



DIVISION OF PLANNING FREDERICK COUNTY, MARYLAND

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To: Frederick County Planning Commission

FROM: Mark Depo, Deputy Director, Shawna Lemonds, Project Manager

DATE: September 8, 2009

RE: Parking, Landscaping, and Lighting *Draft* Text Amendment

ISSUE

In an on-going effort to rewrite the zoning ordinance Staff is moving forward with the next identified theme which is an update to the parking, landscaping, and lighting requirements.

One of the primary objectives of the overall update to this portion of the zoning ordinance is to formalize long standing policy within the Division of Permitting and Development Review. The policies that have been established and applied to applications for review would be adopted and become the standard. The adoption of these standards would provide for consistency in application review and approval, as well as providing Staff the necessary tools to complete a review more effectively and efficiently.

The drafting of this text amendment began with review of the Citizens Zoning Review Committee (CZRC) report, existing policy, a review of practices within other jurisdictions and industry standards. Based on the information collected, updates and edits to existing policy were made to provide clarity and consistency in review as well as improve standards where appropriate.

Staff requests review and input from the Planning Commission on potential text amendments to Article VI: District Regulations, Division 2. Parking and Loading, Division 4. Landscaping and Screening, Division 5. Lighting; Article VII: Supplementary District Regulations; and Article XI: Definitions.

BACKGROUND

In May of 2007 Planning Division Staff presented the Board of County Commissioners (BOCC) with a staff report outlining a theme based approach to updating the zoning ordinance. The BOCC Strategic Plan FY 2007-FY 2011 Goal #5 Land Use, Objective 1 initiated the examination of the zoning ordinance, determination of priorities for changes, and initiating a phased approach for zoning text amendments. In achieving that objective Staff is moving forward with edits and updates to specific areas within the zoning ordinance.

Staff began this project with a review of the recommendations contained within the Citizen's Zoning Review Committee (CZRC) report. The CZRC represented a diverse group of stakeholders from the County who met over several months and reviewed the zoning ordinance by theme. The CZRC report summarizes recommended amendments and revisions to the zoning ordinance that were identified by the Committee. The report provides the basis for review of themes, additional research, and eventual presentation of recommendations to the BOCC for text amendments to the zoning ordinance. Comments regarding parking, landscaping, and lighting contained within the 2003 CZRC report within the discussion of Design Guidelines, have been summarized under the headings of Parking, Landscaping, and Lighting below.

In addition to the CZRC report, the Recommended Model Development Principles for Frederick County, MD (2000) also noted several recommendations. A group of development, environmental, local government, civic, non-profit, business, and other community professionals convened as the Frederick County Site Planning Roundtable. The Roundtable analyzed Frederick County's existing development codes and ordinances over the course of nine months. The group recommended 23 model development principles designed to guide future development towards the goals of measurably reducing impervious cover, conserving natural areas, and minimizing stormwater pollution. The Model Development Principles document was then used as the basis for creation of the Frederick County Community Design Guidelines and Development Principles (2002).

Each model development principle included several bullet points for clarification and informational purposes, however, related principles have been summarized with the CZRC recommendations within the headings of Parking, Landscaping, and Lighting below.

PARKING

The CZRC comments regarding parking have been summarized as follows:

- The Planning Commission needs to have the authority to modify parking requirements at the time of site plan approval. The Committee also noted that on occasion staff should have the ability to waive the number of spaces if certain standards/conditions are met. Some provision for special proposals needs to be in place
- Future uses should be taken into account during site design, the Commission should have the tools in the ordinance so as not to preclude future parking areas to be built in a particular site and designated on a final plan
- The Committee added that such flexibility in the ordinance would allow the Commission greater ability to approve grass areas for special uses (i.e. holiday overflow parking, special events, etc...). Promoting the use of alternate paving surfaces for satellite areas should be encouraged and built into the ordinance
- There was not a consensus on setting maximum space requirements. It was generally agreed that an applicant should be able to set a maximum if it can be justified to the Planning Commission to exceed the base requirement

The Model Development Principles regarding parking have been summarized as follows:

- Principle No. 6: The required parking ratio governing a particular land use or activity should be enforced as a median of national standards in order to curb excess parking space construction. Existing parking ratios should be reviewed for conformance taking into account local and national experience to see if lower ratios are warranted and feasible.

- Principle No. 7: Parking codes should be revised to lower parking requirements where mass transit is available or enforceable shared parking arrangements are made
- Principle No. 8: Reduce overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in the spillover parking areas where possible

Applications for development through the site plan review process consistently include requests for approval of parking spaces above that number required by the zoning ordinance. In addition to a decrease in aesthetic quality, excessive over-parking contributes to impervious surface which increases stormwater runoff management, increases the potential for heat island effect where on-site temperatures increase due to the heating of paved surfaces, and increases the potential for the collection of grease, oil, antifreeze and other chemicals which are then transported to waterways during rain events or through melting snow.

Permitting excessive parking also allows valuable land within growth areas to be utilized for low value purposes. Parking areas more often than not are either required or requested based on calculations for the greatest amount of parking demand that may occur at the location. This strategy creates a parking area that remains less than full for most of the year. The large surface parking areas can act to separate land uses which decrease pedestrian access and cause conflict between automobiles and pedestrians throughout the parking area.

A comprehensive strategy that creates a parking standard that may not be surpassed without Planning Commission approval, includes standards that support alternative modes of transportation, together with existing joint use and shared parking standards would work to support the overall planning objectives of smarter compact growth within the identified growth boundaries and reserving developable land for the highest and best use.

The proposed changes are consistent these objectives and with the goals outlined in Chapter 6 Providing Transportation Choices of the Frederick County Comprehensive Plan Public Hearing Draft 2009 which state:

- TR-G-01 Plan a safe, coordinated and multi-modal transportation system on the basis of existing & future development needs, land uses and travel patterns.
- TR-G-02 Integrate transit, pedestrian, bicycling and ADA accessible facilities into the County's existing roadways and communities and the design of new roadways and communities.
- TR-G-03 Maintain and enhance the quality of the transportation system to assure an acceptable level of service, safety and travel conditions for all roadway users.
- TR-G-04 Reduce the need for single occupancy auto use through travel demand management and increasing the share of trips handled by bus; rail; ride-sharing; bicycling and walking.

The proposed changes take the initial steps in implementing the goals contained in the County Comprehensive plan as well as the elements of transportation friendly design guidelines as outlined in the recently updated Transit-Friendly Design Guidelines March 2009, produced by TransIT Services of Frederick County and Frederick County Division of Planning in conjunction with the Transportation Services Advisory Council of Frederick County. Pedestrian and bicycle access are integral components in a truly multi-modal transportation system leading to economic, social and environmental benefits. As noted in the Transit-Friendly Design Guidelines “Improved bicycle facilities also expand the distance passengers are willing to travel to a bus stop, since bicycles can travel three to four times the distance of pedestrians in the same time span.” Bicycle and pedestrian access increase the transportation options and promote the use of transportation modes beyond the automobile which work toward reducing congestion and increasing accessibility for the entire array of Frederick County citizenry.

LANDSCAPING AND SCREENING

The CZRC comments regarding landscaping have been summarized as follows:

- The CZRC recommends that the landscaping requirements be kept within the zoning ordinance and not be a stand-alone document
- More native plants should be used, and the plant list and plans should be submitted for staff level review
- Landscaping is integral to the whole design, and flexibility should be allowed to meet some minimum requirement
- Buffering requirements need to be strengthened and landscaping between different uses and different zones should be carefully considered during site plan review.
- The Committee felt that requirements should be focused on “landscaping the use” (i.e. landscape a gas station, don’t landscape a barn) and how it will be compatible with the surrounding area
- A minimum amount of parking lot landscaping should also be required in addition to the general site/perimeter landscape requirement

The Model Development Principles related to landscaping have been summarized below:

- Principle No. 19: Enhance trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native plants

One of the most accepted benefits of landscaping is the improved appearance of a community and the improved aesthetic of streetscapes and individual development. However, additional benefits include: decrease in soil erosion and increase in permeable area and infiltration, mitigation of the effects of noise/dust/pollution/heat, protection and increase of wildlife habitat, preservation of and increase in the use of native vegetation, promotion of water conservation through use of native vegetation, as well as the potential to protect public and private investment through maintaining or enhancing property values.

In addition, the placement of buffering and screening reduces the potential negative impacts between incompatible land uses and screens unsightly equipment or materials from the view of neighboring properties or the public way.

The current Site Plan Review requirements within section 1-19-6.400 permit the Planning Commission to “require screening along the property line and around and within the parking areas. Minimum standards are: Planting strips will be no less than 5 feet wide, planted with shrubs or trees, which are of a type and spaced at intervals which may be expected to form a year-round dense screen at least 6 feet high within 3 years. Opaque fencing may be used in lieu of trees and shrubs, subject to approval of the Planning Commission.” This existing language does not provide the optimal set of standards considering the wide array of land use situations that the regulations are expected to address. An expanded set of standards will provide Staff, the Planning Commission, and the public with the necessary tools to evaluate each individual application based on the unique characteristics of the proposed development.

The proposed changes are consistent with the policies outlined in Chapter 10 Managing Our Growth of the Frederick County Comprehensive Plan Public Hearing Draft 2009 which state:

MG-P-32 Promote low-impact, sustainable development practices such as: the use of non-invasive, native, and drought-tolerant landscaping; utilization of stormwater management techniques that include natural drainage patterns and bio-retention techniques; and integration of energy-efficient site design and deployment of energy-conserving building technologies including alternative energy sources.

LIGHTING

The CZRC comments regarding lighting noted:

- A performance based approach would best regulate the height limits. It would allow an applicant to show how wattage, type of lights, location, direction of lighting, and shielding can all limit the impact on neighboring properties.
- On a case-by-case basis the County should have the authority to regulate the hours of lighting for all types of projects, especially those that are adjacent to conflicting zoning districts or land uses
- Photo-metrics should not be required for every project, it should be part of the determination (case-by-case) of additional information needed to determine the lighting requirements for a particular use

The current Site Plan Review requirements within §1-19-6.500 Lighting, permit the Planning Commission to review an application based on the standard that “lighting emitting objectionable glare observable from surrounding properties or streets will be shielded”. This existing language permits a level of subjectivity where determining whether the glare that is emitted is objectionable. An expanded set of standards will provide Staff, the Planning Commission, and the public with clear, concise, and less subjective language for implementation.

Lighting can be provided for several different reasons including personal safety and security in the case of street lighting or the lighting of parking lots. General lighting is provided in situations such as outdoor dining and to illuminate signs. Lighting can also be decorative for instance illuminating architectural features or landscaping. Lighting is also used in some instances to attract attention to a particular development to avoid other requirements such as sign regulations.

Careful and considered lighting used where, when, and in the amount needed could greatly decrease the negative impacts associated with excessive lighting. Excessive or poorly designed and installed lighting can result in an increase in natural resource use leading to wasted energy, reduce the use of the nighttime environment, result in light trespass which can cause conflicts with and disturb neighboring properties, reduce the aesthetic appearance of developments and communities, and increase glare and contrast which can reduce visibility.

Review of applications through the site plan review process is limited to an evaluation of an application against the standards provided within the zoning ordinance. Special exception and floating zone processes provide the review body with expanded review authority within the zoning ordinance. In the case of a special exception the zoning ordinance states that the Board of Appeals may "...add to the specific requirements any additional conditions that it may deem necessary to protect adjacent properties, the general neighborhood, and its residents or workers...". For these reasons it is necessary to provide standards within the zoning ordinance to mitigate or eliminate issues related to lighting such as light trespass, sky-glow, glare reduction and impacts on the nighttime environment.

Other than the existing text within section §1-19-6.500 Lighting, the zoning ordinance does not contain *general* lighting standards that would provide guidance during the site plan review process. To address this issue, language has been added over time through text amendments for specific permitted use, such as within §1-19-7.610 Industrial District Performance Standards and in §1-19-8.450 Self-Storage Units.

Existing section 1-19-7.610(K) Industrial District Performance Standards currently require that "Within the LI and GI Districts, any operation or activity producing glare shall be conducted so that direct or indirect light from the source shall not cause illumination in excess of .5 footcandle when measured in a Residential District." In existing section 1-19-8.450(D)(5) Self-Storage Units, current provisions state that "Lighting shall be designed and directed away, or screened, from adjoining properties so as not to cause glare on or adversely impact adjoining properties". Subsection (D)(6) states "Lighting shall not exceed 0.5 foot/candles at the periphery of the site".

In addition, although lighting standards are contained within the Mineral Mining and Solid Waste floating zoning districts, regulations are not contained within the PUD or MXD regulations. Both the PUD and MXD floating zoning districts include development phasing involving site plan review, arguably the appropriate time for review of lighting.

Lastly, Leadership in Energy and Environmental Design (LEED) New Construction Rating System, and LEED for Neighborhood Development Rating System (LEED ND), include credits for light pollution reduction with the intent to minimize light trespass, reduce sky-glow, improve visibility through glare reduction, and reduce development impact on nocturnal environments.

An update to the lighting standards contained within the zoning ordinance would provide consistency between applications approved through the development review process, consolidate lighting requirements and address the desire to incorporate LEED standards into the zoning ordinance.

TEXT AMENDMENT OVERVIEW

The draft text amendment includes updates and edits to the following sections of the zoning ordinance:

- Article VI: District Regulations, Division 2. Parking and Loading, §1-19-6.220 Parking Requirements
- Article VI: District Regulations, Division 4. Landscaping, §1-19-6.400 Landscaping and Screening
- Article VI: District Regulations, Division 5. Lighting, §1-19-6.500 Lighting
- Article VII: Supplementary District Regulations, Division 5. Commercial Districts, §1-19-7.500, §1-19-7.510, and Division 6. Industrial Districts, §1-19-7.600 and 1-19-7.610
- Article XI: Definitions, Division 1. Definitions, §1-19-11.100
- References within the zoning ordinance and other portions of the County Code have been researched and updated or edited as needed

The text amendment overview section below provides a summary of the proposed changes. The summary includes the zoning ordinance section and heading followed by a description for each proposed change. Within the attached Exhibit 1-Parking, Landscaping, and Lighting *Draft Text Amendment*, new text is shown in **BOLD CAPS** and **BOLD CAPS UNDERLINED** with text for removal shown in ~~STRIKETHROUGH~~. Exhibit 2-Frederick County Bicycle parking Design Guide and Exhibit 3-Existing Article VI and VII of the zoning ordinance have been attached for reference purposes

ARTICLE VI: DISTRICT REGULATIONS DIVISION 2. PARKING AND LOADING

Sec. §1-19-6.210. Loading Space Requirements and Dimensions [pg. 1]

This section of the zoning ordinance was recently updated with a text amendment in 2007, therefore few changes are proposed.

Land use terms have been updated within the off-street loading space table for consistency with recently adopted text amendments. In addition, provisions have been added to address refuse and recycling containers in accordance with the requirements of the Division of Utilities and Solid Waste Management.

Sec. §1-19-6.220. Parking Space Requirements and Dimensions [pg. 2]

The heading of this section has been updated to reflect the proposed addition of parking space dimension requirements and to provide consistency with existing provisions and headings for off-street loading.

As part of the text amendment research process, existing parking requirements, parking standards within other jurisdictions, as well as hourly parking generation studies published by the Institute of Transportation Engineers (ITE) were reviewed. The focus of this review was to ensure the general consistency of existing Frederick County parking requirements with surrounding Maryland jurisdictions. In addition, Staff recommended updates and edits to parking requirements based on development experience within Frederick County. Lastly, ITE parking generation studies were also considered. As noted in the ITE parking generation, 3rd edition, "The report provides a point of reference to assist engineers and planners in making better decisions and judgments regarding parking demand.

However, the data alone will not provide accurate estimates. Professional judgment and evaluation are necessary to effectively use the information.” Based on this review, several edits and updates were made to the parking requirements in §1-19-6.220 Parking Space Requirements and Dimensions.

Parking Space Requirements

Existing text within subsection (A)(1) has been expanded to limit parking to those spaces required by the parking table and to provide evaluation factors for calculation of those spaces based on the proposed use and any parking agreement that may be included.

Limiting parking to that number required by the zoning ordinance establishes a threshold that may be increased or reduced by approval from the Planning Commission based on need. The proposed text permits the applicant or Planning Commission Authorized Representatives to request an increase or a reduction based on submitted information. This language will support the furtherance of the shared parking and joint parking concepts as provided within the zoning ordinance as well as halting the over-parking and excessive parking permitted under the current parking requirements which are minimum standards.

The Planning Commission may increase or reduce the required number of parking spaces based on several factors and may require any increase to be constructed of pervious materials. In addition, the Planning Commission may require that any reduction be accompanied by an accessible, graded, seeded, reserved future parking area should it be needed. This area would be set aside to provide for any overflow needs or to provide a readily accessible area for future expansion requiring an increase in parking spaces.

The changes as proposed require further analysis and justification for construction of parking spaces beyond the number required, support the reduction of impervious surface, and further the promotion of alternate modes of transportation.

Updates and edits have been made to the parking table to provide consistency with recently adopted text amendments and to provide consistency between the parking table and the use table. Text within this section has been reorganized, therefore the entire parking chart is reflected in **BOLD CAPS**. However, only those portions of text with **BOLD CAPS UNDERLINED** reflect new text. Headings and land use terms have been standardized and updates were made to the individual parking requirements.

It should be emphasized that the update to this section of the zoning ordinance is not intended to be a complete rewrite or a comprehensive evaluation of each land use listed in the parking chart for creation of individual parking requirements based on national standards, trends, or innovative land use strategies. Although many factors were considered in this evaluation and update, the process includes the recommendation of limiting the number of parking spaces to that number required by zoning ordinance. This step alone will significantly reduce the potential for excessive numbers of parking spaces associated with new development.

As currently proposed, sufficient flexibility has been provided for the applicant and/or Staff to submit information to the Planning Commission to address deficiencies that may exist when making future determinations. In addition, rather than creating a parking requirements table that is burdensome in length and specificity in an attempt to address any and all parking situations, the proposed language permits flexibility in the application of the parking standards.

Residential [pg. 3]

'Mobile Home' and 'Multi-family group development' were added to the parking table and 'Housing for the elderly' has been moved to the heading of Institutional, to provide consistency with land use listings within the use table.

Temporary Housing [pg. 3]

A new heading for 'Temporary Housing' was added to the parking table to provide consistency with headings and land use listings within the use table.

Commercial Uses – Retail [pg. 3]

The heading for 'Commercial Uses' has been updated to provide consistency with the use table. The parking requirement for 'Retail store' has been reduced based on Staff experience within Frederick County that retail development has typically been over-parked.

'Automobile sales and service garage' has been moved from the heading of Commercial Uses-Retail to the heading of 'Automobile and Related Services' consistent with the use table. In addition, the parking requirement has been updated to utilize a calculation based on the business conducted at an automobile sales and service center.

'Shopping center' has been divided into those of less than 100,000 square feet and those 100,000 square feet or greater based on a review of typical shopping center developments within the County. A reduced parking requirement has been assigned to the larger facility based on the significant amounts of surface parking that would be created, the opportunities for a mixture of complementary uses facilitating a shared or joint use parking agreement, the likelihood of location within growth area communities where the highest and best use of land available for development is critical, as well as the opportunity for use of alternate modes of transportation. These parking requirements are consistent with surrounding jurisdictions.

Commercial Business and Personal Services [pg. 4]

A new heading for 'Commercial Business and Personal Services' has been added to provide consistency with the use table.

'Commercial, business, technical or trade school' parking requirements were slightly reduced based on a comparison to the existing parking requirements for 'College or university'. A comparison to other jurisdictions produced varying requirements. Both land uses would be expected to develop in areas with availability to alternate modes of transportation however, in the past, the students may be from a somewhat different demographic. For these reasons 'Commercial, business, technical or trade school' was adjusted slightly.

Parking requirements for 'Medical and dental clinics and offices' have been reduced based on a comparison of existing Frederick County parking requirements to other jurisdictions and ITE studies. Most jurisdictions that were reviewed utilize 1 space per 200 square feet.

Parking requirements for 'office, public or professional administration or service buildings' have been increased based on Staff experience that this land use in the past has been under-parked. A comparison of existing Frederick County requirements to other jurisdictions found that most reviewed jurisdictions utilize 1 space per 200 square feet.

'Restaurant, dining room, fast food shop, tavern, night club' has been edited to remove 'Fast food shop'. A new entry has been created for 'Fast food restaurant' due to the higher turnover rates for parking spaces which would lead to a reduced number of spaces necessary to meet customer demand.

A new entry for 'All other types of business or commercial uses permitted in any commercial district' was added due to the reorganization of the parking table for consistency with the use table. The existing entry for 'All other types of business or commercial uses permitted in any commercial district' remains under the heading of Commercial Uses-Retail and has been duplicated here for consistency.

Automobile and Related Services [pg. 5]

A new heading for 'Automobile and Related Services' has been added to provide consistency with the use table.

As proposed, 'Automobile sales and service' parking space requirements would be calculated based on the number of service bays and employees rather than the square footage of the facility. This change is proposed to better reflect the number of vehicles on-site rather than a reflection of building size which may or may not accurately reflect the needed parking.

Animal Care and Service [pg. 6]

A new heading for 'Animal Care and Service' has been added to provide consistency with the use table.

Commercial Amusements [pg. 6]

The heading of 'Recreational or Entertainment' has been updated to reflect 'Commercial Amusements', which provides consistency with the use table.

The parking requirement for 'Bowling alley' has been reduced based on the fact that bowling has become a family activity as well as a league activity. The current requirements provide for 4 persons per lane with each person driving their own vehicle, which does not account for alternate modes of transportation or multiple persons arriving in one vehicle.

'Skating rink' parking requirements have also been reduced based on a comparison to other jurisdictions where the most common requirement is 1 space for each 200 square feet. 'Library' has been removed as a term within 'Library, museum, and gallery' to provide consistency with the use table.

Industrial Uses and Solid Waste Operations [pg. 7]

The 'Industrial' heading has been updated to reflect the combination of industrial and solid waste operations as a single entry in the parking table. 'Warehouse' has been added as a new use within the parking table with parking requirements established based on past policy and Staff experience when processing requests for this type of development.

Open Space and Institutional [pg.7]

A new heading for 'Open Space and Institutional' land uses has been added to provide consistency with the use table. Parking requirements for the land uses reflected under this heading have been recently added to the zoning ordinance (ZT-09-03) and therefore have not been recommended for updates or edits.

Institutional [pg. 8]

'Child care center/nursery school' text was consolidated for consistency with recent changes to the use table. In addition, the existing parking requirements were combined and updated. Existing requirements account for employees but provide little parking for drop-off/pick-up or potential company vehicles. For these reasons the parking requirements have been increased slightly from 1 per employee or 2 per classroom to 1.5 per employee. The increase requirement provides for employee vehicles as well as additional spaces for parents/visitors and company vehicles.

Existing land use terms within the parking table were updated to correspond to the Use Table listings of 'Nursing home' and 'Group home'. In addition, the existing parking requirement was decreased based on a comparison to requirements within other jurisdictions which ranged from 1 per 4 beds to 1 per 6 beds.

Parking requirements for "Housing for the elderly, assisted living" remain however, the specific requirement for additional reserved area to be set aside was removed as this has become a general requirement for all development at the discretion of the Planning Commission through text added to section 1-19-6.220 (A).

Required 'Hospital' parking has been updated to provide for employee parking. An increase in the parking requirement is consistent with other jurisdictions.

Governmental and Nongovernmental Utilities [pg.9]

A new heading for 'Governmental and Nongovernmental Utility' land uses has been added to provide consistency with the use table. Existing land uses are reflected in this portion of the parking table and are not proposed for edits or updates.

Parking Area Dimensions [pg.9]

The existing zoning ordinance is silent regarding parking space and drive aisle dimensions although dimensions for loading spaces are provided in existing section 1-19-6.210. It appears based on Staff research, that parking space dimensions were previously located in the Frederick County Streets and Roads Design Manual however, as the document was updated over time, the dimensions were removed.

The Parking, Landscaping, and Lighting *Draft* text amendment includes parking space and aisle dimensions in section 1-19-6.220 (B). Including parking space and aisle dimensions within the zoning ordinance will establish a level of expectation regarding site development as well as provide consistency with existing loading standards.

Standards across the country vary regarding parking dimensions and drive aisles depending on development density, environmental considerations, and community needs. In general, parking standards have also varied over time to reflect the changing trends in vehicle construction and size.

In evaluating parking dimensions and drive aisles several factors are considered in addition to vehicle safety and maneuverability: the potential for a parking space to accommodate vehicles of various sizes, establishing parking space widths large enough that a driver can enter and exit the vehicle comfortably, consideration of pedestrian safety, and limitation on impervious surface.

In researching this topic Staff evaluated the original standards that at one point were included in the Frederick County Design Manual, standards in several other surrounding jurisdictions, standards recommended within the Institute of Transportation Engineers (ITE) Traffic Engineering Handbook, and available industry specifications for several types of vehicles.

The ITE Handbook provides several items of research that should be considered when establishing dimensions. As noted in the handbook, three approaches can be used to establish dimensions: design all stalls for large vehicles, design all stalls for small vehicles, or provide a combination of these two. Large vehicles fit within the dimensions of about 6' wide by 17' to 18' in length with small vehicle dimensions at about 5' wide by 14' to 15' in length.

The handbook also notes that pick-up trucks, sport utility vehicles, and vans range from about 5.6' to 6.6' in width to 16.5' to 18' which places them within what ITE refers to as the large vehicle category. According to ITE, self-parking stall widths that will accommodate most passenger cars, vans, and light trucks range between 8.3' and 8.8'.

Therefore, ITE states that an optimum stall width of about 8.5' provides for most applications today and widths exceeding 9' are not recommended (except for stalls for vehicles used by persons with disabilities) because of inefficiency – wasted land and pavement area, unnecessary added maintenance such as cleaning and lighting, decreased capacity for a given site, increased storm water runoff, and increased walking distances for users.

Parking layout dimension guidelines are provided in the ITE Handbook for both small-size and large-size vehicles. The dimensions included in the handbook for small-size vehicles are consistent with what is referred to generally as 'compact' or 'small' vehicle parking. Within most jurisdictions, adopted standard vehicle parking space and drive aisle dimensions are consistent with the ITE guidelines for large-size vehicles. As previously discussed, the large-size vehicle dimensions accommodate most vehicles, where the small-size dimensions would accommodate 'compact' or small cars.

Based on a review of the available information, draft parking space and aisle dimensions have been proposed for inclusion in the zoning ordinance. The proposed dimensions are based on the ITE Handbook parking layout dimension guidelines for large-size vehicles and are comparable to those within surrounding jurisdictions, including the City of Frederick.

The proposed dimensions fall within the ITE width standards, are slightly higher than the ITE depth standards, and slightly lower than the ITE two-way aisle width standards.

A graphic has also been proposed to aid in understanding the proposed parking space and aisle dimensions. The proposed graphic represents each item within the parking dimensions table with a letter illustrating their implementation. Letters 'b' and 'c' within the graphic reflect stall width as measured perpendicular to vehicle length and stall depth as measured perpendicular to the drive aisle.

Parking Area Dimensions Outstanding Issue:

Where possible within the text amendment, flexibility has been provided to permit modification to the established standards. The modifications may provide for specific site constraints, context sensitivity, or the consideration of site specific information related to an application for development. However, there are standards within the zoning ordinance where flexibility has not been provided due to the desire to advance a specific requirement or concern for public safety, health, and/or welfare.

As currently drafted the parking area dimensions are requirements which must be met based on research regarding industry standards as well as staff experience. The flexibility for modification of these standards by the Planning Commission, Staff, or the applicant has not been provided.

If provided, the opportunity for modification could address safety issues related to:

- One-way aisle width in locations where fire truck access is required
- Stall width where extra maneuverability is required to facilitate vehicle/cart loading or environments (such as daycare) where children will be the predominate vehicle passengers
- Stall depth in dead-end parking lots, high traffic-volume retail environments, and gradients greater than 4.5%

However, providing flexibility may conflict with other objectives outlined in the recommendations provided by the CZRC, Model Development Principles, and the effort by the BOCC to incorporate LEED standards into the zoning ordinance. The flexibility would provide modifications based on site specific constraints but may also increase the amount of impervious surface related to parking spaces and aisles.

For these reasons Staff is requesting a recommendation from the Planning Commission whether the opportunity for a modification of the parking area dimension standards should be provided. If a modification is provided Staff would recommend limiting the modification to those items listed above and to specific land uses, as listed within the use table or parking table, rather than general land use terms.

Parking Area Construction [pg.10]

Text has been proposed in section 1-19-6.220 (C) to require approval from the Planning Commission for the material used for parking area construction. Rather than require all parking areas to be paved, this language will provide the Planning Commission with the opportunity to permit alternate forms of surfacing. This provision will permit consideration of context and setting which is reflective of the fact that the County contains both rural and growth areas where specific materials may or may not be appropriate. It is the long term goal to incorporate more specific direction for review of materials into a policy document such as the Community Design Guidelines and Development Principles or a codified design manual such as the Streets and Roads Design Manual.

Compact Parking Spaces [pg.10]

In section 1-19-6.220 (D) compact car parking spaces have been proposed. Including requirements for compact parking spaces within the zoning ordinance is consistent with Principle No. 8 of the Model Development Principles to reduce the overall imperviousness associated with parking lots as discussed under the heading of **Parking** above.

In addition, compact spaces are consistent with BOCC Strategic Plan FY 2007-FY 2011 Goal #5 Land Use, Objective 1 which states "...By July 2008, evaluate the incorporation of Leading Edge Environmental Design standards into the county's zoning ordinance." Compact parking could be used toward meeting the requirements of LEED ND Credit 6: Reduced Parking Footprint.

After research and review of various sources, Staff has proposed a flexible standard that can be implemented by the Planning Commission for up to 30% of the required parking. The size of the compact parking stall is similar to the majority of jurisdictions reviewed, slightly larger than the ITE Handbook small-size vehicle parking layout dimension guidelines, and larger than others (some jurisdictions utilize 7' or 7.5' width). In addition, evaluation factors have been created to guide the Planning Commission and staff in determining where, when, and the amount of required compact spaces for a particular development application.

Compact Parking Spaces Outstanding Issue:

During research on compact parking, Staff became aware of several issues that jurisdictions are encountering where compact parking space requirements have been implemented. Several jurisdictions are exploring the possibility, or have already reduced or eliminated, their compact parking space requirements for various reasons. The issues related to compact spaces include their reduced function for high turnover land uses, land uses serving consumers with large packages, and land uses serving consumers that need larger maneuvering areas (i.e. medical facilities or facilities for the elderly).

High turnover land uses may increase the occurrence of vehicle damage due to reduced area of movement together with high frequency vehicle entrance and exits. This may include frustration on the part of a consumer where inadequate maneuvering room is available to enter and exit a vehicle with or without packages.

Drivers of oversized vehicles can add to these problems when parking in compact spaces. It may be that they are unaware of whether their vehicle meets the size limitations of a compact space. They may also be tempted to park in a compact space due to the lack of other available parking spaces, or the prime location of the available compact space. The placement of an oversized vehicle in a compact space contributes to overhang that can continue down the entire parking bay creating a domino effect. The overhang can reduce function and utilization of remaining parking spaces as well as potentially increase vehicle damage due to reduced maneuverability for passengers as well as drivers.

Staff also recognizes that the rural nature of Frederick County and the need and/or desire to utilize larger trucks and sports utility vehicles in association with the activities related to a rural lifestyle may impact the function of compact spaces within the County.

The issues noted above should be evaluated against the benefits previously presented, and the fact that some of the jurisdictions which have removed or reduced the use of compact parking spaces utilized a 7' width standard which is a narrower space than what has been proposed within the draft text amendment. In addition, it can be argued that the availability of and increased interest in hybrid or alternative technology vehicles may be a trend that will continue and thus reduce the number of large vehicles on the road.

Furthermore, there are several strategies that can be employed to mitigate or alleviate the identified issues. These strategies include: designating areas of a parking lot for compact parking spaces rather than distributing them throughout the lot, limiting the number of compact parking spaces that may be constructed, limiting the requirement of compact car parking spaces to low parking space turnover land uses, and strategically locating the compact parking spaces in areas where there is inherent increased maneuverability (i.e. adjacent to a landscaping bay).

For these reasons Staff requests a specific recommendation from the Planning Commission regarding the existing compact parking space requirements as proposed within the draft text amendment as well as the following considerations:

- Reducing the maximum number of compact parking spaces that the Planning Commission may require to 15% from the proposed 30%
- The creation of specific land use restrictions on the requirement of compact parking spaces for example: may not be implemented for hospitals, medical and healthcare facilities, housing or facilities for the elderly, or retail uses
- Restricting location of compact parking spaces to individual parking bays
- Restricting location of compact parking to the end of parking bays

Handicapped Accessibility [pg.11]

Text is proposed in section 1-19-6.220 (E) to address the requirement of handicapped accessible parking spaces by the State of Maryland and consistent with the Americans with Disabilities Act.

Adjacent Parking Areas [pg.11]

As stated in the Public Hearing Draft Comprehensive Plan for Frederick County (May 2009) Chapter 10 Managing Our Growth, Policy MG-P-22 “Maximize transportation network connectivity and enhance the design of new and redeveloped communities by providing an interconnected street and transportation network within and between new and existing development.” Action item MG-A-01 provides for integration of these standards into zoning, subdivision, and other land development ordinances.

Interconnectivity is an important design principle as it provides for the continuation of a cohesive development pattern already established within our Rural Communities as well as Growth Areas. In addition, it provides alternatives for movement between land uses reducing the number of vehicles accessing a single transportation option and providing for multiple emergency routes.

A provision has been included in section 1-19-6.220 (F) to require the design of proposed parking areas to provide for connectivity between existing developed areas as well as connectivity with future development. This requirement provides alternative transportation options for both pedestrians and vehicles and furthers the goals and policies of the Comprehensive Plan.

Pedestrian Access [pg.11]

Pedestrian safety within parking lots is an existing and future concern as growth continues and the number of vehicles utilizing our roadways and parking areas increases. Clearly identified crosswalks, sidewalks, and walkways direct pedestrians to the most appropriate transportation route as well as separating these routes from vehicle access areas. The pedestrian connections from building to building as well as to and within parking areas as proposed in section 1-19-6.220 (G) will maximize transportation options and increase pedestrian safety.

Bicycle Parking [pg.12]

Decreasing the number of automobiles on our roadways thereby reducing congestion, pollution and natural resource consumption is linked to providing alternate modes of transportation. In addition, these alternatives need to be maximized, with barriers removed, so that they become as practical and efficient as standard modes of transportation.

In support of this effort, section 1-19-6.220 (H) includes requirements for bicycle parking for those land uses where it is feasible and expected that bicycle transportation is a viable option to, from, and within the proposed development.

The Public Hearing Draft Comprehensive Plan for Frederick County includes several goals, policies and action items that address the furtherance of alternate modes of transportation, and improvement of the transportation network. Specifically, requiring bicycle parking meets goal TR-G-01 “Plan a safe, coordinated and multi-modal transportation system on the basis of existing & future development needs, land uses and travel patterns”, goal TR-G-02 “Integrate transit, pedestrian, bicycling and ADA accessible facilities into the County’s existing roadways and communities and the design of new roadways and communities”, and TR-G-04 “Reduce the need for single occupancy auto use through travel demand management and increasing the share of trips handled by bus; rail; ride-sharing; bicycling and walking.”

Bicycle parking requirements are also consistent with BOCC Strategic Plan FY 2007-FY 2011 Goal #5 Land Use, Objective 1 which states “...By July 2008, evaluate the incorporation of Leading Edge Environmental Design standards into the county’s zoning ordinance.” Bicycle parking could be used toward meeting the requirements of LEED ND Credit 5: Bicycle Network which provides credit for any non-residential buildings and multi-family residential buildings providing bicycle parking spaces or storage for a capacity of no less than 15% of the off-street parking space capacity provided for cars for those buildings.

In developing the bicycle parking requirements for Frederick County, Staff reviewed existing regulations nationwide, including several local jurisdictions. Bicycle parking is most commonly calculated as a percentage of the required automobile parking or as a portion of the square footage of the facility that the bicycle parking will serve. Based on this review, draft provisions were created to include the most functional and flexible components found within other jurisdictions, which were then modified based on specifics within Frederick County. Consideration was given to several local factors such as specific development processes and types, mixture of land use development patterns including growth areas and rural areas, and consideration of specific land uses.

The FCPC has been given the flexibility in subsection (H)(2) to reduce the required bicycle parking where the applicant can demonstrate need. In addition, to ease implementation the parking requirements have been restricted to applications received after approval of the effective date of the ordinance.

In addition to the calculation of the required number of spaces, design elements provide guidance to the development community in implementing the requirements in the most efficient and effective manner. Bicycle parking that is unsafe, impractical, inconvenient, and potentially damaging to the bicycle or bicyclist will not be used. For these reasons the Frederick County Bicycle Parking Design Guide attached as Exhibit 2, has been created to provide additional specificity through bicycle parking location and design best practices. The purpose of the Design Guide is to ensure that the facilities that are constructed will be functional and safe maximizing the investment that is made.

It is the intent that the Frederick County Bicycle Parking Design Guide will accompany the draft text amendment, as an exhibit, through the process of review and approval. The Design Guide will function similar to the Village Center Design Guide in that it is referred to in the proposed zoning ordinance text and will provide guidance and important information on the construction, design, and implementation of the requirements in the zoning ordinance however, it will not be codified into the zoning ordinance.

DIVISION 3. SIGNS

Sec. §1-19-6.320. Signs Permitted and Regulated in the Zoning District [pg.14]

Edits proposed in this section include typographical corrections related to existing provisions for signs in association with a home occupation.

DIVISION 4. LANDSCAPING

Sec. §1-19-6.400. Landscaping and Screening [pg.14]

In an effort to implement the various recommendations by the CZRC and within the Model Development Principles as discussed under the heading of **Landscaping and Screening** above and improve upon existing standards, several edits and additions have been made to existing text.

The introductory paragraph to section 1-19-6.400 Landscaping and Screening has been expanded to more accurately reflect the standards that the Planning Commission may apply, during site plan review, to ensure mitigation of the potential negative impacts associated with a proposed development.

Section 1-19-6.400 (A) requires street trees along the property line adjacent to the paved surface or proposed public right-of-way in an expansion of existing text. The proposed and existing text work together to mitigate negative impacts while locating the required landscaping outside of existing or proposed rights-of-way. The planting area has been slightly increased from 5 to 7 feet in width based on past Staff experience that 5 feet is insufficient for tree growth and survival.

The recommended spacing is based on a pedestrian-scale development. However, the text does not require, nor is it intended to require, a 35 foot on center spacing. Rather, the spacing is to be determined by the applicant in conjunction with Staff and approval by the FCPC for the specific application. The 'per 35 ' of roadway frontage' would be used as a factor to determine the number of trees required. Those trees could then be clustered, placed in double rows, or planted in a non-linear pattern as long as the 1/35' minimum has been achieved. It has also been provided in subsection (A) (2) that the FCPC may approve an on-site alternate location (rather than adjacent to the paved surface/right-of-way) based on specific factors, or approve an alternate planting design.

Street trees contribute to the effort to mitigate the potential negative impacts associated with development. In addition, the benefits of street trees are widely discussed and include: providing a defined edge to vehicular movements potentially leading to a reduction in speed and increase in pedestrian safety; separation of pedestrian areas from vehicle areas adding to aesthetics as well as safety; increased absorption of runoff; lower urban air temperatures through heat island reduction; and street trees may add value to an adjacent home or business due to improved aesthetics. It has also been noted that the shade provided by street trees may increase the life of asphalt by reducing daily heating and cooling (expansion/contraction).

The proposed text is consistent with the Public Hearing Draft Comprehensive Plan Chapter 6 Providing Transportation Choices under planning and design concepts which states: "Provide a comfortable pedestrian environment, particularly along heavily traveled streets. Provide grass-planting strips between the sidewalk and the street to buffer pedestrians from the traffic. These buffers also provide space for snow storage during the winter and for street trees to provide shade during the summer.

Section 1-19-6.400 (B) provides for buffering and screening between potentially incompatible land uses. Although specific standards have been provided in (B) (1) and (2), the number and type of planting will be determined by the FCPC. The standards as proposed provide flexibility for the applicant to work with Staff and ultimately to receive approval from the FCPC based on the specifics related to the proposed development.

A specific subsection has been created in 1-19-6.400 (C) for Parking Area Buffering and Screening to provide for easy location of requirements. The proposed requirements build on existing standards regarding screening along the property line and around and within parking areas. The requirements establish minimum standards for screening of parking areas from residential uses or zoning districts as well as roadways of at least a collector status. Screening of parking areas provides for an improved pedestrian environment as well as general community aesthetics, a reduction of noise and dust, and improved pedestrian safety.

Within section 1-19-6.400 (D) general parking lot landscaping requirements have been proposed. Parking lot landscaping reduces the impact of development on the surrounding area, increases on-site infiltration of rainwater which reduces stormwater treatment, and provides shade which reduces the heat emitted by the parking lot surface.

Parking lots collect grease, oil, antifreeze and other chemicals which are then transported to waterways during rain events or through melting snow. Although not a requirement, parking lot landscaping can be incorporated into a low impact development design or bioretention solution for stormwater management. Bioretention utilizes soil and plants to filter stormwater providing an alternative to the typical stormwater detention pond. The use of bioretention integrates the absorption of parking lot runoff into landscape islands to treat stormwater and reduce pollutants. Bioretention also provides animal habitat, shade and improves parking lot aesthetics.

Parking lot landscaping and the use of bioretention could both be utilized toward meeting the requirements of LEED ND Credit 9: Stormwater management and Credit 10: Heat Island Reduction.

Requirements to provide for continued maintenance of landscaping in a healthy condition, to emphasize native species and not to include invasive/exotics has been included in subsection (E). Additional flexibility has been provided in subsection (G) to permit the use of fences, walls, berms and existing landscaping toward meeting the minimum requirements.

Subsection (H) establishes application requirements for landscaping, buffering, and screening including the location, dimension, access, and type of material proposed for recycling and refuse management areas.

Subsection (I) permits the FCPC to approve an alternate landscape plan where it is established that the proposed requirements would result in a practical difficulty.

The proposed landscaping, buffering, and screening changes are generally consistent with the standards informally utilized by the Planning Commission through Staff since approximately 2002. It is the intent to provide the necessary specificity through the proposed text amendment to establish minimum standards within the zoning ordinance that can be modified where necessary by the FCPC to accommodate specific issues and on-site factors for each development application. The proposed standards will provide for a minimum level of expectation on the part of the general public and the applicant regarding requirements related to the development review process.

DIVISION 5. LIGHTING

Sec. §1-19-6.500. Lighting [pg. 18]

In creating lighting standards to be included in the zoning ordinance, Staff reviewed standards applied in other jurisdictions as well as available general lighting information. Some jurisdictions address excessive lighting by creating specific lighting zones (similar to land use zoning districts), others regulate the type of fixture permitted within the jurisdiction (mercury vapor, low pressure sodium, high pressure sodium, or metal halide), or regulate the number of lumens permitted per acre. These avenues are not proposed as part of this text amendment due to the complexity of application and enforcement, on-going debate regarding the efficacy of specific fixture types, and the continued effort within Frederick County to provide flexibility and options for development applications in complying with zoning ordinance standards.

The proposed lighting standards were created to provide for illumination levels adequate for the safe and efficient movement of individuals and vehicles, to protect against light trespass which may negatively impact adjacent properties, protect against glare which may impair the vision of motorists and pedestrians, and provide for consideration of excessive lighting and the effects on the natural nighttime environment.

Negative lighting impacts are addressed by many jurisdictions through regulation of the type of lighting fixture that is permitted. Staff considered information regarding both 'full cut-off' fixtures as well as 'fully shielded' fixtures and found that a fully shielded fixture provides for increased flexibility (increased number of fixtures can meet this requirement) and ease of implementation and enforcement.

Generally, fully shielded fixtures are constructed in such a manner that all light emitted by the fixture is *projected* below a horizontal plane through the fixture. Full cut-off fixtures on the other hand require that no candlepower occurs at or above an angle 90 degrees above nadir (a point directly below the center of the light emitting source, effectively zero). This definition requires evaluation of the amount of lighting projected above the horizontal plane requiring both detailed lighting information and technical expertise to evaluate it. As noted in the Outdoor Lighting Code Handbook produced by the International Dark Sky Association, "Simple elimination of uplight, conforming to the definition of fully shielded but no further, has been found to give quite good results, certainly for uplight elimination, but even in the reduction of glare." Utilizing fully shielded instead of full cut-off reduces the complexity of the lighting regulations, the implementation, and enforcement while achieving the desired results.

For these reasons, existing text within section 1-19-6.500 (A) has been slightly modified to require that lighting be designed and installed to be fully shielded. In reviewing available lighting information as well as requirements within other jurisdictions Staff found that a requirement of fully shielded lighting meets the need of preventing glare and light trespass onto adjacent properties, roadways, and the nighttime sky. Fully shielded lighting emits light directly where it is needed reducing the amount of light that is scattered. Directed lighting may require less wattage which reduces energy consumption. A definition for fully shielded has been added to section 1-19-11.100.

Section 1-19-6.500 (B) has been created to address the height of pole and building mounted lighting. Reducing the height of light fixtures can increase the amount of light reaching the area being lit thereby improving the effectiveness of a fixture. The height of a fixture also adds to the characteristics of a development for instance the creation of a pedestrian oriented environment. The lighting heights established within the proposed text are based on past Planning Commission policy and Staff experience when reviewing site plan review applications.

An evaluation of lighting levels as required in section 1-19-6.500 (C) provides consideration of light distribution and overlap as well as the number and height of fixtures to present information to the Planning Commission that an application for development includes the lowest levels of lighting necessary. This requirement further supports the goals of reduced energy consumption, light trespass and glare.

Subsection (D) reflects an existing standard within the zoning ordinance requiring that lighting shall not exceed .50 foot-candles at the property line. This requirement is necessary in addition to the full shielding due to the amount of light that may be emitted below the horizontal plane of the light fixture but beyond a property line.

The .50 foot-candles is an accepted industry standard for light levels extending beyond a property line. This existing standard is utilized within many jurisdictions reviewed by Staff and is not recommended for edits or updates as part of the proposed text amendment.

Subsection (F) establishes application requirements for lighting in conjunction with a site plan review application including standards and specifications, photometric data, mounting height, and hours of operation.

Lastly, in Subsection (G) the Planning Commission has been given the authority to modify the lighting standards where the applicant can demonstrate need based on several evaluation factors.

An effort was made to develop regulations consistent with the existing standards, ensure the regulations were the least complex to understand and apply while also maintaining effectiveness.

The lighting standards as proposed are general in nature and build on existing language by providing for an evaluation of lighting for all applications processed through site plan review. The proposed standards are similar in several areas to those applied within other Maryland Counties and will act as a complement to the restrictions potentially applied by the Board of Appeals (BOA) during the special exception process.

**ARTICLE VII: SUPPLEMENTARY DISTRICT REGULATIONS
DIVISION 5. COMMERCIAL DISTRICTS**

Sec. §1-19-7.500. Village Center Zoning District Overlay Standards [pg.19]

This section includes updates to existing standards regarding the storage, maintenance, and repair of equipment and supplies in outside areas. The proposed changes will provide consistency between the Village Center Zoning District and recently adopted amendments to other commercial and industrial zoning districts as part of ZT-09-03 A/RC Use and Definitions Text Amendment.

ZT-09-03 updated sections 1-19-7.510 and 1-19-7.600 requiring that storage and operations be conducted within completely enclosed buildings and permitted outdoors only when completely screened by a wall, opaque fence or planting. The most appropriate screening for the use is established by the FCPC at the time of site development plan review.

The proposed changes for this section are consistent with those recently adopted, however they also address the unique characteristic that Village Center areas are predominantly pedestrian oriented developments by providing that the FCPC may approve outdoor display at the time of site development plan review.

Lastly, a provision has been added to address the location and screening of refuse and recycling dumpsters.

Sec. §1-19-7.510. General Commercial, Highway Service [pg.20]

A provision has been added to this section to address the location and screening of refuse and recycling dumpsters.

DIVISION 6. INDUSTRIAL DISTRICTS

Sec. §1-19-7.600. Industrial Districts [pg.20]

A provision has been added to this section to address the location and screening of refuse and recycling dumpsters.

Sec. §1-19-7.610. Industrial District Performance Standards [pg.20]

Specific text addressing lighting within this section is proposed for deletion based on the expanded lighting provisions that have been proposed in section 1-19-6.500.

ARTICLE XI: DEFINITIONS

DIVISION 1. DEFINITIONS

Sec. §1-19-11.100. Definitions [pg.21]

Definitions are proposed in this section to provide clarity to the lighting provisions in section 1-19-6.500.

STAFF RECOMMENDATION

Staff requests review and input regarding the Parking, Landscaping, and Lighting *Draft* Text Amendment to the zoning ordinance.

EXHIBITS

Exhibit #1: Parking, Landscaping, and Lighting *Draft* Text Amendment

Exhibit #2: Frederick County Bicycle Parking Design Guide

Exhibit #3 Existing Article VI, and VII of the zoning ordinance