

FEATURE-BASED DENSITY

Use with: Lot Size Averaging

I. BACKGROUND AND PURPOSE

This chapter provides planning boards with a new approach for achieving certain local master plan objectives through the zoning ordinance. Feature-based density is a zoning technique where the permissible density is calculated based on a set of factors contained in the ordinance, as opposed to a uniform standard being applied to all of the land in the zoning district. Conventional zoning prescribes one minimum lot size for a particular use throughout each zoning district, along with a residential density uniformly applied to each parcel of land in the district. In communities with the most basic zoning ordinances, one size is applied throughout town. Many small New Hampshire towns have a simple tiered system with small lot sizes/higher density in areas designated as village, and larger minimum lot sizes/lower density in the rest of town.

[A drawing of simple rural zoning scheme will be here.]

If all land parcels were the same, this approach would not trouble planners. However, since the landscape in many areas such as northern New England is hilly and challenging to develop, zoning has evolved to incorporate mechanisms for adjusting the rules. For example, overlay zoning for features such as steep slopes and wetlands is sometimes used as a way of making exceptions to the minimum lot size/maximum density provisions of the underlying district. This is the case in communities where, in addition to the requirement that development be kept away from wetlands and steep slopes for example, the area unsuitable for development is excluded from the area used for calculating the maximum number of lots. Zoning ordinances sometimes enable adjustments in the other direction, i.e. smaller lot sizes/increased density, to factor in the benefits of a particular land use to the community. Density bonuses for affordable housing are the most well known example.

[A drawing showing overlay zoning will be here.]

Basing the permitted density on a feature of the parcel is not a new concept. Soil-based lot sizing is an approach used by some communities based on a single factor - suitability of the soils for treatment and dilution of septic system effluent. Similarly, subdivisions proposed in outlying areas on inadequate roads are often reduced in size by the applicant after a planning board raises concerns that a large subdivision might be scattered and premature (as provided by RSA 674:36II(a)) without a substantial upgrade of the road at the applicant's expense (pursuant to RSA 674:21V(j)).

When zoning ordinances begin with uniform requirements and evolve toward additional considerations and/or flexibility, e.g. with multiple density districts, multiple overlays, cluster provisions, etc., they become more and more complex. A feature-based density approach can actually simplify the ordinance by replacing district-specific density regulations, overlays and

certain other provisions, and result in more successful implementation of the master plan. Feature-based density can strengthen the ability of the planning board to ensure that the zoning ordinance and individual subdivision layouts achieve many goals of the local community. These include:

- Conservation of forest, agricultural land, scenic resources, wildlife habitat;
- Concentration of development activity close to services;
- Provision of a range of building lot sizes and prices throughout the community;
- Layout of subdivisions in a manner which is conducive to neighborhood dynamics;
- Walkability, linkage between areas.

II. APPROPRIATE CIRCUMSTANCES AND CONTEXT FOR USE

Feature-based density is appropriate for any size community. It may be applied town-wide or in specified districts. It can be an effective tool when the planning board's goals for development density are related to such things as the geography of the community, e.g. dense development is desired close to a village area, features of the landscape, or road attributes.

III. LEGAL BASIS AND CONSIDERATIONS FOR NEW HAMPSHIRE

A. Enabling Statutes

RSA 674:16, Grant of Power, provides the foundation of a municipality's right to zone. Lot sizes and the density of the population are among the aspects of land use a zoning ordinance "shall be" designed to regulate. Feature-based density complies with RSA 674:20, Districts, requiring that "regulations shall be uniform for each class or kind of buildings throughout each district." Although it has become commonplace, nowhere in the enabling statutes is it stated or implied that the maximum density must be uniform for each piece of land in a district as opposed to being derived from features of the land itself.

For the planning board member looking for further reassurance, RSA 674:16 clarifies that the power to adopt a zoning ordinance "...expressly includes the power to adopt innovative land use controls which may include, but which **are not limited to**, the methods contained in RSA 674:21." Among the techniques listed in 674:21 are "flexible and discretionary zoning" and "environmental characteristics zoning," both of which enable a feature-based density approach.

B. Local Considerations

It is important for planning boards to carefully consider the municipality's ability to implement and enforce an ordinance prior to proposing a particular approach.

For feature-based density, the factors chosen need to be rationally related to density and to the purposes listed in the enabling statute (RSA 674:17). Data on the features chosen needs to be available in a suitable form and level of detail to provide the planning board and landowner a

reasonably accurate determination of developable area. For a reasonable cost relative to the overall cost of development, more detailed information should be able to be obtained by the applicant if desired. Consider steep slopes for example. A relatively inexpensive town-wide soil-based map or map based on digital topographic data can be obtained from your regional planning commission showing, e.g. slopes over 25%, slopes 15-25%, and slopes less than 15%. For large land areas, these may provide an adequate basis for determining whether or not steep slopes are likely to be an issue on the property. However, the scale of the source data makes it impossible to determine the proportion of the property in each slope category. On-site surveying is required in that case.

Subdivision application fees should be reviewed to ensure that they cover the costs of administering the ordinance, including any special studies or outside assistance routinely utilized such as a regional planning commission circuit rider planner.

IV. EXAMPLES

Following completion of a town plan update, the Norwich, Vermont, Planning Commission reviewed the community's zoning ordinance with an eye toward influencing development patterns in a manner more closely tied to the town's land use goals. These included encouraging denser development near the village where facilities and services are available, on better roads, and away from the town's rural natural resource areas. With the assistance of Burnt Rock, Inc. of Waitsfield, Vermont, the Commission incorporated feature-based density into the town's subdivision regulations in 2002. A cross-referencing statement was incorporated in the zoning ordinance as well.

Following a presentation on Norwich's innovative approach organized by the Upper Valley Lake Sunapee Regional Planning Commission, the Planning Board in Newbury, New Hampshire, developed a similar approach incorporating feature-based density into that town's zoning ordinance. Newbury had previously adopted overlay districts for shorelands, wetlands and steep slopes. The Planning Board had been discussing and evaluating the relationship between natural features such as these and permitted development density. The community supported excluding these areas from the portion of a lot used for calculating the permitted number of lots. As with any substantial zoning amendment such as this, public input and acceptance strongly influenced the ultimate factors incorporated by Newbury. As a result of this input and of the physical layout of the community, Newbury did not include an "anti-sprawl" factor such as distance to the town center in the calculations. Several important conservation and recreation areas were identified as ones where a lower density in adjacent properties is desired.

V . MODEL LANGUAGE, ILLUSTRATIONS, AND GUIDANCE FOR IMPLEMENTATION

Margin Note: The purpose statement for the ordinance should be reviewed to ensure it encompasses the valid zoning purposes to be achieved through the community's feature-based density approach. If this approach is only applied to a portion of the community, a purpose

statement should be developed specifically for the feature-based density provision to relate the community's specific goals to be achieved through this tool to the valid zoning purposes.

The maximum number of lots created within the [District] after the effective date of these regulations shall be determined as set forth below.

(1) Minimum Lot Size.

The minimum lot size within the [District] shall be not less than [smallest permissible lot size in square feet or acres].

Margin Note: This may or may not be the same as the maximum density depending on whether lot size averaging is allowed or multiple buildings are permitted on a lot.

Margin Note: If the community allows smaller lot sizes as part of a specific named clustering scheme such as a PUD, PRD or Village Plan, additional language will be needed here to make that exception to the usual minimum lot size.

Margin Note: Communities with public water and/or wastewater will probably want to consider different minimum lot sizes for lots on and off these services.

(2) Maximum and Minimum Density

In general the density (total number of units allowed on any pre-existing parcel) shall be as determined by the Planning Board in accordance with this section of the Ordinance, based upon the formulas set forth in Tables 1 and 2. However, the maximum density permitted will be [insert maximum permissible density, e.g. one unit per developable acre]. In no case will a density less than [insert minimum density, e.g. one unit per every 50 acres of developable area] be required.

Margin Note: The treatment of lot size and density varies from community to community. Every zoning ordinance needs a statement establishing whether or not each lot is limited to one dwelling unit or other principal use or building. Care should be taken to word this section in a manner which is consistent with the rest of your ordinance.

(3) Determination of Developable Area.

It is the intent of these regulations to limit development density on parcels on which fragile features and critical natural resources are located. To achieve this intent, development density shall be calculated based upon the total amount of developable area found on the pre-subdivision parcel. The developable area shall be determined by subtracting the area of these fragile features and critical natural resources, in whole or in part, from the area that can be counted toward the density calculations. The total developable area shall be based upon the formula described in Table 1.

Margin Note: Feature-based density applies to new subdivisions. It can not replace environmental overlays, such as steep slopes and wetlands districts, as they would still be needed to ensure development on existing lots is located in the safest, most suitable location. While feature-based density accounts for unbuildable land in determining lot sizes, it does not prevent building on sensitive lands; environmental overlays are an effective tool to keep building sites away from sensitive resources.

Determination of developable area only applies to the proposed creation of new lots or to the determination of density if more than one dwelling unit, other than an accessory unit, is desired on the lot. It does not apply to the use of pre-existing parcels for single or two family dwellings or other nonresidential uses that otherwise meet the minimum requirements of the Zoning Ordinance.

In determining the amount of developable area located on a parcel, the applicant may in some cases utilize the GIS mapset entitled [map titles and dates] prepared by [e.g. Regional Planning Commission] available at the municipal office. In the event the Planning Board, as a result of site investigation, determines that the Town/City’s GIS data may not accurately identify features found on a site, the Board may require the applicant to provide more detailed site-scale information prepared by a licensed engineer or surveyor regarding one or more of the features included in Table 1. The applicant may also choose to provide site-scale data indicating the features listed in Table 1 and use such data as the basis of the determination of developable area.

Table 1: Determination of Developable Area

Physical Features on the Parcel	Developable Area Adjustment*
Slopes in excess of 25%	deduct 100%
Slopes 15% - 24%	deduct 50%
100 Year Floodplain	deduct 100%
Wetlands and Surface Waters	deduct 100%
Wetland Buffers	no deduction
Shoreline Buffers	no deduction
Deer Wintering Areas	50% deduction
<i>Insert your community's other priorities here.</i>	
All Other Land	no deduction

*In instances where two or more features overlap, the deduction is only made once for a given portion of the lot. The highest applicable deduction is made.

Margin Note: The figures provided in the table are for example only. The planning board should revise it to fit the objectives of the local master plan and other zoning ordinance provisions such as floodplain, shoreline and wetlands overlays.

In situations involving the subdivision of land for nondevelopment purposes, the Planning Board may waive the requirements of this section.

[An example drawing will go here.]

(4) Determination of Development Density.

In accordance with the Town/City of *** Master Plan, it is the intent of this Ordinance to maintain low development densities in areas of the community with limited and/or poor access to municipal facilities and services, [optional - insert other objectives to be achieved through density calculations, e.g. maintain low development densities contiguous to significant public lands and open spaces], and to encourage moderate to high densities in areas of the community with good access to municipal facilities and services and close proximity to the town/city center. Rather than designating multiple zoning districts within the [District], maximum density shall be based upon the unique characteristics of the parcel relative to highway access, distance to the town/city center, and [optional, e.g. proximity to protected open space].

The total development density of a site shall be presumed to be one unit per every [e.g. 1 acre] of developable area, although the density shall be adjusted in accordance with the formulas set forth in Table 2. In no instance shall the total allowable density be less than one unit per every [e.g. 50 acres] of developable area.

Margin Note: Each community needs to make its own determination of an acceptable minimum and maximum density. The figures contained here are for example only.

The area to be used for road right-of-way or other utility rights-of-way or other areas not incorporated in individual lots shall be excluded from the acreage figure used in the density calculation.

**Table 2
Determination of Development Density**

Parcel Location	Adjustment to Area Required for each Unit*
A. Proposed driveway or development road will access:	
Paved State or Class V Highway or Private Road built to standards approved by the Planning Board as part of an approved subdivision	x 1
Gravel Class V Highway or Private Road built to standards approved by the Planning Board as part of an approved subdivision	x 2
Substandard** Class V Highway (as identified by the Town/City) or other private	x 4

This draft is a chapter of *Innovative Land Use Planning Techniques: A Handbook for Sustainable Development*, expected publication date January 2007, prepared as part of the Regional Environmental Planning Program by the NH Department of Environmental Services, the NH Association of Regional Planning Commissions, the NH Office of Energy and Planning, and the NH Local Government Center. All ordinances and regulations proposed for local adoption should be carefully reviewed by local officials and legal counsel.

B. After adjusting for access, adjustments shall be made for travel distance from the municipal building to the parcel (measured to the nearest part having 50 feet of frontage) by the most direct route using maintained state or town highways.	
Less than 1.5 miles	x 1
1.5 to 3 miles	x 3
3 to 5	x 5
5+	x 10
C. [Optional: Consider adding additional objectives, e.g. After adjusting for access and travel distance, the density shall be adjusted for proximity to the significant public lands listed below:]	
[e.g. state park land, Appalachian Trail corridor]	[e.g. x 2]

*Density adjustments are cumulative.

** If using the term "substandard", the community needs to carefully define what this means. In Newbury, New Hampshire, for example, the town's consulting engineer and road agent worked with the Planning Board to create a list of criteria based on grade, alignment, sight distances, surface condition and width, and shoulders. All of the roads in town were then evaluated and a list was developed.

Margin Note: Where the sample language makes reference to the "municipal building," this should be a location representative of your own town/city center. This may be e.g. a school or fire station. The size, character and geographic arrangement of your community will determine the appropriate distance categories and factors.

Margin Note: Each community should identify the factors appropriate to density determination, as well as the weight of each factor. The numbers here are shown for example only. However, all factors must have a clear rational linkage to density. For example, factors which might provide a basis for increased density include public water and/or wastewater treatment, or the provision of open space for recreational use by residents, or other site design features which reduce the negative impacts, or even enhance the benefits, of living in close proximity. Another example is stormwater management, where certain techniques can reduce the negative water resource impacts of concentrated impermeable surfaces. Similarly, location over zones of contribution to public drinking water supplies makes density an important water quality consideration. Any factors included should also be clearly and readily identifiable on a map or on the ground.

(5) Building Envelope

A minimum of one building envelope for each proposed new lot shall be delineated on the plans for subdivisions submitted for review and approval by the Planning Board indicating a minimum of [x] square feet for the location of all structures, site work other than access, and septic systems outside of setbacks, floodplains, slopes over [x]%, wetlands and shoreland and wetlands buffers.

Margin Note: The planning board should take care to review the definitions section whenever amending the zoning ordinance to ensure that terms are appropriately and consistently defined.

VI. References

Readings on related topics:

Arendt, Randall. 1998. "Connecting the Dots," *Planning*, August.

Meshenberg, Michael J. 1976. *The Administration of Flexible Zoning Techniques. Planners Advisory Service Report 318.*

Nellis, Lee, and Karen Van Gilder. 2003. *The Planning for Results Guidebook.* National Association of Counties.

New Hampshire Association of Regional Planning Commissions. 2004. *Planning Principles for New Hampshire.* 2004.

Nicholson, Dave, and Jim Breuckman. 2004. *Smart Growth Tactics.* Michigan Society of Planning. May.

Example:

Norwich's regulations can be found on the town's website at www.norwich.vt.us.