



*Appendix II – White Papers*

*Lebanon County  
Comprehensive Plan*

*December 2007*

# Growth Management Strategies

## A White Paper for the Lebanon County Comprehensive Plan

### Purpose

Managing growth to achieve a desirable community pattern can require tools and techniques beyond Euclidian zoning and basic subdivision and land development provisions. The following is a brief overview of ten strategies and methods for growth management. These can be used in conjunction with one another or independently, based on the existing development pattern and the preferred pattern for the future.

### Growth Areas

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#### Description

A growth area is a geographic delineation, or boundary line, within which development at higher densities is encouraged and infrastructure to serve such development, such as roads, water, and sewer, is provided for or planned. Outside of the growth boundary, land is planned to remain in predominantly rural uses, whether it be planned for agriculture or natural features. Growth areas are used to geographically indicate where a higher intensity of development is appropriate and the corresponding public investment in this development is most appropriate.

#### How it Works

The urban growth area should be drawn to include enough land for the development needs of the next 20 years. This includes needed land for residential, institutional, commercial and industrial development, and for public open space and recreational facilities and sufficient additional land to provide for flexibility in the real estate market. To be most effective, growth areas should be established as part of a regional planning effort, but they can also be employed at the county or multi-municipal level. Once established, the growth area should be shown on the future land use plan, Official Map of participating municipalities, and integrated into the zoning ordinance.

#### Pros and Cons

Growth areas attempt to focus municipal resources to ensure that as the market creates the demand for development, the necessary infrastructure will be in place. It encourages revitalization and reinvestment in development centers and alleviates growth pressures in areas where development is not wanted. Growth areas and boundaries have worked well in some places and less well in others. They are an effective tool in areas where land consumption is outpacing population growth. In other high density/high demand areas, growth boundaries can lead to “leapfrogging,” in which a developer favors one county over the next, and increases rents and housing values, by raising the value of urban land. In any area where a growth boundary is considered, there must be a strong regional commitment to the provision of housing options for people of all income levels.

#### Examples

Lancaster County

Lycoming County

### Traditional Neighborhood Development (TND)

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#### Description

Traditional Neighborhood Development, or Traditional Neighborhood Design, (TND) is a principle that has gained acceptance in recent years as a viable design standard for suburban communities. Traditional Neighborhood Development is a concept of New Urbanism. New Urbanism combines aspects of 18<sup>th</sup> and 19<sup>th</sup> century American and European towns with accommodations for modern elements such as the automobile.

Traditional Neighborhood Development creates village-like neighborhoods with housing for a diverse population, a mix of nonresidential land uses, walkable streets, public space, integrated civic uses and commercial centers and accessible open space. Traditional neighborhoods are compact communities that provide destinations that are close to home and work and sidewalk and trail environments for walking and biking.

## Growth Management Strategies

Elements of Traditional Neighborhood Development include:

- **Limited Size:** A village or neighborhood is limited to a ¼ mile radius (up to 200 acres), or a five minute walk from the center to a clearly defined edge. People can walk to school, the grocery store, restaurants, and to public recreation. This is especially important for those who do not drive, such as children and the elderly. Size and density together are crucial factors for a neighborhood to work well.
- **Mixed Uses:** The inclusion of retail and commercial activity with residential uses brings the needs of life within walking distance for all ages and social groups. A variety of housing types is a standard element, including single family, duplex, townhouses and apartments over shops, which can bring safety and vitality to the town center. Additionally, the locations of schools often define a neighborhood.
- **Street Network:** A traditional grid or web pattern creates a more explicable system and more choices for travel routes, which is effective for pedestrians as well as automobiles. A grid of streets creates several alternative routes, as opposed to one or two collector streets that are found in conventional subdivision design. The increased amount of alternate routes results in a traffic pattern that is more dispersed and less congested. On-street parking slows traffic down and acts as a buffer between pedestrians and moving traffic, making the area more pedestrian friendly. Typical speed limits in a TND are 20 to 25 miles per hour. Vehicles are accommodated without being domineering.
- **Alleys and Lanes:** Alleys are often discouraged from conventional subdivision design because driveways and garages are accessed from the front of the house. In a TND, alleys give secondary access to properties for residents or for commercial deliveries. Locating parking garages, unsightly utilities, and garbage collection in the rear of a property preserves the beauty of the streetscape.
- **Sidewalks and Pedestrian Paths:** An emphasis on “walkability,” or the needs of the pedestrian, makes various destinations accessible to all residents, including children and the elderly. Sidewalks in a TND are often designed to be 5 feet wide to allow two pedestrians to walk side by side. This fosters a safe and pleasant walking environment, as opposed to the 4-foot wide sidewalks that are often found in conventional subdivision design. Street lights are often shorter and closer together in a TND than in a conventional subdivision where there are large, efficient luminaries on high poles spaced at relatively large distances. The purpose of street lights in both types of development is to illuminate the street for safer vehicle operation, and to improve pedestrian and neighborhood security. Placing an increased number of street lights with shorter poles closer together still lights the street but is less obtrusive to adjacent properties and allows the nighttime sky to be seen.
- **Town Center and Square:** The town center and square should serve as a focal point for community life, providing a special place for public events and an appropriate place for mixing retail, civic and business life. The neighborhood’s main street should support healthy businesses that are vital to a durable neighborhood and located at the core.
- **Shallow Setbacks:** Placing buildings close to sidewalks creates a friendlier “outdoor room.” Distances across streets and from building to building do not exceed five times the building height. The goal is to integrate residential activity and street activity. In conventional subdivision design, front setbacks are 15 feet or more to allow for road widening, to allow sunlight to reach buildings and to improve air circulation.
- **Outbuildings:** Secondary structures located at a rear alley allow for off-street parking, storage, workshop space, home offices or a rental apartment or guest house.
- **Porches:** Front porches create a sociable transition space from the public street to the private home and provide shelter and shade.
- **Building Types:** Structures should be designed for adaptation from one use to another, as the market dictates, emphasizing local historical style.
- **Open Space:** A variety of types of open space are included for specific needs. Whether it is a central plaza or square, a neighborhood playground or a green buffer, it is the shared common places such as these that most clearly show the character of a community and that brings nature into the human environment.
- **Edges and Gateways:** Clear edges and natural gateways create well defined places with character that nurture the residents’ sense of place of their community. Boundaries also define the ways in which the community is connected to the surrounding neighborhoods.
- **Defining Views:** Memorable views are key visual references and the heart of a neighborhood’s identity and character. A monument or tall building at a curve in a street helps to visually create a sense of place as well.

### How it Works

Traditional Neighborhood Development requires a large site and/or coordinated development of adjacent sites for full implementation of the concept. Before a municipality can approve and implement a traditional neighborhood design, it must allow for these concepts in its local zoning and subdivision and land development ordinances. The concept of Traditional Neighborhood Development may be applied as infill development within an urban setting, on the outskirts of an existing urban area, or in a suburban area.

## Pros and Cons

TND is a compact form of development which uses land and infrastructure efficiently. Residents can walk to community facilities and street design is intended to slow traffic. The community is aesthetically designed to encourage human interaction and instill a sense of place.

TNDs are best implemented in urban areas. When they are placed in rural areas, they tend to be criticized for despoiling rural lands. In this scenario, they do not diminish the requirement for an automobile. Additionally, regardless of the location of the TND, because so much money is put towards public improvements, housing units are more expensive to buy such that affordable housing may not be provided.

## Examples

The Gardens at Eagleview, Uwchlan Township, Chester County

RIDGLEA, South Coventry Township, Chester County

Ludwig's Corner, West Vincent Township, Chester County

Nine Mile Run Project, City of Pittsburgh

## Transit Oriented Development

### Description

Transit Oriented Development, or Transit Oriented Design, is the creation of compact, walkable communities, centered around transit system hubs. This type of development aims to decrease dependence on the automobile.

### How it Works

Transit oriented development should be considered on a regional scale and is most effective where a series of transit oriented developments are integrated around a high quality rail system. Components of Transit Oriented Development include:

- Walkable design with pedestrian as the highest priority
- Train station as prominent feature of town center
- A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses
- High density, high-quality development within 10-minute walk circle surrounding train station
- Collector support transit systems including trolleys, streetcars, light rail, and buses, etc
- Designed to include the easy use of bicycles, scooters, and rollerblades as daily support transportation systems
- Reduced and managed parking inside 10-minute walk circle around town center / train station<sup>1</sup>

## Pros and Cons

Transit oriented developments, when implemented in a regional and integrated system offer:

- Greater mobility with ease of moving around
- Increased transit ridership
- Reduced traffic congestion and driving
- Reduced car accidents and injuries
- Reduced household spending on transportation, resulting in more affordable housing
- Healthier lifestyle with more walking
- Increased foot traffic and customers for area businesses
- Reduced pollution and environmental destruction
- Less expensive than building roads and sprawl
- Enhanced ability to maintain economic competitiveness

It is difficult to effectively implement transit oriented developments in rural areas; this type of development is most effective in urban built environments. Although long term expenses may decrease, initial expenses are costly. The transit oriented development must be planned and implemented such that an interconnected network allows for ease of movement and does not mandate the use of an automobile for day to day trips. A transit oriented development will not work if users are unable to access their immediate needs and destinations in direct proximity to transit stations.

<sup>1</sup> Transit Oriented Development website

# Growth Management Strategies

## Examples

Washington, D.C.  
Tampa, FL  
Philadelphia, PA

## Infill and Redevelopment

### Description

Accommodating growth through infill and redevelopment of vacant and underused properties means less need to expand infrastructure systems and convert rural land to urban uses. In many cities and suburbs, the development and redevelopment of retail districts and housing districts are growing priorities. Recycling old buildings and preserving the historic character of a place has become a respectable market niche in many cities and older suburban communities. Infill development often includes retail uses on the ground level with many stories of housing units on the floors above. Underground parking garages are also constructed in some locations. This is not always the case though. The main principle behind infill development is making use of an already urban area in which all of the necessary infrastructure is already in place.

### How it Works

Large infill developments require the acquisition of enough parcels of land with the right zoning to be able to construct an economically feasible project. Although redevelopment of a half-block or entire block is ideal, site specific projects can be beneficial to an area as well. In order to successfully implement infill development, the regulations of the municipality's zoning ordinance, including floor area ratios, excess parking requirements, and height regulations often discourage infill structures in excess of two or three stories. Encouraging infill development requires the abandonment of limiting regulations in the zoning district in which infill development is desired, developer appeal, and community buy-in.

### Pros and Cons

Infill development is a challenging process. Although it is logical to improve upon areas where the necessary infrastructure is already in place, and to create communities where the reliance on the automobile is reduced, it can be more expensive to construct in these areas due to the equipment that is required for smaller spaces, and any environmental factors that must be taken into consideration, depending on the prior use of the site. Redeveloping a brownfield site, where industry was previously located and the potential exists for toxic waste on the site, can be extremely costly, especially if the future application is to include residential uses. Demolitions also add to the costs incurred. Although some redevelopment projects involve the reuse of an existing building, the building must meet all modern code requirements. In general, the process of building on Greenfield areas is less complicated, and often less costly than implementing an infill or redevelopment project. Successful infill and redevelopment projects can add to the character and status of the community and offer residents that choose to live there, a close location to various urban amenities such as cultural centers, employment, and transportation.

## Examples

The Plaza at PPL Center, Allentown, PA (urban redevelopment)  
Summerset at Frick Park, Pittsburgh, PA (brownfields redevelopment)  
York Square Condominium, Philadelphia, PA (urban infill, mixed use project on a brownfield site)  
International House, Harrisburg PA (residential redevelopment)

## Cluster Development

### Description

Cluster Development is a zoning technique which provides flexibility in housing density on a parcel as a means of integrating at least a minimal amount of open space into a new subdivision. Typically, both the lot size reductions and the percentage of open space that is created are fairly modest. The open space that is protected through cluster design may be owned by a homeowners' association, a nonprofit conservation organization, the municipality, or by a combination. Frequently, density is calculated on the basis of total tract area, rather than on actual buildable land area, which results in a density inflation on parcels containing significant amounts of undevelopable land.

### How it Works

Cluster ordinances ideally base density on net usable land to reflect the number of dwellings that could be built on the property with conventional lot layout. In addition to wetlands and steep slopes, cluster ordinances specify a percentage of

relatively flat, dry land as the minimum required open space to provide suitable areas for village greens, playing fields, or meadows. They sometimes offer a modest density incentive, paired with a modest disincentive for conventional layouts.

### **Pros and Cons**

Cluster development, when well designed according to ordinance standards pertaining to the quantity, quality, and configuration of the open space, can produce very attractive and livable neighborhoods that preserve noteworthy features of the natural and cultural landscape. However, most cluster provisions permit the open space to consist of mostly undevelopable land and marginally usable land. A factor that adversely affects implementation is the typical designation of clustering as a conditional use which adds to costs, lengthens the review period, and introduces an additional public hearing to which all of the neighbors are specifically invited, all of which increase the uncertainty of approval for applicants.

### **Examples**

#### Bucks County

Lower Makefield Township  
Buckingham Township  
Doylestown Township  
Tinicum Township

#### Chester County

Pennsbury Township  
Willistown Township  
East Goshen Township  
Easttown Township  
Tredyffrin Township

#### Delaware Township

Radnor Township

## **Open Space / Conservation Design**

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### **Description**

Open space / conservation design is an enhanced variation of the cluster zoning technique in which a higher percentage of the site is dedicated to open space. The purpose of this technique is to preserve a larger amount of land for conservation uses, while still allowing full-density development. In contrast to cluster development, where the emphasis is more often placed on providing active recreational areas, open space zoning is more suited for protecting farmland, woodland habitat, historic sites, and scenic views. Under this technique, developers of a subdivision are required to dedicate a significant portion of their unconstrained land to permanent open space uses. Housing is designed to compliment the aesthetic views of the preserved land and streets are designed to access the residential community in a manner that minimizes disturbance of natural areas.

### **How it Works**

Conservation subdivisions can be formalized within an ordinance. One of the more popular methods advocated by Randall Arendt is a four step process that first identifies primary and secondary conservation areas, then designs open space to protect them, next arranges houses outside of those protected areas and finally lays out streets, lots and infrastructure.

Open space regulations can also be implemented through a municipality's zoning ordinance. The number of dwellings permitted is based on the net acreage of buildable land and the underlying density in the zoning district. Easements are then placed on the open space to ensure that it will not be further subdivided or developed.

### **Pros and Cons**

Benefits of development through conservation subdivision design are:

- Open space design achieves a community goal of preserving open space at the same density standard.
- There are a variety of ownership choices; none of the land is taken for public use unless the developer/owners desire it.
- Potential benefits lie in what is not included. For instance, the design does not:
  - Require public expenditure of funds
  - Depend on landowner charity
  - Involve complicated regulations for transferring rights from parcel to parcel
  - Depend on the cooperation of two or more adjoining landowners to make it work.

Open space / conservation design does not work in all areas or for all communities. Negative aspects of conservation design that should be considered include:

- Conservation subdivision design should take place with a planning framework and conservation goals in place.
- These subdivisions should connect to a broader network of conservation areas to prevent a "chopped-up" landscape.
- Conservation subdivisions that are not attached to already developed areas and are not connected to services result in poor land use practices.
- Conservation subdivisions do not always decrease the need for the automobile and may not provide affordable housing.

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## Examples

### Chester County

Wallace Township  
West Vincent Township  
London Britain Township

### Bucks County

Milford Township  
Springfield Township

### Montgomery County

Upper Salford Township

## Growing Greener Conservation by Design

### Description

Growing Greener Conservation by Design is a package of related techniques for conserving interconnected networks of open space within expanding communities. It enables local officials to designate and protect portions of nearly every property as each parcel is proposed for residential development. This package of techniques is unique in the way that it accomplishes its conservation objectives without disturbing landowner equity, without constituting a “taking,” without depending upon public tax dollars or landowner generosity, and without involving complicated regulations for transferring development rights from one part of the community to another.

### How it Works

Growing Greener combines several land use practices relating to the comprehensive plan, zoning ordinances, and subdivision and land development ordinances. Growing Greener places an emphasis on build-out maps and greenway maps that predetermine the location of open space within new conservation subdivisions. Open space zoning and density determination based on unconstrained lands are included in the zoning ordinance. Practices pertaining to the subdivision and land development ordinance include the submission requirements, review procedures, and the four step design approach.

### Pros and Cons

Growing Greener land use practices benefit the protection of greenways and other interconnected open space networks. Secondary benefits may include enhanced protection for both the quality and quantity of water supplies, increased opportunities for recreation, improved property values, and protection of wildlife habitat and travel corridors.

Because Growing Greener encompasses so many different techniques, it requires careful attention and planning to ensure that all necessary regulations are in place. The desired outcomes are difficult to achieve if not all of the pieces are implemented.

## Examples

### Chester County

Ringfield, Chadds Ford Township  
The Ponds at Woodward, Kennett Township  
West Vincent Township  
Wallace Township

### Montgomery County

Salford Township  
  
Bucks County  
Lower Makefield Township

## Low Impact Development

### Description

Low-Impact Development is a stormwater management strategy concerned with maintaining or restoring the natural, hydrologic functions of a site to achieve natural resource protection objectives and fulfill environmental regulatory requirements. This is accomplished through integrating green space, native landscaping, natural hydrologic functions and various other techniques into site design to generate less runoff from developed land, facilitate the infiltration of water into the ground and filter out pollutants. By mimicking pre-development hydrologic flows, low impact development helps to improve the quality of receiving surface waters and stabilize the flow rates of nearby streams. Additionally, the optimal low-impact design minimizes runoff volume and preserves existing flow paths, thus minimizing infrastructural requirements.

The following are considered Key Elements of Low Impact Development:

- **Conservation:** Preserves native trees, vegetation and soils and maintains natural drainage patterns.
- **Small-scale controls:** Mimics natural hydrology and processes.
- **Customized site design:** Ensures each site helps protect the entire watershed.
- **Environmental Quality:** Reduces pollutant loads, increases efficiency and longevity and educates the public.
- **Directing runoff to natural areas:** Encourages infiltration and recharge of streams, wetlands and aquifers.

## **How it Works**

Low-impact development can be applied to new projects, redevelopment projects and capital improvement projects through the incorporation of overall site design strategies and highly localized, decentralized source control techniques known as Integrated Management Practices (IMP). These IMPs work to take a decentralized approach that disperses flows and manages runoff closer to where it originates rather than collecting runoff in piped or channelized networks and controlling the flow downstream in a large stormwater management facility. Some of these practices can also be integrated into other development strategies.

Basic IMPs include:

- **Bioretention:** Vegetated depressions that collect runoff and facilitate its infiltration into the ground.
- **Dry wells:** Gravel or stone filled pits that are located to catch water from roof downspouts or paved areas.
- **Filter strips:** Bands of dense vegetation planted immediately downstream of a runoff source designed to filter runoff before entering a receiving structure or water body.
- **Grassed swales:** Shallow channels lined with grass and used to convey and store runoff.
- **Infiltration trenches:** Trenches filled with porous media such as bioretention material, sand or aggregate that collect runoff and exfiltrate it into the ground.
- **Inlet pollution removal devices:** Small stormwater treatment systems that are installed below grade at the edge of paved areas and trap or filter pollutants in runoff before it enters the storm drain.
- **Permeable pavement:** Asphalt or concrete rendered porous by the aggregate structure.
- **Permeable pavers:** Manufactured paving stones containing spaces where water can penetrate into the porous media placed underneath.
- **Rain barrels and cisterns:** Containers of various sizes that store the runoff delivered through building downspouts. Rain barrels are generally smaller structures, located above ground. Cisterns are larger, are often buried underground, and may be connected to the building's plumbing or irrigation system.
- **Soil amendments:** Minerals and organic material added to soil to increase its capacity for absorbing moisture and sustaining vegetation.
- **Tree box filters:** Curbside containers placed below grade, covered with a grate, filled with filter media and planted with a tree in the center.
- **Vegetated buffers:** Natural or man-made vegetated areas adjacent to a water body, providing erosion control, filtering capability and habitat.
- **Vegetated Roofs:** Impermeable roof membranes overlaid with a lightweight planting mix with a high infiltration rate and vegetated with plants tolerant of heat, drought and periodic inundation.

## **Pros and Cons**

Creating a landscape that is functionally equivalent to predevelopment hydrologic conditions will result in an economical and flexible system that decreases surface runoff and pollution damage to lakes, streams and coastal waters. Although implementing these strategies can be somewhat costly, the environmental results are beneficial.

## **Examples**

Examples of low impact design can be found in many site specific locations, such as a green roof in Philadelphia, or can be located throughout a subdivision, such as the Pumbroke subdivision, a low impact design subdivision that is located in Fredrick County, Maryland.

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## **Planned Residential Development**

### **Description**

Planned residential development provisions are a means of permitting and encouraging innovative, well planned developments by allowing some variation in dimensional and use requirements to shift development to more appropriate portions of the site and achieve the preservation of sensitive natural areas or historic sites.

## **How it Works**

Planned residential developments may be permitted throughout a municipality, but more commonly are permitted in limited areas as specified in the zoning ordinance. A community may also define more than one category of planned residential developments. Both planned residential development provisions and site design requirements for planned residential developments are included in the zoning ordinance. Within the zoning ordinance, the municipality must specify where

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planned residential developments are permitted, the uses to be allowed and standards for density of development. The review procedures and any special design requirements may be included in the subdivision and land development ordinance.

### **Pros and Cons**

Planned residential developments provide a method for allowing innovative developments, including those that include a variety of housing types, that are not permitted under traditional zoning.

Although planned residential developments allow for some flexibility, they may encourage higher housing prices without alleviating the need for the automobile. They may also discourage reinvestment in older urban cores and dampen the effort to encourage development to be located in and around already developed areas.

### **Examples**

#### Bucks County

Bedminster Township

1994 Quakertown Area Zoning Ordinance

## **Transfer of Development Rights**

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### **Description**

Transfer of development rights is marketed as a tool that allows conservation and development to coexist within a municipality. Growth is directed to preferred locations through the sale and purchase of development rights. Development rights are established for a given piece of land and can be separated from the title of that property. These rights can then be transferred in fee simple to another location within a parcel of land (in the case of a planned residential development) or to another location within a municipality where development is desirable and planned for.

### **How it Works**

The sale of development rights leaves the rural landowner in possession of title to the land and the right to use the property as a farm, open space or for some other purpose. The purchaser of the development rights is then able to develop another parcel more intensively than would otherwise be permitted. While the transfer of development rights program is part of the municipal zoning ordinance, the actual buying and selling of development rights remain with the property owner and any agreements are at the property owner's discretion. In Pennsylvania, this program can only be used to transfer development rights within a municipality or among municipalities with a joint zoning ordinance. It is up to each municipality to establish a procedure for how the transfer is to occur.

Purchases of Development Rights operate in a similar manner, although in this example a single or joint entity buys the right to develop land from the landowner. The landowner retains the use of the land and receives tax benefits. The municipality can pass a bond issue to buy the rights and "bank" them. A developer may purchase the development rights from the municipality when he wishes to develop an area with high density. The municipal bond financing which was entered into to purchase the rights is paid off over the years by the purchase of the development rights, as development occurs.

### **Pros and Cons**

The value of each development right is controlled by the open market, not the municipality. Transfer of development rights are an equitable option for preserving open space and agricultural lands by compensating the owner of preserved land, while guiding the growth of development through the allowance of increased density where existing infrastructure can support it. Purchase of development rights allows the municipality to guide the growth since it owns all the development rights.

The process can be somewhat complicated and time consuming. Implementing a transfer of development rights program requires a complete understanding of the regional real estate and development markets. The program must be structured such that it is more financially attractive for a farmer to sell the development rights to a property than to develop land.

### **Examples**

#### Chester County

West Bradford Township

West Vincent Township

#### Lancaster County

Manheim Township

## Form Based Codes

### Description

Form based codes (FBCs) are an alternative to conventional community development regulations. Like conventional land use based zoning ordinances and subdivision and land development ordinances, they regulate the amount and location of development. Unlike conventional ordinances, and perhaps more importantly, they manage development in ways that define the physical character of a community. Whereas conventional use based zoning ordinances regulate specific land uses in relation to property boundaries, FBCs focus on the siting and design of buildings in relationship to streets and other public areas to ensure a specific desired public character is created, maintained, or enhanced. The main principle behind FBCs is that the design – the shape or form of the built environment – is more important than its use.

FBCs provide objective and enforceable regulations and standards in contrast to design guidelines that are otherwise ambiguous, subjective, and unenforceable within conventional codes. They do so through the use of images, diagrams, text, tables, and maps to depict regulations and standards based on building types. Building types each have a specified size, frontage, width, depth, setback, height, density, intensity; location of parking and loading; public and semi-public open areas and streets, etc. – all characteristics that relate the building to the adjacent street and public space.

### How it Works

FBCs can be applied to an entire community or to designated areas within a community that possess or are intended to possess a specific neighborhood design or character. Designated areas could include central business districts; areas around rail or transit stations; historic districts; traditional neighborhoods; infill & redevelopment areas; and large new developments. Each designated area might have its own forms or share select forms with other designated areas.

Elements of a form-based code include:

1. The Regulating (or Comprehensive) Plan – A plan or map of the community or specific area, incorporated into an adopted community, specific area, or neighborhood plan as part of the future land use and/or development plan, should clearly indicate the community's intentions regarding the desired physical character of the community or the specific area. The regulating plan designates the general and specific locations where different building form and envelope coding or standards are to apply. These areas may be designated by:
  - a. Street type (arterial vs. local; residential vs. mixed use (business/residential); tree-lined boulevard vs. alley; etc.)
  - b. Character area (central business district; mixed use (business/residential); residential neighborhood; etc.)
  - c. Building type (storefront/apartment; townhouse/rowhouse; village house/cottage; etc.)
2. Building envelope standards – Regulations and standards controlling the configurations, features, and functions of buildings that define and shape the public realm.
  - a. Building heights (minimum and maximum stories; feet; etc.)
  - b. Building setbacks (required “build-to” lines; minimum and maximum front, side and rear; etc.)
  - c. Building spacing (distance between buildings)
  - d. Building widths (required “frontage”; minimum and maximum width; etc.)
  - e. Building depths
  - f. Off-street parking location (front yard prohibition; side and rear yard requirements; etc.)
  - g. Intensity and density (floor area ratios; dwelling units per acre; etc.)
3. Architectural standards – Although not essential, specifications and regulations controlling external architectural materials and quantity help to emphasize the relationship of development to the public realm. Building facade and other architectural treatment features include:
  - a. Recommended (or required) materials – (Brick, wood, other materials designed to traditional materials, etc.)
  - b. Configuration of building walls, roofs, parapets - (Shapes, styles, pitches, etc.)
  - c. Doors and windows – (Proportion of solid walls to openings)
  - d. Porches, stoops, awnings – (Location and design of semi-public space and informal interaction areas, etc.)
  - e. Common spaces – (Plazas, courtyards, etc.)
  - f. Signage, lighting, and placement of mechanical equipment (Size, style, shielding, etc.)
4. Public space/street standards – Specifications for the design and placement of elements within the public realm (the open areas between buildings and properties).
  - a. Cartway and rights-of-way standards (tree line boulevards, on-street parking, alley, etc.)
  - b. Curb, sidewalk, and crosswalks (vertical, slant; widths based on foot traffic & character type, etc.)

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- c. On-street parking (parallel, angled, back-in-angled, etc.)
  - d. Street trees and landscaping (Location, species, etc.)
  - e. Street furniture and public art (benches, outdoor seating, murals, etc.)
5. General use standards – Typical use standards, relating to specific uses permitted in areas by right or by special conditions, review, and approval.
  6. Administration – A clearly defined set of objective standards, application, and project review process, which may include review assistance by urban design professionals, used to supplement, enhance, and expedite portions of the conventional development review process.

Prior to developing a FBC, it is suggested that extensive public outreach, input, and participation be provided in establishing the desired character vision for the community or specific area, generally through a design charrette as part of the public planning process. The design charrette, facilitated by planners, architects, landscape architects, and other urban design professionals, should be conducted to identify and detail the community's or specific area's desirable physical design characteristics. These characteristics can be documented through photographs (historic and existing conditions), aerial photos, maps and other spatial data, sketches, site, building, and architectural plans and renderings, etc. and should be observed firsthand, e.g. via a walking tour. This documentation will serve as the foundation for the FBC to ensure that new, infill and re-development fits into the pattern of the existing built community.

### ***Pros and Cons***

Although there are similarities between certain standards set forth in conventional use based zoning, specifically building setbacks and heights, etc., form based codes include detailed standards via a combination of images, diagrams, text, tables, and maps for regulating the built environment. The benefits of form based codes include:

- Increased opportunities for public participation, “buy-in”, and sense of ownership in the community’s ongoing developing;
- Predictability and assurances for all parties: neighbors, business owners, developers, and officials;
- Objective, quantifiable, and graphically oriented regulations and standards
- Coordinated planning and design of public spaces (the space left between private built structures); and
- Ease of reading, understanding, administration, and enforcement

The challenges of form based codes include:

- Limited application of the approach
- Increased code development costs for intensive public participation, design professional assistance, and training for administration and enforcement staff;
- Unfamiliarity and resistance to innovative techniques by residents, staff, officials, and developers;
- Concerns over legality; and
- Depth and breadth of specificity of standards and regulations.

### ***Resources***

Form-Based Codes Institute, [www.formbasedcodes.org](http://www.formbasedcodes.org)

### ***Examples***

The Columbia Pike Special Revitalization District Form Based Code, Arlington, VA

Farmers Branch DART Station Area, Farmers Branch, TX

The New Urban Code for Woodford County, KY

Downtown Kendall, Dade County FL

Land Development Code, Louisville, KY, [www.louisvilleky.gov/PlanningDesign/ldc/](http://www.louisvilleky.gov/PlanningDesign/ldc/)

# Mandatory Dedication of Parkland

## A White Paper for the Lebanon County Comprehensive Plan

### Purpose

Lebanon County has not completed an inventory of parks since its 1974 Open Space and Recreation Plan. The County is now updating its comprehensive plan and incorporating a new plan for open space, greenways, and recreation. During the initial phase of the planning process, interviews with local officials, municipal managers, and recreation advocates revealed that the municipalities of Lebanon County are not taking full advantage of their authority to require the dedication of land during the land development process. As a result, municipalities are not accumulating parkland through this no-cost-to-acquire method. This white paper cites the authority and requirements for municipal mandatory dedication and analyses the recreational parkland requirement based on population projections developed for the comprehensive plan, and makes recommendations that all municipalities adopt or revise their mandatory dedication provisions in order to preserve and develop land for recreation. The attachment provides information on adopted mandatory dedication ordinances in Pennsylvania.

### Authority

The Mandatory Dedication of Parkland provision in the Pennsylvania Municipalities Planning Code (MPC) is a powerful planning tool that enables communities to acquire parkland or develop recreation facilities at no cost through the land development process.

#### **Municipalities Planning Code Article V Section 503 (11)**

(11) Provisions requiring the public dedication of land suitable for the use intended; and, upon agreement with the applicant or developer, the construction of recreational facilities, the payment of fees in lieu thereof, the private reservation of the land, or a combination, for park or recreation purposes as a condition precedent to final plan approval, provided that:

- (i) The provisions of this paragraph shall not apply to any plan application, whether preliminary or final, pending at the time of enactment of such provisions.
- (ii) The ordinance includes definite standards for determining the proportion of a development to be dedicated and the amount of any fee to be paid in lieu thereof.
- (iii) The land or fees, or combination thereof, are to be used only for the purpose of providing park or recreational facilities accessible to the development.
- (iv) The governing body has a formally adopted recreation plan, and the park and recreational facilities are in accordance with definite principles and standards contained in the subdivision and land development ordinance.
- (v) The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreational facilities by future inhabitants of the development or subdivision.
- (vi) A fee authorized under this subsection shall, upon its receipt by a municipality, be deposited in an interest-bearing account, clearly identifying the specific recreation facilities for which the fee was received. Interest earned on such accounts shall become funds of that account. Funds from such accounts shall be expended only in properly allocable portions of the cost incurred to construct the specific recreation facilities for which the funds were collected.
- (vii) Upon request of any person who paid any fee under this subsection, the municipality shall refund such fee, plus interest accumulated thereon from the date of payment, if the municipality had failed to utilize the fee paid for the purposes set forth in this section within three years from the date such fee was paid.
- (viii) No municipality shall have the power to require the construction of recreational facilities or the dedication of land, or fees in lieu thereof or private reservation except as may be provided by statute.

# **Mandatory Dedication of Parkland**

## **Parkland Dedication**

The Pennsylvania Municipalities Planning Code allows a municipality to enact language in the subdivision/land development ordinance requiring the dedication of land for recreational purposes. As an alternative, and if the municipality and the developer agree, the development may accomplish one or more of the following in place of public land dedication:

1. Construct recreational facilities,
2. Pay fees in place of land dedication, or
3. Reserve land in private ownership.

## **Standards**

In 1983, the National Recreation and Park Association (NRPA) published standards and guidelines for parks and recreation services. In its classification system, NRPA outlines a range of traditional parks and recreation areas, as well as special purpose facilities, such as historic parks, waterfront parks, riverwalk parks, athletic parks, cultural parks, aquatic parks, etc. It notes that the diversity of park types offers a wide range of recreation environments, but that the provision of basic park and recreation areas is most important; other types supplement and enhance recreational opportunities for special interests. In addition, "geographic location, demographics, economic base, and history are important variables that influence the availability of resource patterns" to meet recreation needs. Yet, these should not outweigh the primary need to provide basic recreation opportunities. Furthermore, a community should have a number of different types of parks - not a single large park - that together meet standards for acreage and diversity of recreational opportunities.

With this background, NRPA recommended that "a park system, at a minimum, be composed of a core system of parklands, with a total of 6.25 to 10.5 acres of developed open space per 1,000 population." This core system would be comprised of traditional mini-parks, neighborhood parks, community parks, regional parks, and regional park reserves. "The size and amount (number) of "adjunct" (or special use) parks would vary from community to community" but must be considered when accounting for the total of all park and recreation areas. Since its publication, this standard has been widely interpreted by community and recreation planners as 10 acres per 1,000 population.

In 1996, NRPA updated its standards and guidelines. It attempted to present a more community-based approach to determining the appropriate acreage for parkland and diversity of recreational opportunities. While many communities recognized the flexibility in this approach, others longed for a simple standard. Reluctantly, the editors published a standard of 10 acres per 1,000 population, noting that this should be the starting point for community discussion of parkland needs. Some communities rich in resources (natural and historic, as well as staff and volunteer) may find that a much higher acreage meets their needs for parkland and open space. Other communities with fewer resources may determine that a lower figure is suitable. Due to Lebanon County's abundant, high quality natural and cultural resources, the higher end of the original parkland standard, 10.5 acres per population, is noted here as the minimum parkland standard for the purposes of this analysis. Further consideration of the parkland standard will be given in the recreation profile and plan.

## **Requirements**

In order to impose mandatory dedication requirements in Pennsylvania, the municipality must meet the following standards:

1. The ordinance must include "definitive standards" for amounts of land or fees to be dedicated. The generally accepted standards are those set forth through the recreation planning process identified by the National Recreation and Park Association. For over 30 years, these standards equated to a minimum of 10.5 acres per 1,000 population. Since then, many trends in parks and recreation occurred that merit consideration of raising this standard including new sports emerging such as soccer, lacrosse and field hockey; sports moving from one traditional season to year round play; more girls playing; people playing at younger and older ages, and a healthy aging population who are more involved in active lifestyles. In 1996, the NRPA updated the recreation planning process to encourage municipalities to plan for a standard that meets the true community need. In other words, recreation planning should respond to the local needs for specific types of recreation facilities based on the interest and well-being of residents, not just the land required for "all-purpose" play. Therefore, fees and other alternatives to land dedication should respond to these local needs.
2. The land or fees shall only be used to provide facilities "accessible" to the development.
3. There must be an adopted recreation plan.

4. The amount and location of land or fees must bear a “reasonable relationship” to the use of facilities by future inhabitants.
5. Fees from each development shall be designated for specific recreation facilities and shall only be spent for those facilities.
6. If the municipality does not use the fees within three years after they are paid, the person who paid the fees may, upon request, receive a refund including interest earned.
7. The municipality cannot require the dedication of land, fees, or facilities except in accordance with these standards.

## **Land Suitability**

Land to be dedicated should meet the municipal or county standards to ensure that it is usable for recreation and accessible to the residents.

All land set aside for recreation should be suitable to serve the purpose of the recreation needs. The size, shape, location, and topography should be evaluated by the local parks and recreation board, elected officials, and if in conjunction with Lebanon County, with county planners.

Local communities could identify the major vacant parcels in their community and evaluate them according to criteria that the community develops for recreation land. The municipality could use these evaluations when the jurisdiction moves ahead with acquiring parkland through outright purchase, mandatory dedication of parkland, conservation by design land planning or other techniques.

## **How Mandatory Dedication of Parkland Works**

A municipality’s future need for parkland and recreation facilities depends on future population growth. The formula for setting the requirements does not attempt to place the burden of meeting past recreational needs on new development.

Using the 10.5 acres per 1,000 residents as the standard and the population projections developed for the Lebanon County Comprehensive Plan, the following table shows the projected need for parkland. If every jurisdiction were to adopt a mandatory dedication ordinance with this standard, the jurisdictions of Lebanon County would be able to add a minimum of 207 acres of parkland by 2020 at virtually no cost. The value of this based upon an estimated \$50,000 per acre would be \$10,368,000.

<b>Year</b>	<b>Population</b>	<b>Population Increase</b>	<b>Additional Amount of Parkland Needed Based on 10.5 Acres Per 1,000 Population</b>
2000	120,327		
2010	130,682	10,355	108.73
2020	140,075	9,393	98.63
<b>TOTAL</b>	<b>19,748</b>		<b>207.36</b>

Source: Yost-Strodiski-Mears and Toole Recreation Planning

## **Mandatory Dedication of Parkland for Commercial Development**

The PA MPC does not distinguish between residential development and other types of development with regard to mandatory dedication. While most municipalities enforce their mandatory dedication requirement only on residential land development submissions, many municipalities in Pennsylvania have been enacting mandatory dedication of parkland ordinances for commercial development as well. This has resulted in the generation of significant revenues for parkland and recreation facilities in these communities.

## Mandatory Dedication of Parkland

### Mandatory Dedication in Lebanon County Municipalities

There are ten municipalities in Lebanon County that have mandatory dedication provisions in their ordinances; the remaining 16 municipalities have no provisions for recreation or open space land dedication. The following are examples of the standards in the adopted provisions in Lebanon County.

Municipality	Land Area Requirement	Fee-In-Lieu Option
Annville	(Fee only)	\$175 per dwelling unit
Cornwall	0.029 acres/dwelling unit	Fee – equivalent to fair market values of equivalent land as developed or improved property
N. Cornwall	0.029 acres/dwelling unit	Fee – based on number and market value of lots in development for single family developments, and on number units and number of bedrooms per unit for multi-family development
N. Lebanon	(Fee only)	\$1,250 per residential lot
S. Lebanon	0.025 acres/dwelling unit	\$1,225 per residential lot
Bethel	0.06 acres/dwelling unit	Fee – equivalent to the value of the lots or land being developed
Jackson	0.029 acres/dwelling unit	Fee – equivalent to fair market values of equivalent land as developed or improved property
Swatara	0.054 acres/dwelling unit	\$750 per residential lot
Union	0.051 acres/dwelling unit	Fee – based on proportional fair market value of land; or \$750 per residential lot if not appraisal is available; 3% for non-residential development
S. Londonderry	Sliding scale based on units in subdivision	\$1,200 per single family attached or detached dwelling unit to be adjusted annually; multi-family developments to contain and maintain their own recreation facility

Source: Lebanon County Planning Department; Municipalities

### Recommendations

1. The municipalities of Lebanon County should consider enacting a mandatory dedication of parkland ordinance as soon as they can. Since a park and recreation plan needs to be in place in order to set the standard for parkland, municipalities should move ahead in developing at least a “mini plan.” A mini plan is a brief assessment of available facilities and needed improvements or acquisitions, documented in a comprehensive plan or in a separate study. Alternatively, municipalities should consider adopting the county park, recreation and open space plan as their own.
2. Consider establishing a parkland standard of at least 10.5 acres per 1,000 population and preferably higher to meet the true need of active engaged citizens.
3. Set the fee-in-lieu of dedication in accordance with market value rather than as a set fee. Since land values change, the fee should be adapted as land values change. This approach has been used in the Pocono Mountain area, where development activity has been rapid and market values have been increasing.