would be considered a successful achievement of the vision in that it would allow a moderate amount of accommodation of new rural residents, yet only an additional 1% to 2% of the total land now in farm and forest uses would be developed.¹

These measures translate into a logical objective to define successful achievement of the vision: ***to limit total rural land conversion to not more than 2% over the next 20 years.***

¹Based on 145,000 acres in Use Value Assessment in 2002, as reported in *Fall 2003 Newsletter of Virginia Association of Assessing Officers*; the 2002 Agricultural Census showed 133,000 acres in farms. Note that the new Ag Census (2007) has just been released this month and thus that data was not available for this report.

That would mean that up to 20% of total housing demand could locate in the rural areas if it was built in a clustered pattern, but only 10% of housing could locate in rural areas if the large lot pattern continued. *Note that although this objective is focused on housing development as the key factor in determining rural character, many other factors of rural character, such as traffic intensity, water quality, scenic quality, etc., are directly or indirectly affected by housing development.*

However, achieving such a compact pattern of future housing development is undermined by the 7,000+ existing, undeveloped rural lots that include more than 30,000 acres of land, much of which is presumed to be currently in farm and forest uses, yet subject to future housing development.

Because these lots exist, it is virtually impossible to prohibit housing development on them through the normal methods of minimum lot size requirements or limits on the subdivision of new lots. Further, to purchase conservation easements on these lots would be very expensive, because they are relatively small parcels and thus have higher than average per-acre values. Thus, there is no single – and practical – “magic bullet” of land regulation or acquisition that could guarantee the achievement of this objective. These problems are described below.

For purposes of analysis, achieving the County’s vision is defined as having not more than 2% of farm and forest land converted to housing during the next 20 years. Below are potential methods that have a very high chance of success for achieving this objective, assuming adequate resources are committed. Even these very strong methods are largely undermined by those 7,000+ existing lots, which simply create a great deal of uncertainty for the prospects of any conservation or growth management tool.

Unfortunately, due to the various costs and benefits of these high potential success options, the County may not be willing or able to commit the necessary resources. Thus, following these will be descriptions of other options which seek to strike a more practical balance of costs and benefits, while still providing a reasonable prospect for achieving the vision or at least making very significant progress toward it.

1) Options with a High Chance of Effectiveness if Fully Implemented.

a. Develop rural housing at the trend rate and pattern, but at a much lower density

The County could change the zoning ordinance so as to reduce the allowable density of new lots in the A-1 and C-1 zoning districts to an average size of 45 acres (as noted previously, this is the current average size of vacant parcels greater than 14 acres in the A-1 zoning district). After 20 years at the trend housing growth rate, the subdivision of the rural landscape would be complete, and thus “stabilized.” The average parcel size would then be 25 acres (for parcels greater than 14 acres).

Note that it would also be necessary to prohibit or limit further subdivision of newly divided parcels to maintain the “stabilized” parcel pattern. While zoning itself is not a

permanent restriction (it is subject to legislative change), if a conservation easement or restrictive covenant was required upon approval of a rural subdivision, the durability of the zoning restrictions would be greatly increased. Also note that this option could be combined with a cluster provision so that the *average* lot size would be no less than 45 acres, but most lots could be smaller (clustered) with a few being much larger.

Note, however, that this solution does not account for the 7,000+ existing small, vacant parcels, which would still be available for development (although there is some uncertainty as to exactly how many of those lots are fully developable).

b. Develop rural housing at the trend rate, but buy permanent Conservation Easements on all other land (PDR)

Acquisition of conservation easements does not directly affect the rate or pattern of rural residential development, although it could indirectly reduce the total amount of development, because presumably some of the land put under conservation easement might have otherwise been developed with rural housing.

However, it is also very likely that the “market” pressure for rural housing, if not occurring on one given farm that is put under easement, would simply be applied by the market to a nearby farm that was not restricted by an easement. So the indirect effect on total rural housing development is highly uncertain and could in fact be insignificant.

Therefore, in order to ensure achievement of the vision through the acquisition of conservation easements, a huge amount of land would need to be placed under conservation easement. It would need to be an amount sufficient enough for the County to conclude that it has effectively reduced the amount of land available for new rural housing to less than what is needed to support the market demand for rural housing.

It is virtually impossible to specifically quantify what amount of land would be needed to achieve this effect, but it can be roughly estimated by comparing the total supply of rural land with the amount of land needed to meet the “market demand” for rural housing.

Note that PDR programs are not intended or expected to acquire easements on all the open land within a county; rather they are intended to establish a core area on which to build a more diverse land preservation program. However, this analysis confirms that PDR is not a “magic bullet”.

Summary of Analysis of PDR. There are about 229,000 acres of land zoned as agricultural or conservation (A-1 or C-1) outside of the National Forest. However, more than a quarter of that land area is not subject to development for a variety of reasons (floodplain, existing dwellings, soil or slope limitations, etc.).

Thus, the most meaningful measure of the target land area would be the 145,000 acres of land currently enrolled in the Use Value Assessment program. This is somewhat less than total rural land theoretically available for development, yet still larger than the 133,000 total acres that are classified as farms, according to the 2002 Agricultural Census. Thus, it is a good working number for purposes of analysis.

Assuming that a permanent conservation easement (PDR) would cost an average of \$2,300 per acre², purchasing conservation easements on 145,000 acres of rural land would cost in excess of \$300,000,000, not including financing, administration, etc. Thus, full assurance of achieving the vision is not practical through a PDR program alone. *(Note that the estimate of \$2,300 per acre is based upon the market value of land for development vs. farming. However, if an easement program were implemented, funds might be allocated using a de facto “reverse auction” approach which would allow lower priced land to compete with higher priced land; further, various state and federal tax benefits would apply to some landowners which could also reduce the actual per acre cost to the County below the estimated average fair market value. However, it would not be prudent to assume the value of an easement, on average, would be much less than 50% of market value, or \$1,750. If this were the average price, about 30% more land could be preserved per dollar than shown here).*

For comparison purposes, the most extreme contrast to purchasing easements on virtually all farm and forest land would be to purchase easements on a “pay as you go” basis, buying easements for cash from annual tax revenues, rather than borrowing money.

Assuming the County would be willing to allocate three cents on the tax rate to such an effort, the County could purchase approximately 550 acres of land per year, or 11,000 acres over the course of a 20-year period. This would be a “core” amount of land, because one would assume that this County effort would serve to leverage private and state funds to increase the amount of land saved. However, even if the amount doubled, it would only be about 15% of the amount needed to ensure total success of the vision.³

Again, the other challenge facing every option is the 7,000+ existing lots in the A-1 and C-1 zoning districts. Since those lots would sell at “retail” prices rather than “wholesale” (large tracts), the cost of acquiring easements would be significantly

² Estimated as follows: Assume land values are 80% of the combined value for land and buildings of farms in Shenandoah County reported in the 2002 U. S. Census of Agriculture; extrapolate value to 2007 at +6% annually (approximately the same rate, rounded, as from 1997-2002). This yields an average/typical fee simple value of \$3,500 per acre for land. Assume typical easement is valued at two-thirds of fee simple value = \$2,300, rounded.

³ Estimated as follows: \$420,000 per cent on tax rate x 3 cents on the tax rate = \$1,260,000 per year ÷ \$2,300 per acre = 548 acres per year x 20 years = 10,960 acres ÷ 145,000 acres = 7.5% of total target area.

higher than with larger farm tracts. Assuming only \$30,000 per lot⁴ for the value of a conservation easement (a very conservative estimate), the cost of acquiring PDRs on all 7,000 vacant lots would exceed \$200,000,000. (Note that many of these lots are very likely included within the 145,000 acres enrolled in the Use Value program).

c. Develop at the trend rate, but lease Conservation Easements on all other land (LDR)

Conservation easements can be acquired for terms as short as five years, and as long as perpetuity. We are not aware of any Virginia locality that has yet implemented a “term-easement” program (or Leasing of Development Rights) per se, although some localities have adopted a provision within the legislation for Use Value Assessment that allows landowners to make 5-year or 10-year commitments, rather than the standard one-year period.

Under an LDR program, landowners would voluntarily put their land in a term easement that would prohibit development of their land for a given period of time (a minimum of five years, and any longer periods that the locality might choose to provide). In return, they would receive an annual payment that would essentially reimburse the landowner for a significant portion of the real estate tax on the land.

While an LDR program does not save land in perpetuity, it could last for the duration of the vision planning period (20 years minimum), or even longer. Further, it is important to note that only permanent conservation easements are in fact truly permanent – even zoning regulations are subject to legislative change, at the will of the local governing body.

In theory, an LDR program could be structured so as to include virtually all of the land currently in Use Value (and even more), but with longer commitments for the land to remain open. Thus, LDR could go a very long way toward achieving the defined objectives of the vision – for the next two decades or more – if it was used to the maximum possible extent. That would depend largely, however, on landowner willingness to enroll in the program.

There are many possible options for designing and implementing an LDR program, and many variables to consider, including:

- land eligibility criteria (could include location, acreage, soils, use, etc.)
- duration (term) of easements available (options could include 5, 10, 15, 20 years, etc.)
- rollback payments, if any
- compensation to the landowner (presumably an annual payment)

⁴ Estimated as follows: Average value of owner-occupied house in Shenandoah County according to 2000 U.S. Census is \$99,500. Extrapolated to 2007 at 6% annual increase indicates that 2007 value is \$150,000, rounded. Assume land value of typical lot is 25% of total value of house and lot. Typical lot value is thus \$37,000. Assume easement value is the total value of the lot less the farmland value of the lot: \$37,000 – (\$1,200 per acre x 5 acres) = \$31,000.

Since the effects of an LDR program are similar to those of the Use Value Assessment program, an LDR program would be implemented as an alternative to Use Value, not as an addition to Use Value, for any given landowner. In other words, if land was enrolled in Use Value, it would not be eligible to also enter into a term easement under LDR.

Estimating the market value for term easements is uncertain, and a detailed determination is beyond the scope of this analysis. However, a rough estimate can be made by comparing the average value of the one-year commitment for Use Value (approximately \$15 per acre per year), and the average value of a permanent easement (approximately \$2,300 total, or \$115 per acre annually over a 20-year period, not taking into account the net present value of money; note that the typical annual cost of a conservation easement financed with 30-year bonds at 5% interest would be approximately \$166 per acre)⁵.

As a practical matter, an LDR program would not likely be applied to every acre of land currently enrolled in the Use Value Assessment program, because more than 40,000 acres of land are currently in Agricultural and Forestal Districts, which are guaranteed to be eligible for Use Value for the duration of the district. One would assume that most of this land would remain in the Use Value program rather than switching to an LDR program. At a later point in time, one might assume that much of the land in AFDs would indeed enroll in an LDR program, but that would likely be phased in over the course of several years.

While the possible combinations of terms, compensation, and participation in an LDR program are virtually infinite, the table below shows a few possibilities, for purposes of comparison to other tools. The table compares alternative programs in relation to the “base” target area of 145,000 acres, and to a smaller area reflecting the exclusion of the 40,000 acres in AFD. They are shown for purposes of an “apples to apples” comparison.

⁵ See analysis of easement purchase options in Appendix A of this report.

Comparison of Several Options for Use Value, LDR, and PDR Programs

Program - duration	Term of Commitment	Annual Effective Payment Per acre	Total Annual Effective Payment	Cents on Tax Rate	Rollback Period	Acres Conserved for Term	Total payment during Term	Total Net Cost to County over 20-year period
Use Value Assessment for six years ¹	1 year	\$15	\$2,175,000	\$0.05	6 years	145,000	\$90 per acre	\$0
Use Value Assessment for 10 continuous years ¹	1 year	\$15	\$2,175,000	\$0.05	6 years	145,000	\$150 per acre	\$30,450,000
Use Value Assessment for 20 continuous years ¹	1 year	\$15	\$2,175,000	\$0.05	6 years	145,000	\$300 per acre	\$30,450,000
Use Value Assessment for six years on less land ¹	1 year	\$15	\$1,575,000	\$0.04	6 years	105,000	\$90 per acre	\$0
Use Value Assessment for 10 cont. yrs on less land ¹	1 year	\$15	\$1,575,000	\$0.04	6 years	105,000	\$150 per acre	\$22,050,000
Use Value Assessment for 20 cont. yrs on less land ¹	1 year	\$15	\$1,575,000	\$0.04	6 years	105,000	\$300 per acre	\$22,050,000
LDR @ 10-year Term ⁶	10-years	\$20	\$2,100,000	\$0.05	10 years	105,000 ²	\$200 per acre	\$21,000,000
LDR @ 15-year Term ⁶	15-years	\$25	\$2,625,000	\$0.06	10 years	105,000 ²	\$250 per acre	\$26,250,000
LDR @ 20-year Term ⁶	20-years	\$30	\$3,150,000	\$0.08	10 years	105,000 ²	\$600 per acre	\$31,500,000
PDR (Permanent)	Perpetuity	\$166 ⁴	\$17,430,000	\$0.42	n/a	105,000 ²	\$2,300 per ac ³	\$241,500,000 ⁵

Table footnotes:

- ¹ Options for Use Value demonstrate the effect of different durations of continued renewal into the program. The first option shows the value of Use Value Assessment if every participant left the program after during or up to the six-year rollback period (the current year plus the five most recent years). The second option shows the effect of renewing for a total of 10 consecutive years, and the third option shows a 20-year continuous enrollment. The fourth through sixth options show these same effects but only on the 105,000 acres outside of Agricultural and Forestal Districts (Note that this option is somewhat theoretical because the land in AFD is guaranteed eligibility for Use Value, but it is shown so as to compare the costs for the same land area used for the LDR options).
- ² Assumes LDR and PDR is available and used by all landowners of vacant parcels zoned A-1 or C-1 currently in Use Value Assessment; assumes that the 40,000 acres currently in Agricultural and Forestal Districts do not participate in LDR or PDR in the near term.
- ³ Assumes permanent easements are valued at average of \$2,300 per acre (2/3 average estimated market value of farmland in Shenandoah County – see text for calculations). To simplify calculations, all PDRs are assumed to be acquired in the first year, but actually, easements would be acquired over a period of years; thus acquisition costs (bond financing) would be spread over time.
- ⁴ If financing is a 30-year bond at 5% annual interest, the total payments (principal & interest) would average roughly \$166 per acre annually, or a total of \$523,000,000 to buy easements on 105,000 acres of land. (Actual cost of the easement purchase would be \$77 per acre to the landowner [*\$115 for a 20-year period*], with the financing costs being an additional \$89 per acre, for a total cost of \$166 per acre to the County).
- ⁵ This amount is the actual payment to landowners and reflects a 30-year payment period, but the actual cost to County would be higher due to the financing costs. (See analysis of easement purchase options in Appendix A of this report).
- ⁶ All of these terms could be offered as options to landowners – they are not necessarily exclusive.

Term-Easement (LDR) restrictions would be similar to those of permanent conservation easements except for the duration, and would likely include:

- No further subdivision of land permitted during the period, except for limited family subdivisions in accord with subdivision ordinance.
- Construction of one dwelling permitted on any undeveloped parcel, in accord with zoning ordinance, with possible additional minimum area requirements.
- No construction of non-agricultural-related buildings, except permitted residential noted above.
- No termination of easement during the period of commitment (option would be to allow early termination after 10 years, only in the case of a defined hardship, with 100% rollback and potential penalties).

Also note that in the above analysis, the 40,000 acres in AFD is assumed to be excluded from LDR or PDR programs, because it is currently enrolled in a multi-year program that assures Use Value Assessment for enrolled property. In actual practice, however, it is likely that the County would make land within AFD a priority for easement acquisition, and thus that land might actually be eligible for LDR or PDR funding. For purposes of analysis – to compare results on an acreage basis – this factor was ignored here.

Conclusions. Two important aspects of the above analysis of LDR options are:

Effect - LDR, like PDR, would not, in and of itself, guarantee the prevention of the trend pattern and rate of rural housing development from continuing, because participation in the program is optional. The above analysis shows it pertaining to all land now in Use Value (except AFD land, as explained above), but presumably some of that land would not be enrolled and would be subject to development, due to the preferences of the owner. However, for the land included in an LDR program – and that could be very substantial – preservation would be guaranteed for at least the duration of the easement term; and

Cost - In terms of total, long-term cost to the County taxpayer at large, LDR would compare favorably to Use Value Assessment, because Use Value has only a six-year rollback period, and thus any taxes deferred for more than six years are lost to the County revenue stream, whereas LDR could be designed to capture a greater amount of rollback. Further, LDR would also “buy more time” than Use Value because the term of commitment would be much longer than one year, and thus the County taxpayer would “get more for their money”. However, the effectiveness of LDR still relies on a high level of participation. Unless there are adequate “carrots and sticks” to shift land from Use Value to LDR, its effects will be limited.

Finally, LDR could be used in concert with stricter zoning regulations so as to ensure that all priority rural land (about 145,000 acres) is restricted from development, either through mandatory zoning regulations or through voluntary LDR restrictions.

2) Options with a Reasonable Chance of Success or Significant Progress.

Given the difficulties of successfully implementing the tools described above to the extent shown, this report also examines variants on these tools that would provide a reasonable chance of success - or at least significant progress toward success of the vision - with greater prospects of being implemented, in light of political, technical, and financial constraints.

a. Develop at the trend rate, but at a lower overall average density for new rural development

The County could amend the A-1 and C-1 zoning districts to reduce the overall allowable density of new lots. There are many possible variations on this concept, but indications from analysis and input to date are that the following key features would be reasonable:

- Allow the same density for A-1 and C-1 districts. There are good public policy reasons for conserving land in both of these districts, and there is logic for the allowable density to be the same or similar. The permitted uses in these two districts would not change, and would thus still distinguish one from the other.
- Reduce the overall allowable density in these districts to one dwelling per 15 acres or one per 20 acres. A density of one dwelling per 15 acres would match the existing average parcel size in the rural areas, yet would still reduce the overall number of potential new lots. On the other hand, a density of one dwelling per 20 acres would reduce the potential housing supply further, and would allow the creation of a more attractive incentive for clustering new lots (discussed below). In either case, *average* density - rather than minimum lot size - should be used to regulate density. This will help avoid the problem of “using more land per house” than is needed, and thus further reduce the pressures for a rural sprawl pattern.

These two alternative densities are examined below.

15-acre average density. If the minimum allowable lot size is two acres, but the total *maximum density* is one lot per 15 acres, then for every two-acre lot, a 28-acre lot would also have to be created to meet the overall average density requirement. This allows more flexibility in laying out a subdivision, to respond to topographic and other natural constraints and opportunities, compared to a rigid, uniform minimum lot size of 15 acres. However, lot size averaging in and of itself does not guarantee the benefits of a true cluster pattern, because the average of 15-acres per lot could be achieved with 12 and 18-acre lots, rather than with 2-acre and 28-acre lots, thus still creating a “sprawl” pattern.

After 20 years, 4,000 lots at a 15-acre average density would convert roughly 60,000 total acres, although some of those lots would likely be parcels larger than the required 15-acre average, due to the flexibility on lot size.

20-acre average density. If the minimum allowable lot size is also two acres, but the total *maximum density* would be one lot per 20 acres, then for every two-acre lot, a 38-acre lot would also have to be created to meet the overall density requirement. The average of 20-acres per lot could be achieved with many 10, 20 and 30-acre lots, rather than with 2-acre and 38-acre lots. After 20 years, 4,000 lots would convert roughly 80,000 total acres, although again, some of those lots would likely be parcels larger than the required 20-acre average, due to the flexibility on lot size.

Note that if the location objective were able to be met, due to a combination of all available growth management tools (90% of new houses located within PSAs), then only 400 rural lots would be needed during the next two decades, and only 6,000 acres of land would be converted at an average density of one lot per 15 acres, and 8,000 acres at an average density of 20 acres per lot.

Note again that this solution does not account for the 7,000+ existing small, vacant parcels, which would still be available for development.

b. Develop at the trend rate, but with a clustered pattern for new rural development

Through requirements and/or incentives, the County could encourage all new lots to be clustered, with cluster lots of 1.5 acres and at least 70% of the site preserved in larger “conservation” lots of 25 or more acres in size. *(Note that the draft amendments shown in this report suggest one-acre cluster lots and 80% of the site preserved).*

With a more compact pattern ensured, it would be logical to allow a somewhat higher density than the large lot option described above. If the average density for cluster development is one lot per 10 acres, after 20 years, 4,000 cluster lots would convert roughly 6,000 total acres to residential lots, with 34,000 acres preserved in larger conserved parcels (larger than 25 acres each, for example). Note that prohibiting or limiting further subdivision of divided parcels would also be necessary to maintain the clustered pattern.

Note that this solution also does not account for the 7,000+ existing small, vacant parcels, which would still be available for development. However, it is very possible that in designing a cluster subdivision, the subdivider might combine some smaller existing lots or fold them into a cluster plan, in order to maximize the benefits. While this effect may or may not reduce the total number of future rural lot, it would likely improve the pattern of housing in relation to the goal of continuing farm and forest uses.

c. *Combine Lower Average Density with a Cluster Option*

The lower density zoning approach could be combined with the cluster approach to create both a lower overall density of development, and a more compact pattern of development in the rural areas.

For example, the zoning regulations for A-1 and C-1 could be amended such that a conventional, large lot subdivision would be limited to an overall density of one lot per 15 or 20 acres, but a cluster option could be permitted that would allow an overall density of one lot per 10 acres. This would provide a de facto “bonus” incentive for using the cluster pattern, while still lowering the overall maximum number of allowable houses in the County’s rural areas.

Another feature of this provision is that it would limit the restrictive impact on land now zoned C-1, which currently has a minimum lot size of 10 acres. With the density bonus of a cluster option, the development yield in the C-1 district would be the same or marginally greater than under current regulations, yet the impacts on the landscape, farmland and other resources would be reduced.

d. *Strengthen efforts to attract growth to the Public Service Areas (PSAs)*

Regardless of the tools applied to the rural areas, the County will benefit from expanding and strengthening its efforts to attract future residential growth to PSAs where services can be most efficiently provided. Recommendations for these specific tools are examined in the following section of this report.

3. Major Tools Recommended by the Steering Committee

A. Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns

1) Prepare Joint Comprehensive Plans with the Towns

Shenandoah County is a leader in Virginia in doing joint planning with its incorporated towns. These efforts could be formalized and expanded. Each town could work with the County to prepare a joint comprehensive plan for the surrounding growth area. Such plans would establish areas into which the extension of water and sewer service would be phased over several decades, as growth demand warranted, in conjunction with phased town expansions through voluntary settlement agreements. By clearly planning for such expansions, several benefits will accrue, including:

- *greater predictability for landowners* - surrounding landowners will have clear expectations for the ultimate use of their property, as well as a sense of what the timing might be for such development (at least in terms of decades)
- *coordination of government services and facilities* - towns and county can jointly coordinate the provision of services for the entire PSA

- *efficient and compact land use pattern* - development can be contained in an efficient and compact area, using only the amount of land necessary to accommodate growth pressures
- *shared responsibility* - towns and county can share decision-making authority, with gradual transition of land use powers from the county to the town as areas are annexed.

The County is well on its way to implementing this set of tools. For example, the Town of New Market recently completed a comprehensive plan element for the surrounding growth area that provides for an accommodation of future growth in a well-designed, compact pattern. Mt. Jackson has done similar plans and studies for surrounding lands during the last few years. Strasburg is currently updating its comprehensive plan with a view toward identifying methods to fully accommodate the expected future growth pressures within the PSA in a very compact, efficient manner.

The County has entered into formal agreements for orderly, coordinated town expansions with the towns of Strasburg and Mt. Jackson, and New Market has proposed such an agreement.

The County itself also has two PSAs, defined in conjunction with the Stoney Creek (Bryce-Basye) and Toms Brook-Maurertown sanitary districts.

Taken together, the PSAs have more than sufficient land area to accommodate the County's future expected growth for the 20-year planning horizon and beyond. Utility capacity is also sufficient for the near-term, but in the longer term, overall water and wastewater treatment capacity will need to be expanded in order to achieve the objective of locating 90% of population growth in the PSAs.

The specific steps to implement this tool are:

- Prepare policy language to add to the County Comprehensive Plan (draft shown below)
- Work with the Towns to determine if they will adopt similar language into each of their Comprehensive Plans
- During subsequent plan updates by each of the localities, determine the appropriate mechanisms and processes for preparing and adopting joint plan elements for each town PSA. In the case of New Market, the County could adopt the town's concept plan for its surrounding area. For the other towns, new documents would likely be needed, although much work toward such products has already been completed by some of the towns.

Draft Comprehensive Plan Amendment Language:

Chapter 9 – Growth Management

3. LAND USE

GOAL - Guide and direct growth into and around the towns and public service areas, while preserving the rural and open space character of the balance of the County.

OBJECTIVE A - Guide major development, including 90% of future housing development, to locate in and around the towns and utility service areas.

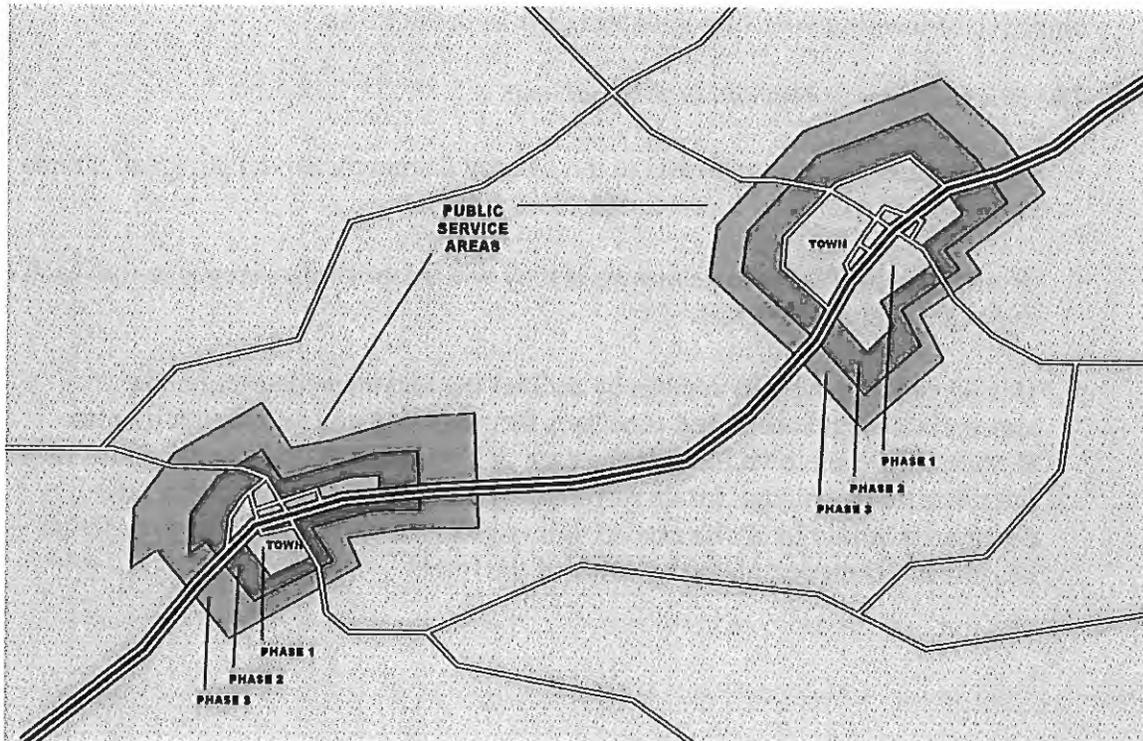
STRATEGY 1) – Undertake joint planning efforts with each incorporated town to create joint comprehensive plan elements for the surrounding Public Service Areas, leading to joint adopted by the County and each town.

STRATEGY 2) - ~~Identify potential~~ In conjunction with Strategy 1, refine the designated public service areas and seek annexation agreements or urban growth area plans with towns to define carry out the policies set forth in the joint plans those areas.

STRATEGY 3) – Coordinate County zoning in adjacent areas around towns with zoning in the towns so as to ensure compatible zoning.

STRATEGY 4) - Encourage uniform town subdivision regulations.

STRATEGY 5) - Create incentives for development where public services are available.



2) Ensure Adequate Utility Capacity for Expected Future Population

Generally speaking, the County and its towns have adequate overall public water and sewer capacity and service for the immediate future. However, these systems need to be monitored, upgraded and expanded as needed, in advance of expected demand. As noted above, additional capacity will need to be added to the public water and wastewater treatment systems in order to meet the objective of locating 90% of the new population within the PSAs over the long term.

Trade-offs are inherent with the provision of water and wastewater treatment, in terms of centralized treatment plants vs. dispersed individual wells and septic systems. However, in the long-term, the County's strategy should be focused primarily on facilitating a mainly centralized approach, in order to contain and control the direct environmental impacts, while also limiting the indirect impacts – both fiscal and environmental – of a rural, sprawling development pattern.

The specific steps to implement this tool are:

- Prepare policy language to add to the County Comprehensive Plan (draft shown below)
- Work with the Towns to affirm existing utility capacities, and to determine the necessary expansions to accommodate the land use objectives of the comprehensive plan during the next 20 to 40 years.

Draft Comprehensive Plan Amendment Language:

Chapter 9 – Growth Management

6. PUBLIC FACILITIES

GOAL - Provide for the improvement of public facilities and for the delivery of necessary public services.

OBJECTIVE A - Provide adequate services and facilities to serve planned land uses and development.

STRATEGY 1) – Refine the delineation of delineate service areas around towns, in conjunction with PSA designation and joint comprehensive plan elements for each town, and phase development within those service areas consistent with the availability of services and the land use policies and objectives of this chapter. The determination of necessary future utility capacity and the commitment to provide it, will be coordinated and determined so as to accommodate the growth forecasts and the objectives for directing growth to these areas during the next 20 years and beyond.

3) Adopt Zoning Standards for Traditional, Compact Development Patterns

Many communities throughout Virginia and other areas of the United States are embracing a return to traditional forms and patterns of development, modeled after the historic districts that are held in high esteem by citizens and visitors. This form of development is often referred to as “new urbanism”, which simply means designing and building new neighborhoods and communities with the beneficial elements of historic districts, but in a way that also accommodates modern technologies and lifestyles.

This approach can create neighborhoods and main streets with mixed-uses, “human-scale” streetscapes, connected street networks, parks, trails, and sidewalks within walking distance of every resident, and other such features that make “in-town” living highly desirable to all age and income groups. This can be a major attractor of future population and jobs, and help take pressure off of the rural landscape to accommodate new housing.

Recent state legislation (§ 15.2-2223.1) now requires certain counties (including Shenandoah) to incorporate one or more urban development areas, and the principles of new urbanism, into the comprehensive plan. The Code specifically cites features such as (i) pedestrian-friendly road design, (ii) interconnection of new local streets with existing local streets and roads, (iii) connectivity of road and pedestrian networks, (iv) preservation of natural areas, (v) satisfaction of requirements for stormwater management, (vi) mixed-use neighborhoods, including mixed housing types, (vii) reduction of front and side yard building setbacks, and (viii) reduction of subdivision street widths and turning radii at subdivision street intersections.

Most of the towns, like the County, have zoning regulations that were written many years ago and do not always reflect the newest understanding of how to achieve compact, “human-scale” development patterns. The County can work cooperatively with the towns to ensure that local zoning regulations encourage such development patterns.

Joint planning efforts would benefit from a coordinated approach by the towns and County in formulating such zoning laws. Traditional Neighborhood Design (TND) and Form-based Codes (FBC) are two techniques for implementing these concepts. The County could apply these zoning rules to certain parts of the PSAs, and the towns could apply them to areas within their corporate limits, possibly in coordination with planned expansions through voluntary settlement agreements.

An example of the progressive approach emerging within the County is Woodstock’s Comprehensive Plan which calls for creating *“a zoning ordinance that incorporates newer forms of mixed-use type of development, such as Planned Unit Developments (PUD), to stimulate creative and efficient use and reuse of land”* and for developing *“a zoning approach to require, permit and/or provide incentives for the development of mixed use neighborhoods as identified on the Future Land Use Map.... Ordinance provisions would allow innovative residential building types and permit creative subdivision design solutions that promote neighborhood cohesiveness, walkability, connected street grids, community green spaces, and protection of historic and environmental resources.”*

The specific steps to implement this tool are:

- Coordinate with the Towns to determine the necessary amendments and additions to local zoning regulations that are necessary to ensure that traditional neighborhood development (TND) can be built within the PSAs.
- Prepare amendments to the County Zoning Ordinance, as needed, to ensure that TND can be built within the defined PSAs; and coordinate with the towns in developing their own similar zoning amendments so that all jurisdictions within Shenandoah County can accommodate and encourage TND in appropriate areas.

B. Invest in Voluntary Land Conservation Programs

1) Establish an Agricultural Economic Development program

The concept of promoting agricultural economic development received the strongest overall support from citizens at the public forums in the autumn of 2008. The primary purpose of local agricultural development programs is normally to promote the local agriculture industry, to increase the economic viability of farming, and to advise the County Board of Supervisors on matters affecting the agricultural economy and its development.

Formal local government programs for agricultural economic development have been initiated in many counties throughout Virginia, including the counties of Nelson, Pittsylvania, Isle of Wight, King and Queen, Loudoun, Fauquier, Halifax, and Fluvanna, as well as the City of Virginia Beach. In 2008, the professional staffs of these offices established an informal organization, called the Virginia Agricultural Development Officers (VADO), to aid members in offering assistance, information and advice about reaching their shared goals, and taking advantage of opportunities for education and networking.

Typically, these offices are based in the County departments of economic development, and carry out a variety of tasks, including promoting agricultural products, assisting in the development of new agricultural businesses, producing informational materials, including brochures and agricultural guides, and sponsoring farm tours, and other agri-tourism events and initiatives, as well as promoting farmers' markets and community supported agriculture (CSA). Some departments also manage local Agricultural and Forestal District Programs (AFD), Farm Viability Grants, Farmland-for-Lease Programs, and Purchase of Development Rights (PDR) programs.

Typically, the staff of an agricultural development office is relatively small – one or two professionals. The job of the agricultural development officer is essentially to plan, develop, and implement programs and services which promote and enhance agriculture and agricultural economic activities. This can include the following kinds of duties:

- Manage the County’s Agricultural Development Office
- Administer agricultural development programs including the Purchase of Development Rights; monitor PDR easements and other conservation easements acquired by the County
- Develop and implement programs to support farm business development and retention
- Write, review and administer agricultural related grants
- Establish and implement public relations, marketing and communications plans to promote agricultural development
- Develop marketing campaigns and materials for agricultural events
- Promote and maintain the department website
- Provide information to the public; create and deliver presentations and speeches to community groups, agricultural associations, schools, local businesses and the general public.
- Provide advice, guidance and expertise on agricultural development plans, policies, trends, and related agricultural issues
- Serve as an advisor to the County Board of Supervisors regarding agricultural related policies including land use, zoning, and federal and state programs
- Serve as Chief of Staff to the County’s Agricultural Advisory Committee; and provide guidance and assistance to the local farm community
- Serve as a member of various boards, task forces, committees and management and planning teams; serve as liaison between the County and local, state and federal agencies, the media, citizen groups, non profit organizations and the general public
- Plan, supervise, coordinate and implement special events and activities
- Conduct research and analysis of agricultural data; identify trends; analyze new developments; apply information to plans, programs and policies
- Prepare, present and distribute statistical and operational reports pertaining to agricultural and departmental programs and services.

The specific steps to implement this tool are:

- Define the desired scope of the program. This would likely include coordination with major local agricultural, environmental and tourism business and interest groups to clarify the priority needs.
- Define the level of administrative and professional support required.
- Allocate funding.
- Recruit personnel and initiate the program.

2) Fund a Purchase of Development Rights (PDR) (from 1 to 5 cents on tax rate)

The County recently adopted an ordinance establishing a PDR program. Establishing funding and staff support are the next steps to fully implement it. Based on the analysis in this report, the County could fund the program on a “pay as you go” basis, or it could issue bonds to finance easement purchases, or some combination of the two.

Expectations for land acquisition at alternative funding levels are summarized in the following table. (Note that the table shows the amount of land the County could expect to directly preserve through its own PDR program; however, it would expect to also “leverage” additional easements through state and private grants, as well as donations).

The table below shows funding up to three cents on the tax rate. At five cents, up to about 18,000 acres could be preserved directly with County funds. See Appendix A for more detail.

Comparison of Funding Options for PDR Program
(Funded at from 1 to 3 Cents on the Tax Rate)

Program Funding Option	Total Annual Payment ³	Total Annual Funds for PDR	Cents on Tax Rate	Acres Conserved Annually ⁴	Total Acres conserved over 20-year period ⁵
Annual Funding from General Revenues ¹	\$420,000	\$420,000	\$0.01	182	3,640
Annual Funding from General Revenues ¹	\$840,000	\$840,000	\$0.02	365	7,300
Annual Funding from General Revenues ¹	\$1,260,000	\$1,260,000	\$0.03	548	11,000
Financed with General Obligation Bonds ²	\$420,000	\$5,830,000	\$0.01	2,500 ⁵	2,500
Financed with General Obligation Bonds ²	\$840,000	\$11,700,000	\$0.02	5,100 ⁵	5,100
Financed with General Obligation Bonds ²	\$1,260,000	\$17,500,000	\$0.03	7,600 ⁵	7,600

Table footnotes:

¹ “Pay As You Go” approach.

² Bond financing would allow the County to leverage its annual payments to acquire more land up front, but at a greater average cost per acre due to financing costs. Most likely, multiple small bonds would be issued over the course of several years, as land became available for purchase.

³ Annual payments would be cash to the owner under the “pay as you go” approach, and would be payments of principle and interest in the bonding approach.

⁴ Assumes \$2,300 average cost per acre of eased land. Assuming financing through a 30-year bond at 5% annual interest, each cent on the tax rate could support a \$5,830,000 bond. If bonds are issued in series, actual annual payments would fluctuate, but this table shows the expected average annual cost impact if one large bond were issued at the beginning of the program to fund all subsequent purchases.

⁵ For the bonding approach, it is assumed that all of the funds are applied during a 20-year period even though the financing is over a 30-year period. Also note that the total land acquired through bond financing is shown as less than through the “pay as you go” approach, due to the financing costs; however, these numbers are all in current dollars. Thus, the net present value of money, plus the potential appreciation in land values, means that the sooner funds are used to acquire easements, the less costly the easements will be. This may be balanced somewhat by the increasing revenue yield from a cent on the tax rate. However, this table still likely understates the cost per acre of “pay as you go”.

The specific steps to implement this tool are:

- Determine the level of funding for the program and the method of financing the purchase of conservation easements (development rights).
- Assign staff to administer the program.

3) Establish and Fund a Leasing of Development Rights (LDR) (possibly linked to the existing Use Value Assessment program)

The analysis earlier in this report indicated that the County could get greater value from the money it spends on Use Value Assessment if land in that program was converted to an LDR program. The County has several options for implementing LDR, in addition to question of funding levels. These options include:

- *Gradual implementation.* Design and adopt an LDR program and allocate initial funding for it, presumably with 10, 15, and 20 year easement terms. Then, *implement over the course of time as landowners choose to convert from Use Value Assessment to LDR.*
- *Transition from Use Value to LDR.* Design and adopt an LDR program and allocate initial funding for it, presumably with 10, 15, and 20 year easement terms. Then, *rescind Use Value and allow landowners to enroll in LDR instead.*
- *Target Areas.* Design and adopt an LDR program and allocate initial funding for it, presumably with 10, 15, and 20 year easement terms. Then, *make it available to land currently within Agricultural and Forestal Districts, as a voluntary alternative to Use Value Assessment. This would likely require a lower level of initial funding due to the limited target area.*

The specific steps to implement this tool are:

- Determine easement terms offered.
- Determine eligibility requirements (minimum acreage, etc.)
- Affirm easement provisions/requirements.
- Establish administrative responsibilities (staff assignments, etc.)
- Adopt the program and allocate initial funding.

4) Explore Transferable Development Rights (TDR)

The Virginia General Assembly has been considering refinements to the recent TDR enabling legislation in order to make the concept more practical for implementation. The County should track the progress on these efforts and continue to explore the feasibility of TDR as a long-term prospect.

However, given the difficulty and uncertainty of implementing TDR - the track record of localities nationwide is not encouraging - the County should be very cautious to avoid putting undue effort into developing a TDR program at the expense of efforts on other, more viable tools.

C. Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

Based upon the analysis of this report, the following amendments to the A-1 and C-1 zoning districts should be pursued, in combination with the other proposed tools. The basic concept for rural zoning revisions is to reduce the “by-right” density for large-lot subdivisions while providing a density bonus for clustered subdivisions.

1. Adopt Low Density Zoning Regulations for the A-1 and C-1 Zoning Districts

Allow one lot per 15 to 20 acres on average. This would mean that while the overall average density of a rural subdivision would be 15 or 20 acres, the average lot size could vary from as small as two acres, up to well in excess of 20 acres.

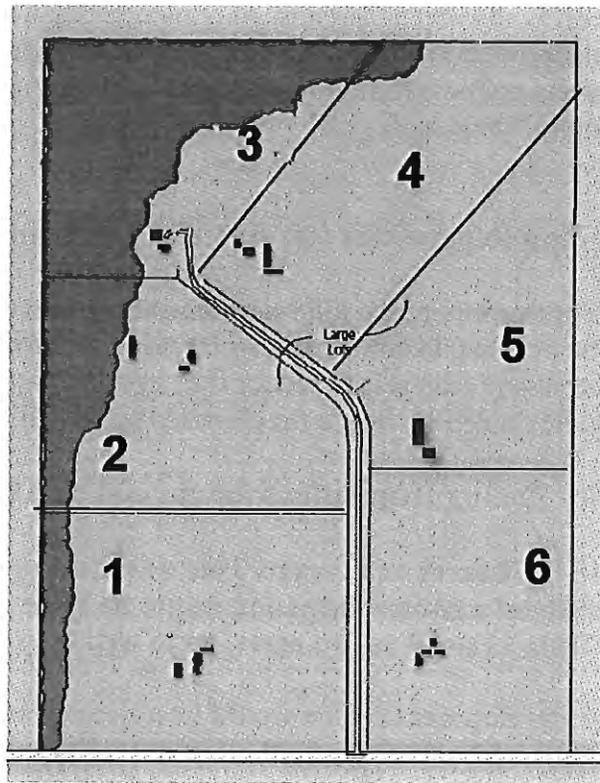
Further, the cluster development option would be amended so that it would be a viable option for rural parcels and would allow a density matching the current C-1 District (one lot per 10 acres on average).

Note that the draft amendments presented here use a base overall density of 20 acres; however, 15 acres is also valid. The County must make a reasoned judgment as to the trade-offs of these two options.

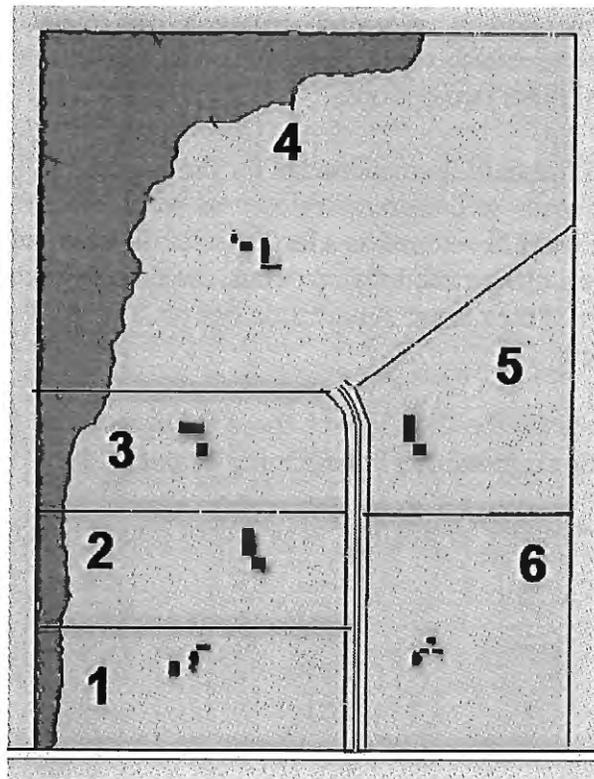
The basic concept of these draft amendments for the A-1 and C-1 zoning districts are that the overall density of housing development would be lowered to an average of one unit per 20 acres if developed as a large lot subdivision, and one unit per 10 acres if developed as a cluster subdivision (Thus, the density in the C-1 District would not be reduced if the cluster subdivision option is used). Permitted uses would not be changed.

The draft amendments for the C-1 District, the A-1 District, and the Open Space / Cluster option are shown in section 3. beginning on page 44.

Sketch diagrams of “lot-size averaging” as proposed here are shown on the following page.



A 125-acre parent parcel, divided into six 20-acre lots (plus road right of way).



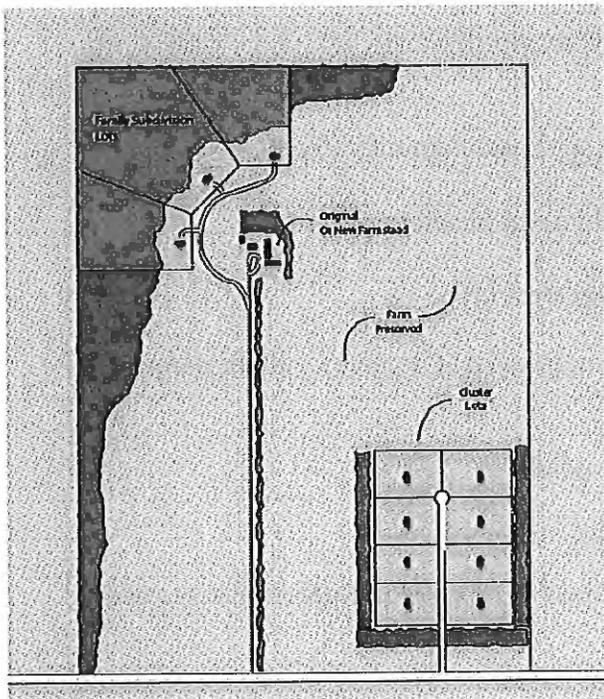
A 125-acre parent parcel, divided into six lots of varying sizes at an average of 20 acres per lot (plus road right of way).

2. Amend the Open Space Cluster Zoning Option

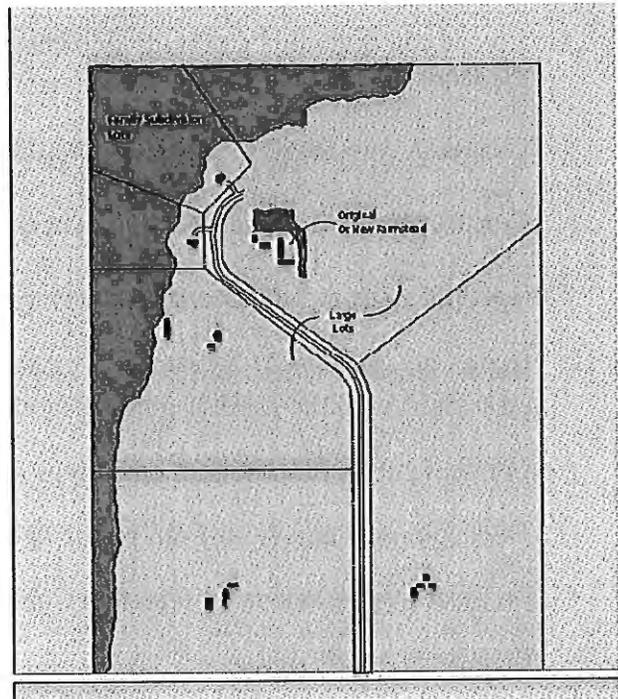
Amend the A-1 and C-1 Zoning Districts, so that the cluster development option would save at least 80% of the tract in very large, “conservation lots”, while facilitating recombining existing lots as well as facilitating family subdivisions.

The cluster provisions work in concert with the A-1 and C-1 base district provisions. The purpose of the cluster provisions is save significant pieces of open land even as adjacent land is subdivided and developed with rural housing. The result should be rural subdivisions that have less impact than conventional subdivisions, on agriculture, visual quality of the landscape, environmental resources such as water quality, and delivery of public services.

It is further hoped that the incentives of the cluster option may also encourage recombination of existing vacant lots, and facilitation of small-scale family subdivisions.



Cluster Option
(average density of one lot per 10 acres)



Basic Option
(average density of one lot per 20 acres)

Key Features of the proposed amended cluster development option include:

- Cluster development in the C-1 and A-1 zoning districts would be permitted using individual wells and septic systems.
- Average overall maximum development density of a site would be one lot per 10 acres (same as current C-1 zoning district)
- At least 80% of the parent tract would be preserved either in common open space or in large “conservation lots” of at least 30 acres each, which could be sold and used just like any other lot.
- The cluster lots would be a minimum of one acre in size.
- Off-site septic fields would be permitted on conservation lots in order to facilitate the creation of smaller cluster lots.
- Private roads would be permitted to ensure compatibility with the rural character of the landscape, and to reduce costs.
- Cluster development subdivisions would be approved administratively.
- Construction of a cluster development could be completed in phases.

The specific steps to implement these two zoning tools are:

- Refine the draft language shown in this report, as needed, including coordinating provisions with the subdivision ordinance.
- Conduct public informational meetings as needed.
- Take comment and input from public agencies.
- Conduct work sessions by Planning Commission and Board of Supervisors as needed.
- Issue legal public notice.
- Conduct public hearings before Planning Commission and Board of Supervisors as needed.
- Conduct additional work sessions as needed.
- Make refinements to the amendments as needed.
- Planning Commission makes recommendation to Board of Supervisors.
- Board of Supervisors make refinements as needed and adopts amendments.

Comparison of Theoretical Lot Yields of Existing C-1 and A-1 Districts with draft amendments.

Following is a comparison of density and lot size requirements of the existing C-1 District and the draft proposed C-1 District shown in this report:

Parent Tract Size	Number of Total Lots Permitted using conventional subdivision ¹		Density using conventional subdivision ¹ (Average lot size)		Density using cluster subdivision (Average lot size)	
	Existing C-1	Proposed C-1	Existing C-1	Proposed C-1	Existing C-1	Proposed C-1
10 acres	1	1	10 acres	10 acres	n/a	n/a
20 acres	2	2	10 acres	10 acres	n/a	n/a
30 acres	3	3	10 acres	10 acres	n/a	n/a
31 acres	3	3	10.3 acres	10.3 acres	n/a	n/a
32 acres	3	3	10.7 acres	10.7 acres	n/a	10.7 ac.
40 acres	4	3	10 acres	13.3 acres	n/a	10.0 ac.
50 acres	5	3	10 acres	16.7 acres	n/a	10.0 ac.
60 acres	6	3	10 acres	20 acres	n/a	10.0 ac.

¹ Includes bonus lots for smaller parent parcels.

Following is a comparison of density and lot size requirements of the existing A-1 District and the draft proposed A-1 District. Note however, that the lot sizes for existing A-1 regulations are theoretical because most land has various constraints that make expected lot size in the range of 4 to 10 acres, rather than 3.5 acres.

Parent Tract Size	Number of Total Lots Permitted using conventional subdivision ¹		Density using conventional subdivision ¹ (Average lot size)		Density using cluster subdivision (Average lot size)	
	Existing A-1	Proposed A-1	Existing A-1	Proposed A-1	Existing A-1	Proposed A-1
10 acres	2	2	5.0 acres	5.0 acres	n/a	n/a
20 acres	5	3	4.0 acres	6.7 acres	n/a	n/a
30 acres	8	4	3.8 acres	7.5 acres	n/a	n/a
31 acres	8	4	3.9 acres	7.8 acres	n/a	n/a
32 acres	9	4	3.6 acres	8.0 acres	n/a	10.7 ac.
40 acres	11	2	3.6 acres	20.0 acres	n/a	10.0 ac.
50 acres	14	2	3.6 acres	25.0 acres	n/a	10.0 ac.
60 acres	17	3	3.5 acres	20.0 acres	n/a	10.0 ac.

¹ Includes bonus lots for smaller parent parcels.

² bonus lots do not apply when cluster option becomes available.

3. Draft Amendments to the Zoning Ordinance

The proposed amendments to the existing zoning ordinance are shown below in a “legislative mark-up” style, with new language underlined and deleted language ~~stricken through~~. (Also shown are proposed amendments to the subdivision ordinance in order to coordinate the two ordinances).

§ 165-11. Conservation District (C-1) – Draft Mark-up

[Amended 6-8-1982; 1-24-1985; 4-8-1986; 6-9-1987; 11-14-1989; 12-12-1989; 7-9-1991; 9-10-1991; 11-8-1994; 6-13-1995; 5-28-1996; 11-26-1996 by Ord. No. 96-3; 9-23-1997 by Ord. No. 97-7; 3-28-2000 by Ord. No. 00-2; 5-23-2000 by Ord. No. 00-6; 6-26-2001 by Ord. No. 01-6; 11-27-2001 by Ord. No. 01-8; 1-22-2002 by Ord. No. 02-1; 1-22-2002 by Ord. No. 02-2; 2-25-2003 by Ord. No. 2003-2; 6-24-2003 by Ord. No. 2003-4; 4-24-2007 by Ord. No. 2007-08; 4-24-2007 by Ord. No. 2007-09; 6-26-2007, 4-22-2008]

A. Statement of intent. This district covers portions of the County which are occupied by various open uses, such as forests, recreation areas, farms, lakes or streams. Uses not consistent with the existing character of this district are not permitted. Real property in this zoning classification may be subdivided only in accordance with § 142-3.1 of the Code of Shenandoah County. [Amended 3-22-2005 by Ord. No. 2005-4]

B. Uses. In this district, structures to be erected or land to be used shall be for one or more of the following uses:

(1) Uses permitted by right:

- (a) General farming, agriculture, dairying and forestry. See Article XI for poultry and hog regulations.
- (b) Conservation preserves.
- (c) Single-family detached dwellings.
- (d) Kennels.
- (e) Churches, cemeteries, schools, parks and playgrounds, fire and rescue squad stations, office buildings and other public and semipublic uses.
- (f) Roadside stand or market.
- (g) Country or general stores.
- (h) Sawmills or pulpwood concentration yards.
- (i) Manufactured houses on permanent foundations.
- (j) Lines, poles and pipes to provide electric, gas, telephone, water or sewer service to structures located on properties adjacent to said facilities.
- (k) Retail greenhouse and nursery operations under 10,000 square feet. Site plan approval is required as per Article XIV.
- (l) Storage buildings or sheds, as defined.
- (m) Recreational vehicle provided that the recreational vehicle is on the property no more than 30 consecutive days and is removed from the property for at least 14 consecutive days each time it is removed. [Added 4-24-2007 by Ord. No. 2007-09]
- (n) Open Space Developments meeting the requirements of Article X [Added 6-26-2007]
- (o) Wineries [Added 4-22-08]

(2) Permitted accessory uses:

- (a) Off-street parking for uses permitted in the district as provided in Article XII.
- (b) Signs as provided in Article XIII.
- (c) Customary accessory uses and structures as provided in § 165-26.
- (d) Home occupation as provided in § 165-29.
- (e) Level 1 home business as provided in § 165-30.

(3) Uses permitted by special permit:

- (a) Level 2 home business as provided in § 165-30.
- (b) Public utility generating, booster or relay stations, transformer substations, railroads, water and sewerage installations (other than pipes), telephone facilities (other than lines, poles and towers), and other facilities for the provision and maintenance of public utility service.
- (c) Garages, public.
- (d) Farm, lawn and garden machinery and equipment sales and service.
- (e) Lodges, hunting clubs, camps, golf and country clubs.
- (f) Recreational uses or facilities, commercially operated or for private membership, such as game courts, swimming pools, campgrounds, archery ranges, fishing or boating lakes, ski slopes, picnic grounds, marinas and accessory facilities (including the sale of food, beverages, bait, incidentals, supplies and equipment); provided that no such use, structure or accessory use is located closer than 50 feet to any adjoining property lines.
- (g) Conversion of a single residential structure on a lot to contain a maximum of four dwelling units, provided that such structure was in existence prior to September 12, 1978.
- (h) Reserved (4-22-2008)
- (i) Nursing homes and adult-care centers.
- (j) Airports, commercial and private.
- (k) Flea markets.
- (l) Mobile home or manufactured housing parks as provided in Article IX.
- (m) Retail greenhouse and nursery operations over 10,000 square feet. Site plan approval is required as per Article XIV.
- (n) Telecommunications towers as provided in Article XIX.
- (o) (Reserved) [EN]10
- (p) Museums.
- (q) Conversion of existing single-family dwellings to bed-and-breakfasts, provided that the bed-and-breakfast is located at least 900 feet from all lots containing intensive poultry facilities, intensive hog facilities, and other confined feeding operations.
- (r) Corporate training centers. [Added 11-25-2003 by Ord. No. 2003-7]
- (s) Country inns. [Added 11-25-2003 by Ord. No. 2003-7]
- (t) Rural resorts. [Added 11-25-2003 by Ord. No. 2003-7]
- (u) Temporary electric service [Added 4-24-2007 by Ord. No. 2007-09]

C. Area regulations.

(1) The minimum lot area shall be ~~10~~ two acres. The average parcel size for any subdivision of land, as defined in Chapter 142 of the County Code, shall be 20 acres, except that the provisions of part § 165-11 (4) and the open space cluster provisions of Article X of this Chapter may be applied to permit a greater overall average density. If any proposed subdivision plat includes any lot less than 20 acres in area, the plat must show a boundary survey of the entire tract, in accord with plat requirements as set forth in § 142-45 (3) of the County Code.

(2) There shall be a maximum of one single-family detached dwelling or manufactured house per ~~40~~ 20 acres, on average and not more than one principle dwelling on each lot.

(3) There shall be a maximum of two dwellings or manufactured houses or combination thereof per lot.

(4) Notwithstanding the other provisions of this chapter, each parcel of land existing at the time of the adoption of this amended provision [X-XX-09] or created by a boundary line adjustment that does not create additional lots, and with no existing dwelling, may be divided as follows:

(a) parcels of 20 or more acres but less than 30 acres in area may be subdivided into a total of two parcels, each not less than two acres in area; and

(b) parcels of 30 or more acres but less than 60 acres in area may be subdivided into a total of three parcels, each not less than two acres in area.

D. Frontage regulations. The minimum frontage for each lot shall be no less than 175 feet, and each lot shall have a length to width ratio of each lot is no greater than 3.5 to 1, except that in no case shall the frontage be required to be greater than 350 feet. ~~450 feet.~~ (See § 165-27 for cul-de-sac.)

E. Yard regulations. [NOTE: See Article XI for residential setbacks from poultry facilities.]

(1) Front yard. Structures shall be located ~~40~~ 400 feet or more from the front lot line. This shall be known as the "setback" line.

(2) Side yard. Each side yard for each main structure shall be a minimum of ~~40~~ 80 feet. No accessory building shall be located closer than 30 feet to any side property boundary line.

(3) Rear yard. Each main structure shall have a rear yard of ~~90~~ 150 feet or more. Accessory buildings may be built to within 10 feet of rear property line. When the lot was recorded prior to October 1, 1978, the rear yard may be reduced to 60 feet when it is determined by the Zoning Administrator that the required setback cannot be met because water and/or sanitation facilities are necessary to be located in front of the house as determined by the Health Director.

(4) Lots adjoining an industrial-zoned district. No residential structure shall be constructed closer than 100 feet to any adjacent property line if that property is an industrial-zoned district or contains an industrial use; however, this distance may be reduced to 50 feet for side or 60 feet for rear yards if a screen buffer consisting of total screening is provided.

F. Building coverage. The maximum building coverage on a lot shall be 20%.

G. Height regulations.

(1) Structures may be erected up to 35 feet in height.

(2) All accessory buildings shall be less than the main building in height. Church spires, belfries, cupolas, monuments, water towers, farm silos, barns and other farm related structures, chimneys, flues, flagpoles, parapet walls, television antennas, radio aerials, microwave towers and other public communication facilities are not governed by the height regulation of 35 feet set forth in the previous subsection.

§ 165-12. Agriculture District (A-1) - Draft Mark-up

[Amended 6-8-1982; 3-8-1983; 4-8-1986; 6-9-1987; 11-8-1988; 6-13-1989; 11-14-1989; 12-12-1989; 7-9-1991; 9-10-1991; 12-10-1991; 3-10-1992; 3-23-1993; 4-12-1994; 11-8-1994; 5-28-1996; 6-13-1995; 11-26-1996 by Ord. No. 96-3; 9-23-1997 by Ord. No. 97-7; 3-28-2000 by Ord. No. 00-2; 5-23-2000 by Ord. No. 00-6; 6-26-2001 by Ord. No. 01-6; 11-27-2001 by Ord. No. 01-7; 11-27-2001 by Ord. No. 01-8; 1-22-2002 by Ord. No. 02-1; 1-22-2002 by Ord. No. 02-2; 2-25-2003 by Ord. No. 2003-2; 6-24-2003 by Ord. No. 2003-4; 4-24-2007 by Ord. No. 2007-06; 4-24-2007 by Ord. No. 2007-08; 4-24-2007 by Ord. No. 2007-09; 6-26-2007, 4-22-2008]

A. Statement of intent. This district is intended to preserve the character of those portions of the County where agricultural and other low-intensity uses predominate. The permitted uses should include mainly agriculture and related uses. Real property in this zoning classification may be subdivided only in accordance with § 142-3.1 of the Code of Shenandoah County. [Amended 3-22-2005 by Ord. No. 2005-4]

B. Uses. In this district, structures to be erected or land to be used shall be for one or more of the following uses:

(1) Uses permitted by right:

- (a) General farming, agriculture, dairying and forestry. [NOTE: See Article XI for poultry and hog regulations.]
- (b) Conservation preserves.
- (c) Single-family detached dwellings.
- (d) Manufactured houses on permanent foundations.
- (e) Schools, churches, parks, playgrounds, fire and rescue squad stations, libraries, cemeteries, office buildings and other similar public and semipublic uses.
- (f) Sawmills or pulpwood concentration yards.
- (g) Kennels.
- (h) Country or general stores.
- (i) Livestock markets.
- (j) Lines, poles and pipes to provide electric, gas, telephone, water and sewer service to structures located on properties adjacent to said facilities.
- (k) Roadside stand or market.
- (l) Veterinary hospitals
- (m) Retail greenhouse and nursery operations under 10,000 square feet. (Site plan approval is required as per Article XIV.)
- (n) Cat shelters.
- (o) Storage buildings or sheds, as defined.
- (p) Recreational vehicle provided that the recreation vehicle is on the property no more than 30 consecutive days and is removed from the property for at least 14 consecutive days each time it is removed. [Added 4-24-2007 by Ord. No. 2007-09]
- (q) Open Space Developments meeting the requirements of Article X [Added 6-26-2007]
- (r) Wineries [Added 4-22-08]

(2) Permitted accessory uses:

- (a) Off-street parking for uses permitted in this district as provided in § 165-86.
- (b) Signs as provided in Article XIII.
- (c) Customary accessory uses and structures as provided in § 165-26.

- (d) Home occupation as provided in § 165-29.
- (e) Level 1 home business as provided in § 165-30.

(3) Uses permitted by special permit:

- (a) Lodges, hunting clubs, camps, golf and country clubs.
- (b) Level 2 home business as provided in § 165-30.
- (c) Garages, public.
- (d) Farm, lawn and garden machinery and equipment sales and service.
- (e) Public utility generating, booster or relay stations, transformer substations, railroads, water and sewerage installations (other than pipes), telephone facilities (other than lines, poles and towers), and other facilities for the provision and maintenance of public utility service.
- (f) Airports, commercial and private.
- (g) Recreational uses or facilities, commercially operated or for a private membership, such as game courts, swimming pools, campgrounds, archery ranges, fishing or boating lakes, ski slopes, picnic grounds, marinas and accessory facilities (including the sale of food, beverage, bait, incidentals, supplies and equipment); provided that no such use, structure or accessory use is located closer than 50 feet to any adjoining property lines.
- (h) Commercial slaughterhouse.
- (i) Rendering plant.
- (j) Blacksmith shop.
- (k) Conversion of a single residential structure on a lot to contain a maximum of four dwelling units, provided that such structure was in existence prior to September 12, 1978.
- (l) Reserved (4-22-08)
- (m) Bulk petroleum products storage and distribution.
- (n) Nursing homes and adult-care centers.
- (o) Asphalt mixing plants.
- (p) Flea market.
- (q) Mobile home or manufactured housing parks as provided in Article IX.
- (r) Motor vehicle impoundment lots.
- (s) Retail greenhouse and nursery operations over 10,000 square feet. (Site plan approval is required as per Article XIV.)
- (t) Manufacture of deli sandwiches.
- (u) Off-street parking area as a main use.
- (v) Personal service establishments under 1,500 square feet.
- (w) Telecommunications towers as provided in Article XIX.
- (x) (Reserved) [EN]11
- (y) Dormitory housing for farm workers.
- (z) Museums.
- (aa) Conversion of existing single-family dwellings to bed-and-breakfasts, provided that the bed-and-breakfast is located at least 900 feet from all lots containing intensive poultry facilities, intensive hog facilities, and other confined feeding operations.
- (bb) Child-care centers, provided that the child-care center is licensed by the Commonwealth of Virginia.
- (cc) Corporate training centers. [Added 11-25-2003 by Ord. No. 2003-7]
- (dd) Country inns. [Added 11-25-2003 by Ord. No. 2003-7]
- (ee) Rural resorts. [Added 11-25-2003 by Ord. No. 2003-7]
- (ff) Wholesale bakeries. [Added 11-25-2003 by Ord. No. 2003-8]
- (gg) Cold storage of plant and animal cultures. [Added 3-8-2005 by Ord. No. 2005-2]
- (hh) Temporary electric service [Added 4-24-2007 by Ord. No. 2007-09]
- (ii) Ice Cream Stand. [Added 4-24-2007 by Ord. No. 2007-06]

C. Area regulations.

(1) The minimum lot area shall be 3-1/2 two acres. The average parcel size for any subdivision of land, as defined in Chapter 142 of the County Code, shall be 20 acres, except that the provisions of part § 165-12 (4) and the open space cluster provisions of Article X of this Chapter may be applied to permit a greater overall average density. If any proposed subdivision plat includes any lot less than 20 acres in area, the plat must show a boundary survey of the entire tract, in accord with plat requirements as set forth in § 142-45 (3) of the County Code.

(2) There shall be a maximum of one single-family detached dwelling or manufactured house per 3-1/2 20 acres on average, and not more than one principle dwelling on each lot.

(3) There shall be a maximum of two dwellings or manufactured houses or combination thereof per lot.

(4) Notwithstanding the other provisions of this chapter, each parcel of land existing at the time of the adoption of this amended provision [X-XX-09] or created by a boundary line adjustment that does not create additional lots, and with no existing dwelling, may be divided as follows:

(a) parcels of 7 or more acres but less than 11 acres may be subdivided into a total of two parcels, each not less than two acres in area, and

(b) parcels of 11 or more acres in area, but less than 21 acres may be subdivided into a total of three parcels, each not less than two acres in area.

(c) parcels of 21 or more acres in area, but less than 32 acres may be subdivided into a total of four parcels, each not less than two acres in area.

D. Frontage regulations. The minimum frontage for each lot shall be no less than 175 feet, and each lot shall have a length to width ratio of each lot is no greater than 3.5 to 1, except that in no case shall the frontage be required to be greater than 350 feet. (See § 165-27 for culs-de-sac.)

E. Yard regulations. [NOTE: See Article XI for residential setbacks from poultry facilities.]

(1) Front yard. Structures shall be located 40 ~~60~~ feet or more from the front lot line. This shall be known as the "setback" line.

(2) Side yard. Each side yard for each main structure shall be a minimum of 40 ~~60~~ feet. No accessory building shall be located closer than 30 feet to any side property boundary line.

(3) Rear yard. Each main structure shall have a rear yard of 90 feet or more. Accessory buildings may be built to within 10 feet of rear property line.

(4) Lots adjoining an industrial zoned district. No residential structure shall be constructed closer than 100 feet to any adjacent property line if that property is an industrial-zoned district or contains an industrial use; however, this distance may be reduced to 50 feet for side or 60 feet for rear yards if a screen buffer consisting of total screening is provided.

F. Building coverage. The maximum building coverage on a lot shall be 20% ~~30%~~.

G. Height regulations.

(1) Structures may be erected up to 35 feet in height from grade.

(2) All accessory buildings shall be less than the main building in height. Church spires, belfries, cupolas, monuments, water towers, farm silos, barns and other farm related structures, chimneys, flues, flagpoles, parapet walls, television antennas, radio aerials, microwave towers and other public communication facilities are not governed by the height regulation of 35 feet set forth in the previous subsection.

ARTICLE X, Open Space Cluster Development Regulations - Draft Mark-up

§ 165-69. Purpose and Intent.

A. The regulations established in this article are to encourage the preservation of open spaces to be used for agricultural, forestal, and recreational uses, by permitting the clustering of smaller parcels within a subdivision so as to preserve larger lots, open spaces and environmental features within that subdivision. These regulations are consistent with Section 15.2-2286.1 of the Code of Virginia, as amended.

B. Objectives:

- (1) Protect and preserve large tracts of land for agriculture, forest, and other open space uses.
- (2) Protect and preserve natural resources, trees, watersheds, floodplains, water features, sink holes, mountain ridge lines, steep slopes, and other sensitive natural features, while enhancing the natural scenic beauty of the land.
- (3) Protect and preserve historic areas, including any area containing one or more buildings or places in which historic events occurred or having special public value because of notable architectural, archeological, or other features relating to the cultural or artistic heritage of the community, of such significance as to warrant conservation and preservation.

§ 165-70. Minimum area requirement.

~~An open space development shall consist of at least 5 contiguous acres in the Low Density Residential (R-1), Medium Density Residential (R-2), and High Density Residential (R-3) districts, 10.5 acres in the Agriculture (A-1) and Rural Residential Agriculture (RRA) districts and 30 acres in the Conservation (C-1) and Rural Residential Conservation (RRC) districts, under one ownership or control.~~

An open space cluster development shall consist of at least 5 contiguous acres in the Low-Density Residential (R-1), Medium-Density Residential (R-2), and High-Density Residential (R-3) districts, 10.5 acres in the Rural-Residential Agriculture (RRA) district, 30 acres in the Rural-Residential Conservation (RRC) district, 32 acres in the Agriculture (A-1) district, and 32 acres in the Conservation (C-1), under one ownership or control.

§ 165-71. Public water and sewer.

An open space development project shall be serviced by public water and sewer as defined in Section 142-3.B of the Code of Shenandoah, except that in the C-1 or A-1 districts the lots may be

served by individual well and septic systems if approved by the Health Department. Wells and septic fields that serve a cluster lot may be located on a contiguous conservation lot; utility easements must be established at the time of subdivision to provide access to such facilities, and must be surveyed and the boundaries marked with monuments.

§ 165-72. Density, area, frontage, and yard requirements.

A. An open space development shall be designed at an overall density corresponding to the minimum lot size contained in the specific applicable district regulations section for single-family lots, except as provided for in § 165-11.C of this chapter for the C-1 district, and in § 165-12.C. of this chapter for the A-1 district.

B. All structures on residential lots in an open space development shall be clustered within an avoid any area not containing prime farm and forest land, 100-year floodplain, wetlands, stream buffers, sink holes, mountain ridge lines, steep slopes, historic areas, and areas with other sensitive natural and historical features. The Administrator shall evaluate information provided by the applicant in the site plan, soil surveys, floodplain maps, historical surveys, USGS topographical maps, and other sources of information pertaining to the property and surrounding areas. In order to facilitate such evaluation, the applicant shall show the location of building envelopes on each lot. [amend chapter 145-45 to add steep slopes, historic structures, building envelopes, and wetlands to plat submission requirements]

C. The minimum lot area, frontage, and yard requirements for individual, cluster lots in an open space development shall be as follows:

District	Minimum Lot Area	Minimum Frontage	Required Front Yard	Required Side Yard	Required Rear Yard
C-1	1 acre	125 feet	35'	15'	50'
A-1	1 acre	125 feet	35'	15'	50'
C-1/RRC	1 acre	125 feet	35'	15'	30'
A-1/RRA	30,000 sq ft.	125 feet	35'	15'	30'
R-1	15,000 sq ft.	100 feet	35'	10'	25'
R-2	10,000 sq ft.	90 feet	35'	10'	25'
R-3	10,000 sq ft.	90 feet	35'	10'	25'

Accessory structures shall be located at least 5 feet from side and rear lot lines in the RRC, RRA, R-1, R-2, and R-3 districts, and 15 feet in the C-1 and A-1 districts.

Note: 100' setback is required for all primary structures from a pre-existing street.

D. Each cluster must contain at least five but not more than ten contiguous cluster lots, except for for sites in which the total number of cluster lots is less than five, in which case they must be contiguous. Each cluster must be separated from other clusters on the parent tract by at least 375 feet.

§ 165-73. Open Space and Conservation Lots

A. A minimum percentage of each open space development shall be preserved in open space or conservation lots as shown in the following table:

C-1	80%
A-1	80%
C-1/RRC	75%
A-1/RRA	70%
R-1, R-2, R-3	50%

B. Open space and conservation lots shall be used only for the following purposes:

(1) For properties zoned C-1, RRC, A-1, RRA: Agricultural and forestal uses including the construction of farm related accessory structures necessary to conduct agricultural activities on the property.

(2) For properties zoned R-1, R-2, R-3: Recreation areas meaning park areas, pedestrian paths, bicycle trails, and other recreational facilities. Structures directly supporting the recreation use may be constructed.

(3) For all properties: Preservation areas meaning historic places, buildings, battlefields, and other areas of historical significance, stream buffers, floodplains, wetlands, steep slopes, and other natural and environmental resources, not including structures except those farm structures allowed in Section 165-73.B(1).

(4) For properties zoned C-1 or A-1: One single family detached dwelling per conservation lot. Such lots must have a minimum area of 30 acres and must meet all other frontage and setback requirements for those districts as set forth in § 165-11 and § 165-12.

C. Except for conservation lots in the C-1 and A-1 districts, all open space within a development shall be contiguous. When open space is already designated on neighboring properties, all new open space shall be designed to be linked together with neighboring properties whenever feasible. The open space shall be arranged and designed to facilitate its use, ensure continuity of design, and preserve sensitive environmental features. Failure to achieve these goals shall be sufficient reason for the agent to deny applications for open development plan approval or to require modifications that may include the loss of lots.

D. An open space development shall include A perpetual or conservation easement acceptable to and approved by the County, shall be recorded on the all open space and conservation lots to ensure it continues as open space in perpetuity and is not further subdivided or developed in excess of what is permitted by the provisions of this Article, nor is used for purposes other than general agriculture, forestry, a principal and accessory residential dwelling, and home occupation uses.

E. In the C-1, RRC, A-1, & RRA Zoning Districts the open space may remain in private ownership if the provisions of this ordinance are met. If the open space remains in private ownership and it contains an existing single-family dwelling, that single-family dwelling may be continued, improved, expanded, and repaired as necessary. The requirement of a perpetual conservation easement as required in § 165-73.D also pertains.

F. In the R-1, R-2, R-3 Zoning Districts the Home Property Owner's Association shall own and maintain the open space unless the developer wishes to dedicate the open space to the county for recreational uses, and where the Board of Supervisors agrees to accept such open space, or where a conservation organization agrees to take ownership and maintenance of the open space, if approved

by the Board of Supervisors. Recreational open space shall be linked together to provide access for all residents. The Home Property Owner's Association shall conform to the following requirements:

- (1) The developer shall establish the organization prior to the sale of any property.
- (2) Membership in the organization shall be mandatory for all residential property owners, present or future, within the development.
- (3) The organization shall manage all open space and recreational and cultural facilities; shall provide for the maintenance, administration, and operation of said land and improvements, and any other land within the development, and shall secure adequate liability insurance on the land.
- (4) The organization shall conform to the Condominium Act, Code of Virginia (1950), as amended.

G. No conservation lot may have a length/width ratio exceeding 6 to 1.

§ 165-74. Streets

A. Except for conservation lots, no new lots created under the open space development regulations shall be accessed by an existing street, except that up to two cluster lots may access and front an existing public street.

B. All lots other than conservation lots shall be accessed by new streets meeting the provisions of Section 142-20 of the Code of Shenandoah, except that in the C-1 and A-1 districts, new streets may be public or may be private; if private streets are created, they must meet the provisions of parts Section 142-20 (2) (i) [b], 3 through 11, and If such private streets are created in accord with such provisions, the open space cluster development must have a Property Owners Association, established in accord with Section § 165-73.F. of this Chapter and in accord with Chapter 142.

C. All new residential structures shall be located at least 100' from any street in existence at the time of subdivision. An opaque screen buffer, as defined in Section 165-4, shall be installed and maintained along all pre-existing streets on residential lots in an open space development. The Subdivision Administrator may waive this requirement if the existing tree cover is found to adequately screen new houses from existing streets and if the trees in that area are preserved in an easement.

§ 165-75. Buffers

A. Where an open space development is to be located adjacent to land zoned or currently used for industrial or business uses, the required open space shall be located to buffer the residential lots from those properties.

B. Where an open space development is to be located adjacent to land in an Agriculture & Forest District or land used for intensive poultry or hog facilities, the required open space shall be located to buffer the residential lots from those uses.

§ 165-76. Approval Process

Open space developments shall be reviewed administratively by staff. In determining whether or not to grant approval, the applicant shall be required to show that the requirements of this Chapter and of Chapter 142 are met. how the proposed open space development provides superior protection of those resources listed in 165-69.B to that which would be effected by conventional subdivision of the subject property.

For open space development subdivisions of 20 or more total lots, a site plan, meeting the requirements of Section 165-98 shall be submitted to the Administrator. In addition to the

requirements of Section 165-98, mountain ridge lines and areas of environmental/historical value, as described in Section 169.B, shall be shown on the site plan and preserved as open space or conservation lots. Where an open space development is to be developed in phases, a site plan shall be submitted for the development of the entire site with a phasing plan. This general site plan shall not bind the county into approving further phases if the Code of Shenandoah is amended to disallow such use approved in the site plan.

Once a site plan is approved, a final plat meeting the requirements of Section 142-48 shall be submitted to the Administrator. In addition, final plats recorded for an open space development shall bear a statement indicating that the land is within an approved open space development subdivision and shall also bear a statement indicating the ownership status of the development's open space system and shall reference the covenants creating a property owners association, which shall also be recorded at the time final plats are recorded. The easement preserving the open space, restrictive covenants spelling out the maintenance of the open space, articles of incorporation for the Home Property Owner's Association, and any bonding necessary for improvements shall be approved by the County Attorney. If those items are approved by the County Attorney, the Administrator shall approve or deny the final plat based on compliance with all applicable codes.

§ 165-77. Variations

In order to promote more creative and innovative designs, the Board of Supervisors may approve variations to the requirements of this chapter through the issuance of a special use permit.

§ 165-78. Low Impact Development Techniques

In order to limit the impact of stormwater runoff from compact rural residential developments, open space cluster developments are permitted to use low impact development (LID) techniques to meet stormwater management requirements, including, but not limited to the following:

- Bioretention areas
- Green Roofs and Rooftop Gardens
- Vegetated Swales, Buffers, and Strips; Tree Preservation
- Rain Barrels and Cisterns
- Permeable Pavement
- Soil Amendments
- Impervious Surface Reduction

§ 165-4. Definitions [add the following]:

BUILDING ENVELOPE – an area not greater than 20% of the total lot area, shown for lots within an open space development subdivision, which defines the area on the lot within which the principle structure may be built.

CLUSTER LOT -- Any lot within an open space development subdivision that is not an open space lot or a conservation lot.

CONSERVATION LOT – A permanently preserved lot of not less than 30 acres in area that is created as part of an open space development subdivision, as specified in § 165-73.

LOW IMPACT DEVELOPMENT TECHNIQUES (LID) – An approach to stormwater management that emphasizes the use of on-site natural and built features to reduce the impacts of increased flow rates and volumes associated with increases in impervious area. LID involves assessing and understanding the site, protecting native vegetation and soils, and minimizing and managing stormwater at the source. LID techniques may be considered an alternative to traditional, structural stormwater management solutions. Such techniques reduce runoff volume by infiltrating rainfall water to groundwater, evaporating rain water back to the atmosphere after a storm, and by using water on-site rather than exporting it as a waste product down storm sewers.

Bioretention areas - vegetated depressions that collect and filter runoff. Bioretention BMPs increase the amount of rain water a property can absorb and include vegetative strips, grassy swales, rain gardens, shallow surface ponds, tree box filters, and underground drainage systems.

Green Roofs and Rooftop Gardens - Plants that can tolerate drought and extreme temperature conditions are planted in green roofs to absorb rainwater

Vegetated Swales, Buffers, and Strips – mild slopes adjacent to roads, parking lots and other impervious surfaces that are planted with vegetation to retain and absorb water runoff.

Tree Preservation – saving existing vegetation on site.

Rain Barrels and Cisterns – storage containers which collect and hold stormwater run-off from roofs.

Permeable Pavement - an alternative to asphalt and concrete that allows rainwater to percolate into the ground.

Soil Amendments - amending the soil with organic matter can help retain the site's ability to absorb water and prevent runoff

Impervious Surface Reduction – minimizing the construction of impervious surfaces on the site, through narrower streets, compact parking areas, extensive vegetated areas, etc.

OPEN SPACE DEVELOPMENT (CLUSTER DEVELOPMENT TECHNIQUES) -- The clustering of single-family dwellings meeting the requirements of Article X. [Amended 6-26-2007]

Chapter 142, SUBDIVISION OF LAND - Draft Mark-up

ARTICLE I, General Provisions

§ 142-3.1. Limitation on number of divisions. [Added 3-22-2005 by Ord. No. 2005-4]

A. Except as provided in Subsection B below, in zoning classifications C-1 (Conservation) and A-1 (Agriculture), no more than one division of land shall be created from an existing parcel or newly created parcel during a thirty-six-month period. All such divisions shall follow the process established in § 142-5B, as pertaining to administrative approved divisions of land.

B. The limitation in Subsection A above shall not prevent the division of land through any of the exceptions listed in Subsection (1)(a) through (f) of the definition of "subdivide" in § 142-3B.

C. The limitation in Subsection A applies only to property zoned C-1 (Conservation) or A-1 (Agriculture), including Open Space Cluster Development divisions as provided by Article X of Chapter 165. If property is rezoned to a different classification, therefore, the limitation in Subsection A shall no longer apply. Any other applicable subdivision limitations will continue to apply, however.

ARTICLE II, Administration and Enforcement

§ 142-5. Administering agent.

A. The Director of Planning and Code Enforcement or his designee as appointed by the governing body is hereby designated to administer this chapter. In so doing, the Subdivision Administrator shall be considered the agent of the governing body, and approval or disapproval by the agent shall constitute approval as though it were given by the governing body. The agent shall not take final action on a subdivision plan until the Planning Commission has made a recommendation to the Board of Supervisors and the Board of Supervisors has acted on the plan.

B. However, the division of land into two parcels (one- and two-lot subdivision), where there is not dedication of land to public use other than widening of an existing right-of-way, may be approved administratively by the agent. Such administratively approved division of the original parcel or newly created parcel shall not occur more than once during a twelve-month period, nor shall such a division be an attempt to circumvent this chapter. In the event that a plan for subdivision is disapproved by the agent, the subdivider may appeal to the governing body who then may override the decision of the agent and approve said plat.

C. The division of property zoned C-1 (Conservation) or A-1 (Agriculture) using the open space development option and where there is not dedication of land to public use other than widening of an existing right-of-way, may be approved administratively by the agent.

ARTICLE III, Procedure for Making and Recording Plats

§ 142-10. Platting required.

Any owner or developer of any tract of land situated within Shenandoah County who subdivides the same shall cause a plat of such division, with reference to known or permanent monuments, to be made and recorded in the office of the clerk of the appropriate court. No such plat of subdivision shall be recorded

unless and until it shall have been submitted, approved and certified by the agent in accordance with the regulations set forth in this chapter. No lot shall be sold in any such subdivision before the plat shall have been recorded. Preliminary plats may be drawn so as to constitute two or more groups of lots (sections or phases) which may then be recorded in two or more sequential phases, not more than six months apart. Such phases must be clearly marked on the plat, showing which lots are in each phase and the sequence in which the phases will be recorded. The Planning Commission may approve extensions of the six-month time limit for phasing.

ARTICLE V, Improvements

§ 142-20. Streets.

...E. Construction requirements. Except as otherwise provided for herein, all subdivision streets and roads shall be constructed in accordance with the Virginia Department of Transportation Subdivision Street Requirements. Subject streets shall be dedicated for inclusion into the state secondary road system....

I. Lot access.

(1) Except as provided herein, all lots shall front on and have direct access to a public street that is included in the Virginia State Secondary System or is to be constructed to meet Virginia Department of Transportation Subdivision Street Requirements for inclusion in the Secondary System according to an approved subdivision plat. All lots created after the date of this amendment [EN]6 shall meet the minimum frontage requirement for the zone, as measured from the front setback line from the public road. Spur lots are not permitted.

(2) Exceptions to the above requirement are as follows:

(a) Lots of record as of the date of this amendment (August 12, 1997) that are served by an existing private street or private access easement may continue to be served by that private street or easement.

(b) Lots created after the date of this amendment may front on and have direct access to a private access easement, provided that the following standards are met:

[1] The private access easement may serve no more than two lots. If an existing private street or access easement already serves two or more lots, no additional building lots may be served by that street or easement.

[2] The number of private access easements that are allowed is as follows:

Size of Lot of Record (acres)	Number of Private Access Easements Allowed
2.755 to 24	1
25 to 49	2
50 to 99	3
100 to 149	4
150 or more	5

- [3] Private access easements shall have a minimum right-of-way or access easement width of 40 feet.
- [4] Each private access easement shall connect directly to a public street.
- [5] The maximum length of the private access easement shall be 1,500 feet.
- [6] The minimum travelway width shall be 12 feet.
- [7] Minimum two-foot-wide graded shoulders shall be provided on both sides of the travelway.
- [8] Side ditches, relief ditches and culverts shall be provided at appropriate locations to accommodate pre- and post-construction drainage.
- [9] Utility easements not less than 15 feet in width shall be provided adjacent to both sides of the private access easement.
- [10] Adjacent parallel private access easements shall not be permitted.
- [11] Private access easements shall be identified on the plat and in the deeds for the lots, and all plats and deeds shall contain the following statement:

ATTENTION: The access serving this lot (these lots) is private, and its maintenance, including snow removal, is NOT a public responsibility. It shall not be eligible for acceptance into state secondary system for maintenance until such time as it is constructed and otherwise complies with all requirements of the Virginia Department of Transportation for the addition of subdivision streets current at the time of such request. Any costs required to cause this street to become eligible for addition to the state system shall be met from funds other than those administered by the Virginia Department of Transportation or by Shenandoah County.

(c) Lots created in the C-1 or A-1 Districts after the date of this amendment may front on and have direct access to a rural private street, provided that the following standards are met:

[1] The private street may serve no more than 25 total lots. All such lots must be created in accord with the zoning ordinance requirements set forth in Chapter 165.

[2] Private rural streets shall have a minimum right-of-way (access easement width) of 40 feet.

[3] The maximum length of a private rural street shall be 3,125 feet. The Board of Supervisors may grant up to a 20% increase in length if it determines, upon written request of the applicant, that such an increase would better achieve the purposes of the open space development option, the purposes of the zoning district, and the purposes of the comprehensive plan.

[4] The minimum travelway width shall be 14 feet.

[5] Minimum two-foot-wide graded shoulders shall be provided on both sides of the travelway.

[6] Side ditches, relief ditches and culverts shall be provided at appropriate locations to accommodate pre- and post-construction drainage.

[7] Utility easements not less than 15 feet in width shall be provided adjacent to both sides of the street.

[8] Adjacent parallel private access easements shall not be permitted.

[9] Maximum grade is 12%, but may be increased to 15% for short distances upon approval of the director.

[10] The minimum pavement section shall consist of a two thick inch bituminous surface course on a six inch thick aggregate base course, on a properly compacted subgrade.

(d). [Reserved for lots on urban private streets]

...§ 142-24. Private water and/or sewer.

Subject to the requirements of § 142-23, nothing in this regulation shall prevent the installation of privately owned individual water and/or sewage disposal facilities in areas where public water and/or sewerage facilities are not available; provided, however, that pit privies will not be allowed, and other private installations must meet all requirements of the State Department of Environmental Quality, the State Health Department and any other state or local regulation having authority over such installation. All septic fields for individual sewage disposal facilities must be located on the lot which the septic field serves, except for cluster lots in the A-1 and C-1 districts which may be served by septic fields located on contiguous conservation lots as provided in § 165-71 of the Zoning Ordinance. Any such off-lot septic field must be located within a utility easement which shall be sufficient for access, repair and maintenance of the field, and the boundaries of which shall be marked with permanent monuments.

ARTICLE VIII, Property Owners' Associations

§ 142-37. Intent.

The intent of this Article is to require the establishment of a nonprofit organization to be known as the "property owners' association." The property owners' association shall be created by the subdivider whenever the subdivision contains dedicated common areas, easements, private streets, stormwater management facilities and/or public roads. The property owners' association shall be charged with the continuous maintenance and management of all common areas, easements, private streets, stormwater management facilities, and dedicated facilities associated with an approved subdivision.

ARTICLE IX, Approval of Plats

§ 142-45. Preliminary plat.

...(14) Natural features of the land, including streams, rivers, watercourses, ponds, sinkholes and wooded areas, and for plats of Open Space Cluster Developments, 100-year flood plain, steep slopes greater 25%, historic structures, and wetlands.

...(17) For plats of Open Space Cluster Developments, the location on each lot of the building envelope for the principle structure.

Appendix

A. Analysis of Options for Conservation Easement Acquisition

This analysis examines various options for County acquisition of conservation easements through term (leasing) or permanent (purchase) programs.

The Open-Space Land Act in the Virginia Code (§ 10.1-1700 through 1705) allows localities to acquire conservation easements for purposes of open space land preservation, for as short as five-year time periods, or for as long as perpetuity. It is up to the County to determine most of the rules and procedures for such programs, including the duration of the easements, and the method and amount of compensation that would be given to landowners who choose to be part of any such program.

This analysis explores some of the choices available to the county for pursuing these tools, and compares the estimated costs and benefits with those of the current Use Value Assessment program. Because some features of any easement acquisition program are unknown (such as the actual value of any particular easement), and because there are so many variations that are possible in terms of how these programs could be implemented, in this analysis I have:

- Made reasonable assumptions or estimates where precise numbers are not available;
- Limited the analysis to several major choices for conservation easement acquisition, in terms of funding allocations and duration of term-easements; and
- Explicitly cited all data sources, assumptions, and calculations used in the analysis, either directly in the text, or through footnotes.

Overview

This analysis examines and compares Use Value Assessment (“Land Use”), Purchase of Development Rights (PDR), and Leasing of Development Rights (LDR).

This is not to suggest that Use Value Assessment should be changed or eliminated, but rather to show how PDR and LDR programs might compare to Use Value in terms of cost effectiveness for both landowners participants, and for County taxpayers at large.

These three land preservation programs are not necessarily incompatible with each other. Indeed, any of them could be used together in virtually any combination.

Current Use Value Assessment and Agricultural & Forestal District Programs

The Use Value Assessment program has been widely used throughout Virginia (and most other states) for the past few decades. The program provides a deferral and reduction of property tax on qualifying farm, forest, and open space land by taxing the land at its use-value for those agricultural uses, rather than at its true market value. This approach provides a tax reduction to the landowner because in this region the majority of the value of a given piece of land is due to its value for development (residential, commercial or industrial), rather than its value for farm or forest production. This is due mainly to the overall size and intensity of the non-farm economy in this region, as well as to ongoing population growth. (In areas of the country that have no growth pressures and extremely low population densities, such as southwestern Kansas, for example, the use value of the land will often match the total market value of the land).

Costs and Benefits of Use Value Assessment

Shenandoah County's 2007 real property tax raised \$21,400,000.¹ The 2007 real property tax rate was \$0.51 per \$100 of assessed value. Thus, one cent on the tax rate raised approximately \$420,000 per year ($\$21,400,000 \div 51$).

A total of approximately \$2,130,000 taxes is deferred from 145,000 acres of land in the Use Value Program.² Thus, the average benefit to the landowner in terms of reduced taxes is approximately \$15 per acre ($\$2,130,000 \div 145,000$).

The annual amount of \$2,130,000 accounts for approximately 5 cents on the real property tax rate ($\$2,130,000 \div \$420,000$). Note that this amount does not consider the roll back payments that the landowner must pay on the most recent six-year period when property is removed from the program.

Farmland owners must renew their enrollment in the program annually, but are not required to make any longer commitment to the program. Many farmers claim that the Use Value program is critical to their ability to continue farming, because it reduces one of the significant costs of doing business. Further, it is widely acknowledged that farmland itself is not a direct cause of financial stress on the County in terms of the demand for public services (schools, public safety services, etc.).

Thus, the main benefit to County citizens and taxpayers at large is the encouragement of the continuation of farming in the County by reducing the financial burden on farmland owners. However, one of the criticisms of the Use Value program is that by requiring only a one year commitment to the program, the program can be used as a tax subsidy for those who wish to hold the land at low cost pending future residential development. This is probably a greater

¹ Shenandoah County Budget Book FY09

² 2002 data as reported in Fall 2003 Newsletter Virginia Association of Assessing Officers

problem in areas of more rapid growth, but nevertheless, it is a valid concern in terms of judging the cost-effectiveness of the program. With only a one-year commitment to the program, the taxpayers at large do not get any assurance of a long-term land preservation benefit.

The state program also provides the option to localities of a “sliding scale” use value agreement, in which landowners could commit to five-year or 10-year enrollment periods. These options begin to resemble the term easement option of LDR. However, there is less flexibility for the locality in terms of the details of the program, and longer term periods are not available.

Agricultural and Forestal Districts (AFD)

The major feature of the AFD program that is relevant to this analysis is the fact that enrollment of land in an AFD ensures that any land that otherwise qualifies for Use Value Assessment will continue to qualify for Use Value for the duration of the term of the District. Thus, even if the County rescinded Use Value, such land would still get the tax deferral for the term of the AFD.

Rollback Payments

The six-year roll back provision of the Use Value program means that all deferred taxes prior to the most recent six years prior to a property being removed from the program are foregone, and constitute a cost to the County. At any given point in time, the County can consider the deferred taxes on 105,000 acres of land (145,000 total acres in Use Value less 40,000 acres in AFD) to be theoretically available for potential recapture through rollback payments, if for example, the Use Value program was ever rescinded. Note that it is unlikely the County would ever rescind the Use Value program unless it was replaced with a program of equal or better effectiveness.

Purchase of Development Rights (PDR)

Under a PDR program, the County would purchase conservation easements from willing landowners. Provisions and procedures for eligibility, establishing the value/cost of the easements, funding sources, etc., could be as set forth in the County’s Conservation Easement Program (Chapter 82 of the County Code). The major remaining question would then be: What are the County’s reasonable expectations for cost and benefit of such a program, i.e., what might the County expect to get for its investment of public funds?

The following analysis examines one possible approach, including reasonable assumptions about land and easement values, levels of participation by landowners, financing mechanisms, etc. While this represents only one possible outcome of many possibilities, it provides an example of what could be expected. (Note that the analysis uses 2007 data, which was the most readily available for all data sets).

Costs and Benefits of PDR

Any easement acquisition program will incur acquisition, financing, and administrative costs. Acquisition and financing would be the major cost components, and thus, this analysis ignores administrative costs, which would likely be a very small percentage of the total costs of a robust program, and likely roughly in line with those of the current Use Value Assessment program.

The County could fund a PDR from annual tax revenues, on a “pay as you go” basis. This would be the most economical in the sense that there would be no borrowing costs. However, it would limit the initial size of the program and would delay much of the acquisition to later years, causing a risk that the cost of acquiring easements would rise due to rising long-term land values. Alternatively, the County could finance a larger purchase of land in the early years through a general bond issue, thereby leveraging the annual tax revenue to acquire more land “up front”. Note that for purposes of this analysis, we assume the County would issue a single initial bond of several million dollars. However, it is more likely that financing would be achieved through a series of smaller bonds over a period of several years, as available lands became available for easement purchase.

Three important points should be noted. *First*, a variety of financing mechanisms could be used because many landowners may prefer to be paid on an installment basis rather than an up front lump sum in order to minimize capital gains. This limitation is ignored for the purposes of this analysis. *Second*, the County has limits on the total amount of borrowing which it can incur. This issue is also ignored for the purposes of this analysis. *Third*, this analysis uses conservative figures when estimating costs and benefits, i.e., when choosing between two possible assumptions or estimates of cost values, the lower cost / higher benefit choice is used. *Also note that all numbers in this analysis are rounded.*

A \$1,000,000 bond amortized over 30 years at 4% annual interest would cost \$4,770 per month or \$57,000 per year in loan and principle payments³ for a rounded total cost of \$1,710,000 (principal plus interest) over the course of the 30-year period. Thus, it would cost \$1,710,000 to fund the acquisition of \$1,000,000 worth of easements, assuming a 4% interest rate and 30-year period.

A \$1,000,000 bond amortized over 30 years at 5% annual interest would cost \$5,996 per month or \$71,950 per year in loan and principle payments³ for a rounded total cost of \$2,160,000 (principal plus interest) over the course of the 30-year period.

Therefore, one cent on the tax rate at the current tax revenue yield would support a bond of between \$5,830,000 and \$7,400,000 bond, depending on the available interest rate, which would cost a total of \$12,600,000 over 30 years (\$420,000 x 30).

Land Values and Cost of Easements

The 2002 U. S. Census of Agriculture (the most recent available)⁴ shows that the average value of land and buildings in farms in Shenandoah County is \$3,280⁵. If this amount is extrapolated at 6% annually, the value in 2007 would be \$4,400. If land is assumed to constitute on average 80% of the total value of property, then the average fee simple value of land in farms in the County is roughly \$3,500 per acre (\$4,400 x 0.80 = \$3,500).

³ Standard amortization formula:

$$A = P \frac{r(1+r)^n}{(1+r)^n - 1}$$

where:

A = payment amount per period

P = initial Principal (loan amount)

r = interest rate per period

n = total number of payments or periods

⁴ 2007 Ag Census became available only in February 2009, as this analysis was being prepared.

⁵ 2002 U. S. Agricultural Census, U.S. Department of Agriculture, 2004.

Assume the typical permanent conservation easement is valued at two-thirds of the fee simple value ($\$3,500 \times 0.667 = \$2,300$). (Note that this percentage will vary from property to property, but two-thirds is a reasonable assumption, because for most properties, the value for development accounts for the majority of the fee simple value of the land, as evidenced by use-value assessments).

Optional Funding Levels

Permanent conservation easements (PDRs) would thus cost an average of \$2,300 per acre. Therefore, using local bond financing by the County, the following levels of easement acquisition could be expected, assuming 30 years at 5% interest:

One cent on the tax rate would fund a \$5,830,000 bond which would achieve the acquisition of easements on 2,500 acres of land ($\$5,830,000 \div \$2,300$ per acre).

Two cents on the tax rate would support a \$11,700,000 bond which would achieve the acquisition of easements on 5,100 acres of land ($\$11,700,000 \div \$2,300$ per acre).

Three cents on the tax rate would support a \$17,500,000 bond which would achieve the acquisition of easements on 7,600 acres of land ($\$17,500,000 \div \$2,300$ per acre).

Four cents on the tax rate would support a \$23,300,000 bond which would achieve the acquisition of easements on 10,100 acres of land ($\$23,300,000 \div \$2,300$ per acre).

Five cents on the tax rate would support a \$29,100,000 bond which would achieve the acquisition of easements on 12,700 acres of land ($\$29,100,000 \div \$2,300$ per acre).

It is important to note that these estimates do not take into account other funding sources, including state and private foundation funds, nor the prospect of leveraging additional acquisitions through creative combinations of donations, purchases, and site planning techniques (known as “limited development” or “conservation subdivisions”) for particular farms where the owner has the interest and capability.

These calculations are shown in tabular form in the following tables.

**Optional Funding Levels for a Purchase of Development Rights (PDR) Program
Funded with a 30-year Bond**
(All Figures are Rounded and Approximate)

Cents on Tax Rate Dedicated to the Program	Total Annual Cost to County ¹	Amount of 30-year Bond ²	Average Payment to Landowner per acre ³	Total Number of Acres Preserved	Total Cost During 30-year Bond Period ⁴ (principal & interest)
\$0.01	\$420,000	\$5,830,000	\$2,300 per acre	2,500 acres	\$12,600,000
\$0.02	\$840,000	\$11,700,000	\$2,300 per acre	5,100 acres	\$25,200,000
\$0.03	\$1,260,000	\$17,500,000	\$2,300 per acre	7,600 acres	\$37,800,000
\$0.04	\$1,680,000	\$23,300,000	\$2,300 per acre	10,100 acres	\$50,400,000
\$0.05	\$2,100,000	\$29,100,000	\$2,300 per acre	12,700 acres	\$63,000,000

¹ One cent on the tax rate generates \$420,000 in real property tax revenue (2007 data)

² Assumes 30-year bond at 5% annual interest

³ Assumes initial lump sum payment for all easements (in reality, easement purchases would be phased in over several years)

⁴ In constant dollars (\$420,000 x number of cents on the tax rate x 30 years)

**Optional Funding Levels for a Purchase of Development Rights (PDR) Program
Funded through Annual General Tax Revenues**
(All Figures are Rounded and Approximate)

Cents on Tax Rate Dedicated to the Program	Total Annual Cost to County ¹	Amount of 30-year Bond	Average Payment to Landowner per acre	Total Number of Acres Preserved During 20-years	Annual Number of Acres Preserved
\$0.01	\$420,000	n/a	\$2,300 per acre	3,640 acres	182 acres
\$0.02	\$840,000	n/a	\$2,300 per acre	7,300 acres	365 acres
\$0.03	\$1,260,000	n/a	\$2,300 per acre	11,000 acres	548 acres
\$0.04	\$1,680,000	n/a	\$2,300 per acre	14,600 acres	728 acres
\$0.05	\$2,100,000	n/a	\$2,300 per acre	18,200 acres	910 acres

¹ One cent on the tax rate generates \$420,000 in real property tax revenue (2007 data)

Leasing of Development Rights (LDR)

With an LDR program, the County would acquire conservation easements on farm and forest land for time periods of less than perpetuity. These are known as “term easements”. The effect is similar to what is achieved through the Use Value Assessment program, but with LDR, the landowner would likely be given a greater benefit in return for a longer commitment to maintaining the land as open space (whether or not it is actively farmed).

It is difficult to know in advance what the market value would be for a typical term easement, since it is temporary in nature and has no comparable entity in the local market today (other than the inexact comparison of use value assessment). For purposes of this analysis, the value is assumed to be an incremental increase in the net financial benefit a landowner now receives through the Use Value Assessment program (but a lesser amount than he would receive if he sold a permanent easement to the County through a PDR program).

Available Land Area

As noted above, the County currently defers \$2,130,000 annually in property tax revenues through the Use Value program, on approximately 145,000 acres of land, for an average net benefit to the landowner of approximately \$15 per acre.

This analysis assumes that the LDR program would be available to all land currently in the Use Value Assessment program. Note that the County faces a dilemma with small, vacant rural parcels that may be enrolled in Use Value. On the one hand, it would be reasonable for the County to exclude such parcels from a leasing program since they are potential building lots rather than “farms” in and of themselves. On the other hand, because they are small lots subject to eminent housing development, there could be particular benefit to leasing the development right to ensure that any such development is postponed.

These kinds of parcels could be defined as vacant parcels of seven acres or less in the current A-1 zoning district and 10 acres or less in the current C-1 district. These lands are estimated at approximately 15,000 acres. Because of the nature of this dilemma, for the purposes of this analysis such parcels are not excluded, but it would certainly not be irrational to do so.

The analysis assumes that the 40,000 acres of land currently in Agricultural and Forestal Districts would not be made available for the LDR program by those landowners, since they are guaranteed access to Use Value Assessment for the term of the AFD (although the County would not likely preclude them from joining the LDR program if they chose to do so, and many might in fact enroll in LDR).

Easement Duration

The County could offer to lease development rights (conservation easements) for any number of possible durations, from as short as five years, and no upper limit. For purposes of analysis, we assume that the durations of term easements offered to landowners are 10, 15, or 20-year time periods. The payment to the landowner would be proportional in some manner to the length of the easement commitment.

For purposes of this analysis, we examine the effect if every eligible acre of land was enrolled in the LDR program for the same duration. In reality, the County could offer alternative durations, and some landowners would opt for shorter terms, while others would opt for longer terms. Thus, the potential combinations are virtually infinite. This analysis simplifies the outcome in order to understand the potential costs and benefits.

Cost of Easement Lease

As noted above, there is little local precedent for the value of a term easement, and there are many ways the County could determine or assign the value. One way would be to make it an incremental increase in the value given to landowners through the one-year commitment of the Use Value Assessment program.

For purposes of this analysis – again, to show the magnitude of potential costs and benefits – the annual payments to landowners, per acre, for term easements (compared to Use Value) are as follows:

- Use Value (1-year commitment): \$15 per acre (de facto payment through lower assessment)
- LDR 10-year Term Easement: \$20 per acre
- LDR 15-year Term Easement: \$25 per acre
- LDR 20-year Term Easement: \$30 per acre

As the benefit to the landowner approaches \$20 per acre per year, it becomes a positive net cash flow to the owner, rather than simply a reduction in taxes.

Rollback Provisions

The easement lease agreement could include provisions for recapturing some or all of the lease payments at the end of the term. The amount of any such rollback provision should be what is reasonable enough to attract landowners into the program yet sufficient to provide an incentive for landowners to renew leases for extended terms, and also balance the overall cost-benefit to the County. There is great flexibility in the terms of any rollback, and it could vary in proportion to the duration of the easement.

Comparison of Several Term Easements Options¹

Easement Duration	Term of Commitment	Annual Effective Payment Per acre	Total Annual Effective Payment	Cents on Tax Rate	Rollback Period	Acres Conserved for Term	Total payment during Term	Total Net Cost to County over 20-year period ³
10-year Term	10-years	\$20	\$2,100,000	\$0.05	10 years	105,000 ²	\$200 per acre	\$21,000,000
15-year Term	15-years	\$25	\$2,625,000	\$0.06	10 years	105,000 ²	\$250 per acre	\$26,250,000
20-year Term	20-years	\$30	\$3,150,000	\$0.08	10 years	105,000 ²	\$600 per acre	\$31,500,000

¹ All of these terms could be offered as options to landowners – they are not necessarily exclusive.

² Total land now enrolled in Use Value Assessment less land in Agricultural and Forest Districts (40,000 acres).

³ Reflects subtraction of rollback paid to county at end of term.

B. Summary of Available Major Growth Management Tools

Police Power (Regulatory Tools)

Zoning Regulations (legislative authority)

1. Large Lot / Agricultural Zoning
2. Sliding Scale Zoning
3. Cluster Zoning
4. Traditional Neighborhood Development (TND) and Form-Based Codes
5. Conditional Zoning/Cash Proffers

Subdivision and Site Plan Regulations (ministerial authority)

Special Exception Permitting (Conditional Use, Special Use)

Financial Power (Taxation, Public Investment)

1. Use-Value Assessment and Taxation (“Land Use”) (temporary)
2. Agricultural and Forestal Districts (AFD) (temporary)
3. Purchase of Conservation Easements / Development Rights – PDR (permanent)
4. Lease of Conservation Easements / Development Rights (temporary)
5. Capital Improvements Program (CIP)
6. Service Districts
7. Community Development Authorities

Combined Powers (Planning Policy, Regulations, Guidelines, Incentives)

1. Urban Growth Boundaries (*Land Use and Infrastructure Coordination*)
2. Community Design and New Urbanism
3. Transferable Development Rights (TDR)
4. Level of Service Standards
5. Density Incentives
6. Joint Comprehensive Plans / Joint Service Delivery
7. Commission Permits (“2232” Review)
8. Agricultural Economic Development and Promotion

Brief Summary of Each Tool

These summaries were prepared by Milton Herd, AICP, and/or excerpted from a 2-9-07 Draft of “Managing Growth and Development in Virginia: A Review of the Tools Available to Localities”, prepared for the Virginia Chapter of the American Planning Association

Police Power (Regulatory Tools)

Zoning Regulations (legislative authority)

1. Large Lot / Agricultural Zoning

Large lot zoning is one of the techniques in a more inclusive category of zoning techniques called agricultural zoning or agricultural protection zoning. Large lot zoning simply requires that the minimum lot size in a designated rural zoning district is set at a large enough size to protect agricultural activities from excessive encroachment of residential and other non-agricultural land uses.

The American Farmland Trust defines a “large lot” for the purposes of agricultural protection as being 20 acres or more. Many localities consider smaller minimum lots sizes such as five or 10 acres as being a “large lot” measure.

Examples of Large Lot Zoning in Virginia

- Fauquier County (25 to 50 acre minimum lot size)*
- Hanover County (10 acre minimum lot size)*
- Prince William County (10 acre minimum lot size)
- Rappahannock County (25 acre minimum lot size)
- Amelia County (5 acre minimum lot size)
- Powhatan County (10 acre minimum lot size)
- Accomack County (5 acre minimum lot size)*
- Isle of Wight County (40 acre minimum lot size)*

**also allows a cluster option*

2. Cluster Zoning (also “open space development”)

Under cluster zoning provisions, when a residential subdivision is created, it is designed so that the dwelling units are clustered together on smaller than average lots on only a portion of the tract, leaving the remainder available for open space or similar uses. Clustering may be used in either urban or rural areas. However, the term “cluster zoning” is usually associated with rural land use issues.

Depending on the provisions of the specific cluster ordinance, the remaining open space within a cluster development may be held in common and/or be a strictly agricultural or environmental area with no “development rights” remaining on it; or, the open space parcel

(s) may be allowed to have a dwelling unit, with a permanent easement that prohibits further subdivision or additional dwellings.

3. Sliding Scale Zoning

Sliding Scale zoning essentially requires that the larger the initial size of the parent parcel prior to subdividing, the lower the permitted average density of newly subdivided lots. The permitted density decreases on a “sliding scale” as the size of the parent parcel increases. The rationale for sliding scale is that higher densities should be allowed on smaller tracts because they are difficult to farm and may have already passed out of agriculture into the residential land market.

This can best be illustrated by an example from Clarke County, as follows:

<i>Size of Tract of Land</i>	<i>Number of Single Family Detached Dwellings Permitted</i>
0 - 14.99 acres	1
15 - 39.99 acres	2
40 - 79.99 acres	3
80 - 129.99 acres	4
130 - 179.99 acres	5
180 - 229.00 acres	6
230 - 279.99 acres	7
280 - 329.99 acres	8
330 - 399.99 acres	9
400 - 499.99 acres	10
500 - 599.99 acres	11
600 - 729.99 acres	12
730 - 859.99 acres	13
860 - 1,029.99 acres	14
1,030 or more	15

Minimum Lot Size is 1 acre; maximum lot size is 2 acres

Using the above scale, a landowner with an existing parent parcel of 200 acres would be permitted to divide it into six lots for dwelling units, for an average density / lot size of 33.33 acres. Each new lot could be no greater than two acres, with the remainder of the tract (188 acres) remaining in open farmland or forest land.

Examples in Virginia

- Clarke County
- Fauquier County
- Montgomery County

4. Traditional Neighborhood Development (TND) and Form-Based Codes

Traditional Neighborhood Development (TND) is a form of development that reflects the principles of New Urbanism, which is aimed at achieving a “human-scale” built environment of mixed uses and interconnected streets that is conducive to pedestrian movements, as well as to motor vehicle movements. These principles should be implemented through both comprehensive plan policies and zoning regulations.

Implementing New Urbanism through zoning typically involves creating one or more districts that are a variation of “planned” districts, or “planned unit development” districts. These TND districts typically allow (or require) a variety of dwelling types, relatively narrow streets that form a connected network, a variety of permitted uses, location of parking at the rear of lots, and the use of alleys for motor vehicle access. Form-based codes are best applied to downtowns and other urban neighborhoods – these regulations focus on creating streetscapes that are conducive to pedestrian movement, by ensuring that buildings frame the street and parking is relegated to the rear of buildings. Form-based codes are usually permissive with regard to density and use, and prescriptive with regard to building location on the lot.

5. Conditional Zoning/Cash Proffers

Conditional zoning was enabled by the Virginia General Assembly 30 years ago to address the shortcomings of traditional zoning methods when competing and incompatible land uses conflict. While it is actually a zoning tool, it is also a tool for managing the financial impacts of growth, which is how it is used by many localities.

As designed, conditional zoning allows reasonable conditions, known as proffers, to be offered by the applicant during a rezoning process as a way of mitigating the impacts of the proposed rezoning. Proffers may include land, infrastructure, cash or other conditions/constraints on the use of the property. These proffers, if accepted by the governing body as part of the rezoning approval, become part of the zoning ordinance as it applies to that property. In theory, conditional zoning allows land to be rezoned that might not otherwise be rezoned because the proffers will protect the community or area affected by the rezoning.

Subdivision and Site Plan Regulations (ministerial authority)

Subdivision regulations are also one of the four primary tools of implementing the comprehensive plan. Each local government in Virginia is required to adopt a subdivision ordinance to assure that land development occurs in an orderly and safe manner. The subdivision ordinance establishes the procedures, platting and design requirements, as well as surety guarantees for public infrastructure improvements, associated with the subdivision of land into parcels or lots of development.

A subdivision according to the Virginia Code means the division of a parcel of land into either three or more lots or into parcels of less than five acres each for the purpose of transfer of ownership or building development. Many Virginia localities have three types of subdivisions: minor, major, and family.

The code defines a site plan as the “proposal for a development or a subdivision, including all covenants, grants or easements and other conditions relating to use, location and bulk of buildings, density of development, common open space, public facilities and such other information as required by the subdivision ordinance to which the proposed development or subdivision is subject.”

Because the subdivision of land is considered a by-right activity, the landowner’s only obligation is to meet the applicable subdivision (and zoning) regulations before subdividing. This guarantee can become a liability if the subdivision regulations are out of date or the underlying zoning of the property does not reflect the intent of the community’s comprehensive plan. When this happens the subdivision, regardless of the concern expressed by citizens, the planning staff, the planning commission or the governing body, must be approved. Accordingly, it is essential that subdivision ordinances be reviewed and updated on a regular basis.

Special Exception Permitting (Conditional Use, Special Use)

Zoning ordinances usually delineate a number of uses that are allowed as a matter of right, and a number of uses that are allowed by special exception. (Special exceptions are also called “special use permits” or “conditional use permits”, which mean the same thing).

Uses allowed by special exception are those considered to have a potentially greater impact upon neighboring properties or the public than those uses permitted by right in the district. For example, houses of worship may be desirable in a residential area, but controls over parking, circulation, setbacks and landscaping may be needed to prevent them from adversely affecting surrounding residences. By classifying them as special exceptions, separate and specialized regulations or conditions can be imposed by the locality to mitigate the adverse impacts. These conditions may be imposed and need not be negotiated or agreed to by the applicant. Such conditions must be specific, reasonable and enforceable.

Financial Power (Taxation, Public Investment)

1. Use-Value Assessment and Taxation (“Land Use”) (temporary)

The Use Value Assessment and Taxation Program uses discounts in property tax assessments to promote and preserve agricultural, forestal, and open space lands.

Use Value Assessment (also commonly known as “land use” or “land use assessment”) is a state guided program available to localities in which the locality can tax farmland and open space land at its “use” value rather than its fair market value. In most rapidly growing jurisdictions, this typically reduces the real estate tax on the land by a significant amount, thus

making it easier to continue a farming business. The program is voluntary to the landowner and requires only five acres to qualify under agricultural or open space classification or 20 acres under the forest use classification (areas as small as one quarter acre may qualify if adjacent to a scenic river or scenic highway or other specific instances provided by the code). Rollback taxes must be paid when the property is removed from the program.

2. Agricultural and Forestal Districts (AFD) (temporary)

The Virginia Code provides for the voluntary creation of Agricultural and Forestal Districts (AFDs) in order to “provide a means for a mutual undertaking by landowners and localities to protect and enhance agricultural and forestal land as a viable segment of the Commonwealth's economy and as an economic and environmental resource of major importance.”

Agricultural and/or Forestal Districts are established by local ordinance to run for a set number of years (from 4 to 10), during which the property owner continues to hold fee simple title to the land, and enjoy various benefits provided by the code for such districts. The local ordinances usually include provisions that permit the landowner to withdraw from the program under certain defined circumstances.

3. Purchase of Conservation Easements / Development Rights (permanent)

A conservation easement (also known as an Open Space or Scenic Easement) is a legal agreement between a landowner and a land trust or government agency that limits the use of the land by recording deed restrictions that prohibit or severely restrict further development in order to protect the conservation value of the property, such as farmland, watersheds, wildlife habitat, forests, and/or historical lands. Each easement is unique in terms of acreage, description, use restrictions, and duration. These details are negotiated between the property owner granting the easement, and the organization that will be holding the easement.

Purchase of Easements (Development Rights) (PDR). When conservation easements are purchased as part of a broad government program, it typically called “Purchase of Development Rights” or PDR. In some other parts of the country it is also known as PACE or Purchase of Agricultural Conservation Easements. Purchasing “development rights” is the same as purchasing conservation easements, or that portion of the “bundle of rights” that allows landowners to construct dwellings or non-farm commercial structures on the property. Thus, when a locality purchases a conservation easement from a landowner, it essentially “buys” the right to develop the land and “retires” that right by placing a permanent conservation easement on the property that restricts or prohibits further non-farm development. Typically, these easement restrictions run in perpetuity.

4. Lease of Conservation Easements / Development Rights (temporary)

When conservation easements are acquired for short periods, they are called easement leases, term easements, or the leasing of development rights (LDR).

Lease of Development Rights (LDR) is the same as Purchase of Development Rights except that the term of the easement can be as short as five years. To date, no Virginia locality has enacted an LDR program. However, this tool offers great potential because the locality can set the terms of eligibility, easement duration, restrictions, and compensation; whereas under the Use Value program, the state sets most of the rules. However, like Use Value Assessment, an LDR program is a temporary solution to the problem of farmland and open space conversion.

5. Capital Improvements Program (CIP)

The Capital Improvement Program (CIP) is one of the four primary tools of implementing the comprehensive plan. It is an integral component of a locality's overall growth management program. It outlines the multi-year scheduling of public physical improvements and related costs to help guide the locality's decisions on how to allocate available funds over a 5-year period. The CIP is sometimes called a Capital Improvement Budget or Capital Improvement Plan.

6. Service Districts

Service Districts (sometimes called Special Service Districts) are legally defined geographic portions of a jurisdiction established by the local governing body. They are created to provide additional, more complete, or more timely services of government than are desired in the locality as a whole. Property owners within the special service district pay a higher tax rate in exchange for these enhanced services.

Sections 15.2-2400 through 15.2-2405 of the Code of Virginia grant localities the authority to create and fund service districts. Any locality may by ordinance, or any two or more localities may by concurrent ordinances, create service districts within the locality or localities. In addition, in any city created from the consolidation of two or more localities, service districts may be created by order of the circuit court for the city upon the petition of fifty voters of the proposed district.

Once created, the additional revenue derived from service districts may be used for a wide variety of public enhancements as specified when the district is created, including, but not limited to, water supply and sewerage facilities; garbage removal and disposal; fire-fighting equipment; sidewalks; economic development services; promotion of business and retail development services; beautification and landscaping; beach and shoreline management and restoration; public parking; extra security, street cleaning, snow removal, and other services, events, or any other activities that will enhance the public use and enjoyment of, and the public safety, public convenience, and well-being within, a service district.

7. Community Development Authorities

A community development authority (CDA) is a political subdivision of the Commonwealth. A CDA can be authorized and created by a local governing body upon petition by a majority of property owners, or those owning a majority of the assessed property value, within the proposed CDA boundaries. CDAs are authorized and created for the purpose of providing

public infrastructure associated with the development or redevelopment of an area. Community development authorities are authorized by §15.2-5152 through §15.2-5158 of the Code of Virginia.

To establish a CDA, counties and towns must first elect by ordinance to accept CDA creation authority. A CDA is empowered to issue tax-exempt bonds for many different kinds of infrastructure improvements including roads, parks, recreation facilities, educational facilities, water and sewer, and fire prevention and control systems. Any bonds issued by the CDA are repaid through special assessments levied upon all the property owners within the boundaries of the CDA district. Such special assessments cannot exceed .25 dollars per \$100 dollars of assessed value unless every property owner in the CDA agrees to a higher special assessment.

Combined Powers (Planning Policy, Regulations, Guidelines, Incentives)

1. Urban Growth Boundaries (*Land Use and Infrastructure Coordination*)

Extensions of infrastructure, particularly water and sewer lines and major streets, significantly affect the timing and density of development. The comprehensive plan can designate areas which are planned for immediate or long-term utility service, thereby coordinating development approvals (rezonings) and utility extensions to achieve an orderly and compact development pattern adjacent to existing settlements. Urban Growth Boundaries in Virginia are not zoning designations per se, but rather policy designations established in the comprehensive plan so as to guide decisions about rezoning applications and public infrastructure investments.

2. Community Design and New Urbanism

New Urbanism is a planning concept that includes, or is otherwise known as neo-traditional design, transit-oriented development, and traditional neighborhood development. It has blossomed into a widespread planning movement during the past two decades, largely as a reaction to the deficiencies and unintended consequences of conventional suburban development patterns.

It is based upon principles of urban design that have been used successfully for centuries, but which have been largely neglected during the advent of the motor vehicle in the 20th century. It seeks to combine classic principles with the best features of modern urban design to create walkable, human-scale communities that have the timeless quality of historic settlements while also meeting the needs of modern society.

New Urbanism aims to create new communities that have the civic features that people have long enjoyed, including “human-scale” streetscapes that are comfortable for pedestrians, a “fine-grain” of mixed-uses, an interconnected street system, usable public spaces, prominent civic buildings, and strong neighborhood identity. These are provided in ways that still accommodate motor vehicles, modern commercial markets, and consumer preferences.

New Urbanism will typically provide for parking to be at the side or rear of buildings, and will locate buildings fairly close to the street so as to provide spatial definition to the public

right-of-way. Wide sidewalks, street trees, on-street parking, and other pedestrian amenities are common features as well.

Recent state legislation (§ 15.2-2223.1) now requires certain counties (including Shenandoah) to incorporate one or more urban development areas, and the principles of new urbanism, into the comprehensive plan. The Code specifically cites features such as (i) pedestrian-friendly road design, (ii) interconnection of new local streets with existing local streets and roads, (iii) connectivity of road and pedestrian networks, (iv) preservation of natural areas, (v) satisfaction of requirements for stormwater management, (vi) mixed-use neighborhoods, including mixed housing types, (vii) reduction of front and side yard building setbacks, and (viii) reduction of subdivision street widths and turning radii at subdivision street intersections.

3. Transferable Development Rights (TDR)

TDR, or transfer of development rights, is a concept in which some or all of the rights to develop a parcel of land in one district (the sending district) can be transferred to a parcel of land in a different district (the receiving district). TDR is a tool used to preserve open space, farmland, water resources, and other resources in areas where a locality wishes to limit or curtail development.

In a classic TDR system one or more sending districts are identified as well as one or more receiving districts. “Development rights” are assigned to landowners in the sending district, typically on the basis of a certain number of permitted dwellings per acre. Owners of land in the sending district are not allowed to develop at the full level of their development rights, but instead may sell their development rights to owners of land in the receiving district, who may then use the newly acquired development rights to build at higher densities than normally allowed by existing zoning (without further legislative approval). TDR systems are intended to maintain designated land in open or non-developed uses and to compensate owners of the preserved land for limitations on their right to develop it.

4. Level of Service Standards

Level of service (LOS) standards specify the public facilities needed for new residential developments in an effort to determine if those facilities are adequate to support a proposed rezoning. Virginia Code § 15.2-2223-2280 allows any locality to incorporate level of service standards as a means in determining adequacy of facilities for future development. This does not apply to land already zoned for development.

Level of service standards are typically set out in a guidance document or comprehensive plan for public facilities such as schools, roads, libraries, parks, public transit, water and sewer systems. An example of LOS is the City of Chesapeake, which requires all rezoning applications to be subject to level of service standards for roads, schools and sewer capacity. If the proposed development fails any of the standards articulated in the plan, the staff recommends denial of the application. The policy exempts a development that will have minimal impact on schools and roads.

5. Density Incentives

A zoning ordinance is a principal planning tool used by localities to achieve their development objectives. Historically, zoning ordinances were purely regulatory tools that established minimum standards for new development. However, because “minimum standards” many times become “maximum performance”, zoning ordinances have evolved to include incentive-based approaches to community development objectives. Although different types of incentives can be incorporated into a zoning ordinance (fast track plan reviews, reduced application fees, etc.), the most positive incentive to developers is often increased density.

Incentives may be considered and applied through the rezoning process and/or directly through provisions of the zoning ordinance text. In the rezoning process, a locality’s comprehensive plan provides recommended density ranges for areas planned for residential use and intensity ranges (i.e., ranges of building square footage, floor area ratios) for nonresidential use areas. Establishing density as part of a rezoning approval is a matter of the extent to which the objectives as specified in the comprehensive plan are met by the rezoning proposal.

Incentives may also be directly incorporated into a locality’s zoning ordinance text, and be available to anyone who meets the standards established in the zoning ordinance. Incentives may be structured to foster an assortment of community objectives including, but not limited to affordable housing, dedication of land for highway improvements, reservation of land for open space, enhanced landscaping or signage design, or dedication of land for public uses.

6. Joint Comprehensive Plans / Joint Service Delivery

Because the problems and opportunities facing localities do not necessarily respect jurisdictional boundaries, the Code of Virginia provides Virginia’s network of local governments broad authority to cooperate with one another. The most frequently used grant of authority for interlocal cooperation is the joint exercise of powers provision found in § 15.2-1300 of the Virginia Code. This section of the code permits any two or more localities to exercise jointly any power, privilege or authority they would be able to exercise separately.

In addition, § 15.2-2231 provides for the inclusion of incorporated towns into a county plan, and the inclusion of adjacent unincorporated territory into a municipal plan. Any county plan may include planning of incorporated towns to the extent to which, in the county local planning commission's judgment, it is related to planning of the unincorporated territory of the county as a whole. However, the plan shall not be considered as a comprehensive plan for any incorporated town unless recommended by the town planning commission and adopted by the governing body of the town. The same provision applies to a municipality that wishes to include the planning of adjacent unincorporated territory into its plan.

7. Commission Permits (“2232” Review)

According to § 15.2-2232 of the Virginia Code, the comprehensive plan “shall control the general and approximate location, character, and extent of each feature shown.” Thus, while the comprehensive plan itself does not directly regulate land use, the plan does have status as a fundamental instrument of land use control once it is adopted by the local governing body.

Section 15.2-2232 provides that unless a feature is already shown on the adopted plan, no street or connection to an existing street, park or other public area, public building or public structure, public utility facility or public service corporation, whether publicly or privately owned, shall be constructed, established or authorized until its location has been approved by the local planning commission as being substantially in accord with the adopted comprehensive plan.

8. Agricultural Economic Development and Promotion

Several Virginia localities have undertaken efforts to strengthen the farm economy so that farmers can remain in business and thus keep their land in agricultural rather than be forced to sell it for development. Often these programs are aimed at sponsoring marketing efforts for local products, promoting educational and recreational services provided by farmers (“agri-tourism”), fostering “branding” efforts for local goods, and sponsoring farmers markets to give growers direct access to customers.



Steering Committee Meeting #6 April 9, 2009

Community Planning Project Shenandoah County, Virginia



1

Major Objectives Today

- Review major elements of the recommended Implementation Tools
- Discuss potential variations or improvements
- Establish upcoming schedule

Agenda

- 8:30 a.m. Review Consultant Report
- 9:00 a.m. Discuss Issues and Options
- 12:00 p.m. Discuss Next Steps and Schedule
- 1:30 p.m. Break or Adjourn
- 3:00 p.m. Continue Discussion If Needed
- 5:00 p.m. Latest Adjournment

3

Broad Overview of the Consultant Recommendations

1. The proposed *combination* of tools reflects the overall direction derived from:
 - the four public forums
 - consultant analysis, and
 - steering committee guidance
2. All of the proposed tools complement each other – they *do not rely* on each other – each can be implemented either alone or in some combination.

Broad Overview cont'd

3. The proposed tools are aimed at *balancing the impacts and benefits* of achieving the Vision among all stakeholders.
4. If fully implemented, the proposed tools would make *substantial progress* toward achieving the Vision.
5. The proposed tools will not *guarantee* success, because no tool - or any combination - will guarantee success in a *practical and sustainable* manner.
6. Although these proposals are detailed, they are still in *draft form* and can be modified however necessary.

5

The Report is a Draft

1. *Brief summary of public input*, the challenge facing the County and the tools available.
2. *Analysis of two methods* which could technically be very effective, but which have *practical difficulties*.
3. *Summary of Recommended Tools* – a description of the tools that offer the best prospect for practical success.

6

Guiding Concepts Implicit in the Report

1. The Vision focuses on a horizon of *"20-years and beyond"*
2. A *combination of tools* will help *balance the costs and benefits* to all citizens.
3. Tools should be *practical & politically sustainable*.

7

Guiding Concepts cont'd

4. Objectives are to:
 - Channel 90% of new housing into PSAs
 - facilitating housing there, while
 - generally discouraging housing outside the PSAs.
 - Allow incremental growth of rural housing that:
 - is limited in total *amount*
 - occurs in a clustered *pattern* that preserves significant pieces of open land
 - occurs at a gradual *pace*

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Guiding Concepts cont'd

Key Strategies

- *Attract housing development to the PSAs* by providing public facilities, and promoting vibrant, walkable, mixed-use neighborhoods.
- *Limit new housing in the rural areas*
 - reduce overall allowable density of new rural housing
 - encourage new rural housing to be clustered
 - restrict scale and rate of new rural housing
- *Conserve rural land* through various methods (easements, ag development, etc.)

9

Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns

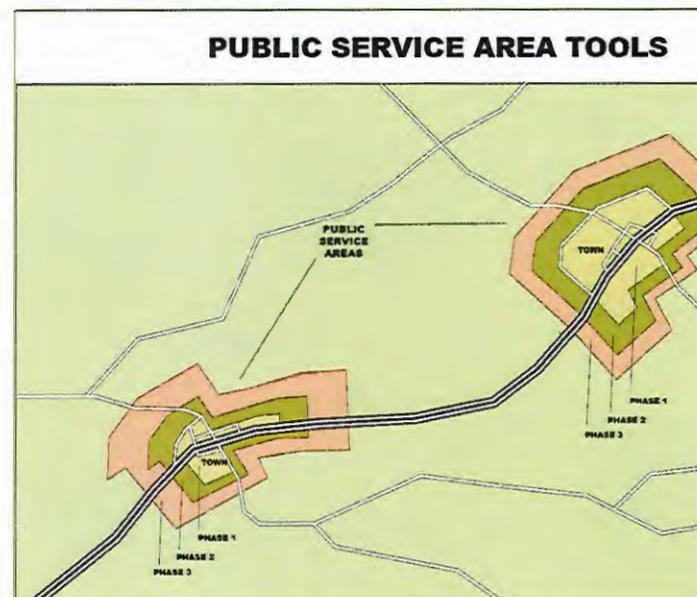
Objective is to locate 90% of future housing development in the PSAs during next 20 years (7,200 houses in PSA; 800 Rural)

- Joint Comprehensive Plans with the Towns**
- Ensure adequate utility capacity for the expected population**
- Adopt zoning standards for traditional, compact development patterns**

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The Proposed Tools Use the Major Powers Available:

1. Combined Powers (Policies, Incentives, Regulation)
Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns
2. Financial Power (Taxation, Public Investment, Land Acquisition)
Invest in Voluntary Land Conservation Programs
3. Police Power (esp. Zoning & Subdivision Regulations)
Strengthen Rural Zoning Regulations



2. Invest in Voluntary Land Conservation Programs

- a. Establish an Agricultural Economic Development program
- b. Fund a Purchase of Development Rights (PDR) (from one to five cents on tax rate)
- c. Establish and Fund a Leasing of Development Rights (LDR) Program (possibly linked to the existing Use Value Assessment program)

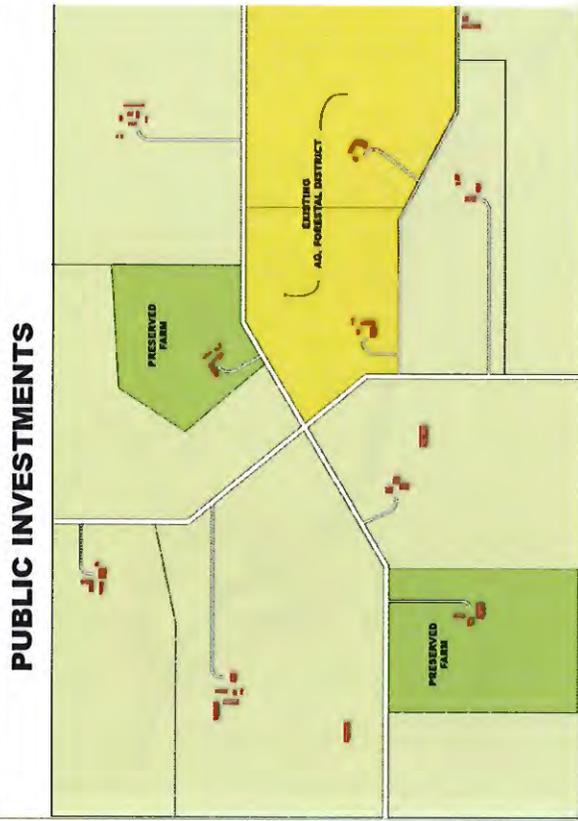
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2. Invest in Voluntary Land Conservation Programs cont'd

Major limitation of PDR as a single, total solution is cost:

- If a PDR costs \$2,300 per acre, preserving 100,000 acres of land would cost > \$200 million.
- If a PDR costs \$1,000 per acre, preserving 100,000 acres of land would cost \$100 million.
- If donations, private and state funds, etc., could fund \$50 million worth of easements, it would still require \$50 to 150 million to save 100,000 acres.

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3. Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

The primary objectives of the proposed amendments to the zoning regulations are to:

- Reduce total, overall amount of housing development permitted in the rural areas, particularly on lands zoned for agriculture, and
- Provide incentives to landowners who wish to develop, to develop houses in a clustered pattern that will save significant pieces of open land.

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Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

Effect of the proposed zoning changes would be to:

- Reduce the potential overall amount of future development in the rural areas
- Facilitate – and in some case improve - the development potential of most rural land through a more liberal cluster development option
- Preserve large pieces of rural land in conjunction with land development.

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Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

Opportunities and Limitations of Zoning:

report noted that the current average size of *all vacant parcels over 14 acres in the A-1 District = 45 acres (100 acres / 1,337 parcels)*

ever, the report's analysis doesn't adequately note limited supply of large vacant parcels, nor the massive supply of small vacant parcels (building lots). s, a broader analysis is helpful...

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3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

This approach attempts to *strike a balance* between:

- the *ideal land preservation goal* of substantially reducing allowable density in the rural areas
- the impact on *landowners' expectations* for future development.

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

There is Good News and Bad News Regarding Reduction in Allowable Density in A-1 and C-1 Zoning Districts

- A substantial effect can be obtained *without* an extreme reduction in allowable density, but...
- No amount of reduction in density will - in itself - solve the County's problem of future housing development.

Existing Average Parcel Size in the A-1 and C-1 Zoning Districts:

Current average size of all parcels:

- In the A-1 District = 14 acres (159,000 ac. / 11,700 = 13.6 ac.)
- In the C-1 District = 13 acres (70,000 ac. / 5,450 = 12.8 ac.)
- **Total = 13 acres** (229,000 / 17,150 = 13.3 ac.)

Current average size of all vacant parcels:

- In A-1 District = 15 ac. (76,300 ac. / 5,200 = 14.7 ac.)
- In C-1 District = 12 ac. (46,000 ac. / 3,750 = 12.3 ac.)
- **Total = 14 acres** (122,300 ac. / 8,950 = 13.7 ac.)

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Existing Average Parcel Size in A-1 & C-1 Zoning Districts:

Current area of all parcels over 20 acres:

- In A-1 District = 111,600 ac. (1,870 parcels = 60 ac. avg.)
- In C-1 District = 51,000 ac. (870 parcels = 59 ac. avg.)
- **Total = 162,600 ac.** (2,740 parcels = 59 ac. avg.)

Current area of all vacant parcels over 20 acres:

- In A-1 District = 54,000 ac. (950 parcels = 57 ac. avg.)
- In C-1 District = 35,000 ac. (590 parcels = 59 ac. avg.)
- **Total = 89,000 acres** (1,540 parcels = 58 acres avg.)

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Estimated Effect of Lower Average Permitted Densities in A-1 and C-1:

At trend rate of 4,000 rural lots during next 20 years:

- Assume all new houses are built on new lots.
Average parcel size in rural area would drop from 13 to 11 ac.
229,000 acres / (17,150 parcels + 4,000 parcels)
- Assume all lots are built or subdivided only from vacant parcels > 20 acres.
89,000 acres / 4,000 houses = 22.2 ac. avg. per new house/lot.

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Existing Average Parcel Size in A-1 & C-1 Zoning Districts:

Current area of all vacant parcels < 20 acres:

- In A-1 District = 22,000 ac. (4,300 parcels = 5.1 ac. avg.)
- In C-1 District = 11,000 ac. (3,200 parcels = 3.5 ac. avg.)
- **Total = 33,000 ac.** (7,500 parcels = 4.4 acres avg.)

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Estimated Effect of Lower Average Densities in A-1 and C-1:

end rate of 4,000 rural lots during next 20 years:

average parcel size on formerly large vacant parcels would drop from 58 to 22 ac.

9,000 acres / 4,000 parcels

Estimated Supply of Existing and Potential Lots in A-1 and C-1:

- At current A-1 and C-1 zoning densities: > 40,000 lots
(8,900 existing vacant parcels + > 30,000 potential new lots)
- If new density is 20 ac. per lot avg.: 14,300 lots = 1.8x
(8,900 existing vacant parcels + 5,400 potential new lots)
- If new density is 25 ac. per lot avg.: 12,900 lots = 1.6x
(8,900 existing vacant parcels + 4,000 potential new lots)
- If new density is 45 ac. per lot avg.: 10,100 lots = 1.2x
(8,900 existing vacant parcels + 1,200 potential new lots)

Recommended Amendments:

Adopt Low Density Zoning Regulations for the A-1 and C-1 Zoning Districts

Allow one lot per 15 to 20 acres on average

Allow a cluster development with a “density bonus” allowing up to one lot per 10 acres, and

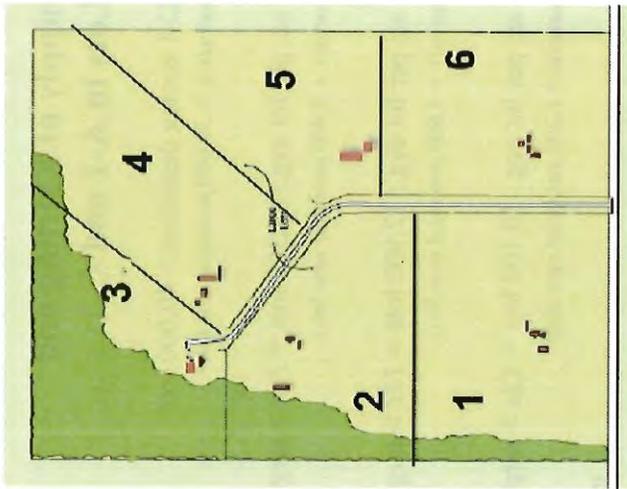
A small density bonus to reduce impact on smaller existing parcels.

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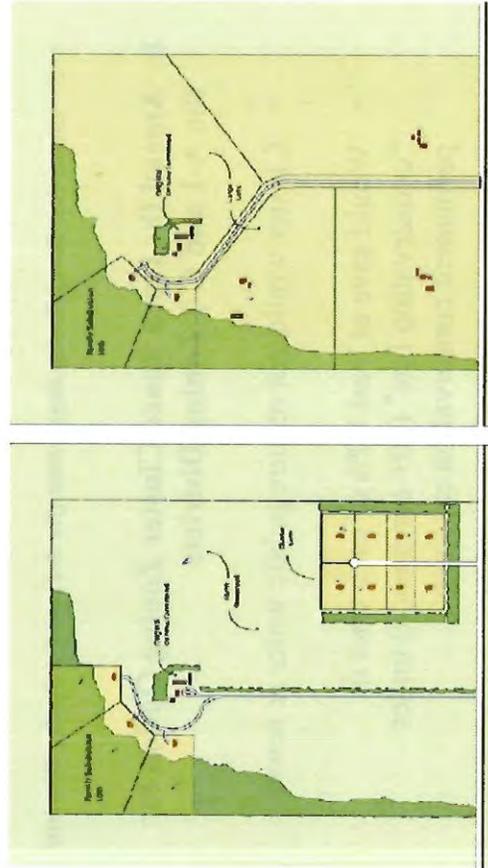
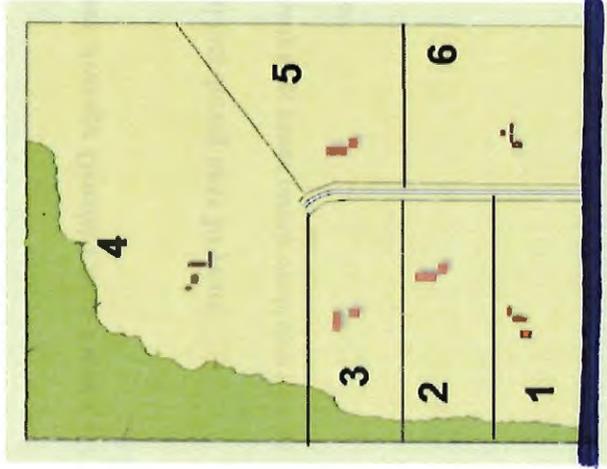
b. Amend the Open Space Cluster Zoning Ordinance for the A-1 and C-1 Zoning Districts

- Cluster would not require public water & sewer
- Would save at least 80% of each tract in “conservation lots” (30+ acres each) under permanent conservation easement.

125 ac. parcel
divided into Six
20-acre lots

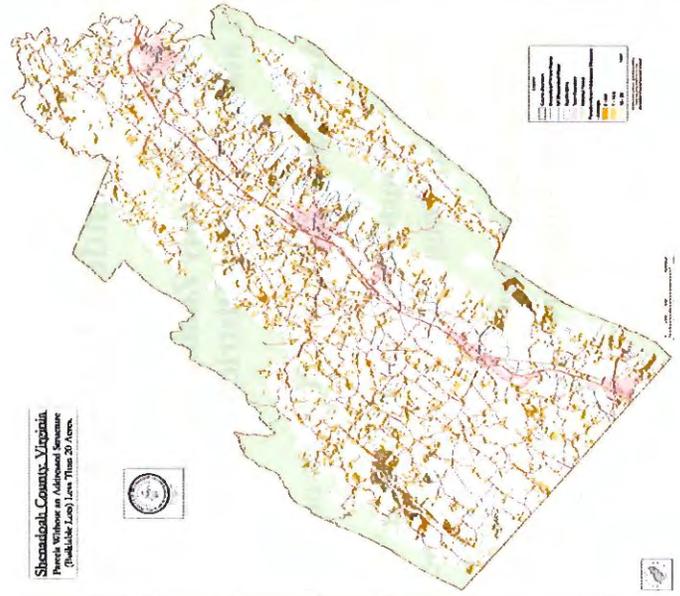


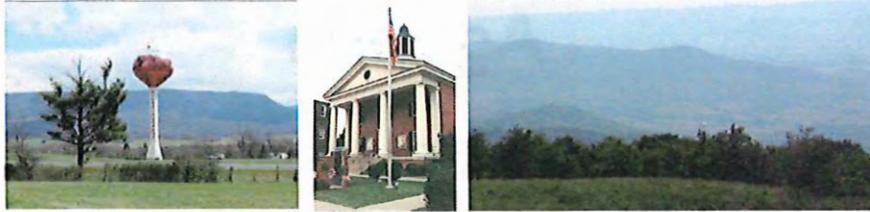
125 ac. parcel
divided into Six
lots of varying
sizes at average
of 20-acres



Cluster Option
(average density of one lot per 10 acres)

Basic Option
(average density of one lot per 20 acres)





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Community Planning Project **Shenandoah County, Virginia**



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 - is limited in total *amount*
 - occurs in a clustered *pattern* that preserves significant pieces of open land
 - occurs at a gradual *pace*

8

Guiding Concepts cont'd

5. Key Strategies

- *Attract housing development to the PSAs* by providing public facilities, and promoting vibrant, walkable, mixed-use neighborhoods.
- *Limit new housing in the rural areas*
 - reduce overall allowable density of new rural housing
 - encourage new rural housing to be clustered
 - restrict scale and rate of new rural housing
- *Conserve rural land* through various methods (easements, ag development, etc.)

9

The Proposed Tools Use the Major Powers Available:

1. Combined Powers (Policies, Incentives, Regulations)
Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns
2. Financial Power (Taxation, Public Investment, Land Acquisition)
Invest in Voluntary Land Conservation Programs
3. Police Power (esp. Zoning & Subdivision Regulations)
Strengthen Rural Zoning Regulations

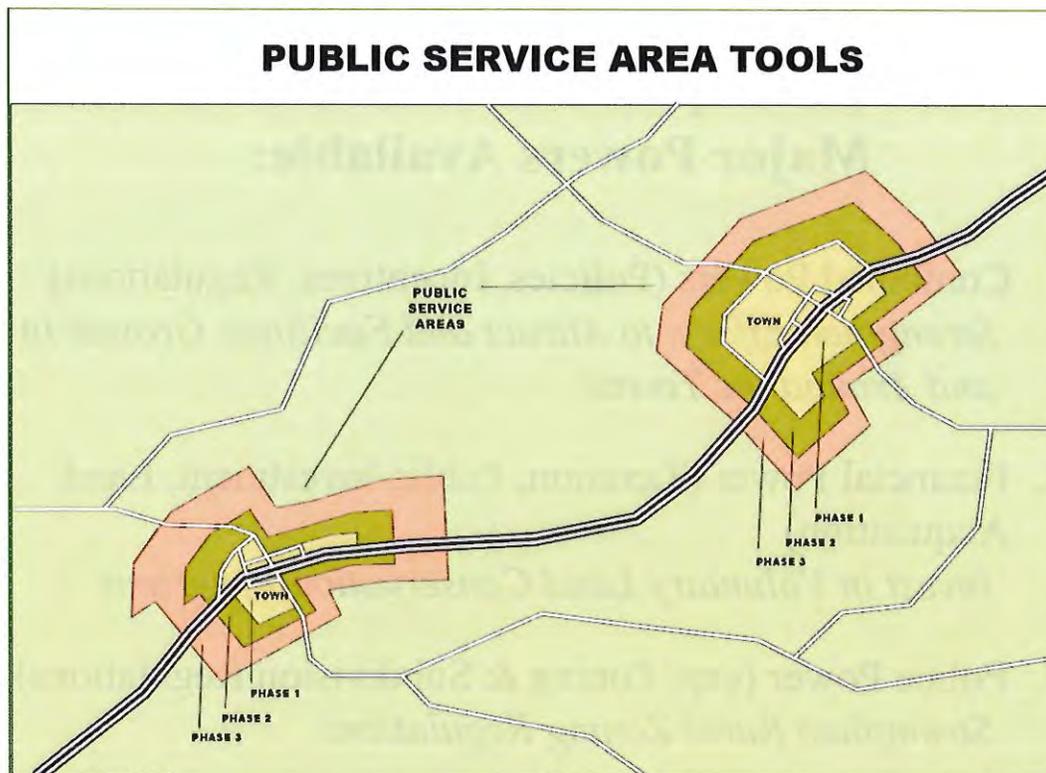
10

1. Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns

Objective is to locate 90% of future housing development in the PSAs during next 20 years (7,200 houses in PSA; 800 Rural)

- a. Joint Comprehensive Plans with the Towns**
- b. Ensure adequate utility capacity for the expected population**
- c. Adopt zoning standards for traditional, compact development patterns**

11



12

2. Invest in Voluntary Land Conservation Programs

- a. Establish an Agricultural Economic Development program**
- b. Fund a Purchase of Development Rights (PDR) (from one to five cents on tax rate)**
- c. Establish and Fund a Leasing of Development Rights (LDR) Program (possibly linked to the existing Use Value Assessment program)**

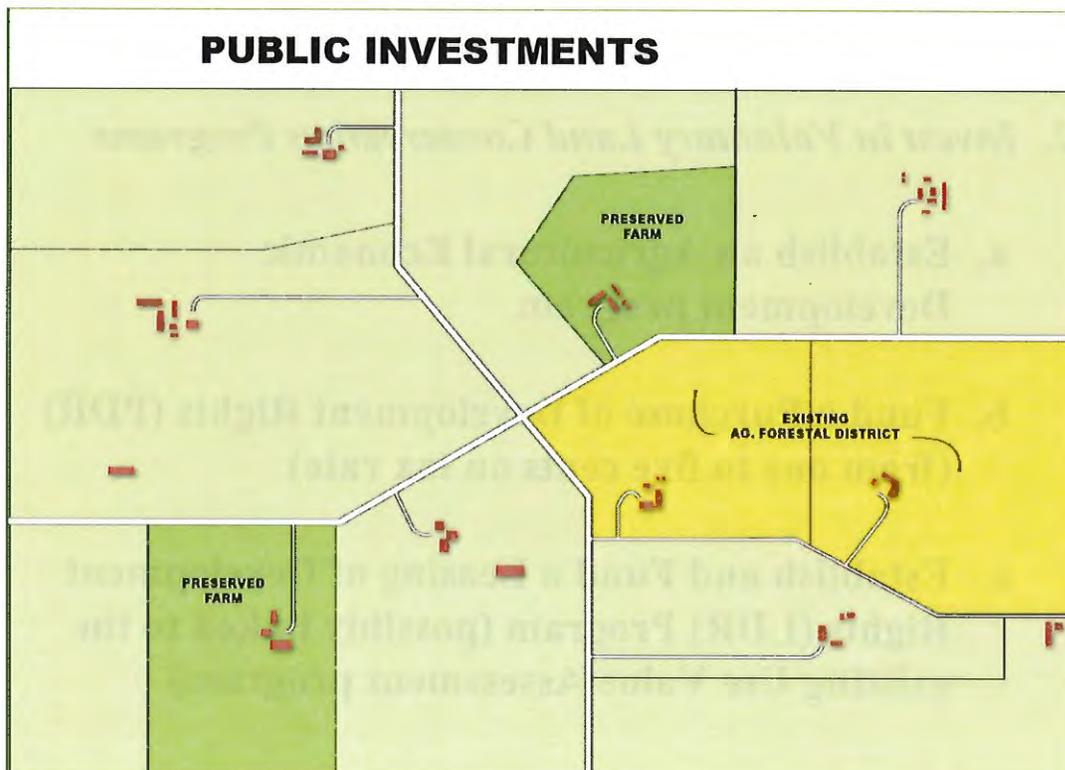
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2. Invest in Voluntary Land Conservation Programs cont'd

Major limitation of PDR as a single, total solution is cost:

- If a PDR costs \$2,300 per acre, preserving 100,000 acres of land would cost > \$200 million.
- If a PDR costs \$1,000 per acre, preserving 100,000 acres of land would cost \$100 million.
- If donations, private and state funds, etc., could fund \$50 million worth of easements, it would still require \$50 to 150 million to save 100,000 acres.

14



15

3. Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

The primary objectives of the proposed amendments to the zoning regulations are to:

- Reduce total, overall amount of housing development permitted in the rural areas, particularly on lands zoned for agriculture, and
- Provide incentives to landowners who wish to develop, to develop houses in a clustered pattern that will save significant pieces of open land.

16

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

Effect of the proposed zoning changes would be to:

- Reduce the potential overall amount of future development in the rural areas
- Facilitate – and in some case improve - the development potential of most rural land through a more liberal cluster development option
- Preserve large pieces of rural land in conjunction with land development.

17

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

This approach attempts to *strike a balance* between:

- the *ideal land preservation goal* of substantially reducing allowable density in the rural areas, with
- the impact on *landowners' expectations* for future development.

18

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

The Opportunities and Limitations of Zoning:

The report noted that the current average size of *all vacant parcels over 14 acres* in the A-1 District = 45 acres (60,100 acres / 1,337 parcels)

However, the report's analysis doesn't adequately note the limited supply of large vacant parcels, nor the excessive supply of small vacant parcels (building lots). Thus, a broader analysis is helpful...

19

3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

There is Good News and Bad News Regarding a Reduction in Allowable Density in A-1 and C-1:

- A substantial effect can be obtained *without* an extreme reduction in allowable density, *but*
- No amount of reduction in density will - in and of itself - solve the County's problem of future rural housing development.

20

Existing Average Parcel Size in the A-1 and C-1 Zoning Districts:

Current average size of *all parcels*:

- In the A-1 District = 14 acres ($159,000 \text{ ac.} / 11,700 = 13.6 \text{ ac.}$)
- In the C-1 District = 13 acres ($70,000 \text{ ac.} / 5,450 = 12.8 \text{ ac.}$)
- **Total = 13 acres** ($229,000 / 17,150 = 13.3 \text{ ac.}$)

Current average size of *all vacant parcels*:

- In A-1 District = 15 ac. ($76,300 \text{ ac.} / 5,200 = 14.7 \text{ ac.}$)
- In C-1 District = 12 ac. ($46,000 \text{ ac.} / 3,750 = 12.3 \text{ ac.}$)
- **Total = 14 acres** ($122,300 \text{ ac.} / 8,950 = 13.7 \text{ ac.}$)

21

Existing Average Parcel Size in A-1 & C-1 Zoning Districts:

Current area of *all parcels over 20 acres*:

- In A-1 District = 111,600 ac. ($1,870 \text{ parcels} = 60 \text{ ac. avg.}$)
- In C-1 District = 51,000 ac. ($870 \text{ parcels} = 59 \text{ ac. avg.}$)
- **Total = 162,600 ac.** ($2,740 \text{ parcels} = 59 \text{ ac. avg.}$)

Current area of *all vacant parcels over 20 acres*:

- In A-1 District = 54,000 ac. ($950 \text{ parcels} = 57 \text{ ac. avg.}$)
- In C-1 District = 35,000 ac. ($590 \text{ parcels} = 59 \text{ ac. avg.}$)
- **Total = 89,000 acres** ($1,540 \text{ parcels} = 58 \text{ acres avg.}$)

22

Existing Average Parcel Size in A-1 & C-1 Zoning Districts:

Current area of *all vacant parcels < 20 acres:*

- In A-1 District = 22,000 ac. (*4,300 parcels = 5.1 ac. avg.*)
- In C-1 District = 11,000 ac. (*3,200 parcels = 3.5 ac. avg.*)
- **Total = 33,000 ac.** (*7,500 parcels = 4.4 acres avg.*)

23

Estimated Effect of Lower Average Permitted Densities in A-1 and C-1:

At trend rate of 4,000 rural lots during next 20 years:

- Assume all new houses are built *on new lots*.
Average parcel size in rural area would drop from 13 to 11 ac.
229,000 acres / (17,150 parcels + 4,000 parcels)
- Assume all lots are built or subdivided *only from vacant parcels > 20 acres*.
89,000 acres / 4,000 houses = 22.2 ac. avg. per new house/lot.

24

Estimated Effect of Lower Average Densities in A-1 and C-1:

At trend rate of 4,000 rural lots during next 20 years:

- Average parcel size on formerly large vacant parcels would drop from **58 ac. to 22 ac.**
89,000 acres / 4,000 parcels

25

Estimated Supply of Existing and Potential Lots in A-1 and C-1:

- At current A-1 and C-1 zoning densities: > 40,000 lots
(8,900 existing vacant parcels + > 30,000 potential new lots)
- If new density is 20 ac. per lot avg.: 14,300 lots = **18x > target**
(8,900 existing vacant parcels + 5,400 potential new lots)
- If new density is 25 ac. per lot avg.: 12,900 lots = **16x > target**
(8,900 existing vacant parcels + 4,000 potential new lots)
- If new density is 45 ac. per lot avg.: 10,100 lots = **12x > target**
(8,900 existing vacant parcels + 1,200 potential new lots)

26

Recommended Amendments:

a. Adopt Low Density Zoning Regulations for the A-1 and C-1 Zoning Districts

- Allow one lot per 15 to 20 acres on *average*
- Allow a cluster development with a “density bonus” allowing up to one lot per 10 acres, and
- A small density bonus to reduce impact on smaller existing parcels.

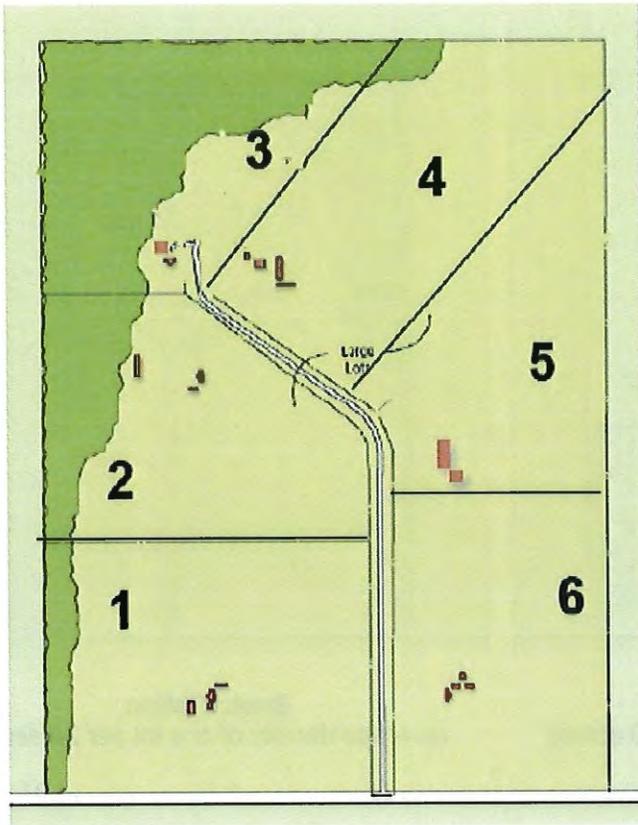
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3. *Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)*

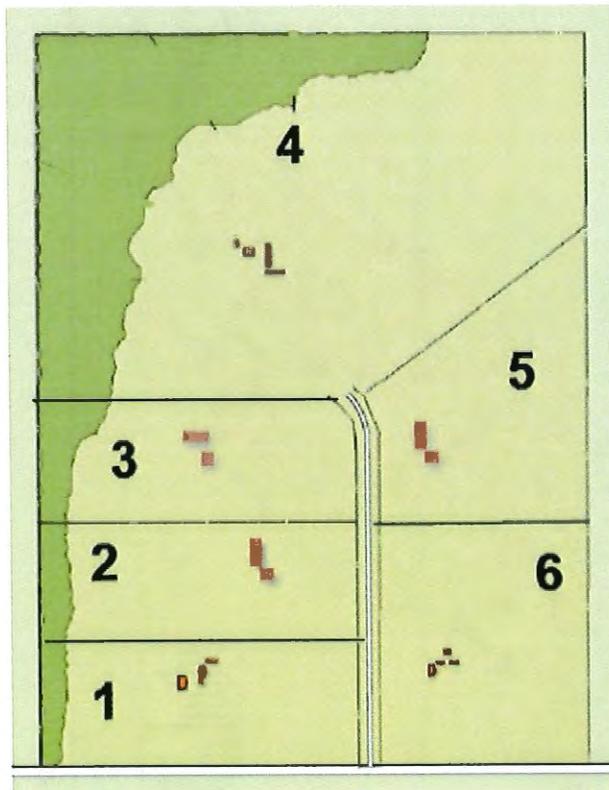
b. Amend the Open Space Cluster Zoning Option for the A-1 and C-1 Zoning Districts

- Cluster would not require public water & sewer
- Would save at least 80% of each tract in “conservation lots” (30+ acres each) under permanent conservation easement.

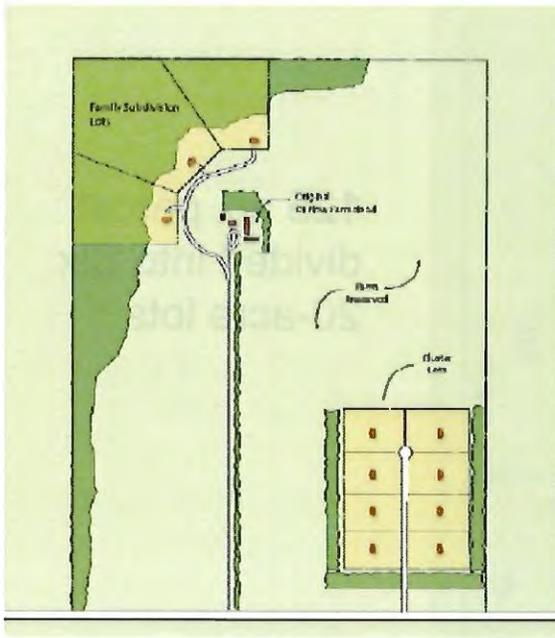
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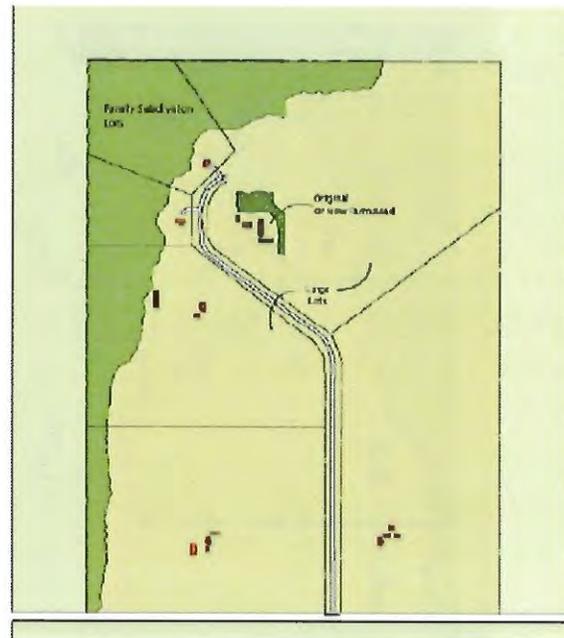
125 ac. parcel
divided into Six
20-acre lots



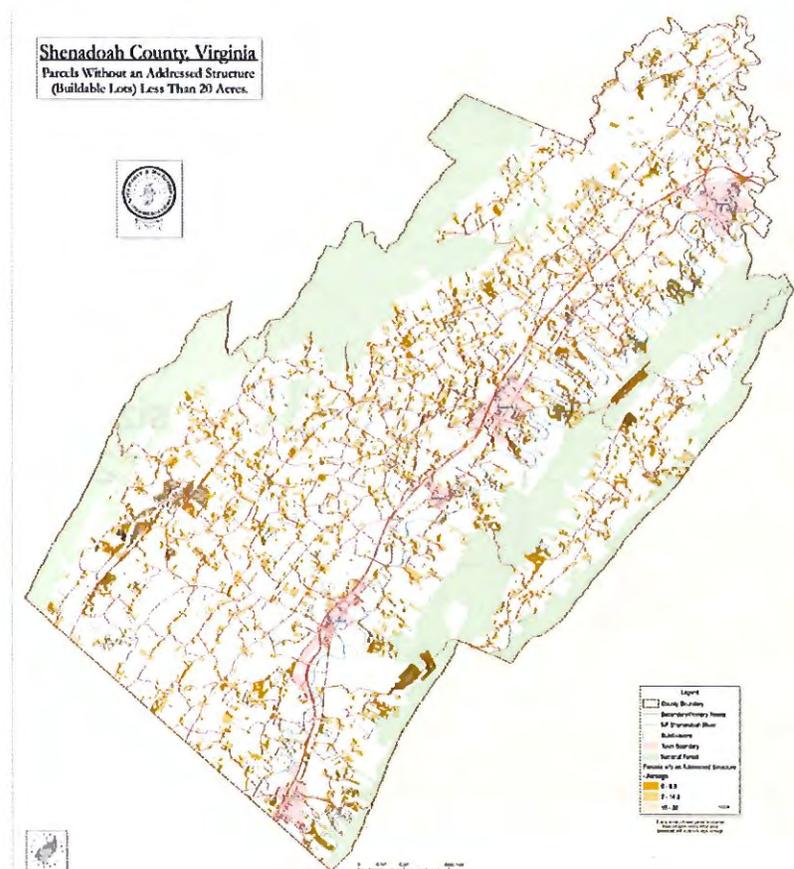
125 ac. parcel
divided into Six
lots of varying
sizes at average
of 20-acres



Cluster Option
(average density of one lot per 10 acres)



Basic Option
(average density of one lot per 20 acres)



Notes from Steering Committee Meeting #7

Conducted Thursday, July 30, 2009

Discussion and Observations:

- Mr. Adams: Coordination with the towns is difficult.
- Mr. Adamson: County doesn't have to say yes to annexation – it encourages joint comprehensive planning with the towns.
- Mr. Ferguson: Should we say 90% of growth should be in PSAs? (how do we balance that growth between the various PSAs?).
- Mr. Adamson: You can create conditions to attract growth there, and then monitor it – 90% is the benchmark.
- Mr. Davis: Need voluntary settlement agreement for orderly annexations.
- Mr. Ferguson: How definitive should you be? How big do we want to be? Shenandoah could risk becoming a bedroom community for other regions. What would be the plan for doing joint planning? What, when, and how? Need to specify in strategy #1 on page 2: timing, process, and measurable benchmarks.
- Mr. Adamson: [A key benchmark is] when voluntary settlement agreement is done.
- Mr. Lantz: Monitor progress as part of the Planning Commission annual report.
- Mr. Herd: Should be completed by 2011 in accord with the State legislation requiring UDAs (Urban Development Areas).
- Ms. Wegryniak: Such tasks could be put in the Implementation Chapter of the Comp Plan.
- Ms. Truban: 90% of development in the PSAs? What does “development” include? Presume this policy would call for Voluntary Settlement and not Annexation, new zoning districts, incentives such as density bonuses, TDRs, phasing, clustering, etc. Need to coordinate accessibility of water and sewer – don't need to develop all the areas that have pipes – need to address the access issue to utilities – can we?
- Mr. Adamson: Can you separate PSA from the pipe location?
- Mr. Ferguson: What is sewer capacity of all the towns? Don't all towns have plans to upgrade?
- Mr. Adamson: Add a paragraph about “footprint” of utility area as well as capacity. Need to revise the public service areas accordingly.

Operational considerations noted:

The towns are different from service authorities; and the public service areas are larger than they need to be from a land demand standpoint.

Additional Note for Committee Consideration:

The Committee held an extensive discussion on the phrase “...including 90% of future ~~housing~~ development” under Objective A, and decided to delete the modifier “housing”, as shown here. After further reflection, the staff and consultant have identified the usefulness of having some sort of modifier in order to be clear about which general uses should go into the PSAs and which should not. The Committee may wish to briefly revisit this issue at the next meeting.

Refinements to the Draft 3-17-09 Recommendations affirmed by the Committee:
(shown as ~~double strike through~~ and double underline)

A. Strengthen Efforts to Attract and Facilitate Growth In and Around the Towns

1) Prepare Joint Comprehensive Plans with the Towns

Draft Comprehensive Plan Amendment Language:

Chapter 9 – Growth Management

3. LAND USE

GOAL - Guide and direct growth into and around the towns and public service areas, while preserving the rural and open space character of the balance of the County.

OBJECTIVE A - Guide major development, including 90% of future housing development, to locate in and around the towns and utility service areas.

STRATEGY 1) – Undertake joint planning efforts with each incorporated town to create joint comprehensive plan elements for the surrounding Public Service Areas, leading to joint adopted by the County and each town; complete (adopt) new or updated joint plans by the end of 2011.

STRATEGY 2) - Identify potential In conjunction with Strategy 1, refine the designated public service areas and seek annexation to include voluntary settlement agreements, and new zoning districts to encourage traditional neighborhood design (TND), and other incentives including density bonuses, phasing, and clustering. or urban growth area plans with towns to define carry out the policies set forth in the joint plans for those areas.

STRATEGY 3) – Coordinate County zoning in adjacent areas around towns within the PSAs zoning in the towns so as to ensure compatible zoning.

STRATEGY 4) - Encourage uniform town subdivision regulations.

STRATEGY 5) - Create incentives for development where public services are available.

STRATEGY 6) - Create a mechanism for implementing Transferable Development Rights (TDRs).

2) Ensure Adequate Utility Capacity for Expected Future Population [no text changes]

3) Adopt Zoning Standards for Traditional, Compact Development Patterns [no text changes]

VISION STATEMENT

The central element of the Vision Statement is that the County remains a primarily rural community, by directing future growth to the County's towns [and public service areas around the towns] so as to ensure the retention of the County's open, agricultural character. There are several other important elements of the vision, which are supported if this central element is achieved. These include protecting natural resources, preserving natural beauty and historic character, and providing a variety of jobs in business, light industry, tourism and sustainable agriculture.

Committee Reached Full Consensus on the following concepts

7 1

Joint Comprehensive Planning with Towns
Voluntary Settlement Agreements
Traditional Neighborhood Design (TND)

8 2

Agricultural Economic Development Program
Endorse notion of PDR, acknowledge lack of current funding
LDR not pursued at this time, but continue to study for feasibility in the future
Await further refinements of TDR state legislation

9 3

average density instead of traditional large lot
bonus lots for smaller parcels
retain timing restriction
lower density through zoning

Most committee members agreed to these concepts, but there was not a full consensus. I expect these concepts to be discussed at next Thursday's meeting.

Provide a density bonus for cluster development
Reduce the timing restriction on cluster developments.

Brandon

Memorandum

To: Community Planning Project Steering Committee Members

CC: Members of the Board of Supervisors and Planning Commission, Vince Poling, Milt Herd,
Rodney McClain, Susie Hill, Bobby Clark, Kathy Black, Town Managers in Shenandoah County

From: Brandon P. Davis, Director of Planning & Zoning

Date: September 8, 2009

Re: Community Planning Project Steering Committee Meeting on 9/10/09

The purpose of this correspondence is to provide for you a clean copy of the portion of Mr. Herd's Report to the Steering Committee dated March 17, 2009 that I expect will serve as the main focus of our work session this Thursday, and to offer a brief commentary regarding its contents.

The attached document was taken from pages 39 through 59 of the March 17, 2009 Report to the Steering Committee. Please review this portion, and bring your copy of the full version. Considering the length of the original full document, please contact me if you need a hardcopy. It is also available in digital form on the County website under the Community Planning Project committee tab.

This Thursday's work session is the last of three intensive work sessions to review each of the three major portions of Mr. Herd's proposal:

1. Strengthen Efforts to Attract and Facilitate Growth in and Around the Towns
2. Invest in Voluntary Land Conservation Programs
3. Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

On Thursday, August 13th, the Steering Committee held a successful work session to discuss investing in voluntary land conservation programs. Please review the attached notes from Mr. Herd regarding the meeting.

In conjunction with the results of the July 30th and August 13th meetings, I expect the conclusions derived from the upcoming work session to be compiled as a comprehensive product that can serve as the Steering Committee's recommendation to the Planning Commission.

Commentary:

On Thursday, we will discuss, among other things, low density A-1 and C-1 zoning in conjunction with higher density rural clustering, and Mr. Herd's draft amendments to the zoning and subdivision ordinances. In an attempt to foster an informed dialogue on the subject of low density zoning and rural clustering, I will offer a short clarification of each.

Low density zoning is not to be confused with the similar concept of large lot zoning. The purpose of calculating lot density is to determine the number of possible lots that can be created from a parent parcel. The allowable density is calculated by dividing the parent parcel's acreage (for example 100 acres) by a defined large minimum lot size for the purpose of the density calculation only (for example 20 acres), but the actual minimum size of the newly created lots is a completely separate defined figure (for example two acres). In this example, the 100-acre parent tract could be divided into five lots. While the actual sizes of the lots could be created with hundreds of variations, an extreme possibility would be as follows: New Lot 1 - 2 acres; New Lot 2 - 2 acres; New Lot 3 - 2 acres; New Lot 4 - 2 acres; Remaining Parent Parcel Lot 5 - 92 acres. However, representing the opposite extreme, each lot could also actually be 20 acres.

Rural clustering is a more familiar concept in which a density bonus is granted in order to incentivize even more compact development coupled with the perpetual preservation of a large parent tract.

Mr. Herd's proposed amendments to the zoning and subdivision ordinances are both extensive and complex. I feel it is imperative that we all have a complete understanding of the overall impact of a proposed change before entering into a discussion. Therefore, during Thursday's work session, I intend to provide or request clarification before discussing each proposed change. If you still need further clarification, there is a good chance someone else does as well, so please ask.

If you have any questions or would like further information regarding the upcoming work session, please feel free to contact me by email or by phone at 459-6190. I look forward to seeing you this Thursday, and I welcome your commentary regarding these matters or any others facing Shenandoah County.

Attachments: Portion of 3/17/09 Report; Mr. Herd's Notes from 8/13/09 SC Meeting

Notes from Steering Committee Meeting #8

Conducted Thursday, August 13, 2009

Topic 1: Refinements to Committee Recommendations Made on 7-30-09

The Committee affirmed the decisions it took on July 30 regarding the PSA tools, but re-visited the comprehensive plan language for Objective A under Land Use in Chapter 9, and recommended that it read as follows:

Draft Comprehensive Plan Amendment Language:

Chapter 9 – Growth Management

3. LAND USE

GOAL - Guide and direct growth into and around the towns and public service areas, while preserving the rural and open space character of the balance of the County.

OBJECTIVE A - Guide major development, including 90% of future housing development, in addition to other forms of compatible development, to locate in and around the towns and utility service areas.

STRATEGY 1) – Undertake joint planning efforts with each incorporated town to create joint comprehensive plan elements for the surrounding Public Service Areas, leading to joint adopted by the County and each town; complete (adopt) new or updated joint plans by the end of 2011.

STRATEGY 2) - ~~Identify potential~~ In conjunction with Strategy 1, refine the designated public service areas (PSAs) and seek annexation to include voluntary settlement agreements, and new zoning districts to encourage traditional neighborhood design (TND), and other incentives including density bonuses, phasing, and clustering, or urban growth area plans with towns to define carry out the policies set forth in the joint plans for those areas.

STRATEGY 4 ~~3~~) – Coordinate County zoning ~~in adjacent areas~~ around towns within the PSAs zoning in the towns so as to ensure compatible zoning.

STRATEGY 3 ~~4~~) - Encourage uniform town subdivision regulations.

STRATEGY 4 ~~5~~) - Create incentives for development where public services are available.

STRATEGY 6) - Create a mechanism for implementing Transferable Development Rights (TDRs).

[note that in further discussions, the Committee relegated TDR efforts to a lower priority than the other land conservation tools]

Topic 2: Land Conservation Tools

1. Agricultural Economic Development Program

The Committee discussed recent efforts by the County's Agricultural Task Force to develop specific strategies for an Ag Development Program, including efforts to collaborate with neighboring counties in a joint, shared program. The Committee noted that the key to achieving the County's goal of maintaining rural character is to ensure that agricultural land uses continue.

The Committee reached consensus to recommend that the County establish an **Agricultural Economic Development Program**, in accord with the outline in the March 17 Report, including adding a citation of the recent work on this program by the County's Agricultural Task Force.

2) Purchase of Development Rights (PDR)

The Committee discussed the limitations on financial resources necessary to fully fund a PDR program, noting that the County has established a program and is promoting donations of conservation easements, but has not allocated funds for purchasing easements.

The Committee reached consensus to endorse the **PDR program**, acknowledging that it is in place but without resources, and that the Board of Supervisors should allocated appropriate levels and sources of funding, while recognizing the linkage of PDR efforts to the agricultural development program, and also citing the 5,000 acres of conservation easements that have been voluntarily donated by county landowners.

3) Leasing of Development Rights (LDR)

The Committee discussed the pros and cons of LDR, including the relationship it has with the current Use Value Assessment program and Agricultural and Forestal Districts, the possible benefit LDR might have in coordinating development at the edges of the PSAs, as well as the uncertainties and complexities of this program.

The Committee reached consensus that **LDR should not be pursued at this time**, but that it should remain under consideration for further study.

4) Transferable Development Rights (TDR)

The Committee discussed the pros and cons of TDR, noting that while it is a very attractive concept, it is difficult to implement without a very strong market for high intensity land development in the urban areas. Mr. Herd acknowledged the potential of TDR but expressed concern that the County may spend time and effort on TDR to no avail, thus detracting from its efforts on other more promising tools.

The Committee reached consensus to recommend that the County **await further refinements to the state enabling legislation for TDR** (currently underway), await and monitor Frederick County's efforts to implement TDR, and explore the use of "density transfer" to the PSAs using the conditional zoning process.

Other Actions

The Committee scheduled another work session for September 10 at 9:00 a.m. in the Board Room, to discuss recommendations for amendments to the regulations for rural land development.

Notes from Steering Committee Meeting #9

Conducted Thursday, September 10, 2009

Discussion and Observations:

The Committee discussed the various proposals for amending the rural zoning regulations (A-1 district, C-1 district), and the subdivision ordinance. Major discussion points included the trade-offs between the benefits of cluster development patterns and the conflict cluster development has with the long-term vision; incremental subdivision of lots by individual farmers; and potential impacts of any downzoning on farmland owners.

Outcomes:

The Committee reached full consensus on the following key points:

- provide an “average density” concept (“lot size averaging” for rural subdivisions)
- provide “bonus lots” for smaller parcels to ease the impact of an overall reduction in density
- retain the 3-year timing restriction on subdividing lots
- lower the overall allowable rural density through zoning regulations

Most Committee members supported the following concepts, but there was not a full consensus:

- provide a “density bonus” for cluster” development
- reduce the restriction on the timing of subdivision for cluster developments

Next Meeting:

The Committee agreed to set another meeting date for the purpose of going through the A-1 and C-1 zoning districts in detail to consider potential changes.

Some specific comments:

- DT: Farmers need to be able to do just a few lots, without developers being involved.
- BD: The pattern of rural development is the key.
- DT: What density should cluster development be?
- DT: Vacant lots in the A-1 district under seven acres in size total about 3,300.
- MH: We are not sure of the feasibility of developing those lots – we presume that although some of them cannot be feasibly developed, others could. It’s prudent to assume that many, but not all, are developable.
- DF: If you have a 100-acre parcel, and a 30-acre parcel, what are the goals?
- control the development pattern
 - direct growth to the towns
 - reduce land consumption per house - limit encroachment on farmland
 - protect property rights - be fair to all landowners
 - pace of development in rural areas – speed up or slow down?

- DF: How do we protect property rights and still keep the county rural?
DT: Cluster doesn't encourage growth around the towns
DT: Would prefer one dwelling unit per 25 acres for an overall density in A-1 and C-1 zones. Providing some "bonus" for smaller existing parcels would be okay.
JA: Do we need a cluster option, and if so, do we need a density bonus for it?
DT: No cluster is needed.
CH: Okay with cluster.
MH: Cluster is indeed somewhat in conflict with the ideal vision; however, it is also a way of achieving substantial land preservation at no direct cost to the County (as compared with say, PDR). It is also a way of partially mitigating the impacts of any downzoning. However, it definitely involves "trade-offs".
DF: 25-acre density would be too much too soon; support "grouping" of units on a site.
DT: Every parcel should have a development right.
BD: Can we agree to support the "average density" concept? *[The Committee concurred]*
Can we agree to support "bonus lots" for smaller parcels? *[The Committee concurred]*

Other related issues discussed:

- support "density bonus" for cluster"? *[no full consensus]*
 - keep 3-year timing restriction? *[The Committee concurred]*
 - reduce timing restriction for cluster development? *[no full consensus]*
- CH: The density bonus table on page 43 is unfair *[this problem is due to the fact that some larger parcels would get fewer total lots due to the density bonus given to smaller parcels]*
- DF: We agree that the allowable rural density has to be lowered? *[The Committee concurred]*
- DF: We need to back at the other key tools [PSA and Land Conservation] and see how they relate to zoning regulations.



Presentation Sections

- Section 1: Purpose of the CPP
- Section 2: Where Have We Been?
- Section 3: Where Are We Going?

Purpose of the CPP

- As indicated in the March 18, 2008 Request for Proposal, the purpose of the Community Planning Project is:

"To prepare amendments to the Comprehensive Plan and Shenandoah County Zoning & Subdivision Ordinances in order to achieve the Vision Statement set forth in the existing Comprehensive Plan."

County of Shenandoah
COMPREHENSIVE PLAN
AMENDMENTS
The purpose of this project is to prepare amendments to the Comprehensive Plan and Shenandoah County Zoning and Subdivision Ordinances in order to achieve the Vision Statement set forth in the existing Comprehensive Plan. The project will be completed by the end of 2009. The project will be completed by the end of 2009. The project will be completed by the end of 2009.

The Shenandoah Daily
Friday, March 18, 2008

Where Have We Been?

- Project RFP authorized by BOS on March 11, 2008
- RFP issued on March 18, 2008
- Contract awarded to Herd Planning & Design by BOS on May 13, 2008
- Steering Committee formed, and two kick-off and follow-up meetings held on 18, 2008 and July 21, 2008.
- "Spread-the-Word" booth manned at 2008 Shenandoah County Fair



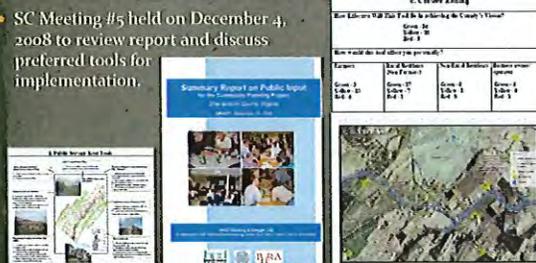

Where Have We Been?

- 4 Public Forums held at Central High School and a 4th Steering Committee meeting held at the County Offices between September 16, 2008 and October 29, 2008.



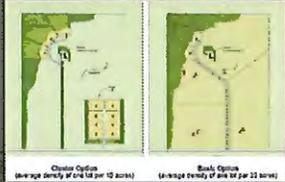

Where Have We Been?

- November 14, 2008 – 112 page comprehensive report submitted by Herd Planning detailing public input received during the Public Forums.
- SC Meeting #5 held on December 4, 2008 to review report and discuss preferred tools for implementation.

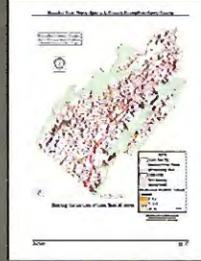
Where Have We Been?

- March 17, 2009 – 79 page recommendation entitled "Report to the Steering Committee: Refined Tools for Implementing the Vision" submitted by Herd Planning.
- Steering Committee Meeting #6 held on April 9, 2009 to review Herd Planning's recommendations.



Where Have We Been?

- Series of intensive Steering Committee work sessions held to dissect the March 17 recommendation section-by-section and line-by-line.
- GOAL: Reach tangible, agreed-upon conclusions from each session to be compiled to create a comprehensive product that can stand as the Steering Committee's recommendation to the Planning Commission.



Where Have We Been?

July 30, 2009 Work Session (SC Mtg. #7)
Strengthen Efforts to Attract and Facilitate Growth in and Around the Towns

August 13, 2009 Work Session (SC Mtg. #8)
Invest in Voluntary Land Conservation Programs

September 10, 2009 Work Session (SC Mtg. #9)
Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

Where Are We Going?

October 1, 2009 Status Report to Planning Commission and BOS



October 8, 2009 Work Session (SC Mtg. #10)
Strengthen Rural Zoning Regulations (for A-1 and C-1 Zoning Districts)

Where Are We Going?

Partial List of Necessary Events

- Affirm and submit Steering Committee recommendation to Planning Commission (PC) and Board of Supervisors (BOS)
- Joint work session(s) with PC & BOS
- Public Safety & Code Committee
- Information dissemination and joint public hearing
- PC takes action
- BOS takes action