Urban Design

White Paper Discussion
City of Rockville, Maryland

September 19, 2005

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City of Rockville Zoning Ordinance Revision Issue Paper	**Urban Design**

PART ONE
INTRODUCTION

I. INTRODUCTION

Urban design is the visual motif of the city, or a particular part of the city, to achieve a high quality of life for the public. Livability is the goal of urban design. The regulations to promote quality design consider how buildings and the spaces between them (public spaces) interact. Design components, which are regulated in an urban design code, are building bulk, use, height, and facades as well as street patterns, streetscape elements, and natural features. These components are the building blocks to a community's character and unique sense of place.

Because a great portion of the city is already built out, urban design regulations will become even more prominent in determining the pattern of future development with regard to demolition and reconstruction, infill development, and annexations. Existing plans for the City of Rockville support the implementation of some urban design concepts in the zoning revision. A list of these plan recommendations, as well as examples of existing urban design programs at work in the City, are given below. This issue paper will also provide alternative implementation techniques and recommend the incorporation of certain regulations in the zoning revision.

II. PRINCIPLES OF URBAN DESIGN

The desire of urban design is to create a sense of place that provides a high quality public realm, recognizes and builds off of existing neighborhood characteristics, and allows for a contextual response to neighborhood development. There are six defined objectives in regulating for urban design. Particular regulations to serve these goals are discussed in Part II of this paper.

1. **Provide for a Variety of Uses**. In an effort to create pedestrian-friendly atmospheres, urban design codes allow a variety of uses within a neighborhood in order to create vitality and to bring many activities of daily living within walking distance of homes. Development regulations make it possible to walk to parks, shops, and schools. Designated mixed-use districts and neighborhoods are often considered the solution.

2. **Provide for Mixed Residential Density and Housing Types**. An important aspect of form-based zones is to ensure that there are a variety of housing types

for all income levels. Mixed housing types allow as a right, or require with conditions, a harmonious design in providing a mix.

3. **Stimulate Infill Activity**. While Rockville does not have a large amount of empty infill lots available, future infill development will include redevelopment of existing lots. Urban design codes are designed to stimulate infill and rehabilitation activity. To achieve this goal, some communities adjust minimum lot-size and setback requirements to reflect the smallest practical lots in the neighborhood; some expedite development review; and others minimize parking requirements and provide transportation alternatives to single passenger cars. Allowing a higher density is also a common implementation tool for this goal.

4. **Develop Contextual Design Standards**. Contextual design standards ensure that new development responds to the traditional architectural styles of the city or region. Illustrated design standards ensure that design is sensitive to the regional context and the site's features and immediate surroundings, yet allows for distinctive development. Building types and basic architectural elements should be addressed. Mandating for specific styles or details, however, can be overly burdensome and may result in monotonous development.

5. **Create Walkable Centers**. Form based regulations strive to create compact, walkable centers and neighborhoods served by public transit. Transit-supportive densities must be allowed to encourage the location of, and to sustain, transit options. Likewise, development review processes are streamlined and sidewalk and street standards are reviewed to encourage development within transit-centered areas.

6. **Enhance Streetscapes**. In order to achieve pedestrian-friendly environments, a goal of urban codes is to enhance streetscapes and civic life. Streets should be public spaces. Dimensional regulations for buildings and streets should work to effectively shape the public space to provide a comfortable environment.

III. STEPS TO CREATING GOOD URBAN DESIGN

As discussed above, form based codes can impinge on existing development expectations. To minimize complaints from surrounding neighbors, any urban design implementation should be well researched and supportable. The following three-step process outlines the procedure and explains where the City of Rockville stands with regard to incorporating design regulations in a new zoning code.

1. **Analyze the Existing Context –** Analysis can include studies of urban form, space and building typologies, lot types, and local character. The study of an urban environment would include all the characteristics that make it what it is – street layout, public spaces, massing and orientation of buildings, building design and characteristics. These studies are needed in order to understand the character of the existing areas and the valuable lessons to be learned for new developments or the rehabilitation of existing areas.

   Besides the Master Plan, Rockville has undergone a number of neighborhood studies to determine what type of development individual neighborhoods desire. In particular, plans have been developed for the Town Center, Lincoln Park, East Rockville, Rockville Pike, and Twinbrook neighborhoods. To develop these plans, citizens assisted in identifying issues, challenges, and problems facing the neighborhoods. In addition, workshops and citizen focus groups were held to discuss individual topics of interest and to generate citizen input.

2. **Establish a Vision –** Visioning is based on the continuation of existing traditions or character and includes recommendations on how to incorporate new development into those established trends.

   The policies of zoning and the specific recommendations of the Master and Neighborhood plans are addressed in the "Competing Values" issue paper. The highlights of the Master Plan's recommendations for urban design include:

   - New growth should be concentrated in the Town Center;
   - A mix of housing uses should be retained that will meet housing needs, protect the quality of life for residents, and enhance Rockville's tax base rooted in Smart Growth principles and regional cooperation;
   - A multimodal transportation system should be provided that enhances accessibility while protecting neighborhoods and the environment;
   - The protection of the environment should be integrated in all public and private development and land use decisions; and
   - Accepted community design principles should be used including environmental, public art, and property maintenance standards to add to the distinct identity of Rockville. In particular, establish design standards for commercial and mixed-use areas and public and government buildings.

   The individual neighborhood plans recommend the incorporation of the following urban design goals:

   - Allow for a greater mix of uses;

- Require ground floor retail uses in property that fronts Maryland Avenue;
- Create an Urban Design Overlay District within which design guideline recommendations would be applicable;
- Retain existing R-60 residential zoning in Lincoln Park Neighborhood;
- Retain the existing sense of identity in the East Rockville community as a quiet, secure, residential neighborhood through a neighborhood conservation area;
- Redevelop Stonestreet Corridor with a mix of uses that are complementary to the surrounding area, require a "Main Street" development pattern, and preserve a pedestrian zone in the redevelopment; and
- Redevelop the metro station as a transit-oriented, mixed use area.

An additional step the city has taken to establish a vision is to provide this series of white papers, especially the "Competing Values" paper. These policy topics will garner Mayor and Council directives to drive the necessary decisions to be made throughout the revision.

The Urban Design staff committee has established their own vision for the city. That is to promote "livability." By livability, staff means:

- A high quality contextual style of development. In other words, ensuring that there is a pleasant street atmosphere, environmentally-friendly development requirements, and flexibility in design options.
- Walkability and transit options to activity centers containing civic (post office, library, court house) urban (movie theaters, restaurants, etc.) and necessity (grocery store, hardware store, etc.) amenities.
- Affordable options

3. **Implement the Vision** – Finally, the implementation scheme should follow established premises and guidelines the city has established, from the master and individual plans, of what is considered a good framework for future planning. Part two of this paper discusses the alternative methods to implement the vision.

IV. CURRENT DESIGN PROVISIONS IN ROCKVILLE

Before new procedures are established by the city, the current urban design methods should be reviewed. The City of Rockville is currently pursuing a number of options to maintain good urban design. The following is a list of regulations and programs currently used in the city.

- **Art in Public Places -** It is the goal of the Art in Public Places program to have publicly accessible arts of the highest quality throughout the City of Rockville that reflect the vitality and diversity of the people and business within the area. These displays are on public property and easily accessible to citizens and visitors alike. The arts help to preserve and enrich the character of the community and to improve the quality of life within the City.

- **Publicly Accessible Art in Private Development** – A relatively recent regulation is the requirement to include publicly accessible art in private development. Publicly accessible art enriches the urban landscape by engaging the eye, mind and spirit. Publicly accessible arts projects must be planned for from the beginning of a development project, to ensure that the greatest range of possibilities are considered to coordinate and maximize the available fiscal, material, and service resources to provide this public service.

- **Large-scale retail regulation** – In certain zoning districts (RPC and C-2) retail establishments larger than 65,000 sq ft. are prohibited. In addition, the regulations for these zones outline design standards for retail establishments greater than 25,000 sq ft of gross floor area and shopping centers of any size.

- **Sign Review Board** – The Sign Review Board reviews applications for new signs to ensure compliance with the zoning code and to maintain aesthetic priorities.

- **Historic District Commission** – The HDC regulates all exterior changes (with the exception of paint color) to buildings located within historic districts. Design review for exterior alterations in an historic district includes exterior siding, roofing, windows and doors, fencing, landscaping, parking, and signs.

- **Street Tree Master Plan** – The City has established a plan to develop and maintain tree-lined streets. The plan provides for the planting and maintenance of uniform streetscape of city streets and includes a pre-approved list of trees by individual streets.

- **Development Review Committee** – A number of city departments are involved in site plan review. Staff from different departments review applications and discuss issues relating to the proposed use and design of a site plan to ensure quality design. A design consultant also reviews buildings and sites that are developed under the Optional Method of Development within the Town Center and Rockville Pike Corridor and other projects as needed.

- **Visual Preference Survey** – A 1997 Visual Preference Survey outlines how a number of sites and streetscapes could be improved in the Town Center and elsewhere in the city.

- **Neighborhood Surveys –** As neighborhood plans are created, the city has completed surveys of the types of uses and styles of development within the individual neighborhoods. Specific design guidelines have been created for neighborhoods when appropriate.

- **Existing Design Guidelines –** A number of neighborhood plans have developed their own design guidelines to be adopted and implemented in the individual

neighborhoods. The Town Center neighborhood plan, for example, includes Urban Design Overlay District guidelines.

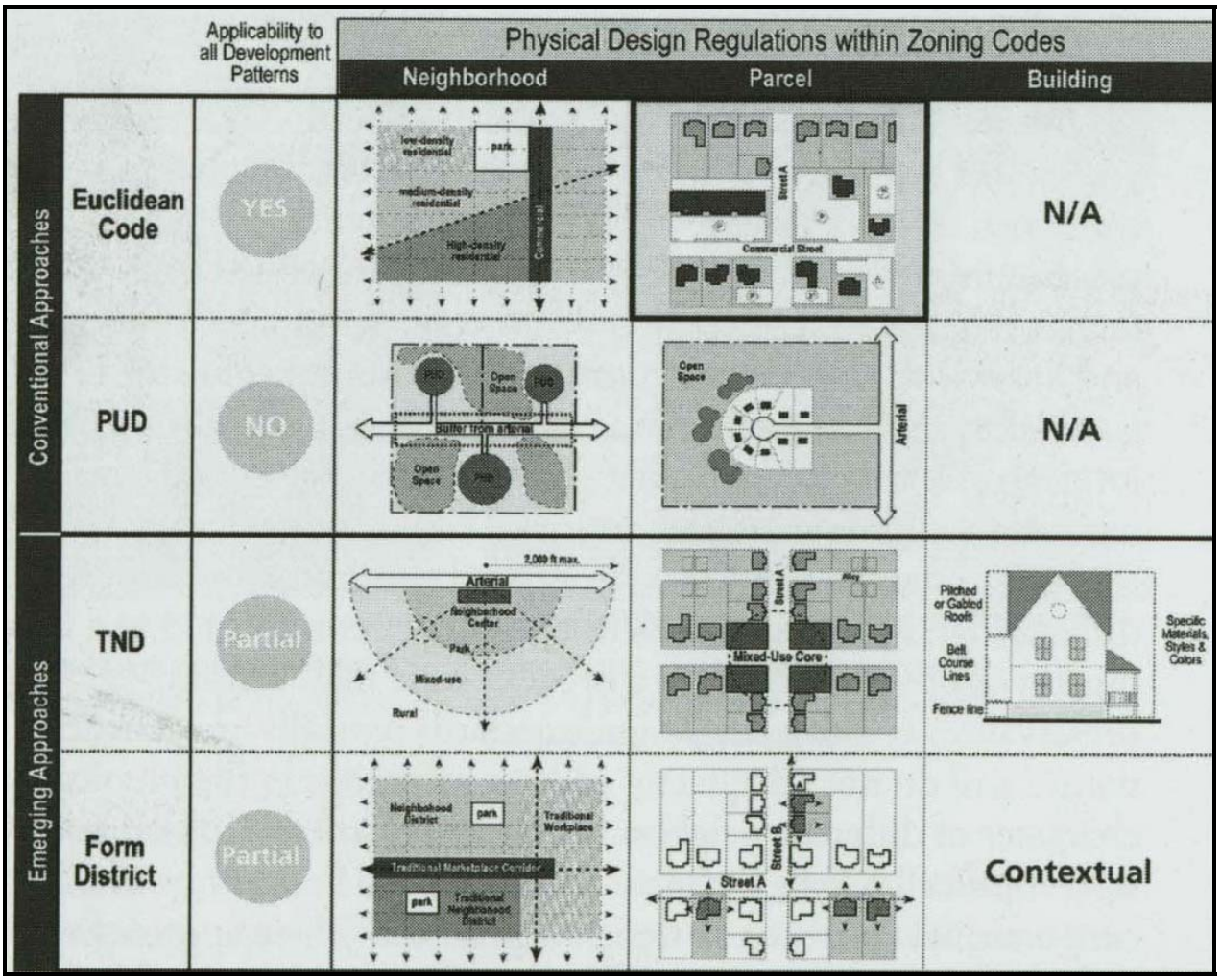
- **Development Review Design –** Recent developments, which were created under a development review process, have created individual design plans for their neighborhoods. King Farm and Fallsgrove, in particular, have adopted architectural design guidelines.

V. TYPES OF ZONING

Zoning codes, no matter their type, regulate what takes place on privately, and sometimes publicly, owned lands through controls on three elements: use, shape, and bulk. Use regulations control the location of residential, commercial, and industrial development in separate sections of the city or in designated mixed-use developments. Shape, on the other hand, refers to the two and three-dimensional configuration of development (in other words, where to locate objects on a lot). Finally, bulk requirements regulate the amount of building permissible on a particular unit of land (height, width, floor area). The variations in zoning codes are a result of different balances among the three types of regulations.

A. Euclidian Zoning

Many of the cities we think of as "great" developed prior to Euclidian zoning. Euclidian zoning, or a zoning code characterized by 1) prioritization of use regulations and 2) inclusion of proscriptive rules (what the jurisdiction does *not* want to see) has been the trend for most of the last century in Rockville and throughout the country. This conventional zoning has produced patchwork quilts of single-use districts, often with minimal connections (vehicular, pedestrian, or visual) between neighboring zones.



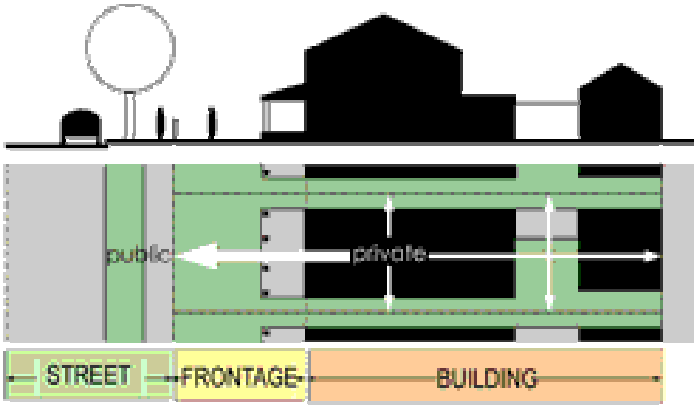
Source: Rouse, David; Zobl, Nancy; Cavicchia, Graciela, "Beyond Euclid: Integrating Zoning and Physical Design," Zoning News, APA, October 2001.

B. New Urbanism

New Urbanism is a relatively recent movement promoting a return to the pre-WWII city design. Today new codes are reconsidering pedestrians' viewpoints and ensuring a pedestrian "sense of place." Instead of focusing development on use, urban design regulations emphasize physical form. Instead of stating what a community does not want, form based codes state what the community does want to see (prescriptive rules).

One new approach under the umbrella of new urbanism, performance zoning, is the dramatically opposite approach to prescriptive regulations. This form of zoning applies a more "hands off" approach for government. Performance zoning regulations control the intensity of the land use, not the use itself and not the building size, shape, or dimensions. The owner of a lot may use whatever means of development possible to achieve a regulated goal. Performance regulations prioritize the impacts of a parcel on the surrounding area. For

example, if an owner can operate heavy industrial uses while not exceeding a specified decibel count, such use may be "performed" in any district where they do not exceed the set decibel regulation. Likewise, if an owner can build a 100-story office tower without casting a shadow on surrounding neighbors, the building would be permitted under performance zoning with such standards.



Another new zoning approach known as form based zoning is not impact-oriented like performance zoning, but focuses on the particular development of individual lots. Form based zoning focuses on established bulk regulations to solve the Euclidian "problem" of use separation. Form codes are designed to provide more flexibility than conventional codes to promote development in largely built out communities. These codes work well in established communities because they effectively define and codify a neighborhood's existing DNA or they can implement new building types when a radical change is desired. Building types can be easily replicated, by regulating for similar architectural styles as already exist. Infill that is compatible with surrounding structures is thereby promoted.

Form based zoning encourages independent development by multiple property owners because it regulates on the individual building (townhouse v. shop front) or lot (square footage) basis. Overall building approval eliminates the need for large land assemblies, which are often difficult in primarily developed communities, such as Rockville. On the other hand, because long-standing zoning ordinances create vested property rights and values, any changes must take those rights and values into account and, to a reasonable extent, preserve them. Otherwise, changes risk being confiscatory and unconstitutional. As a result, form based codes must be based on well-researched comprehensive master plans to determine where buffers are necessary.

Performance zoning has the particular advantage of minimizing the need for zoning amendments to include newly developed uses or building types. Variances are rarely needed from performance standards as the acceptable impacts are pre-determined. Performance zoning, however, requires additional materials and strict staff involvement to enforce. Under performance zoning, uses are determined through sometimes confusing calculations of a variety of factors. This requires local zoning administrators to be more adept at making appropriate and fair determinations based on sometimes subjective criteria, and can lead to more legal challenges. For example, to ensure that set decibel levels are being met, staff needs to be present at certain times and with certain equipment to measure the decibels. In other words, there is a steeper learning curve to implement a performance based zoning code.

Form based zoning, on the other hand, would be more appropriate in certain sections of Rockville, to maintain neighborhood character and to promote infill. Because they are prescriptive (they state what you want), rather than proscriptive (what you don't want), form-based codes can achieve a more predictable physical result than traditional Euclidian zoning. The elements controlled by form-based codes are those that are most important to shaping a high-quality built environment. Form regulations also encourage public participation because they are often easier for nonprofessionals to understand. Bulk regulations are easier to visually demonstrate so that citizens can see what will happen in their community. The built results of a form-based code reflect the diversity of a built-out city, like Rockville, that comes from the communication of a community-wide agreed upon vision.

PART TWO
PARTICULAR REGULATIONS

There are two issues that urban design seeks to address: livability and compatibility. The solutions for both are often addressed in a set of select regulations. A number of common New Urbanist regulations implemented in jurisdictions throughout the country correspond to the principles of design listed in part one: mixed uses, mass and scale, architectural standards, transportation, and streetscaping.

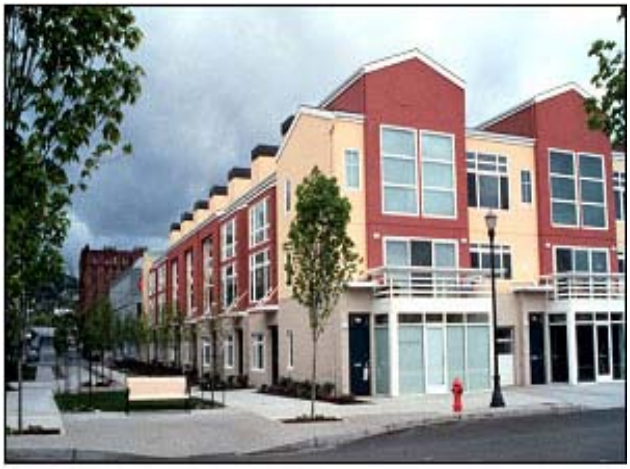
While these types of regulations are not new, the way they are implemented has changed with the changing idea of what is considered good urban design. Though many of these regulation types are included in the current code, new ideas on quality development questions whether these regulations have created sterile environments. For example, the policy at the time of adopting the residential shopping center regulations was to encourage uniformity. While this presents a clean look to development, it does not allow for imaginative design that adds character to a city. Urban design-friendly regulations encourage the development of character to create a "sense of place" that distinguishes a city from other cities.

I. MIXED USES

Permissible uses, stated in general terms (e.g., retail, residential), are identified in urban design regulations for either the types of streets on which development is to be located or for each building type. This allows flexibility in assigning different uses to each floor of a mixed-use development, and avoids the problem of trying to communicate the same information on a zoning map.

The types of uses permitted can vary. Uses can vary by district, by type or by location. A greater discussion of uses will be given in the accessory and use papers.

1. **Retail** – Retail is an inclusive phrase covering a wide range of possibilities. In particular, it may include consumer goods (general merchandise, apparel, furnishings, etc.), personal business services, professional offices, restaurants, grocery stores, hotel, theater, etc. To clarify slightly without overly regulating for specific uses, retail may be classified into primary and secondary categories, whereby designated staff may determine, through established criteria, whether future unspecified uses fall into either category.



Mixed Use Infill Development (Portland, Oregon)

   a. **Primary retail uses** – These retail uses often provide entertainment or leisure activities, promote high walk-in customer counts, or are shopping

destinations. They are often located on ground floors or may take up multiple floors.

b. **Secondary Retail uses** – These retail uses provide personal or business services and are often located on levels other than the street level and off the primary street frontages.

2. **Ground Story v. Upper Stories** – Within many design regulations, different uses are permitted, depending on the location of the use within a building. Common acceptable ground story uses include retail and office uses in busy centers. Upper stories are often reserved for residential or office uses.

II. MASS AND SCALE (i.e. Building Envelope Standards)

Building envelope standards establish basic parameters governing building form, including the envelope for structural placement and additional permitted/required lot elements. The placement of structures is also regulated in relation to fronting streets and adjacent building lots. The following highlighted elements are key standards to be modified in the zoning revision.

1. **Lot Width –** To avoid pipestem lots, and to create a harmonious "curb appeal" development, the width of the lot facing the street should be prescribed. There are different expectations of lot width, and different considerations, for public and private spaces.

2. **Buildable Area** – Mass and scale are directly related to the types of transportation corridors that serve the lot. Various standards may be applied depending on the type of street on which the development is proposed.

   The developable area is most clearly displayed through illustrations within the code. Whether overhangs, stairways, porches etc. may be planned outside the buildable area designated should also be addressed. The following are two commonly regulated characteristics.

   a. **Height** - Some communities place height requirements in an individual category. Limitations on height are important to ensure that a building does not overwhelm its neighbors and to maintain a harmonious appearance of a "street wall. " Height can be regulated in a number of ways, including placing a restriction on the maximum number of floors, a limitation on the amount of feet a building can be built up to, or making proportional limitations based on setback.

      Various elements of a design may also have different height requirements. For example, ground floors may allow larger height maximums to permit retail uses.

      In addition to the particular height requirements for districts or uses, staff will also review the definition of height to ensure consistency in measurement.

Height has also been discussed through the mansionization amendment review.

b. **Setbacks or Build-to Lines** – To create a unifying effect for a number of freestanding buildings, the buildings should be aligned 1) from the street, 2) to each other and 3) to other existing surrounding development. Setback lines are minimum requirements for the location of buildings away from lot line. Build-to lines are lines upon which a building must be built. Most urban design regulations include build-to line regulations rather than setbacks.

As with height, various elements of a design may have different setback or build-to requirements. While ground floors may have larger setbacks to accommodate sidewalk space, upper stories may allow for a lesser requirement, providing an overhang to allow for more space.

c. Impervious Surface Coverage Limitation – As reviewed in the mansionization amendment discussion, impervious surface coverages restrict full lot build out. Current stormwater runoff regulations also address these issues. As an alternative, minimum vegetative coverage regulations could be applied to ensure that a portion of the yard is kept green.

III. ARCHITECTURAL STANDARDS

Architectural standards are regulated when communities want to exercise a higher level of control over the appearance of individual buildings. These regulations may appear in master-planned developments, special retail districts, historic districts, etc. Some communities in Rockville have begun to adopt architectural standards in their neighborhood plan design guideline recommendations. Particular emphasis may be given to doors, windows, stairs, and roofs. Style may also be included as part of the architectural standards. Many urbanist codes choose to avoid direct references to building style, fearing that too much specificity will lead to an overly homogeneous, "themed" look.

1. **Colors** – Some communities restrict predominant colors to a select number of allowable dominant building colors (though accent colors may or may not have a wider range). The intent behind such regulations is to create a primary unifying element. In addition, a regulation may require applicants to submit color "samples," and a description of where and how the color is to be used at the time of site plan review. Though there may be some variation of the same color on different materials, the idea is to create a homogenous development.

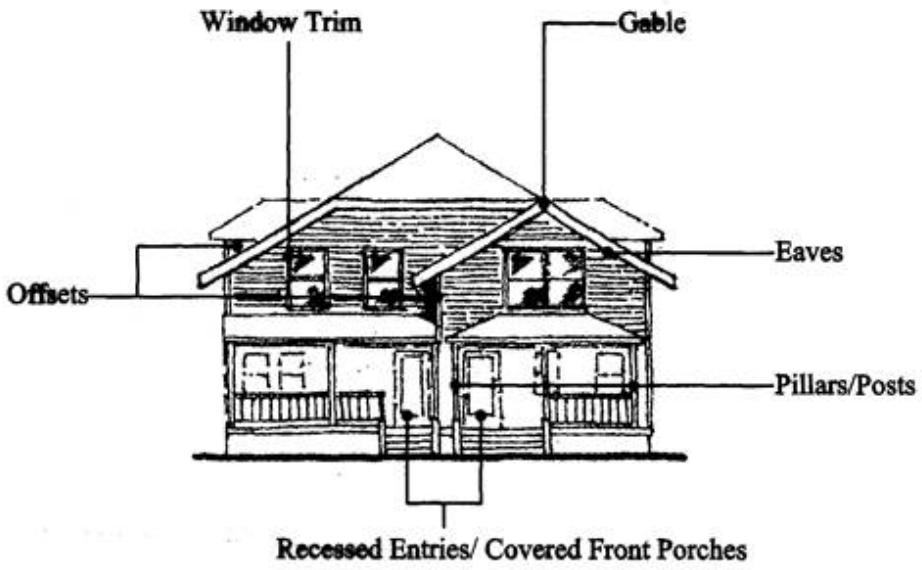
2. **Exterior Materials –** Again, to maintain a homogenous atmosphere, dominant materials and/or construction techniques may be defined. Acceptable combinations may be regulated, as may acceptable accessory building materials. A change of materials from horizontal siding to masonry or stucco, for example, will create a significant change in appearance.

3. **Architectural Features and Details** – Building elements to be repeated or merely permitted include set rooflines, canopies, building ornamentation, patterns, or building forms. The same floor plan can appear quite different with different architectural features. Consideration may also be given to regulations for accessory buildings as well as the main building.

To effectively coordinate a sense of unification throughout all buildings, the elements regulated should be a major feature, not just a minor detail. Often variety is encouraged with regard to a particular element. The developer can pick a style and then manipulate design elements to make units with the same floor plan look quite different.

a. **Roof Design**- Roof pitch, for example can be an effective tool for dealing with monotony where buildings have the same general footprint. Orientation of the roof to the street is another alternative.

b. **Street Façade** – With city development, to ensure a consistent pattern, some communities impose a regulation to require the portion of the façade facing the street to be of a simple plane (limiting jogs to minor amounts and interrupted only by windows, awnings, doors, etc.).



c. **Architectural Styles** – With a style approach, the builder offers the home buyer floor plans from different architectural styles modeled after historic periods, such as colonial, Greek Revival, Victorian, Tudor, prairie, or modern. The review of the proposed elevations needs to be rigorous, ensuring that the buildings really do look different but cohesive.

IV. TRANSPORTATION CONNECTION

Emphasis on urban design must consider transportation alternatives. Transit-centered design may be ideal in the Town Center and Rockville Pike zones. In addition, guidelines may be developed for the Stonestreet Corridor. Five design principals in creating transit option friendly design are:

1. Increase densities in appropriate locations;
2. Connect people and places through a complete street network that invites walking and bicycling and provides convenient access to bus or rail.
3. Mix uses to create a quality of life where people may chose to live near their work, walk to the local store, or bike to the library.
4. Place parking in alternative locations to support density and create inviting places to walk, and
5. Create great places for people.

Minimum Densities for Supporting Transit

	Local Bus, Intermediate Service[1]	**Local Bus, Frequent Service [2]**	**Light Rail[3]**	**Transit[4]**
Dwelling units per acre	7	15	9	12
Residents per acre	18	38	23	30
Employees per acre	20	75	125+	N/A

Note: The density of the employment destination is more important in influencing trips than the density of the residential area where the trips originate.

1. Average density varies as a function of downtown size and distance to downtown.
2. Average density over a two-square-mile tributary area.
3. Average density for a corridor of 25 to 100 square miles; transit to downtowns of 20 to 30 million square feet of nonresidential space.
4. Average density for a corridor of 100 to 150 square miles; transit to downtowns of more than 50 million square feet of nonresidential space.

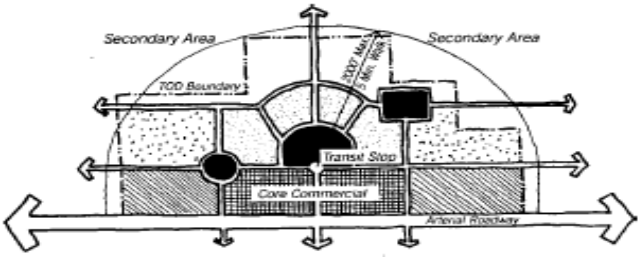
Source: Dunphy, Robert; Myerson, Deborah, Pawlukiewicz, Michael, Ten Principles for Successful Development around Transit, Urban Land Institute, 2003.

Transportation Oriented Development (TOD) is a particular type of development that focuses on pedestrian options and regulates the land use characteristics conductive to generating non-automotive trips. In Rockville, individual Transit Oriented Areas (TOA) have been identified by the center to determine where to concentrate density. Considerations include placement of commercial uses, housing, employment, parks, and civic uses within walking distance of transit stops.

Transit-oriented design strategies mix land uses vertically and horizontally to provide necessary densities (see “Minimum Densities for Supporting Transit”). A TOD neighborhood has a center with a rail or bus station, surrounded by relatively high-density development, with progressively

lower-density spreading outwards. For example, the neighborhood center may have a transit station and a few multi-story commercial and residential buildings surrounded by several blocks of townhouses and small-lot single-family residential, and larger-lot single-family housing farther away. TOD neighborhoods typically have a diameter of one-quarter to one-half mile (stations spaced half to 1 mile apart), which represents pedestrian scale distances. The Master Plan, transportation element has already identified the .7-mile radius around metro stops in which to concentrate densities. That map is included as attachment five.

Currently, the only benefits to a TOA designation is the allowance of increased traffic congestion because more transit options are allowed within those areas. In addition to density, a Transit Oriented design must include provisions to create attractive, connected networks of transit options including cycling and walking. Quality urban design must exist around transit stops to improve streetscaping and to make people want to use transportation alternatives. Mixed uses should be allowed and should include shops, schools, and other public services, and a variety of housing types and prices, within each neighborhood. In addition, parking alternatives should reduce the amount of land devoted to parking compared with conventional development, and should take advantage of the parking cost savings associated with reduced automobile use.



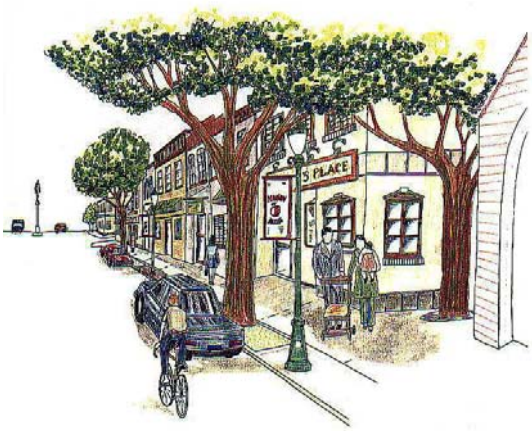
Transit-Oriented Urban Design Schematic. Source: *The Next American Metropolis.*

In conjunction with a TOA, Traditional Neighborhood Developments (TND) are often employed. Like a TOA, TND communities emphasize mixed uses and high densities. Unlike a TOA, TNDs do not focus primarily around a mass transit node. While a TND density may support a mass transit option, there is no associated requirement for transit. A greater explanation of TNDs will be provided in the Optional Method Paper and in part 3 of this paper.

A range of recommended street types may be part of the code or included in individual neighborhood design guidelines in places where streets are not individually designed. Section diagrams indicate such standards with dimensions for travel and parking lanes, sidewalks, medians, and planting strips. In addition, recommendations should be given for parking and entrances that can alter the traffic patterns of the neighboring community. Parking alternatives should be offered to ensure that parking is both 1) adequate and 2) fits into the character of the neighborhood.

V. STREETSCAPING

Streets are a large proportion of the public space with which urban design is concerned. To provide adequate streetscaping, codes or guidelines should address sidewalks and the individual elements that go into sidewalk design.



In planning a sidewalk system for an area, the priorities of maximizing pedestrian capacity / walking speeds and creating an experience must be balanced. In areas near an entrance to stadiums, amusement parks, and tourist areas, very wide, unobstructed sidewalks are needed to move large volumes of pedestrians at a relatively high speed. In outdoor shopping areas and main streets, however, the goal is to provide opportunities for interaction with other people, window shopping, and access. In short, a sidewalk on a mixed-use shopping street is designed to provide ambiance.

A number of principles have developed based on the analysis of human behavior in shopping environments. The S.H.O.P. Model was developed by Street-Works and applied in the design of mixed-use streets such as Bethesda Row, Santana Row, and the Rockville Town Square. S.H.O.P. stands for Storefront Zone, Hallway Zone, Outside Zone, and Parking/ Pedestrian Zone. These four zones serve as the foundation for great retail streets where people go to be "somewhere" rather than just going to buy something.

1. ***Storefront Zone*** – designed to "maximize the exposure to the merchandise perpendicular to the flow of pedestrian traffic." In the Town Square this area is referred to as the 2-foot wide storefront expansion zone. In many cities, restaurants may have seating within the Storefront Zone.

2. ***Hallway Zone*** – the walking portion of the sidewalk. By making the pedestrian width slightly smaller than required, the area will seem busier. This zone should not be more than eight feet wide to achieve this effect.

3. ***Outside Zone*** – the "area between the walkway and the street curb, and should be considered as an 'outdoor' room." This 'room' should feature urban amenities such as street furniture, kiosks, and fountains. Trees are the most important element required here to provide a sense of enclosure, and make the space feel like a room. Often the width of the tree pit controls the width of the outside zone.

4. ***Parking/Pedestrian Zone*** – offers a "safe barrier between moving traffic and the meandering pedestrian." This zone provides the amenity of a second tier walkway for pedestrians, if the hallway zone is blocked or overcrowded. In the Town Square, one side

of Newmarket Street fluctuates between the Outside zone and the Parking/Pedestrian Zone.

In the Town Square development, the S.H.O.P terms were called Storefront Expansion, Pedestrian, Tree/Amenity/Outdoor Café Seating, and Buffer. The minimum total sidewalk width (excluding the Vias, Plaza and the curving sidewalk area next to the Library) ranges from 10 feet to 20 feet. The most constrained block (Beall Avenue between Maryland Avenue and MD 355) has a 2' storefront expansion zone, 8' pedestrian zone, no Tree/Amenity/Outdoor Café Seating Zone, and no buffer zone. Maryland Avenue has a 2' storefront expansion zone, 9' pedestrian zone, 7' Tree/Amenity/Outdoor Café Seating Zone and 2' buffer zone. These requirements balanced the function of the sidewalk and site constraints to achieve the goals that were desired for those areas.

The variety in sidewalk widths should add to the variety of these streets, rather than detract. The variety of urban spaces is one of the elements that set successful downtowns apart from sterile, corporate office parks or strip shopping centers where every street, sidewalk, street tree, sign, and building looks exactly the same. As with any goal, there will be times in the future when another foot or five feet in any given location might be desirable to maximize a particular goal. The use of design guidelines, with added flexibility, will allow variation where necessary.

In summary, the basic principles for mixed-use city streetscaping include:

1. Provide adequately sized unobstructed pedestrian pathways to accommodate window shopping and through traffic.

2. Vary pathway widths on a frequent and irregular basis to provide "visual interest" and to adjust to pedestrian volumes.

3. Activate wide areas by secondary uses (kiosks, restaurant seating, gift wrapping, stroller rentals, etc.), landscaping, street furniture, and art.

4. Ensure that street trees are of a dimension and of adequate foliage to create a "sense of place" or an "outdoor room" within the sidewalk pathway. Regulations should list the appropriate tree and groundcover species, in addition to requiring new plantings with a set spacing between them. The types of plantings required should consider the aesthetics and maintenance of the plants. Drought tolerant or native species (including trees, shrubs, and turf grasses) that do not require extensive watering are recommended.

5. Ensure that safety regulations are in place to encourage use of the environment. Streetlights can help to maintain a sense of security along a sidewalk when pedestrians are likely to visit shops and restaurants at night. The location (on one or both sides of a street or in the median), for installation of lights and the spacing between them are typical requirements. In addition, "dark sky" requirements on lighting fixtures can decrease light pollution around an urban environment. Ornamental light requirements may also be included. To ensure consistency, a particular type of lighting fixture may be required to be repeated throughout an area of the city as well as permitting only certain wattages, heights, types, or colors of light produced.

6. Consider fenestration regulations to ensure that the street front does not have a blacked out appearance. In addition, or in the alternative, the City could encourage window dressing to encourage window shopping.

If the changes increase the required right-of-way or sidewalk standards, then appropriate documents, in addition to the zoning code revision, will need to be amended. The amendment procedure for each of these documents varies. The following lists the documents from least to most time intensive procedural processes.

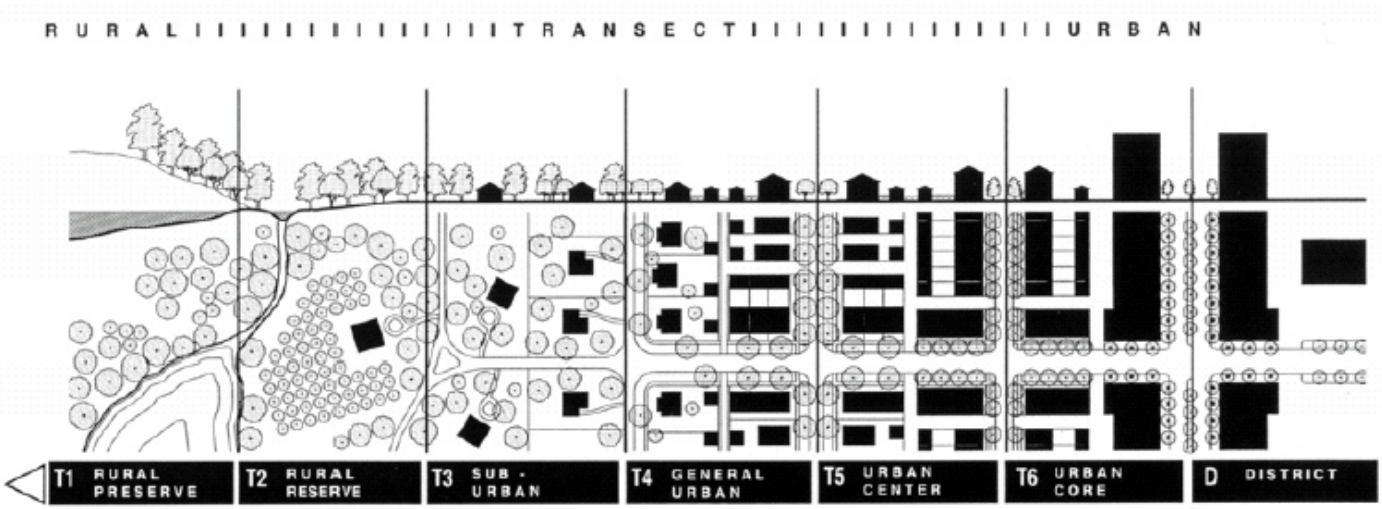
- The *Standards and Details for Construction* is approved by the Department of Public Works,
- The *Streets and Public Improvements* Chapter of the City Code is changed by an ordinance amendment,
- Master plans require a master plan amendment process.

PART THREE
OPTIONS AND RECOMMENDATIONS

I. ZONING DISTRICT OPTIONS

Urban design zoning has been applied in different ways, depending on the needs of the individual community at the time of the zoning revision. In general, urban design regulations, where used, are either applied on a citywide or individual neighborhood basis (either as a primary or overlay zone).

1. **Contextual / Transect Neighborhood Zoning –** A large step away from current standards would be completely revising the existing zoning code to regulate based on the qualities of the surrounding area. Contextual zoning, also called transect zoning, considers the city as a whole, like an onion. Each layer permits gradually denser and denser uses and, as a result, more regulation. Prescriptive, not proscriptive, regulations are associated with this form of planning. As the City of Rockville is greatly built out and has existing variable densities and types of development throughout the city, this option is not recommended.



2. **Form-Based Zoning District(s) (Special Purpose District) -** Special purpose zones are those that are meant to address special geographical areas or issues. Included here may be the Rockville Pike Corridor or Town Center Planning Area.

   A particular district can be designated to regulate based on form. For example, in Arlington, the Columbia Pike Special Revitalization District form-based code is designed to foster a vital main street for its adjacent neighborhoods through a lively mix of uses – with shop fronts, sidewalk cafes, and other commercial uses at street level, overlooked by canopy shade trees, upper story residences and offices.
   The key to the Columbia Pike Special Revitalization District, and other districts like it, is a regulating plan. This plan provides specific information on permitted development for each building site. The plan shows how each lot relates to public

spaces and the surrounding neighborhood based on the type of street on which the building fronts and the type of building proposed.

One type of form based zoning district used throughout the country is a traditional neighborhood development (TND) district. TND zones allow for the creation of neighborhoods (developments) with a range of uses and housing types. These zones limit the size, location, and design of buildings as opposed to the strict separation of uses.

There are certain design features associated with TNDs. Commercial uses and more intensive residential uses are frequently required and to be located in the TND center. An interconnected network of narrow, safe, and aesthetically pleasing streets that provide a variety of routes for local traffic are also required for these developments. A range of transportation options should, therefore be available due to the pattern of streets and the proximity of various land uses. High quality public spaces (greenbelts, parks, plazas and streets) provide an organizing feature and gathering place for the neighborhood.

Many zoning and subdivision ordinances do not permit the development of TNDs because of the development's requirements for large lots, large setbacks, wide streets, and separation of uses. In some cases, Planned Unit Development ordinances have been used to build TNDs, but now more and more localities are adopting specific TND ordinances.

3. **Overlay –** Another way to apply form based zoning ideas is as a zoning overlay. As will be discussed in the optional method paper, an overlay district applies additional standards to protect certain features or to encourage a particular type of development. Where there is a conflict between overlay and underlying zoning standards, the overlay standards will apply because they are stricter.

   Overlay zoning has been applied in Maryland for protection of certain features, to encourage transit or high growth areas, and to impose specific standards. Protection zones have included critical areas, stream and buffers, rural protection, residential conservation, mineral resources, floodplains and historic district preservation. Maryland's growth overlay zones include highway corridors, transit station overlays, and transfer of development rights zones. Additional standard zones include solid waste, signage control, and airport overlays. Maryland Department of Planning recommends the expansion of the use of overlay zones including site plan design option, flexible subdivision approval zones, PUD, and special financing zones.

   One particular overlay that the City may consider is an infill overlay. An infill overlay may be applied to built up areas where new development is desired. Through an infill overlay, the main character of the existing code can be maintained. The particular areas of the city where intense growth is desired or likely to occur, however, will regulate form through special infill regulations.

As the city of Rockville continues to develop, the greater the percentage of infill development compared to greenfield development. The Infill Development Overlay Zone (IDZ) would accommodate infill growth by encouraging a compatible, high quality community environment enhanced by a balanced, walkable, compact mix of uses in existing communities. Form based principles can be applied through particular area requirements.

Historic districts can also be applied through an overlay zone. The parcels applicable to historic designation would be subject to the standards of an historic overlay in addition to those of the underlying zone. Overlay designation would allow the same standards for historic preservation to be applied throughout the city, though the properties may be subject to different underlying zoning standards.

An additional overlay is the Neighborhood Conservation District (NCD), as proposed for Lincoln Park. The NCD combines historic preservation and aesthetic design as an overlay to Euclidian zoning. It is usually applied in those neighborhoods that do not qualify for an historic district classification. The intent is to retain the overall physical characteristic of a neighborhood through recommended design guidelines.

4. **Floating Zones -** Floating zones define a use that a community wants to encourage to enable the city to accommodate new development or preserve what exists. The floating zone is particularly useful in situations where a community wishes to permit a limited number of specific uses (large shopping centers, for example) but does not wish to map their locations in advance. Examples of floating zones that may be applicable for the city of Rockville are a Planned Development District (PDD) and a Historic District zone.

   Floating zones also allow for locating use types which cannot be anticipated but for which the plan would like to provide. For instance, a community may have an anti-industry policy and no industrial zone in its local ordinance. It may, however, be amenable to a high technology, low-impact industry under certain conditions. The floating zone allows this kind of control and flexibility.

   In content, a floating zone is the same as a conventional zone. It describes the permitted uses, setback requirements, and other standards to be applied in the district. Unlike conventional zoning districts, however, the floating zone is not designated on the zoning map. Once enacted into law it "floats" over the community until, upon approval of an application, it is "brought down to earth" to be affixed to a particular parcel through an amendment to the zoning map.

   The idea behind adopting a floating zone is that for various reasons, the city does not know where the district should be located at the time of adopting a zoning code. The floating zone can be affixed to a qualifying parcel of land, either upon the application

of the parcel's owner or upon the initiative of the local legislature. Upon approval, the parcel is rezoned to reflect the new use and becomes a small zoning district

Floating zones often allow for more intensive use of the property than the previously existing zoning. As a result, particular attention must be given to protect surrounding property owners. Floating zone regulations should contain a number of provisions intended to mitigate the impact of its development on the surrounding area. Normally, for a parcel to be eligible for rezoning under a floating zone, it must be of a sufficient size to insure that the development can be fitted properly into its surroundings. A site plan review by the Planning Commission is a typical requirement for floating zone approval. The ordinance can be worded so that applicants must demonstrate what impacts the proposed development will have on a variety of matters such as site access; water and sewer service; design continuity; effect on natural resources; visual and noise impact; schools; other municipal services and tax base; preservation of open space; and the effect on nearby property values.

II. ALTERNATIVES

In addition to or separate from imposing set urban design regulations, there are two alternatives that can be incorporated into application of the above zoning options or held separately. First, a statement of architectural compatibility may be required to demonstrate that a proposed development or redevelopment meets certain requirements that can achieve the principles of urban design. Secondly, design guidelines could be established, outside the code to ensure that new development will meet certain characteristics without having the force of law to impose those designs.

1. **Statement of Architectural Compatibility**. The Town of Cary, North Carolina has adopted a requirement to include a statement of architectural compatibility (SAC) with all site plans for buildings within a non-residential center. This statement ensures the architectural compatibility as the Development Review Committee, already established in Rockville, includes in their review. In Cary, the SAC is meant to designate the unifying elements that are to be incorporated within the entire project (including any outparcel) and specifically how these elements are to be used. The SAC is required to be submitted with the first site plan submission. The approving authority considers the SAC as part of the site and/or subdivision plan review.

   In Cary, the SAC is required to include:

   1. Primary physical characteristics including predominant color(s), exterior materials and architectural features;
   2. Primary landscape theme (general, not specific);
   3. Building height;
   4. Lighting elements (general);
   5. Other elements which may be relevant to a specific development and how they are compatible with the adjacent sites; and

6. Uniform Signage Plan (general).

2. **Design Guidelines** – Another alternative is to maintain a separate design guideline manual. Many communities establish design guidelines which are referenced in the zoning code, but which is established and maintained outside any legislative requirements. A regulation to comply with any existing design guidelines are often considered a basic foundation for the creative design process, not as the only solution for design.

   Design review is a discretionary aspect of zoning approval. In Rockville, design review guidelines have already been established for substantial alterations within historic districts, and in the Town Center, Rockville Pike and Lincoln Park Master Plans. The government review authority for design review is typically either an independent, appointed body whose members represent applicable areas of expertise similar to the current Historic District Commission. In other jurisdictions, these bodies consist of city department staff to provide expertise like the current Development Review Committee.

   Design review guidelines often list the measurable design attributes listed in Part II of this document. They do not intend to impose a set standard on beauty, as beauty represents different things to different people. Instead, design standards ensure a sense of conformity and compatibility of development into the existing landscape of the city.

   While design guidelines provide flexibility, and are easy to amend, there are some arguments against adopting design guidelines. In part, they can be difficult to apply consistently, because there is often leeway for subjective interpretation. Design guidelines can also be difficult to enforce.

   One consideration in adopting a Design Guidelines Manual is to specify what development projects, if any, are exempted from design review. Examples may be:

   1. Projects that involve the development of two or fewer single-family units and are not subject to any other discretionary review or approval;
   2. Underground construction, which will not leave any significant, permanent marks on the surface after completion. Utility boxes, piping and appurtenances, are considered “significant permanent marks;”
   3. Maintenance work on buildings, landscaping, or grounds (including parking lots) which does not significantly alter the appearance or function of the building, landscaping, or grounds;
   4. Interior remodeling work; and/or
   5. Temporary uses and structures as defined by the Zoning Code.

III. RECOMMENDATION

After reviewing the City's goals for urban design found in various plans, and the current national policies and implementation techniques for urban design, Staff has concluded that the city has three options:

1. Adopt urban design regulations (in guideline or legislative form) for particular sections of the City using one of the above zoning district types.
2. Maintain existing districts but adopt an alternative method of ensuring that form is considered in zoning approval, such as a statement of architectural compatibility.
3. Maintain the current regulations on use and form, with only changes in the organization of the sections of the zoning code.

Rockville has a unique quality that should be emphasized and encouraged. Not quite a true "urban center" and yet not quite a "small town," Rockville offers the best of both worlds. The zoning revision should continue to encourage the development of mixed use, urban areas like Twinbrook Metro Area, Rockville Pike, and the Town Center in addition to providing options for neighborhood developments like King Farm. These areas of Rockville will encourage visitors to visit and residents to interact, because there is always something to see or do. On the other hand, the "community feel" of distinct Rockville neighborhoods should be encouraged and maintained. In these neighborhoods, residents should have a pleasant streetscape to encourage walking to community centers and activity areas, where they can foster and maintain personal connection with neighbors.

As discussed in the introduction, zoning is an interdependent system of regulations. Use, shape, and bulk must be considered individually and interactively. Staff recommends that different areas of the city focus on different types of regulations to create an applicable zoning code for Rockville. Some areas may focus more on use regulations while other areas of the city may focus regulations more to form.

After the first meeting of the urban design staff committee, the following general recommendations are submitted for the Mayor and Council's approval:

1. Prioritize "livability" in all zoning revisions. By "livability" staff means to provide:
   - A high quality contextual style of development. In other words, ensure that there is a pleasant street atmosphere, environmentally-friendly development requirements, and flexibility in design options.
   - Walkability and transit options to activity centers containing civic (post office, library, court house) urban (movie theaters, restaurants, etc.) and necessity (grocery store, hardware store, etc.) amenities.
   - Affordable housing and transportation options.

2. Ensure that quality urban design is provided within a walkable radius from metro stations, providing higher density allowances, quality streetscaping (trees,

sidewalks, applicable lighting, pedestrian safety markings, etc.), and a mix of uses.

3. Designate existing neighborhood centers and provide a pleasant atmosphere to connect the neighborhood to them. These centers are the gathering places for neighborhood citizens and provide living necessities like grocery stores, activity centers, and recreation options. Regulations should encourage the continual maintenance and use of these developments. From these centers, spokes providing transportation alternatives should be designated to promote both intra-neighborhood connectivity and inter-neighborhood connectivity.

4. Use street classifications as a regulation tool to ensure that the type of development, streetscaping, and connectivity to amenities are provided. Classification by street types would allow for bike, sidewalk, and vegetative buffer priorities to be coordinated. These valuations may be different for residential versus commercial areas. An example is provided in the Columbia Pike Special Revitalization District Form Based Code attached to this document.

5. Provide changes in the code to allow for flexibility of design. Large-scale commercial developments currently are required to be designed in a campus style arrangement of buildings. Staff would like to encourage other options for development layout.

6. Review parking requirements, in particular, to ensure a pedestrian friendly environment. Some requirements may be more than are necessary with additional transportation alternatives.

IV. CONCLUSION

Rockville is a unique combination of urban and suburban. Zoning amendments should recognize those two aspects and regulate to emphasize the best qualities of these areas to maintain the unique community of the city. Urban design is a tool to produce a “sense of place” in a city and to ensure that development encourages livability. Livability means a quality atmosphere that promotes safety, comfort, and interest. Livability can mean a pleasant streetscape with interesting buildings, storefronts, or street trees. Livability can mean transportation alternatives so that commuters are not stuck in traffic to travel to necessary stores or civic buildings. Livability can also mean affordable housing and a community atmosphere.

While the current code has focused primarily on traditional Euclidian, use centered, zoning regulations, the amendments should incorporate more New Urbanist theories of regulation. In particular form-based zoning would be applicable in certain areas of the city where the design of the building is more important than regulating use. In fact, in certain areas of the city, mixed-use development should be encouraged. Form based regulations can be applied on a street-level basis, depending on the degree of intensity of the street.

Established policies in the Master and neighborhood plans encourage the use of New Urbanist principles but could be strengthened. Rockville's established goals promote the use of zoning regulations which will meet the six principles of urban design: variety of uses, mix of densities, infill activity, contextual design, walkable centers, and enhanced streetscapes. The regulations to be adopted through the zoning revision will implement the City's visions and enhance the existing urban design provisions of the City.

There are a number of regulation options that could be applied to implement the concepts of urban design. The particular regulations will be fleshed out in the language drafting stage of the zoning revision process. As an overall technique, however, Staff recommends reviewing the City's neighborhoods individually to determine the best means of implementing urban design principles throughout the City. For more commercial centers and neighborhood community areas, the key to urban design may be new form-based zoning regulations with an emphasis on street connectivity. Residential neighborhoods, however, may adopt floating or overlay requirements to promote a particular character of the neighborhood. While the revision may include distinct regulations for residential neighborhoods, and others for the Town Center, Twinbrook Metro Area, and Rockville Pike, the overarching goal for each district will be to promote livability.

V. ATTACHMENTS:

1. The Columbia Pike Special Revitalization District Form Based Code, Arlington, Virginia, adopted 2/25/03 and amended 2/10/04.
2. Maryland Department of Planning, Managing Maryland's Growth: Models and Guidelines for Infill Development, Section V, "Model Ordinance," October 2001.
3. Katz, Peter, "Form First: The New Urbanist Alternative to Conventional Zoning," APA, Planning, November 2004.
4. Hinshaw, Mark, "The Case of True Urbanism: Who Needs New Urbanism When Cities Have Got Something Much Better?," APA, Planning, June 2005.
5. Map "Areas in Rockville Which Are within Walking Distance of Transit," City of Rockville, May 2001.
6. City of Rockville Pedestrian Policies, Working Draft, August 2004.
7. Town Center Master Plan Design Guidelines
8. Rockville Pike Design Guidelines
9. Memo to Bob Spalding from Randy Clay, "Sidewalk Design Standards," August 26, 2004.
10. Pauvier, Cy, Creating a Vibrant City Center, "Chapter 7: Pedestrian Realm" pgs. 81-91.