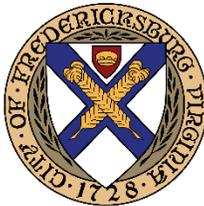


DRAFT



MEMORANDUM

TO: Tim Baroody, City Manager
FROM: Chuck Johnston, Community Planning & Building Director;
Mike Craig, Senior Planner
DATE: 2020 July 30 for the August 11 Council Work Session
SUBJECT: Parking Regulation Text Amendments to the Unified Development Ordinance,
Section 72-53.1

Issue

Should the Unified Development Ordinance be amended to recalibrate parking regulations?

Planning Commission Action

After a public hearing on March 11, the Planning Commission unanimously (1 absent) voted to recommend the amendments to the Unified Development Ordinance to recalibrate the City's parking standards. Two residents spoke in favor of the changes. One of the speakers also encouraged a review of bicycle parking standards. The Commission recommendation included making such changes.

Subsequent to the March 11 meeting, the proposed text was modified to include the SmartCode standard for the minimum number of required bicycle parking spaces (requiring bicycle spaces as a ratio to the number of vehicles spaces replacing a per square foot/unit standard for all uses). As more fully described below, the SmartCode has been the foundation text for all the proposed changes to the number of required spaces. Also included were more detailed bicycle facility design standards, taken from standards developed by Arlington County and the City of Alexandria.

In addition, editorial adjustments have been made.

- Section 82.7, Rules of Measurement; Parking Space Computation, is shifted to Section 53.1 so that all parking standards are in one UDO section for ease of reference. Portions of 82.7 that are redundant or inconsistent with the current provisions of 53.1 are deleted.
- The proposed text allowing a payment instead of providing spaces in the Downtown area was reworded to be clearer.
- Proposed text for parking requirements was modified to be internally consistent with existing text and standards.

Background

A reduction and recalibration of the City's parking regulations are proposed to implement policies in the City's Comprehensive Plan to encourage quality development/redevelopment Downtown and in Planned Development areas. The 2017 Walker Parking Action Plan encourages efficient parking supply. The changes also incorporate into the proposed Creative Maker Zoning District. The amendments are the application of good planning practices that enable communities to achieve walkable urban places with an appropriate mixture of land uses and open space. Finally, the changes will help the City achieve more sustainable development with less impervious area

and reduced need for stormwater facilities. The “SmartCode” (with some calibration) is proposed as the benchmark for parking requirements for the City. The primary impact would be in the Downtown area, the new Creative Maker District, and in Planned Development projects, where commercial standards would be lower, multi-family residential would be higher, and an automatic shared use calculation applied to mixed use, providing a more balanced parking standards. An analysis of the history of the City’s parking regulations and the legal and regulatory pressure they apply to the City’s urban fabric is attached.

Comprehensive Plan Policies

- Downtown Parking Strategy 3
 - *Reduce or remove parking regulations* and allow market forces to provide for adequate parking.
- Transportation Policy 9
 - *Develop parking policies that are appropriate to an active downtown.*
- Business Opportunity Policy 5
 - *Implement development/redevelopment standards that promote a human-scale, pedestrian-oriented, transit friendly community*, through site layout, building configuration, landscaping, signage, parking lot design, vehicle and pedestrian circulation, stormwater management, and environmental protection.
- Business Opportunity Initiative 35
 - *Encourage development/redevelopment activity* by creating redevelopment plans, especially for older shopping centers, that will diversify uses and provide for improved multi-modal access, landscaped parking areas, and improved lighting and signage.
- Land Use Revitalization Objective

Most of the City’s small areas are designated as revitalization areas per Virginia Code 15.2-2303.4, as having:

 - Large surface parking areas on commercial land, which have revitalization opportunities for the evolution of a suburban pattern of development into a more urban, mixed-use pattern. *Broad expanses of surface parking* result in fragmented and inefficient development patterns that *should be redeveloped so as to create complete communities that are walkable and robust.*

Walker Parking Action Plan

The 2017 Walker Parking Action Plan cites, as one of several ‘New Parking Paradigms’, that “Too much supply is as harmful as too little. Public resources should be maximized and sized appropriately.” [Pages v and 53]

Urban Development Standards

The thrust of good planning practice since the late 20th century has been to reassert pre-automobile age development standards to refocus communities, through the principles of ‘New Urbanism’, as great places for people, not just great places for cars. The model ordinance created to enable New Urbanism is the “SmartCode” (parking pages attached). The proposed recalibration of the City’s parking standards is directly derived from the parking standards in the SmartCode. The SmartCode uses the concept of ‘Transects’ to describe different elements of a community, as illustrated in the diagram below, and establishes land development standards that vary depending on the Transect.



In the small area plans that are being created for the City, T-5 is applied to Fredericksburg's Downtown and the cores of other planning areas. T-4 is the transitional area between these cores and adjoining lower density residential areas. T-3 is applied to the lower density city residential areas. T-1 is used for open space areas.

The parking standards in the SmartCode vary by Transect. Making comparison somewhat challenging, the SmartCode parking standards are expressed in a ratio of X number of spaces per 1000 square feet, while the City's Unified Development Ordinance standards are typically stated as 1 space per X hundreds of square feet. Further, the SmartCode consolidates parking requirements into four broad categories: residential, lodging, office, and retail. While the UDO expresses a parking standard for each of the approximate 120 listed specific land uses.

Commercial Downtown, Planned Development, and new Creative Maker Districts

The development standards for Downtown, Planning Development, and the proposed Creative Maker Zoning Districts are intended to foster the development and redevelopment of these areas for a mixture of uses that, while designed to accommodate private vehicles access, also encourage alternative access by foot, bicycle, and transit. Minimum parking requirements are still appropriate in these areas in Fredericksburg, as the level of alternative access has not reached a level of sophistication and comprehensiveness that have allowed larger cities to eliminate parking requirements. Downtowns without parking requirements typically are in high functioning large cities with a critical mass of a mix residential, service, and employment uses. These downtowns are served by mature transit systems with a comprehensive network of routes, fixed rail services (usually), and short intervals between transit vehicles. FRED Transit does not have the network nor the frequency of service to provide a comparable transit alternative. Downtown Fredericksburg will remain private vehicle dependent for the foreseeable future for customers, employees, residents, and visitors.

Retaining parking requirements Downtown would allow the City to continue to receive revenue from projects where there is payment in-lieu of spaces. Current regulations allow for purchase of 50% of required spaces. Expansion of the opportunity for purchase would increase the potential for revenue. Parking requirements also allow the City to incentivize uses that it wishes to encourage (such as: reuse of historic buildings or, potentially, affordable housing). Finally, the nature of vehicle use is changing and the City should not be requiring more parking than is really necessary or appropriate in its most urbanized areas.

The use of a 'Shared Parking Factor' is proposed as a set formula for determining when there can be a shared parking in mixed use or multiple use projects. A specific rate of reduction is provided based on the degree uses are complimentary, such as spaces for offices during the day that can be used for residential or lodging in the evening. This would replace the need for an alternative parking plan where the degree of sharing is determined by traffic consultants without public evaluation criteria.

While not as dramatic as the elimination of parking requirements, application of SmartCode parking standards would substantially reduce parking standards for office uses, modestly reduce parking for retail, and recalibrate residential parking expectations in urban areas. The changes would move the City to a more appropriate balance of parking and desired character as a walkable community with:

- a 33% reduction for office uses and 12% reduction for retail in Downtown/Mixed-Use areas,
- an approximate 12% reduction for office and use of a lower standard for larger retail uses outside Downtown/Mixed-Use areas,
- elimination of parking for small commercial uses (the first 1,500 buildable square feet of a use within a walkable urban place would be parking exempt),
- an increase in requirements for dwellings in mixed use areas combined with an automatic shared use calculation, and
- a specific method for calculation shared use space requirements as a standard practice. Application of a standard formula would remove the vagaries of the current process, which may result in inconsistencies between projects, and additional consultant costs for developers.
- application of parking requirements for changes of use outside of mixed-use areas

The combination of these parking adjustments will allow for more efficient use of land, provide more opportunity for open space, and reduce impervious area thereby reducing the need for stormwater facilities.

Downtown Parking District

The payment-in lieu of spaces is proposed for all spaces, with higher rates for the second 50% in the Downtown Parking District. The Winchester Parking Garage, under construction next to the new Liberty Place project on William Street, has an approximate cost per space of \$28,000. It is recommended that the current rate of \$7,150 as payment for the first 50% of spaces be maintained, with 2x (\$14,300) the base rate for 51 to 70% of spaces, 3x (\$21,450) the rate for 71 to 85% of spaces and 4x (\$28,600) the rate for 86 to 100% of spaces. The base rate was adjusted in last year's budget in process. The rate amount should be reviewed regularly to keep abreast of inflation and construction costs. These funds would support an eventual third parking deck Downtown. In addition, the use of the funds are proposed to include support of transit/shuttle services as well as bicycle facilities, with the district, which is restyled as the Downtown Parking/*Transit/Bicycle* District. Further, expansion of the Downtown Parking/*Transit/Bicycle* District is proposed to include the proposed additional walkable urban places in the Downtown Plan, as shown in the Downtown Small Area Plan (see attached map).

Information Sessions

Per the request of Council, these proposed text amendments were presented to interested/affected organizations: the Economic Development Breakfast (February 18), Fredericksburg Area Builders Association (March 6), Economic Development Authority (March 9), and Main Street Board (March 19).

Conclusion

In applying SmartCode parking standards, the City would reinforce its efforts to maintain and enhance its traditional neighborhoods and districts, such as Downtown, while requiring a reasonable level of parking in a more environmentally appropriate way. These standards will help encourage the evolution of auto/retail-oriented corridors into communities with multiple uses and that are served by multiple means of access.



MOTION:

SECOND:

draft 2020 08 11
Regular Meeting
Ordinance No. 20-__

RE: Amending the Unified Development Ordinance to amend off-street parking regulations.

ACTION: APPROVED; Ayes:0; Nays: 0

First read: _____ **Second read:** _____

It is hereby ordained by the Fredericksburg City Council that City Code Chapter 72, "Unified Development Ordinance," is amended as follows.

I. Introduction.

The purpose of this ordinance is to _____

The City Council adopted a resolution to initiate this text amendment at its meeting on _____. The Planning Commission held its public hearing on the amendment on _____, after which it voted to recommend the amendment to the City Council. The City Council held its public hearing on this amendment on _____.

In adopting this ordinance, City Council has considered the applicable factors in Virginia Code § 15.2-2284. The City Council has determined that public necessity, convenience, general welfare and good zoning practice favor the requested rezoning.

II. City Code Amendment.

City Code Chapter 72, "Unified Development Ordinance," Article V, Development Standards, Section 72-53, "Parking," is amended as follows:

1. **Section 72-53.1, "Off-street parking and loading,"** shall be amended as follows:

Sec. 72-53.1. Off-street parking and loading.

- A. Purpose and intent. The purpose of this section is to ensure provision of off-street parking and loading facilities in proportion to the generalized parking, loading, and transportation demand of the different uses allowed by this chapter. The standards in this section are intended to provide for adequate off-street parking while allowing the flexibility needed to accommodate alternative solutions. The standards encourage pedestrian-oriented development in downtown and commercial centers, while avoiding excessive paved surface areas, promoting low impact development, where appropriate, and safeguarding historic resources.

B. Applicability.

1. General. These off-street parking and loading standards shall apply with respect to the use of land, buildings and structures within the City.
2. Exemptions. The following activities are exempt from the requirements of this § 72-53.1C:
 - (a) Re-stripping an existing parking lot, which does not create a deficit in the number of required parking spaces, or other nonconformity with the requirements of this § 72-53.1;
 - (b) Rehabilitation or re-use of an historic building;
 - (c) A lot of record, vacant or otherwise, that existed on or before April 25, 1984, and has a residential zoning designation on the Zoning Map;
 - (d) On-street parking that directly abuts a lot may be credited once to the off-street parking requirements for the abutting lot. The Zoning Administrator shall maintain a record of all on-street parking spaces that have been credited towards any particular lot; ~~and~~
 - (e) Changes in use *in the CD and CM zoning districts* shall be exempted from the requirement to provide additional on-site parking spaces beyond those that existed prior to the change in use; *and*
 - (f) *The first 1500 square feet of Commercial uses that are in the CD, CM, CT, or Planned Development zoning districts, or where Form Based Code standards are applied and that have required parking based on square footage. This exemption shall not apply where a Shared Parking Factor calculation is used.*

C. Off-street parking requirements.

1. Parking plan required. A parking plan shall be required in connection with every proposed development, for every proposed change in use of land, buildings or structures, and for every proposed alteration of a building or structure. The parking plan shall accurately designate the required parking spaces, access aisles, and driveways, and the relation of the off-street parking facilities to the development the facilities are designed to serve.
2. Minimum number of spaces required. Unless otherwise expressly stated in this section or approved through an alternative parking plan, the minimum number of off-street parking spaces shall be provided in accordance with Table 72-53.1C(2), Minimum Off-Street Parking Standards.
3. Spaces meeting only the dimensional requirements for compact cars ~~or motorcycles are not~~ *may be* credited for compliance with *up to 10%* of the minimum number of parking

space standards in this table. *Spaces meeting only the dimensional requirements for motorcycles may be credited for compliance with up to 5% of the minimum number of parking space standards in this table.*

4. *The Shared Parking Factor Table shall be applied to the number of parking spaces required by Table 72-53.1C(2) when at least two or more function uses are present in a development in the C-D, C-M, or Planned Development zoning districts or where Form Based Code standards are applied.*

[1] A Shared Parking Factor for two functions in a development is divided into the sum of the parking required for the two uses to produce the effective parking required.

[2] The lowest factor shall be used when there are three or more functions.

[3] Uses in the Institutional and Commercial Use Classifications in Table 72-53.1C(2), but not shown as functions in the Shared Parking Factor Table, shall be considered as a Retail function.

[4] A Shared Parking Factor shall not be applied when any one of the four functions constitute more than 75% of square footage of a development.

[5] A Shared Parking Factor shall not be applied when parking spaces are assigned to specific dwelling units or non-residential uses.

Table 72-53.1C(2): Minimum Off-Street Parking Standards

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
Residential use classification		
Household living	Dwelling, duplex	1.5 per DU
	Dwelling, live/work	1 per DU
	Dwelling, mobile home	2 per DU
	Dwelling, multi-family	1.5 1.75 per DU + 1 per every 5 units; <i>1 per DU in C-D, C-M, or Planned Development zoning districts or where Form Based Code standards are applied</i>
	Dwelling, single-family attached	1.5 1.75 per DU + 1 per every 5 units; <i>1.5 per DU in C-D, C-M, or Planned Development zoning districts or where Form Based Code standards are applied</i>
	Dwelling, single-family detached	2 per DU; 1 per DU on infill lots
	Dwelling, upper story	0.5 per DU <i>see Dwelling, multi-family</i>
Group living	Convent or monastery	1 per every 500 sf
	Dormitory	1 per every 2 resident beds
	Fraternity or sorority	1 per resident bed
	Group homes	1 per every 2 resident beds
	Institutional housing	1 per every 3 beds
Institutional use classification		
Community services	Art center and related facilities	1 per every 300 335 sf
	Community center	1 per every 300 335 sf
	Cultural facility	1 per every 300 335 sf
	Library	1 per every 300 335 sf
	Museum	1 per every 500 sf
	Social service delivery	1 per every 300 335 sf
Day care	Adult day-care center	1 per every 300 sf
	Child-care center	1 per every 325 sf

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
Educational facilities	College or university	1 per every 900 sf
	School, elementary	10 + 1 per classroom
	School, middle	10 + 1 per classroom
	School, high school	1 per every 300 sf
	Vocational or trade school	1 per every 300 sf
Government facilities	Courthouse	65 per courtroom <i>1 per every 6 seats in each courtroom</i>
	Government facility	1 per every 600 sf
	Government office	1 per every 300 335 sf; <i>1 per every 500 sf in the C-D, C-M, or Planned Development zoning districts</i>
	Post office	1 per every 200 250 sf
Health care facilities	Hospital	1 per every 3 inpatient beds
	Medical laboratory	1 per every 400 sf
	Medical treatment facility	1 per every 300 335 sf
Institutions	Assisted living facility	1 per every 3 patient beds
	Auditorium, conference, and convention center	1 per every 400 sf
	Club or lodge	1 per every 300 sf
	Continuing care retirement community	1 per every 3 beds
	Nursing home	1 per every 3 patient beds
	Religious institution	1 per every 6 seats in worship area
Parks and open areas	Arboretum or botanical garden	See §72-53.1C(3)
	Community garden/gardening, non-commercial	See §72-53.1C(3)
	Community garden/gardening, commercial	See §72-53.1C(3)

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
	Cemetery, columbaria, mausoleum	See §72-53.1C(3)
	Park, playground, or plaza	See §72-53.1C(3)
Public safety	Swimming pool, public or private	See §72-53.1C(3)
	Fire/EMS facility	See §72-53.1C(3)
	Police station	See §72-53.1C(3)
Transportation	Airport	See §72-53.1C(3)
	Heliport	See §72-53.1C(3)
	Passenger terminal (surface transportation)	See §72-53.1C(3)
Utilities	Data center	4 parking spaces for the first 4,000 sf and a maximum of + 1 parking space for <i>per</i> every additional 6,000 sf
	Small data center	1 per 1,000 sf
	Solar array	None
	Telecommunications facility, structure	None
	Telecommunications facility, co-location	None
	Telecommunications tower, freestanding	None
	Utility, major	1 per every 1500 sf
	Utility, minor	None
Commercial use classification		
Adult entertainment		1 per every 300 sf
Animal care	Animal grooming	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development zoning districts</i>
	Animal shelter/kennel	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development zoning districts</i>

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
	Veterinary clinic	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development zoning districts</i>
Eating establishments	Bakery	1 per every 240 sf
	Restaurant, fast-food	1 per every 100 sf
	Restaurant, with indoor or outdoor seating	1 per every 180 sf, <i>no spaces required for outdoor seating</i>
	Specialty eating establishment	1 per every 240 sf
	Microbrewery/taproom	1 per every 240 sf for food/beverage preparation and consumption area; 1 per every 1000 sf for brewery operations area
Offices	Business and professional services	1 per every 300 335 sf; <i>1 per every 500 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Medical and dental	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
Parking, commercial	Parking lot	None
Recreation, Indoor	Fitness center	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Theater	1 per every 4 seats
	Arena or stadium	1 per every 4 seats
Recreation, Outdoor	Golf course	3 per hold
	Marinas	1 per slip or mooring
	Recreation, outdoor	See 72-53.1C(3)

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
	Artist studio	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
Retail sales and services	Auction house	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Convenience store (with gasoline sales)	1 per every 250 sf
	Convenience store (without gasoline sales)	1 per every 250 sf
	Crematorium	1 per 4 seats in main assembly room
	Financial institution	1 per every 300 335 sf; <i>1 per every 500 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Funeral home	1 per 4 seats in main assembly room
	Gasoline sales	1 per every 300 sf
	Grocery store	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i> <i>60,000 sf to 100,000 sf:</i> <i>1 per every 400 sf</i> <i>>100,000 sf: 1 per every 450 sf</i>
	Historic dependency limited office retail	1 per every 300 335 sf; <i>1 per every 500 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Laundromat	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
	Lumber/building materials	1 per every 300 sf
	Open-air market	See 72-53.1C(3)
	Personal services establishment	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Pharmacy	1 per every 200 250 sf
	Plant nursery	1 per every 500 sf
	Repair establishment	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
	Retail sales establishments, <i>including groups of two or more commercial uses</i>	<60,000 sf: 1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i> 60,000 sf to 100,000 sf: 1 per every 400 sf >100,000 sf: 1 per every 450 sf
	Shopping center	<60,000 sf: 1 per every 300 sf 60,000 sf to 100,000 sf: 1 per every 400 sf >100,000 sf: 1 per every 450 sf <i>See Retail sales establishments</i>
	Tattoo parlor/body piercing establishment	1 per every 300 sf; <i>1 per every 335 sf in the C-D, C-M, or Planned Development Zoning Districts</i>
Seasonal events	All	See 72-53.1C(3)
Vehicle Sales and Service	Automobile sales or rentals	1 per every 300 500 sf of building area + 1 per every 5,000 sf of outdoor display area
	Automobile towing and impoundment	1 per every 500 sf + storage area
	Car wash	1 per every 500 sf

Use category	Use type	Minimum number of parking spaces (sf = gross square feet of floor or use area)
Visitor accommodations	Bed-and-breakfast inn	2 spaces + 1 per guest bedroom
	Historic dependency lodging	1 per every guest room
	Hotel or motel (including extended stay)	1 per every guest room + 75% of spaces required for on-site accessory uses
Industrial use classification		
Industrial services	Contractor office	See 72-53.1C(3)
	Equipment rental and sales	1 per every 400 sf
	General industrial service/repair	1 per 1,500 sf
	Research and development	1 per every 800 sf
	Abattoir	See 72-53.1C(3)
Manufacturing and production	Manufacturing, heavy	1 per every 1,000 sf
	Manufacturing, light	1 per every 1000 sf
	Bulk storage	1 per every 2,500 sf
Warehousing and Storage	Outdoor storage (as a principal use)	See 72-53.1C(3)
	Self-service storage	1 per every 100 units
	Freight terminal	1 per every 2,000 sf
	Warehouse (distribution)	1 per every 2,500 sf
Waste-Related Services	Incinerator	See 72-53.1C(3)
	Recycling center	1 per every 500 sf
Wholesale Sales	All uses	1 per every 1,000 sf

- (3) Uses with variable parking demand characteristics. Wherever Table 72-53.1C(2) includes a reference to this § 72-53.1C(3), the specified uses have widely varying parking and loading demand characteristics, making it difficult to establish a single off-street parking or loading standard. Upon receiving a development application for a use subject to this subsection, the Zoning Administrator is authorized to apply the off-street parking standard in the table that is deemed most similar to the use, or

establish the off-street parking requirements by reference to standard parking resources published by the National Parking Association or the American Planning Association. Alternatively, the Zoning Administrator may require the applicant to submit a parking demand study that justifies estimates of parking demand based on the recommendations of the Institute of Traffic Engineers (ITE), and includes relevant data collected from uses or combinations of uses that are the same or comparable to the proposed use in terms of density, scale, bulk, area, type of activity, and location.

- (4) Maximum number of spaces permitted. Commercial and ~~institutional~~ *industrial* uses identified in Table 72-53.1C(2), Minimum Off-street Parking Standards, shall be limited in the maximum number of parking spaces that can be provided, in accordance with the following standards:
- (a) Except as allowed in this subsection, commercial and industrial uses of 1,000 square feet in area or larger listed in Table 72-53.1C(2), Minimum Off-Street Parking Standards, shall not exceed 125% of the minimum number of parking spaces required in the table.
 - (b) Through approval of an alternative parking plan in accordance with § 72-53.3A, Provision over the maximum allowed, commercial and industrial uses over 1,000 square feet in area or larger may provide up to a maximum of 175% of the minimum number of parking spaces required in the table.
 - (c) Provision of more than ~~47~~ 175% of the minimum number of parking spaces for commercial and industrial uses over 1,000 square feet in area shall require approval of a special exception in accordance with § 72-22.7, Special exception.
- (5) Stacking spaces. In addition to meeting the off-street parking standards in Table 72-53.1C(2), Minimum Off-Street Parking Standards, uses with drive-through facilities and other auto-oriented uses where vehicles queue up to access a service shall provide the minimum number of stacking/standing spaces established in Table 72-53.1C(5), Required Stacking Spaces.

[Figure 72-53.1C(5), “Stacking Spaces,” is not amended.]

Table 72-53.1C(5): Required Stacking Spaces is amended, to clarify that the “Minimum Number of Stacking Spaces” for a “Restaurant, with drive-through service,” is 3 per *order* window and 3 per *order* board.

~~72-82.7 D. Parking space computation.~~

- (1) *Fractions. When computation of the number of required parking spaces results in a fraction, the fraction shall be rounded up to the next whole number.*
- ~~(2) *Multiple and mixed uses. Unless otherwise approved, development containing more than one use shall provide off-street parking in an amount equal to the total requirements of all individual uses, unless the Zoning Administrator determines that a lower standard proposed as part of an alternative parking plan would be adequate because of differences in peak operating hours or other relevant aspects.*~~
- (3) *Seat-based standards. Where the minimum number of off-street parking spaces is based on the number of seats, all computations shall be based on the design capacity of the areas used for seating. The applicant shall specify the anticipated maximum number of seats or maximum seating capacity for the proposed use and shall include calculations based on standards set forth in the Virginia Uniform Statewide Building Code, as may be applicable.*
- (4) *Floor-area based standards. Where the minimum number of off-street parking spaces is based on gross square feet of floor area, the square footage shall not include outdoor display or use area.*
- ~~(5) *E. On-street parking. Except in planned developments, the C-D District, or as allowed in § 72-53.3, Alternative parking plan, on-street parking on public or private streets, driveways, or drives shall not be used to satisfy the off-street parking standards of this section.*~~
- (6) *Driveways used to satisfy requirements. For single-family detached and duplex dwellings, driveways may be used to satisfy minimum off-street parking standards, provided sufficient space is available to satisfy the standards of this section and this chapter.*

~~D. E. Configuration~~

- (1) General standards for off-street parking, stacking, and loading areas.
 - a. Use of parking area, stacking area, or loading space. All vehicular parking spaces, stacking spaces, internal aisles and other circulation areas, and loading areas required by this section shall be referred to as "vehicular use area" and shall be used only for their intended purposes. Any other use, including, but not limited to, vehicular storage, vehicle sales, vehicular repair work, vehicle service, or display of any kind, is prohibited.
 - b. Identified as to purpose and location. Except for single-family detached and duplex dwellings, off-street parking areas consisting of three or more parking

spaces and off-street loading areas shall include painted lines, wheel stops, or other methods of identifying individual parking spaces and loading areas and distinguishing such spaces and areas from aisles or other vehicular use areas.

c. Surfacing.

1. Except for single-family detached and single-family attached dwellings, and duplexes, and as provided for in § 72-53.3G, "Alternative materials," all off-street parking, loading, and circulation areas shall be surfaced with asphalt, concrete, brick, crushed stone (within floodplain areas), pavers, aligned concrete strips, or an equivalent material. These materials shall be maintained in a smooth, well-graded condition.
2. Overflow parking, and parking for temporary, special and seasonal events may take place on grass surfaces.

d. Arrangement.

1. Convenient access.
 - a. All off-street parking, loading, and circulation areas shall be arranged to facilitate access by and safety of both pedestrians and vehicles.
 - b. Except for single-family detached and duplex dwellings, off-street parking areas shall be arranged so that no parking or maneuvering incidental to parking shall occur on a public street or sidewalk, and so that an automobile may be parked and un-parked without moving another automobile (except as provided in § 72-53.3.F, Valet and tandem parking).
2. Backing onto streets prohibited. Except for parking areas serving single-family detached dwellings, all off-street parking, loading, and circulation areas shall be arranged so that no vehicle is required to back from such areas directly onto a public street. Vehicular access ways and vehicular use areas on private lands are not considered public streets.
3. Easements. No off-street parking, ~~or loading, or circulation~~ area shall be located within an easement without the written consent

of the person or agency that holds the easement, unless already provided for by an existing easement agreement.

[Subsections 72-53.1D(1)(e) “Drainage,” (f) “Exterior lighting,” (g) “Landscaping,” (h) “Curbs and motor vehicle stops,” (i) Maintained in good repair, and (j) “Construction of off-street parking and loading areas,” and 72-53.1(D)(2) “Dimensional standards,” are not amended.]

(3) Accessible parking spaces for physically disabled persons *shall be provided in accord with the most recent version of the Virginia Construction Code, section 116.* [The remainder of this subsection – (a) through (h) -- is repealed.]

[Subsection 72-53.1D(4), “Location,” is not amended.]

~~E. F.~~ Loading spaces. [Subsection 1 and Table 72-53.1E(1) are not amended.]

(2) Standards.

[Subsection (a) is not amended.]

(b) Location. Where reasonably practical, loading areas:

1. Shall be located to the rear of the use they serve;
2. Shall be located adjacent to the buildings’ loading doors, in an area that promotes their practical use;
3. Shall not be located within a front yard area;
4. Shall not be located within 40 feet of the nearest point of a public street intersection serving the loading approach; ~~and~~
5. Shall not be located within 60 feet of a residential zoning district; *and*
6. *In the C-D and C-M zoning districts, loading berths may be located in the public right of way as a curb parking space between 5:00 a.m. and 11:00 a.m., if approved by the Public Works Director. The minimum width is reduced to eight feet. Such loading berths shall also serve as pick-up/delivery areas.*

[The remainder of 72-53.1 is not amended.]

2. Section 72-53.2, “Parking standards for single-family development,” is amended as follows:

Sec. 72-53.2. Parking standards for single-family development.

Off-street parking serving single-family detached, duplex, and single-family attached dwellings and located within front yard and/or corner side yard areas shall comply with the following standards:

- A. Authorized vehicles. Only the following vehicles may be parked in single-family residential districts: passenger vehicles designed to transport 15 or fewer passengers, including the driver; pickup trucks and sport utility vehicles with a gross vehicle weight of less than 10,000 pounds; or any vehicle used by an individual solely for his own personal purposes, such as personal recreational activities.
- B. Parking in vehicular use area required. All licensed and operable vehicles, whether parked or stored, shall be located in a vehicular use area, unless the required off-street parking has been waived by the Zoning Administrator.
- C. Maximum area available for vehicular use.
 1. Except for lots of record smaller than 6,000 square feet in the R-4 District, vehicular use areas located within the first 40 feet of the *primary* front or ~~corner side~~ *secondary front* yard (as measured from the edge of the street right-of-way) shall be limited to the greater of 33% of the entire *primary* front and/or ~~corner side~~ *secondary front* yard area, or 750 square feet. Nothing in this subsection shall be construed to limit the size of the vehicular use area located beyond the first 40 feet of a *primary* front or ~~corner side~~ *secondary front* yard area.
 2. Vehicular use areas on lots of record smaller than 6,000 square feet in the R-4 District shall be limited to 33% of the entire front and/or corner side area.

[Subsections D “Surfacing,” and E “Dimensions,” are not amended.]

3. Section 72-53.3, “Alternative parking plans,” is amended as follows:

Sec. 72-53.3. Alternative parking plans.

The Zoning Administrator is authorized to approve an alternative parking plan as an element of a site plan, as set forth within this section. The alternative parking plan may include a combination of one or more of the following parking alternatives for a single use.

A. Preservation of Specimen Trees. The Zoning Administrator may approve an alternative parking plan that authorizes reductions in the minimum number of required parking spaces in order to preserve the root zones of existing, healthy specimen trees in accordance with § 72-55.6, Trees, shall not require approval of an alternative parking plan. upon demonstration in writing by a Certified Arborist that no reasonable alternative is available to protect specific specimen trees.

AB. Provision over the maximum allowed. The Zoning Administrator may approve an alternative parking plan that authorizes a number of off-street parking spaces in excess of the required by § 72-53.1C(4), Maximum number of spaces permitted, in accordance with the following:

1. *Parking demand study. Requests to exceed the maximum number of required off-street parking spaces shall be accompanied by a proposed parking plan, including a parking demand study performed by a professional who is licensed or demonstrated technical expertise to prepare such a study. The purpose of the parking demand study is to provide data and supporting analysis in support of the applicant's contention that the parking spaces required by § 72-53.1C(4), Maximum number of spaces permitted, will be insufficient for the proposed development. In addition to the parking demand study, the requesting party may provide other relevant and appropriate data supporting his request.*
2. *Minimum additional spaces allowed. The maximum number of off-street spaces allowed shall be limited to the minimum number of additional spaces deemed necessary, according to the parking demand study referenced above, or other relevant and appropriate data.*

~~*B. Shared parking. The Zoning Administrator may approve an alternative parking plan that reduces the individual parking requirements for two or more uses, through use of shared parking facilities. Requests for shared parking shall comply with the following standards:*~~

C. *Off-site parking. The Zoning Administrator may approve an alternative parking plan that authorizes off-site parking. Generally, all off-street parking areas shall be provided on the same parcel of land as the use to be served. Off-street parking may be located on another parcel of land ("off-site" parking), if there are practical difficulties in locating the parking area on the same parcel or the public welfare, safety, or convenience is better served by off-site parking. Off-site parking shall comply with the following standards:*

1. Location.

- a. Except for shared parking located within a parking structure or served by a parking shuttle, shared parking spaces shall be located within 1,000 feet of the primary entrance of all uses served.
- b. Shared parking located within a parking structure or served by a shuttle shall be located within 2,000 feet of the primary entrance of all uses served.
- c. Shared parking spaces shall not be separated from the use they serve by an arterial or collector street, unless the shared parking area or parking structure is served by an improved pedestrian crossing.

2. Pedestrian access. Adequate and safe pedestrian access, *which complies with all applicable ADA requirements*, shall be provided from and to the ~~shared off-site~~ parking areas.

3. ~~Timing. Two or more uses sharing parking spaces shall have staggered peak usage times.~~

4. ~~Maximum shared spaces. The maximum reduction in the total number of parking spaces required for all uses, in the aggregate, sharing the parking area shall be 50%. The percentage may be increased to 60% if the uses share parking spaces located within a parking structure.~~

3. Directional signage. When determined necessary by the Zoning Administrator, due to distance, indirect locations, or visual barriers, directional signage that complies with the standards of this chapter shall be provided to direct the public to the ~~shared off-site~~ parking spaces.

6. ~~Shared parking plan.~~

- a. ~~Justification. Those requesting to use shared parking as a means of satisfying the off-street parking standards must submit a proposed parking plan, including a parking demand study prepared by a professional who is licensed~~

~~to prepare such a study. The purpose of the study shall be to provide data and supporting analysis demonstrating the feasibility of the proposed shared parking facilities. The parking demand study shall include information on the size and type of the proposed development, the composition of tenants, the anticipated rate of parking turnover, and the anticipated peak parking and traffic loads for all uses that will be sharing off-street parking spaces. Additionally the requesting party may submit other relevant and appropriate data supporting the request.~~

4. Recorded agreement. If approved, ~~an shared parking arrangement~~ *off-site parking facility* shall be described and made binding upon the all owners of record of the subject properties, within a written agreement prepared in a form suitable for recording among the City's land records. A signed and attested copy of the ~~shared~~ *off-site* parking agreement between the owners of record must be recorded with the Clerk of the Circuit Court. Recordation of the agreement shall occur prior to the issuance of any occupancy permit for any premises to be served by the ~~shared~~ *off-site* parking area. ~~An shared~~ *off-site* parking agreement may be revoked only if all required off-street parking spaces are provided in accordance with the requirements of Table 72-53.1C(2), Minimum Off-Street Parking Standards.
 5. Duration. ~~An shared~~ *off-site* parking agreement shall run with the land, and shall be and remain in effect until revoked or revised by the parties thereto. In the event the parking requirements for the subject properties change (increase) following recordation of the agreement, due to any change in use(s) or structural alterations of buildings or structures containing such uses, then the City may require the parking plan for the properties to be updated, which may include, but is not limited to, a revision of the ~~shared~~ *off-site* parking agreement.
- A. ~~Off-site parking for nonresidential uses. The Zoning Administrator may approve an alternative parking plan that authorizes off-site parking for nonresidential uses. Generally, all off-street parking areas for any nonresidential use shall be provided on the same parcel of land as the use to be served. Off-street parking for nonresidential uses may be located on another parcel of land ("off-site" parking), if there are practical difficulties in locating the parking area on the same parcel or the public welfare, safety or convenience is better served by off-site parking. Off-site parking for nonresidential uses shall comply with the following standards:~~
1. ~~Maximum distance. Off-site parking shall be located no more than 1,500 feet from the use it is intended to serve.~~
 2. ~~Pedestrian way required. A pedestrian way that complies with all applicable ADA requirements, and is not more than 1,500 feet in length, shall be provided from the off-site parking area to the use it serves.~~

3. ~~No undue hazard. The off-site parking area shall be convenient to the use it serves without causing unreasonable:~~
 - a. ~~Hazard to pedestrians;~~
 - b. ~~Hazard to vehicular traffic;~~
 - c. ~~Traffic congestion;~~
 - d. ~~Interference with commercial activity or convenient access to other parking areas in the vicinity;~~
 - e. ~~Detriment to the appropriate use of business lands in the vicinity; or~~
 - f. ~~Detriment to any abutting residential neighborhood.~~
 4. ~~Recorded agreement. If approved, off-site parking facilities shall be described and be made binding upon both the owner of land where parking is located and the applicant seeking off-site parking, within a written agreement signed by the property owners. The agreement shall be set forth within a document suitable for recording among the City's land records. A signed and attested copy of the off-site parking agreement must be recorded with the Clerk of the Circuit Court. Recordation of the agreement shall take place prior to issuance of any certificate of occupancy for any premises to be served by the off-site parking area. An off-site parking agreement may be revoked only if all required off-street parking spaces are provided in accordance with the requirements of Table 72-53.1C(2), Minimum Off-Street Parking Standards.~~
6. ~~D. Parking reductions. The Zoning Administrator may approve an alternative parking plan that includes waiver of parking, in accordance with this subsection. An applicant may submit a request to waive the construction of up to 30% of to reduce the number of parking spaces required in Table 72-53.1C(2), Minimum Off-Street Parking Standards and the Shared Parking Factor Table. The applicant shall demonstrate through submission of relevant and appropriate data and information that, because of the location, nature, or mix of uses, there is a reasonable probability the number of parking spaces actually needed to serve the development is less than the minimum required by Table 72-53.1C(2), Minimum Off-Street Parking Standards and the Shared Parking Factor Table. The application shall include relevant and appropriate data and information, including location, nature, or mix of uses, The application shall be accompanied by a plan that shows the location and number of parking spaces that will be provided, and a parking demand study prepared by a professional who is licensed to prepare such a study. The study shall provide data and supporting analysis demonstrating the feasibility of the proposed shared parking facilities. The parking demand study shall include information on the size and type of the proposed development(s), composition of tenants, anticipated rate of parking turnover, and anticipated peak parking and traffic loads for all uses that will be sharing off-street parking spaces. The applicant may submit other relevant and appropriate data supporting the request.~~

~~D.~~ E. Downtown Parking, Transit, and Bicycle Fund.

1. An applicant may meet ~~up to 50%~~ of the parking requirement for a use in the ~~#Downtown #~~Parking, Transit, and Bicycle ~~#District~~ through the payment of a standard amount established by City Council per *required* parking space.

<i>Incremental payment amount</i>	0 to 50% of total required parking spaces	<i>For each additional parking space from 51% to 70% of requirement</i>	<i>For each additional parking space from 71% to 85% of requirement</i>	<i>For each additional parking space from 86% to 100% of requirement</i>
<i>Amount of payment</i>	Standard amount (established in Planning Fee Schedule [link])	<i>2x standard amount</i>	<i>3x standard amount</i>	<i>4x standard amount</i>

The Zoning Administrator is authorized to grant this reduction. The applicant may combine this reduction with one or more of the foregoing parking alternatives to reduce the number of required on-site parking spaces to zero. The credit for an off-street parking requirement met in this manner shall run with the land. No refund of any payment shall be made when there is a subsequent change of use that requires less parking.

2. The fee shall be collected by the Zoning Administrator as a condition to site plan approval. Payment of this fee does not guarantee that parking spaces will be constructed for the sole use of or in the immediate proximity of a particular development. It will not guarantee the availability of parking specifically for the development. Funds collected from such payment shall be deposited by the City in a special ~~parking~~ fund and shall be used *in the Downtown Parking, Transit, and Bicycle District* to:
 - a. Provide additional off-street public parking ~~to serve the Downtown Parking District;~~
 - b. Acquire land for such parking through purchase, lease, or license;
 - c. Develop land to make it suitable for public parking;
 - d. Replace existing municipal parking lots with public parking structures; ~~or~~

- e. Engage in projects that increase the amount of available public parking spaces or reduce dependence upon the automobile and thereby reduce parking demand;
 - f. *Improve transit/shuttle facilities or services; or*
 - g. *Improve bicycle facilities and services.*
3. The collection of the fee shall not obligate the City to provide off-street parking for any particular location. In order to provide a logical and cost effective construction of parking improvement, projects funded through this fee may be phased and may be constructed such that the public parking spaces do not directly serve the parcels from which the fee was collected.

[Figure 72-53.3E, Downtown Parking District, is repealed and replaced with new Figure 72-53.3E, “Downtown Parking/Transit/Bicycle District,” attached.]

F. Valet and tandem parking. The Zoning Administrator may approve an alternative parking plan that includes valet and tandem parking, in accordance with this subsection. An off-street parking program utilizing limited valet and tandem parking may be allowed for uses listed under the commercial use classification in Table 72-53.1C(2), Minimum Off-Street Parking Standards, in accordance with the following standards:

1. The development served shall provide 75 or more parking spaces;
2. No more than 30% of the total number of spaces shall be designated as tandem; and
3. A valet parking attendant must be on duty during hours of operation.

[Subsection G, “Alternative materials,” is not amended.]

4. Section 72-53.4, “Bicycle parking,” is amended as follows:

Sec. 72-53.4. Bicycle parking.

Lots used for *Multifamily* Residential development with 20 ~~30~~ or more dwelling units, and *Institutional or Commercial nonresidential* development with 5,000 or more square feet of gross floor area, shall provide individual or shared bicycle parking facilities in accordance with the following standards. ~~Nonresidential uses of up to 30,000 square feet in size may share bicycle parking facilities in accordance with this section.~~

A. General standards.

1. *Location.*

- a. Bicycle parking facilities shall be conveniently located, but in no case shall such facilities be located more than 150 feet from the primary building entrance *and shall have improved pedestrian access to such entrance;*
- b. *Facilities may be located within required open space or landscaped areas;*
- c. *Facilities for Institutional or Commercial uses may be located in the public right of way with the approval of the Public Works Director.*

2. Bicycle parking spaces shall be provided at the rate of one bicycle ~~parking~~ space for every 10 *required off-street parking spaces for vehicles.* ~~30 residential dwelling units and/or every 5,000 square feet of nonresidential floor area.~~

3. *Bicycle parking facilities shall be surfaced in accordance with section 72-53.1D(1)(c)[1].*

B. Bicycle rack required. Bicycle parking facilities shall incorporate a rack or other similar device intended for the storage of bicycles. *The rack element shall:*

1. *Be located on and anchored to a solid, immovable stall surface and installed vertically plumb in two planes;*
2. *Be in ‘Inverted U’ type or equivalent, which supports the bicycle upright by its frame in two places;*
3. *Be at least 18 inches wide and 33 inches tall when installed; be uniformly aligned and evenly spaced; be centered in a ‘design stall’ with a minimum dimension of 36 inches by 72 inches; and be at least 24 inches from any wall or other obstruction.*

4. *Not result in a tripping hazard*
 5. *Prevent the bicycle from tipping over;*
 6. *Enable the frame or both wheels to be secured;*
 7. *Support bicycles without a diamond-shaped frame;*
 8. *Allow a U-lock to lock one wheel and a frame tube of an upright bicycle; and*
 9. *Resist being cut or detached using hand tools.*
- ~~C. Shared bicycle parking. Nonresidential uses of 30,000 square feet in size or less may share bicycle parking spaces provided:~~
- ~~1. Each use provides or is served by improved pedestrian access from the bicycle parking facility to the primary building entrance; and~~
 - ~~2. The shared bicycle parking facility and improved pedestrian access is depicted on a site plan.~~

SEC. III. Effective Date.

This ordinance is effective immediately. However, any application submitted and accepted as complete before the date of adoption of this ordinance, but still awaiting final action as of that date, shall be reviewed and decided in accordance with the regulations in effect when the application was accepted. To the extent such an application is approved and proposes development that does not comply with this ordinance, the subsequent development, although permitted, shall be lawfully nonconforming and subject to the provisions of Article 72-6, Nonconformities.

Votes:

Ayes:

Nays:

Absent from Vote:

Absent from Meeting:

Approved as to form:

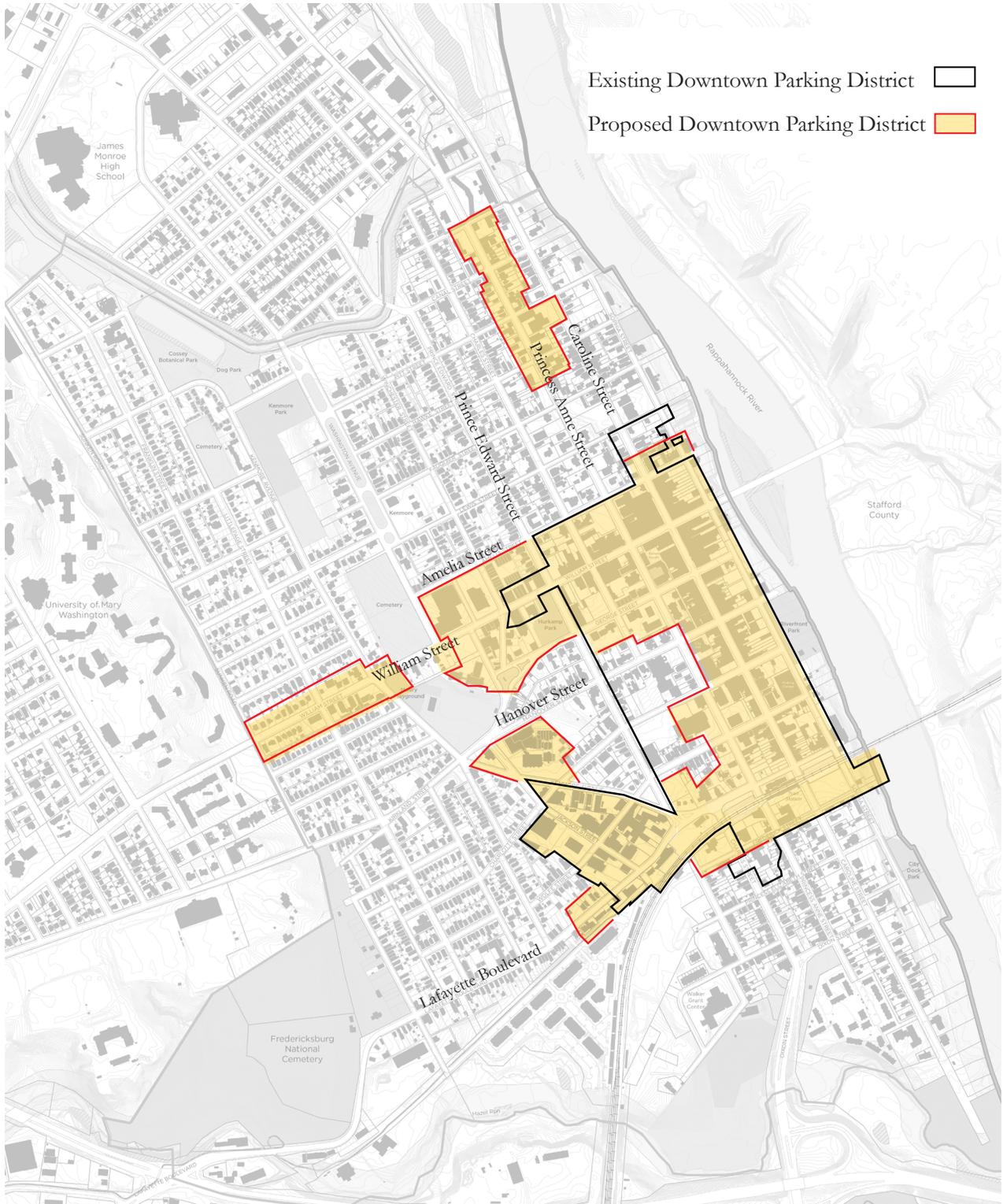
Kathleen Dooley, City Attorney

Clerk’s Certificate

I, the undersigned, certify that I am Clerk of Council of the City of Fredericksburg, Virginia, and that the foregoing is a true copy of Ordinance No. 20- duly adopted at a meeting of the City Council meeting held Date, 2020 at which a quorum was present and voted.

Tonya B. Lacey, CMC
Clerk of Council

PART III





**CITY OF FREDERICKSBURG
PLANNING COMMISSION**

MINUTES

March 11, 2020

7:30 p.m.

**715 Princess Anne Street
Council Chambers**

You may view and listen to the meeting in its entirety by going to the Planning Commission page on the City's website:

<https://amsva.wistia.com/medias/771goz3nrm>

The Agenda, Staff Report, Applications and Supporting Documents are also available on the Planning Commission page.

MEMBERS

Rene Rodriguez, Chairman
Steve Slominski, Vice-Chairman
David Durham
Kenneth Gantt
Chris Hornung
Tom O'Toole
Jim Pates

CITY STAFF

Chuck Johnston, Director,
Planning and Building Dept.
Mike Craig, Senior Planner
James Newman, Zoning Administrator
Cathy Eckles, Administrative Assistant

1. CALL TO ORDER

Chairman Rodriguez called the meeting to order at 7:30 p.m. and explained meeting procedures for the public, as well as expected decorum during public comment.

2. PLEDGE OF ALLEGIANCE

3. DETERMINATION OF A QUORUM

All seven members were present.

4. APPROVAL OF AGENDA

Mr. Hornung moved for approval of the agenda as submitted. Mr. Durham seconded.
Motion passed 7-0

5. APPROVAL OF MINUTES

November 13, 2019 Work Session

Mr. Hornung moved for approval of the minutes as submitted. Mr. Gantt seconded.
Motion passed 7-0

February 26, 2020 Regular Meeting

Mr. Pates moved for approval of the minutes with his edits as submitted by email on March 9, 2020. Mr. Slominski seconded.

Motion passed 7-0.

6. DECLARATION OF CONFLICT OF INTEREST

Mr. Pates noted he has a conflict with SUP2020-02 as this is his daughter's business. There were no further conflicts of interest reported.

7. PUBLIC HEARING

- A. Eufloria** requests a special use permit to operate a retail sales establishment, specifically a florist shop, in the Commercial-Transitional Zoning District. The property is located at 915/917 Lafayette Boulevard, at the corner of Lafayette Boulevard and Willis Street. SUP 2020-02

Mr. Newman reviewed the staff report along with a power point presentation (Att. 1) and recommended approval with three conditions.

Mr. O'Toole questioned what the previous uses of the property were. Mr. Newman said there is a law office in one of the spaces and formerly a juice café was in the proposed location of Eufloria. Mr. Newman commented that special use runs with the property and does not cease if there is change in property owner or business proprietor. Mr. Newman said the Commissioners could add a condition that the proposed special use permit only be for the proposed square footage of Eufloria.

Mr. Gantt questioned the limiting of the square footage for the business proposed at 1,200 sq. ft., what would the remaining property be used for. Mr. Newman said the applicant would answer that. Chairman Rodriguez questioned the parking requirements and would they be limited to that application. Mr. Newman said that there was no additional parking required as it is a change in use and there are 5 to 6 street parking spaces available.

Chairman Rodriguez opened the public hearing.

Sandra Glancy, representative of the applicant, was present, as was Annie Pates, the business owner. Mr. Hornung asked Ms. Pates if she would have an issue with limiting this permit to floral business only, no general retail sales. Ms. Pates said she also sells plants and floral related gifts and is not strictly a floral business.

Chairman Rodriguez questioned whether there would be a dedicated drop-off area for the floral delivery portion of the business. Ms. Pates said there was an area off-street for the delivery vehicles.

No public comments were made. Chairman Rodriguez closed the public hearing.

Discussion ensued regarding adding a condition limiting the use to a floral business only. Mr. Hornung was concerned about the proximity to the Battlefield Visitor Center. Mr. Johnston

noted that the City Attorney has indicated that there are legal issues in trying to limit the particular type of retail sales without identifying some unique circumstances. Mr. Craig also noted that the issues with certain types of signage would be subject to design guidelines. Chairman Rodriguez was also concerned with the amount of traffic in this area. Mr. Johnston noted that limiting the allowable square footage for retail sales would inherently limit the type and size of retail sales.

Mr. Hornung asked how big the proposed location is. Ms. Pates said 1800 sq. ft.

Mr. Hornung motioned to approve SUP2020-02 with the conditions recommended by staff. Mr. Hornung further recommended the addition of two further conditions, (1) limiting the retail sales square footage to 2,000 sq. ft. and (2) limiting the retail uses to only floral and gift shop sales. Mr. Hornung said this could be dealt with at City Council. Chairman Rodriguez seconded the motion.

Mr. Slominski noted he agreed with Mr. Hornung on limiting the potential retail sales. Chairman Rodriguez asked staff to be sure to notify the Commission of the City Attorney's determination on limiting the potential retail sales.

Motion passed 6-0-1 (Mr. Pates abstained).

B. The City of Fredericksburg proposes to amend the Unified Development Ordinance to establish a new zoning district entitled "the Creative Maker District". UDOTA 2020-02

C. The City of Fredericksburg proposes to amend the zoning map to change the existing zoning of about 78 acres of land along the northern sections of Princess Anne Street and Route 1 to the Creative Maker Zoning District from the following zoning districts: Commercial-Highway (CH), Commercial-Shopping Center (C-SC), Commercial/Office-Transitional (C-T), Residential-30 (R30), Residential-2 (R-2), and the Princess Anne Corridor Overlay District. RZ 2020-02

Mr. Craig reviewed the staff report for the Creative Maker District (CMD) along with a power point presentation for Items B and C combined (Att. 2), and recommended the public hearing be kept open until the April 8, 2020 Commission meeting due to an error with the public hearing ad.

Mr. Durham asked if there were any provisions within the form-based codes that require developers to provide pedestrian crossing improvements. Mr. Craig noted it will be a joint effort between the City and the developers. Mr. Craig went through the various situations and what would be required.

Discussion ensued regarding the status of the Transfer of Development Rights (TDR) in the T-4M and T-5M transect zones and whether the rights can be transferred between transect zones. Mr. Craig stated that TDR is not currently a component of the Creative Maker District proposal but explained the process when a character structure is determined to be eligible for TDR.

Mr. Durham questioned if there may be a public use in the future in the CMD, would that property be removed from the CMD and make it part of a Public, Recreational, Open-Space, and Environmental Zoning District (PROSE) Zoning District. Mr. Craig said Planning aimed to establish additional zoning districts that would handle public uses specifically and would address this use at that time.

Mr. Pates questioned whether the CMD should wait for the TDR component since TDR was a central part of the strategy for historic preservation in this area. Mr. Craig said the CMD would put the legal framework in place to permit the evolution of use in this corridor, which would repermit the types of uses the historic structures were designed for. Establishing the form based code is also critical. In addition, Mr. Craig noted that defining character structures makes sure the historical properties are not deemed non-conforming.

Mr. Pates asked about the location of the T-4M areas and their relationship to existing neighborhoods. Mr. Craig said the CMD is proposed in existing commercial areas and not in the existing neighborhoods. Further discussion ensued regarding the potential development. Mr. Pates said that the expansion of use could negatively impact residential properties in the CMD. Mr. Craig noted the level of use, that by definition the impact of the proposed uses are minimal and the addition of the form based code, which requires that buildings are a compatible shape and size, further controls the potential intensity of any proposed use.

Chairman Rodriguez asked to clarify the boundaries of the CMD. Mr. Durham noted once the Area 7 plan is accepted, the CMD will extend down Princess Anne Street to the south. Mr. Craig agreed and clarified that the zoning district is established and then the properties are rezoned.

Chairman Rodriguez opened the public hearing.

Lynn Goodall, 2109 Fall Hill Avenue. She spoke for the Canal Quarter Neighborhood Association (Association). They support changing the zoning along the Princess Anne Corridor. The Association is concerned about including the parking lot areas and that more consideration should be given to green space, historic preservation reuse, accessibility for the aging, and canal enhancements. The Association does not support residential density or TDR. The Association believes that only the zoning for the Princess Anne Corridor should be acted on until the 2300 Fall Hill Building and all associated Mary Washington Health Care properties are sold.

Adam Lynch, Friends of the Rappahannock (FOR), 3219 Fall Hill Avenue. FOR stated that the CMD needed to include higher residential density if the plan is to achieve a river friendly region with more walkable areas by steering growth away from sprawling car dependent landscapes. Compact walkable development preserves green space, reduces water quality impacts and carbon footprints of new development. FOR believes the CMD downzones most of the area which entrenches low density housing, misses an opportunity to build more sustainable development, and will deter compact river-friendly development.

Paul Ireland, no address given. Asked how the rezoning would affect his automotive service business use at 2705 Wellford Street. Mr. Craig noted that under the proposed changes automotive use will change from a by-right to a special use so the existing building configuration would become grandfathered and amendments to it would be permitted by special use permit.

No further public comments were made. Chairman Rodriguez noted the public hearing portion would remain open until the April 8, 2020 meeting. Mr. Durham asked staff to address the competing interests that were represented by Ms. Goodall and Mr. Lynch.

No action was taken.

D. The City of Fredericksburg proposes to amend the Unified Development Ordinance, Section 72-53, Parking. The amendments include a general reduction of the amount of parking required for uses listed in the Minimum Off-Street Parking Standards Table, creating a "Shared Parking Factor", and modifying the purpose and extent of the Downtown Parking District. UDOTA2020-03

Mr. Johnston reviewed the staff report along with a power point presentation (Att. 3).

Mr. O'Toole asked how long Smart Code has been in use. Mr. Johnston stated it has been around for 20 years and that it meets the needs of the jurisdictions that have used it and there isn't really another source except for the Institute of Transportation Engineers (ITE), which is based on 20th century surveys of parking in suburban areas. Chairman Rodriguez asked how many cities of our size use Smart Code. Mr. Johnston stated approximately six, but that it is also applied in many larger cities outside of their actual downtown areas.

Mr. Pates asked about not requiring parking for reuse of historic buildings and would using the Smart Code still not affect historic properties. Mr. Johnston stated this amendment would not affect that as the parking requirements for reuse of historic structures was decided approximately ten years ago. Mr. Pates asked about the shared parking factor and how it affects properties that are not mixed use. Mr. Johnston noted that this is intended to focus on sites of businesses that share parking lots with various types of uses.

Mr. Durham asked about the degree to which these changes would incentivize additional bicycle parking. Mr. Johnston stated there are two issues: the text changes regarding bicycles address the standards for bicycle parking on private property to fix poorly worded text to make it less complicated. The other addresses public facilities within the right-of-way on sidewalks and parks. That money would be used for public facilities for bicycle parking.

(Mr. Pates left the meeting)

Chairman Rodriguez asked what is the smallest City owned parking lot. Mr. Johnston stated probably the Visitors Center, which has approximately twelve spots. Chairman Rodriguez questioned the Commissioners whether a requirement should be added that states any Downtown project over 50 or 75 parking spots might need to apply for a special use permit in order to pay for spaces instead of providing them, as that just shifts spaces to another area. Mr. Durham stated that market forces would argue against that and doesn't think Chairman Rodriguez' scenario is feasible. Mr. Hornung agrees with Mr. Durham that there is a balance between how much a developer would be willing to get out of the parking requirements and how much is available for their tenants. Most developers would not be able to get tenants if they just paid for spaces instead of providing them.

Discussion ensued regarding the 1010 Caroline Street project, which involved the reuse of a retail building that did not expand the square footage, so no further parking requirements were necessary.

Chairman Rodriguez opened the public hearing.

Adam Lynch, Friends of the Rappahannock (FOR), 3219 Fall Hill Avenue, he spoke for himself and FOR being in favor of the proposed parking minimum amendments. Widespread asphalt is

a major source of impervious surfaces and causes stormwater pollution; therefore, reducing the burdensome parking minimums will reduce pressure to build new parking lots and these amendments will help steer the City to better preserve our remaining open spaces and improve the City's stormwater management system.

Holly Clarke, 1504 Winchester Street, spoke in favor of the reduced downtown parking requirements. The City is designed for people, not cars, which is what contributes to the City's vibrancy. Ms. Clarke also spoke in favor of the attention being focused on bicycling traffic but thinks that better practices could be done.

No further public comments were made. Chairman Rodriguez closed the public hearing.

Mr. Slominski motioned to approve as recommended. Mr. Durham seconded. Mr. Johnston noted that he will incorporate two recommendations into the ordinance: best practices for bicycle parking, and appropriate location standards for shared parking. Mr. Slominski amended his motion to include those recommended changes to the ordinance. Mr. Durham requested that when this is discussed at Council mention be made to include and highlight areas it will have the most specific effect on.

Motion passed 6-0 (Mr. Pates absent).

E. The City of Fredericksburg proposes to amend the Unified Development Ordinance, Section 72-8, Definitions and Interpretations, to update definitions and regulations of residential uses. The amendments more clearly states the differences among duplex, single-family attached, and multi-family dwelling types. UDOTA2020-04

Mr. Craig reviewed the staff report and recommended the Commissioners recommend approval.

Mr. Hornung asked about the rationale for the different rules between Section 72-41.1 F.(5) stating one townhouse per lot and Section 72-84 *Dwelling, Single-Family Attached* stating up to four such units on a lot. Mr. Craig stated that there is a different impact between single-family attached homes arranged as townhomes and attached housing arranged as a tri or quadplexes that looks like a single family home. Also, some builders attempted to negate development standards requiring streets and lot frontage by stating they would build multiple townhomes on a single lot. Mr. Hornung mentioned the townhomes at the intersection of Prince Edward Street and Amelia Street as one that was an attractive infill use. Mr. Durham noted that previously when he owned a townhome, there were three of them on a lot and when the owner wanted to sell, he could not do so separately. He then got them subdivided so Mr. Durham thinks this language is appropriate as it goes to the issue of ownership. Further discussion ensued regarding the ownership and connection between townhomes and duplexes.

Chairman Rodriguez opened the public hearing. No public comments were made. Chairman Rodriguez closed the public hearing.

Mr. Durham motioned to approved as recommended. Chairman Rodriguez seconded the motion.

Motion passed 6-0 (Mr. Pates absent).

8. GENERAL PUBLIC COMMENT

There were no public speakers.

9. OTHER BUSINESS

A. Planning Commissioner Comments

None.

B. Planning Director Comments

Mr. Johnston updated the Commissioners on the following:

- City Council approved the infill development amendments, but with a 90-day grace period;
- City Council approved the Springhill Suites Hotel PD-C rezoning and special exception on Fall Hill Avenue;
- City Council authorized a study of the potential sale of land near Idlewild for Mary Washington Health Care offices;

Mr. Durham noted that the increased residential in Planned Development Commercial is shelved for now.

- Planning staff is going to Bethesda to discuss Area 1 with Streetsense;

Mr. Durham asked when the infill heights requirement rework might be happening. Mr. Johnston noted that he does not have specific dates set yet.

Mr. Johnston stated that the March 25 Commissioner's meeting will be primarily focused on the Capital Improvements Plan and follow up on the Area 7 Downtown plan.

8. ADJOURNMENT

There being no further items to be discussed, the Planning Commission adjourned at 9:47 pm.

Next meeting is March 25, 2020.



Rene Rodriguez, Chairman

**DISCLOSURE
PERSONAL INTEREST IN A TRANSACTION**

Virginia Code § 2.2-3112(A)(i) prohibits a member of a public body from participating in a transaction that has application solely to property or a business or governmental agency in which he has a personal interest or a business that has a parent-subsidary or affiliated business entity relationship with the business in which he has a personal interest.

The officer shall be prohibited from (i) attending any portion of a closed meeting authorized by the Virginia Freedom of Information Act (§ 2.2-3700 *et seq.*) when the matter in which he has a personal interest is discussed and (ii) discussing the matter in which he has a personal interest with other governmental officers or employees at any time.

The officer is required to disclose the existence of the interest, and the disclosure is maintained in the public records of the agency for five years in the office of the administrative head of the agency.

Name of Officer: James M. Pates

Transaction name/meeting date(s): Eufonia SUB 2020 - 02
and any follow-up meetings. March 11, 2020 Planning Commission Meeting

Name and address of business or governmental agency in which the officer has a personal interest:

My daughter, Annie Pates, is the owner of Eufonia, the applicant. She is seeking a special use permit for a retail sales establishment at 915 Lafayette Boulevard.

Address or parcel number for real estate (if applicable):

915 Lafayette Boulevard, Frying, VA.

Date: 3/11/20

Signed: JMPates

Euforia
Special Use Permit for Retail Sales
Establishment
SUP2020-02

Fredericksburg

Overview

Issue— Retail sales establishment at 915/917 Lafayette Boulevard. Zoned CT.

RETAIL SALES ESTABLISHMENT

Any building wherein the primary occupation is the sale of merchandise in small quantities, in broken lots or parcels, not in bulk, for use or consumption by the immediate purchaser. The term shall not include automobile-oriented uses, quick-service food stores, or vehicle sale, rental or ancillary service establishments.

Recommendation – **Approval.**

Technical Analysis –

- Hours limited from 9AM to 9PM.
- 6 parking spaces available on property, and space on-street
- No exterior building expansion
- In accordance with 2015 Comprehensive Plan

Location



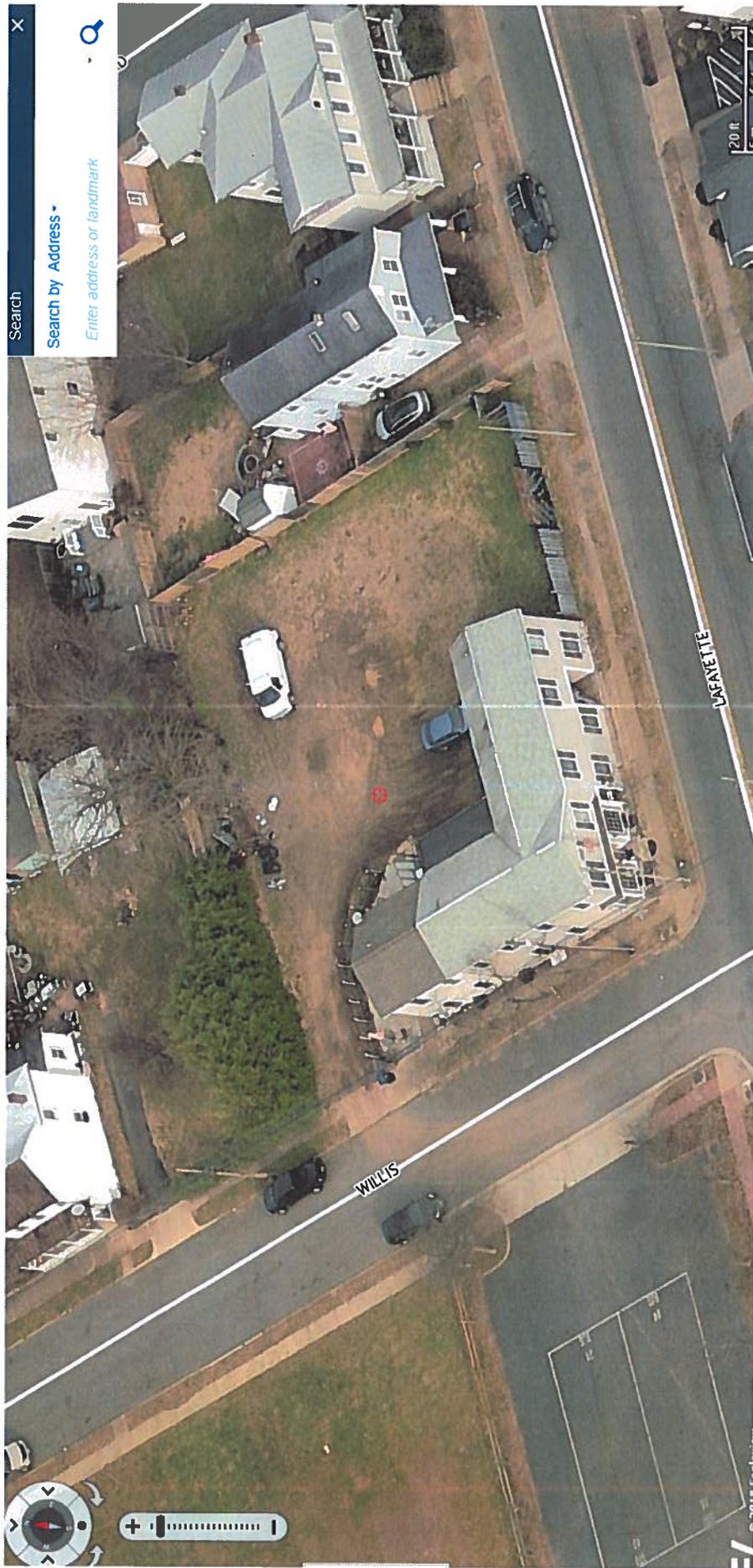
Euforia

- Florist Shop
- Current business location is 526 Wolfe Street
- Applicant proposed hours of operation of:
 - 9AM - 5PM Monday – Friday
 - 11AM - 3PM Saturday
 - 11AM - 2PM Sunday
- Recommended hours of operation:
 - 9AM – 9PM Monday – Sunday
- Business staff: owner, driver, designer. Temporary hires depending on demand. 4-6 deliveries per day, potential 2-3 customer visits per day. Delivery based business.

Site Improvements

- No exterior additions to structure
- Approximately 6 parking spaces on site, plus on-street parking
- Applicant made improvements to site without obtaining site plan or other permits
- Purpose was to clean up site, level the ground, enhance existing parking areas, and add more parking space.
- These changes require a site plan

December 25, 2018



March 5, 2020



March 6, 2020



March 6, 2020



Conditions

1. Hours of operation shall be limited from 9AM to 9PM Monday through Sunday.
2. The use shall commence within 24 months of the date of adoption of this resolution. The use is permitted only so long as it continues and is not discontinued for more than 24 months.
3. A site plan must be approved prior to issuance of the Certificate of Zoning Use.

Conclusion

- Special Use Permit for Retail Sales
- Flower shop
- Land disturbance without permits, site plan required
- No public comment for SUP received; one neighbor called staff about land disturbance
- Recommend approval subject to 3 conditions

Staff Recommendation

Recommend approval to the City Council, with conditions



PROPOSED CREATIVE MAKER DISTRICT UNIFIED DEVELOPMENT ORDINANCE AMENDMENTS

1. What is the Creative Maker District?
2. How was the Creative Maker District developed?
3. Purpose – Permit Making (within a mixed use district)
4. Purpose – Calibrate zoning for appropriate infill
5. Purpose – Corridors, Nodes, and Third Spaces
6. Purpose – Character Structures
7. Signs
8. Recommendation

1. What is the Creative Maker District?



1. What is the Creative Maker District?

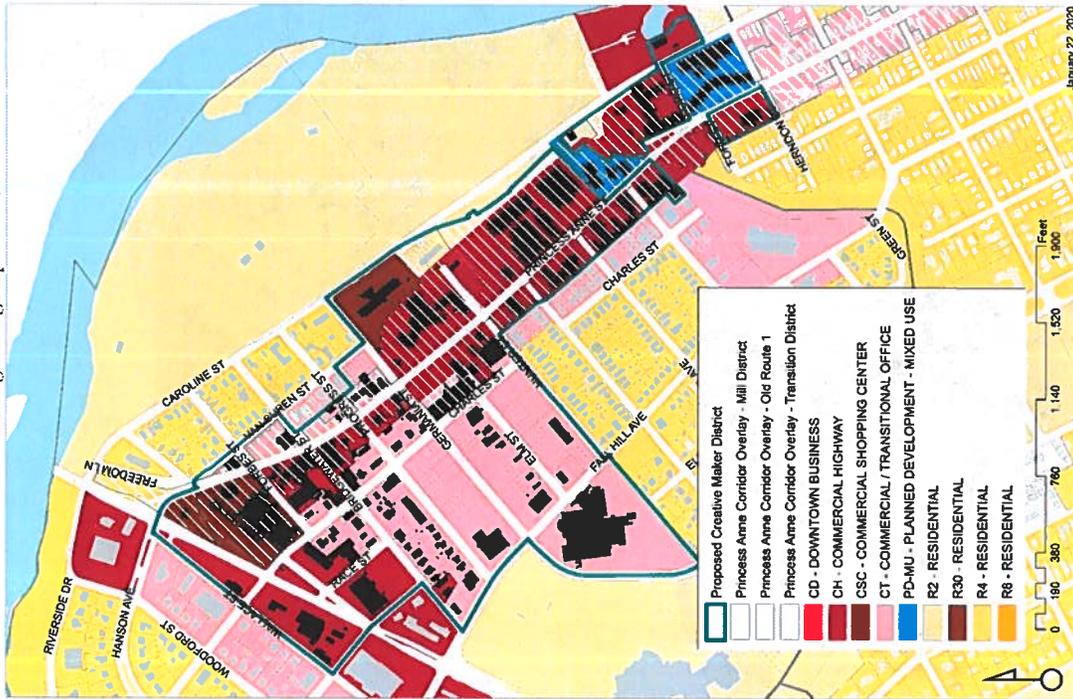


1. What is the Creative Maker District?

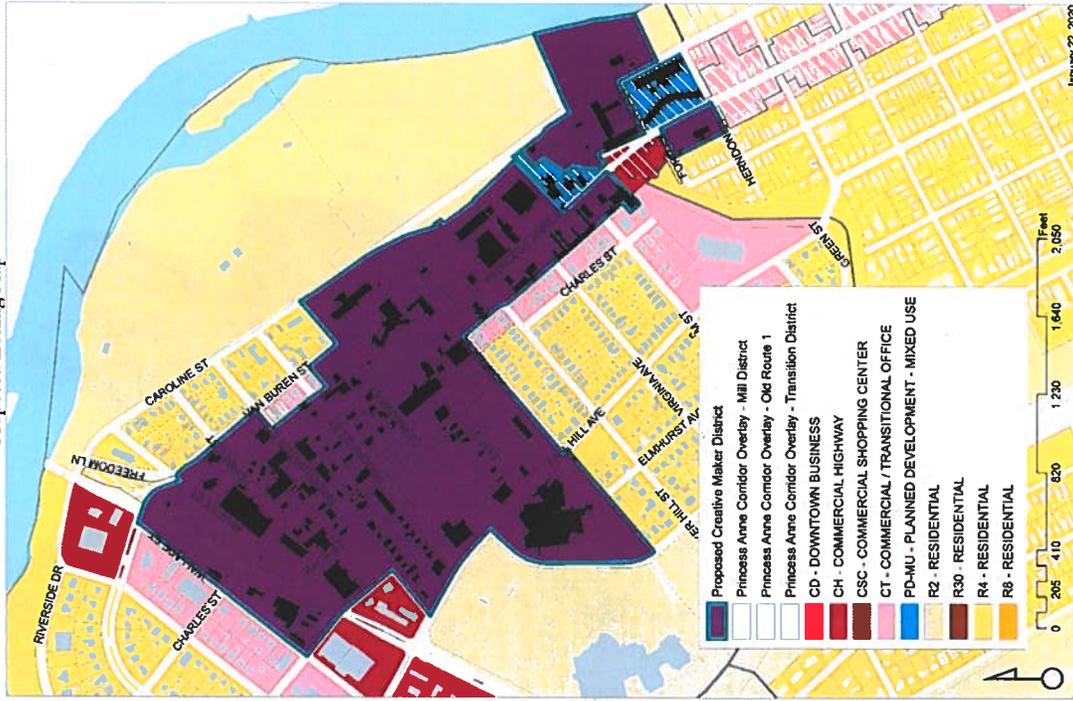


1. What is the Creative Maker District?

Existing Zoning Map



Proposed Zoning Map



2. Purpose – Permit Making



2. Purpose - Permit Making



Potential customers to drive the Princess Anne Street Corridor's Maker-based economy

Individuals looking to buy stuff made, built, or created by other individuals

- Niche consumer segments (for Made products)
- Heritage and cultural tourists (for Made products)
- Younger, highly educated, values-driven, Millennials (for Made products)
- Aficionados (for Made products)
- Young families (for Maker spaces)
- The Creative Class, entrepreneurs (for Maker spaces)
 - E.g. outdoor enthusiasts who make their own biking and climbing gear, etc.
- Other businesses (for Made products – wholesale for later resale, or for input)

Special Considerations

- Historic commercial districts used to be filled with skilled trades and crafts people.
- Makers (creative individuals) often keep odd hours, extending the active hours of the district.
- Craftsmanship of historic buildings is a complement to this strategy



2. Purpose – Permit Making (within a mixed use district)

The Creative Maker District permits a mix of residential and commercial uses, including low impact maker uses traditionally classified as light manufacturing or contractor's office in order to create an environment where people can live, work, and create all within a pedestrian-scaled environment that transitions appropriately to surrounding residential neighborhoods.

Residential Use	Institutional Uses	Commercial Uses
Dwelling, Duplex	Community Services	Alcoholic Beverage Production
Dwelling, Live/Work	Day Care	Animal Care
Dwelling, Multifamily	Educational Facilities	Eating Establishments
Dwelling, Single-Family Attached	Governmental Facilities	Offices
Dwelling, Single-Family Detached	Healthcare Facilities	Parking
Dwelling, Upper Story (over nonresidential)	Institutions	Recreation, Indoor
	Parks and Open Spaces	Retail Sales and Services
	Transportation	Visitor Accommodations
	Utilities	
Industrial Uses		
Contractor Office		
General Industrial Service/Repair		
Research and Development		
Manufacturing, Light		
Warehouse		
Wholesale Sales		
Industrial Services		
Manufacturing		
Warehouse		
Wholesale		

2. Purpose – Permit Making (within a mixed use district)

The Creative Maker District permits a mix of residential and commercial uses, including low impact maker uses traditionally classified as light manufacturing or contractor's office in order to create an environment where people can live, work, and create all within a pedestrian-scaled environment that transitions appropriately to surrounding residential neighborhoods.

Table 72-42.5: Table of Common Accessory Uses

P = Allowed by right S = Special use permit required blank cell = prohibited

Accessory Use	Creative Maker T-4M Transsect	Creative Maker T-5M Transsect	Zoning District
Amateur Radio Antennas	P	P	
Cemetery			
Drive-Through	S	P	
Home Occupation	P	P	
Homestay	P	P	
Outdoor display and sales	P	P	
Outdoor storage (as an accessory use)	S	P	
Parking of heavy trucks, trailers, major recreational equipment, etc.			
Satellite dishes	P	P	
Solar energy equipment	P	P	
Temporary family health care structure	P	P	

3. Purpose - Calibrate zoning for appropriate infill



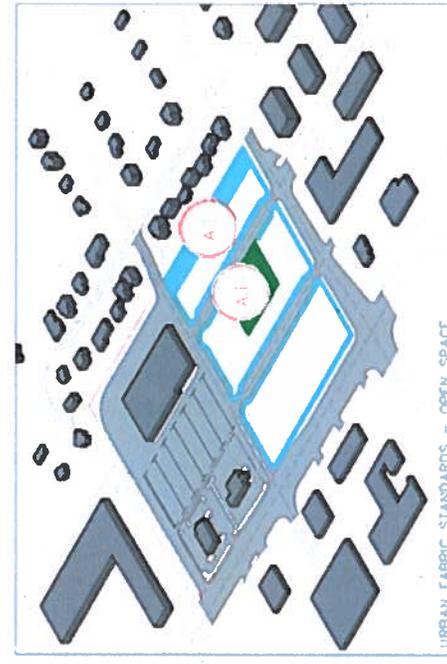
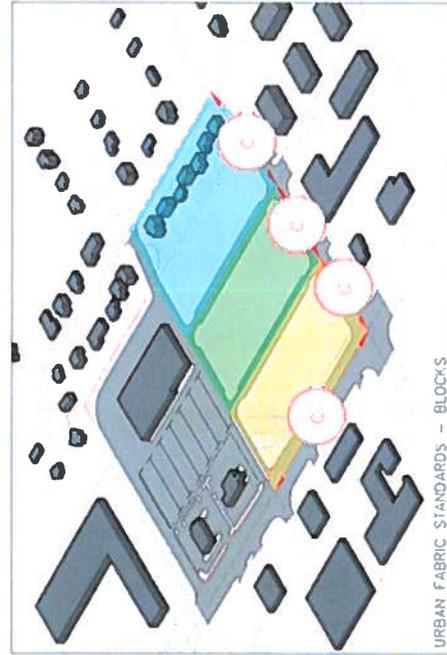
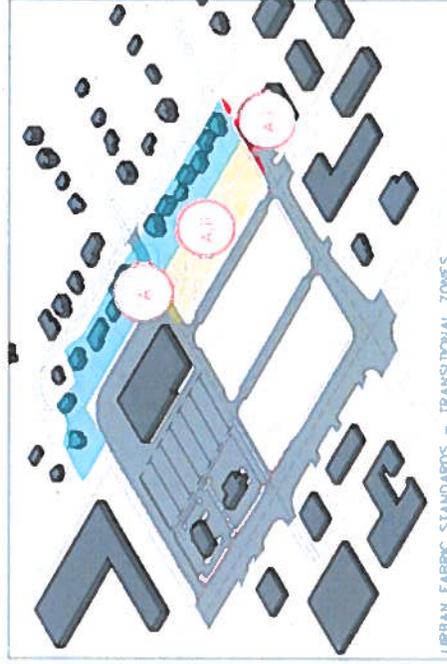
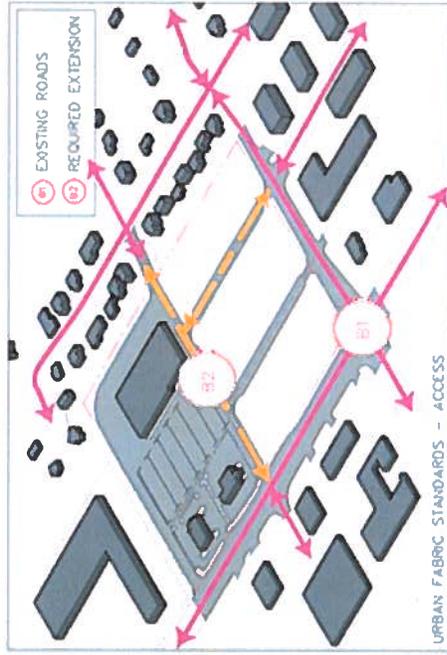
3. Purpose - Calibrate zoning for appropriate infill

Standard	T4-M	T5-M
Residential Density, Maximum	8 du/acr. by right	12 du/acr. by right
	The City Council may approve an increase in residential density levels by special use permit upon finding such increase achieves the purpose and intent of this district.	The City Council may approve an increase in residential density levels by special use permit upon finding such increase achieves the purpose and intent of this district.
Nonresidential FAR, Maximum	0.7 by right	0.7 by right
	1.5 by special use permit	3.0 by special use permit

Special considerations for special use permits. In reviewing an application for a special use permit in the Creative Maker District, City Council may consider the following, in addition to the criteria set out in section 72-22.6:

- Application proposes the restoration of a character structure;
- Application proposes a mixed use development, with at least 20% of the total gross floor area in residential use and at least 20% of the total gross floor area in nonresidential use.
- Application proposes double the amount of general or formal open space required.

3. Purpose - Calibrate zoning for appropriate infill

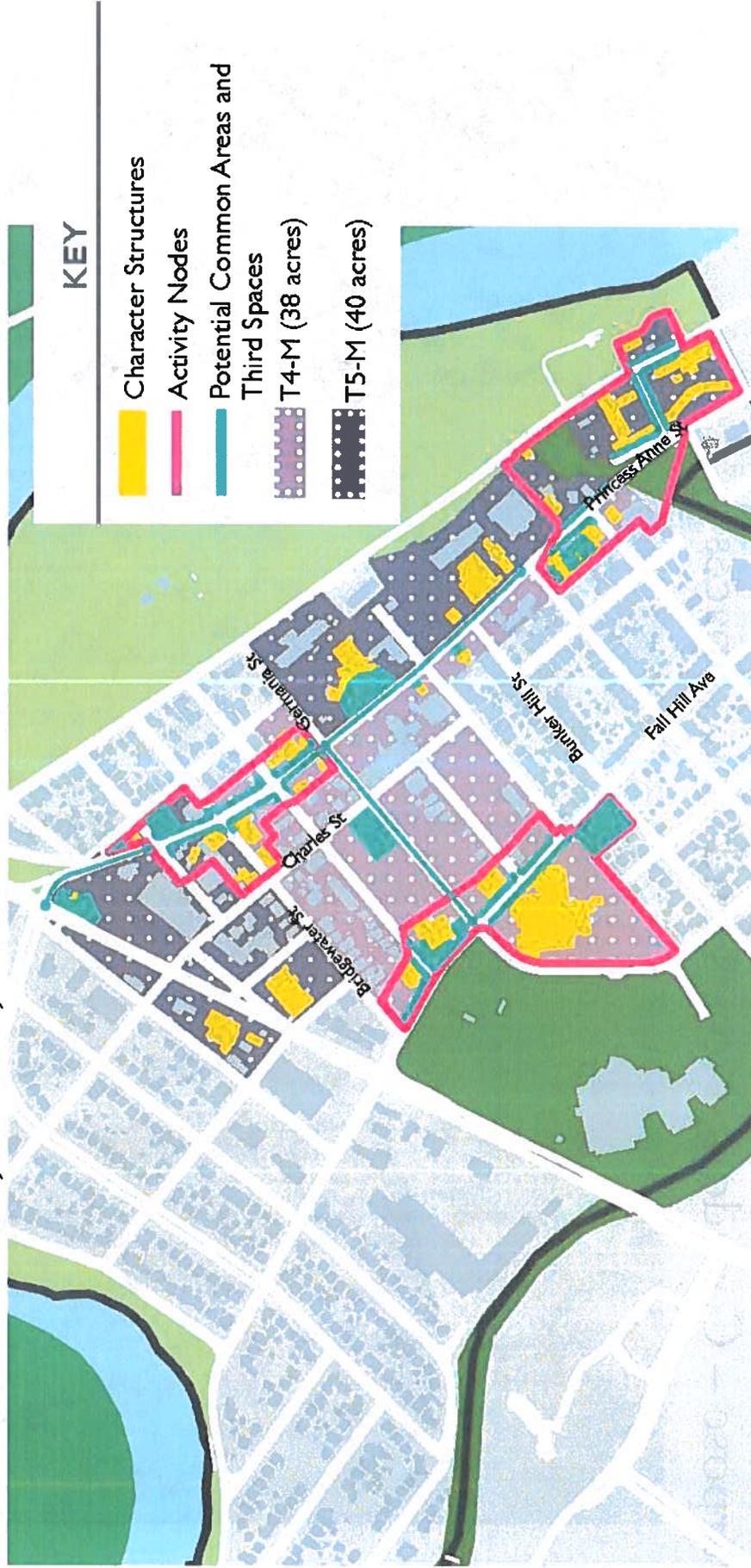


4. Purpose – Corridors, Nodes, and Third Spaces

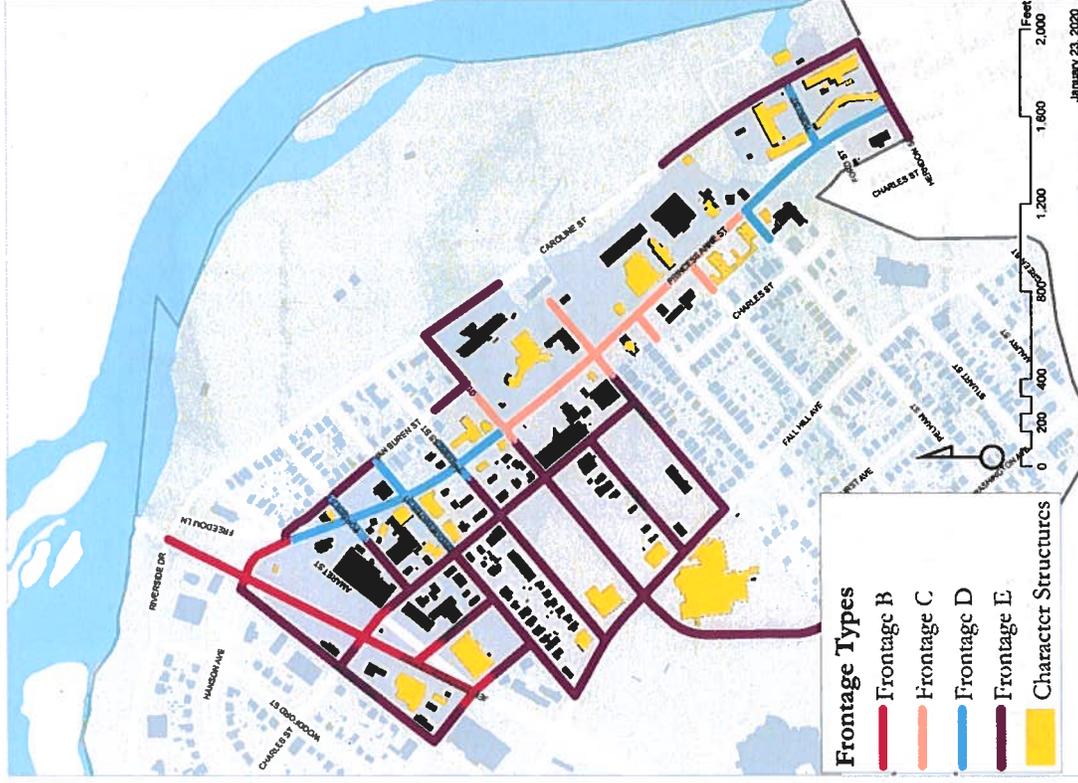


4. Purpose – Corridors, Nodes, and Third Spaces

MAP 24 AREA 6 NODES, CORRIDORS, AND THIRD SPACES



4. Purpose – Corridors, Nodes, and Third Spaces



4. Purpose – Corridors, Nodes, and Third Spaces

Frontage A Public Component

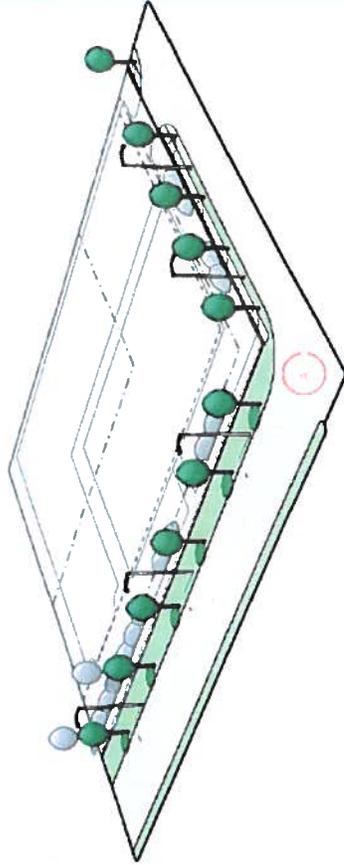
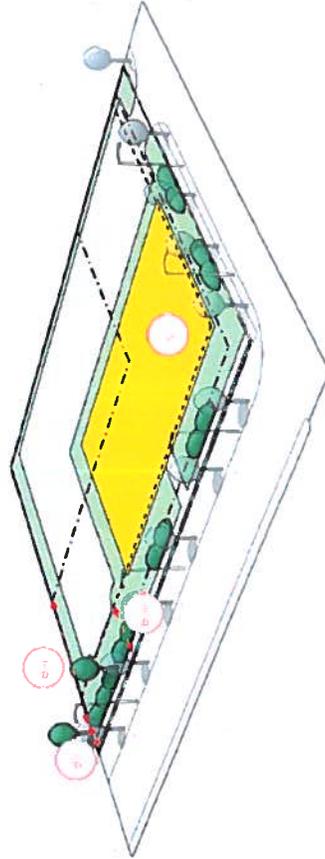
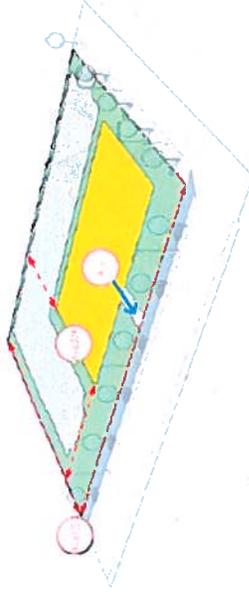


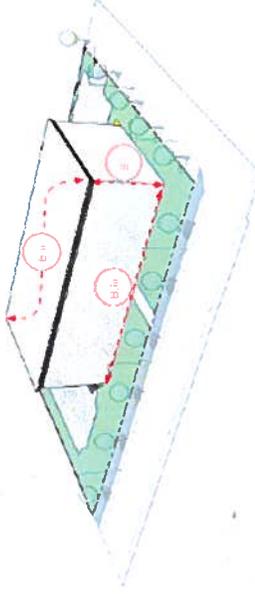
Figure A Private Component and Building Type Permitted.



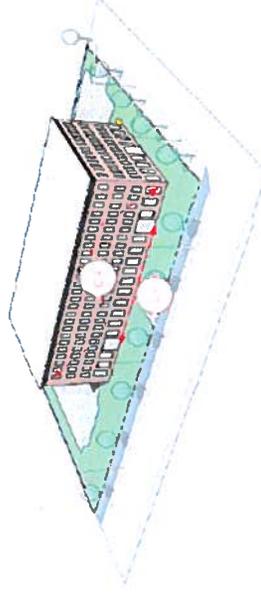
Building Type 1 Building Placement and Orientation



Building Type 1 Mass and Scale

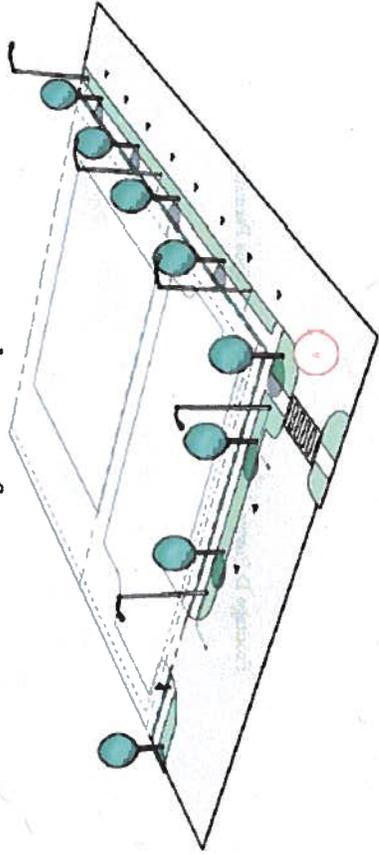


Building Type 1 Facade Activation

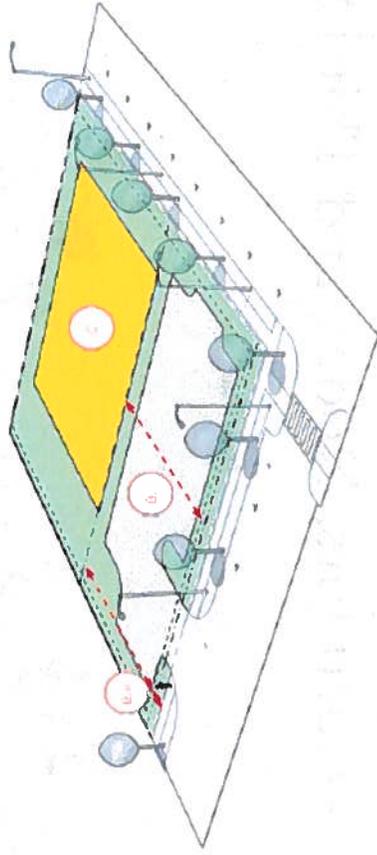


4. Purpose – Corridors, Nodes, and Third Spaces

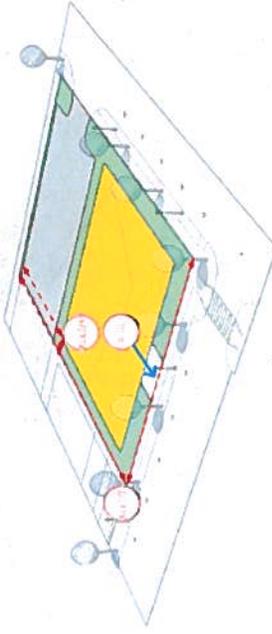
Frontage C Public Component



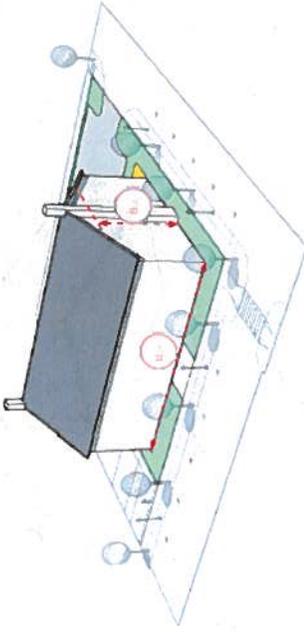
Frontage C Private Component and Building Type Peculiarities



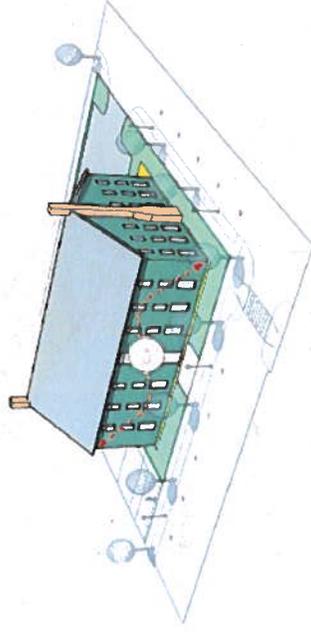
Building Type 2 Building Placement and Orientation



Building Type 2 Mass and Scale

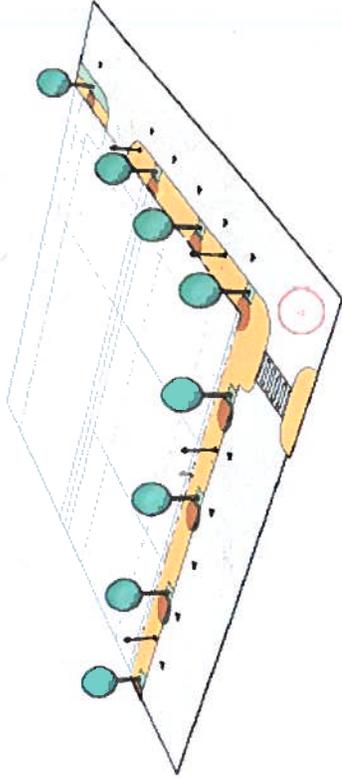


Building Type 2 Facade Activation

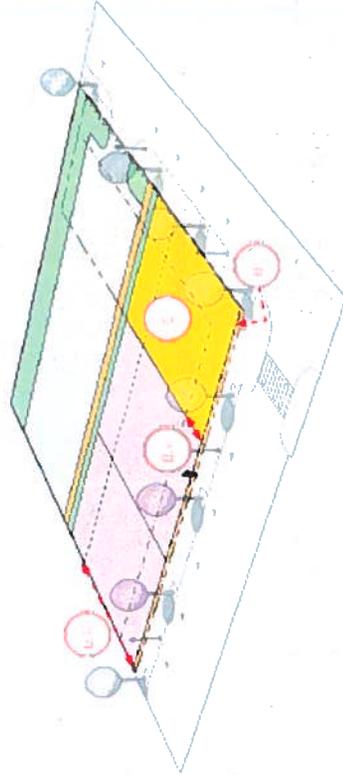


4. Purpose – Corridors, Nodes, and Third Spaces

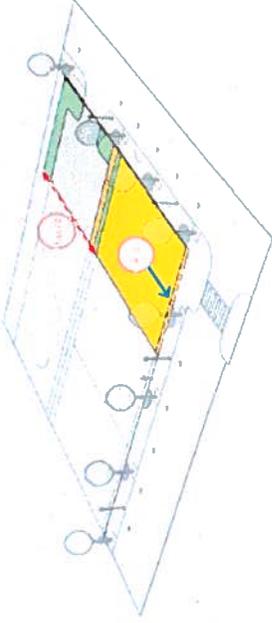
Frontage D Public Component



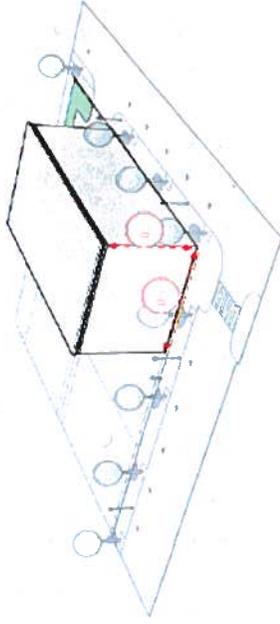
Frontage D Private Component and Building Type Permitted



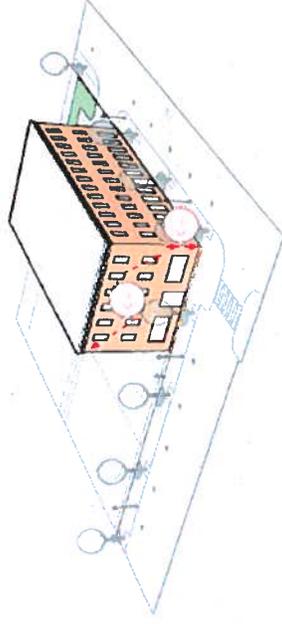
Building Type 3 Building Placement and Orientation



Building Type 3 Mass and Scale

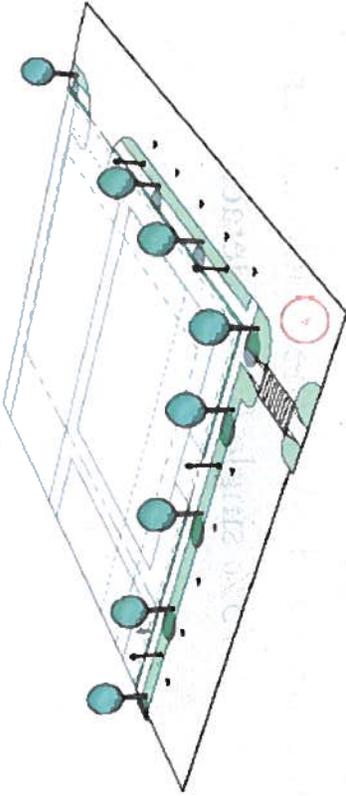


Building Type 3 Facade Activation

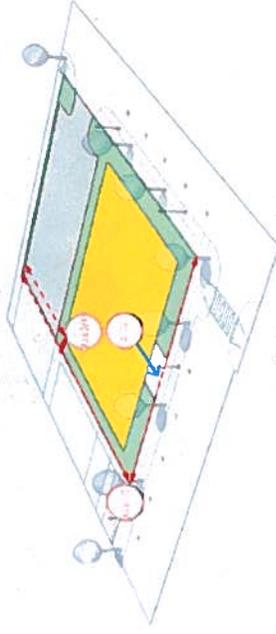


4. Purpose – Corridors, Nodes, and Third Spaces

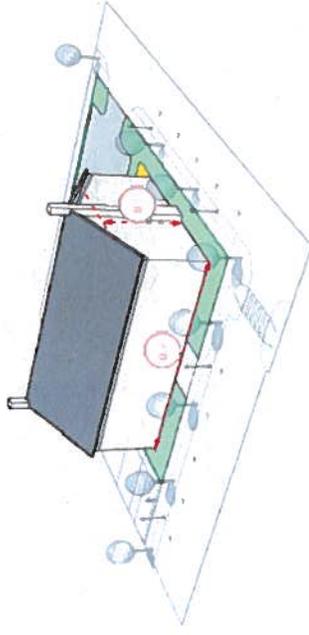
Frontage E Public Component



Building Type 2 Building Placement and Orientation



Building Type 2 Mass and Scale



Building Type 2 Facade Articulation

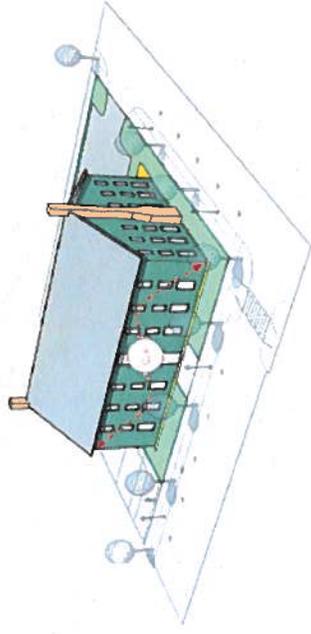
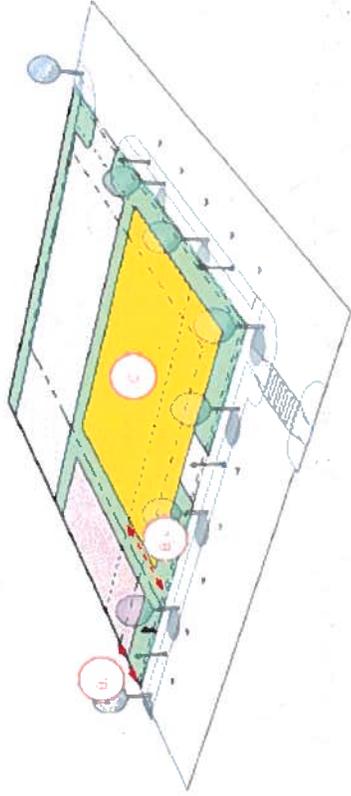


Figure E Private Component and Building Type Permitted

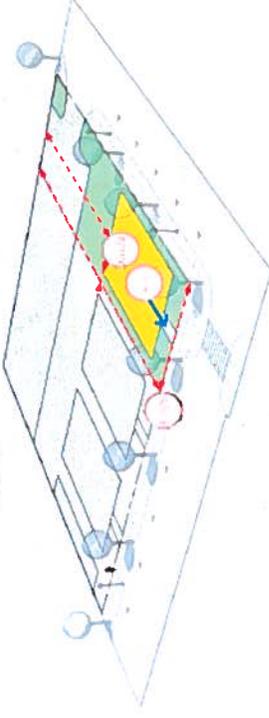


4. Purpose – Corridors, Nodes, and Third Spaces

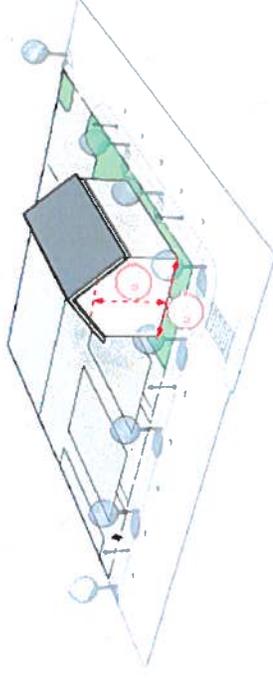
Only building type permitted in Transitional Zone.

Transitional Zones established when abutting single family detached uses and when the blockface across the street from a use is 75% single family detached residential.

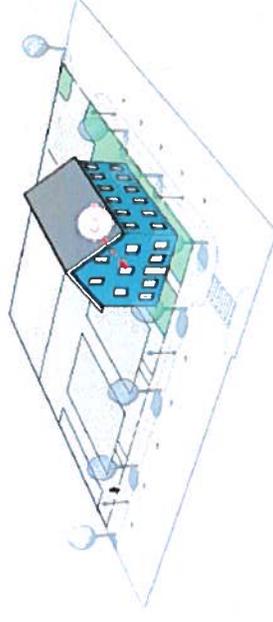
Building Type 4 Building Placement and Orientation:



Building Type 4 Mass and Scale:



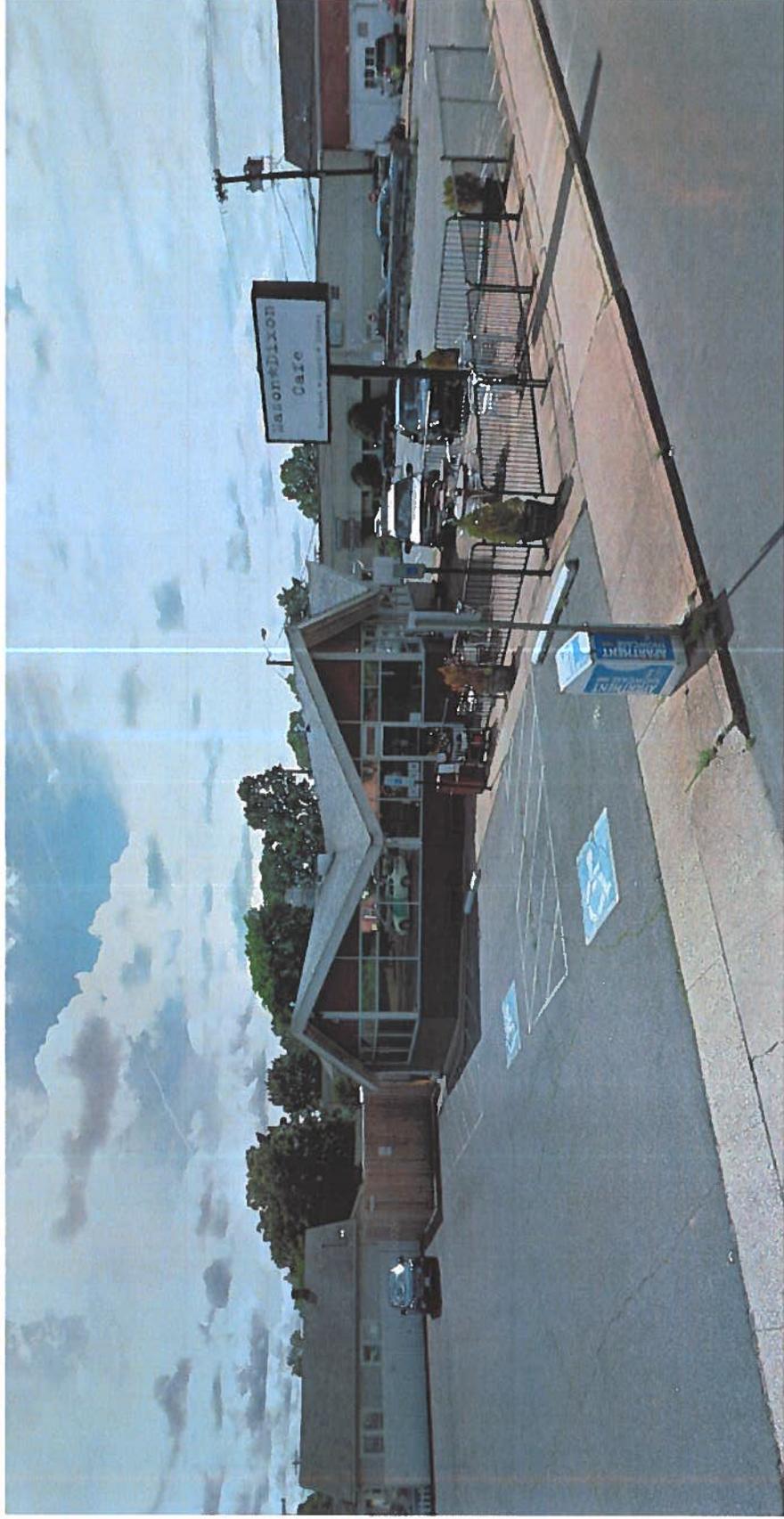
Building Type 4 Facade Activation:



4. Purpose – Corridors, Nodes, and Third Spaces

i. Building Elevation:	The building elevation shall be either vertically oriented or horizontally oriented based on the patterns of surrounding buildings.
ii. Permitted Materials:	a. Permitted primary building materials are brick, stone, stucco, wood / wood composite / cementitious siding, and non-corrugated metal. b. Accent and trim materials may be any of the primary building materials or vinyl.
iii. Equipment screening:	Utility and service functions shall be designed so that they are screened from adjacent streets.

5. Purpose – Character Structures



5. Purpose – Character Structures

T-4M and T-5M Character Structure Map Small Area 6

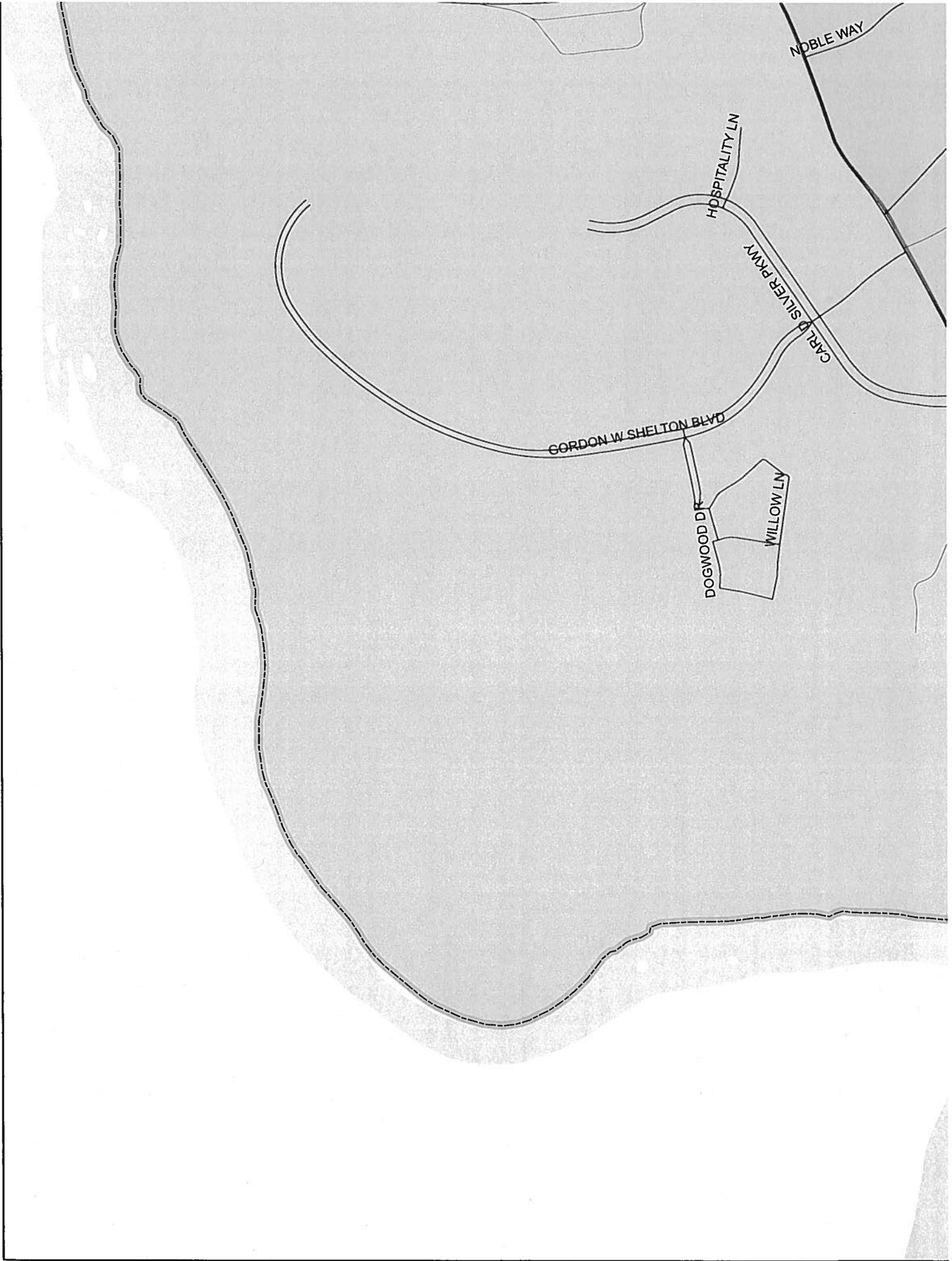


6. Signs



7. Recommendation

To ensure the district is properly advertised, the Planning Commission should hold the public hearing open until its meeting on April 8.



NOBLE WAY

HOSPITALITY LN

CARL D SILVER PKWY

GORDON W SHELTON BLVD

DOGWOOD DR

WILLOW LN

UDO TEXT AMENDMENTS

PARKING

Fredericksburg

Why ?

Comprehensive Plan policies

Walker Parking Action Plan

Creation of new Maker district

Striking a balance of encouraging Downtown and Maker District redevelopment with the reality that auto access will be dominant for the near-term

Applying contemporary 'Smart Code' regulatory practices

Met with Parking Advisory Committee: May 6, June 3, Sept. 9

Met with Planning Commission dates: Sept. 11

COMPREHENSIVE PLAN GUIDANCE

Downtown Parking Strategy 3

- Reduce or remove parking regulations and allow market forces to provide for adequate parking.

Transportation Policy 9

- Develop parking policies that are appropriate to an active downtown.

Business Opportunity Policy 5

- Implement development/redevelopment standards that promote a human-scale, pedestrian-oriented, transit friendly community, through site layout, building configuration, landscaping, signage, parking lot design, vehicle and pedestrian circulation, stormwater management, and environmental protection.

Business Opportunity Initiative 35

- Encourage development/redevelopment activity by creating redevelopment plans, especially for older shopping centers, that will diversify uses and provide for improved multi-modal access, landscaped parking areas, and improved lighting and signage.

Land Use Revitalization Objective

Most of the City's small areas are designated as revitalization areas as defined (in part) in Virginia Code 15.2-2303.4, as having:

- Large surface parking areas on commercial land, which have revitalization opportunities for the evolution of a suburban pattern of development into a more urban, mixed-use pattern. Broad expanses of surface parking result in fragmented and inefficient development patterns that should be redeveloped so as to create complete communities that are walkable and robust.

MINIMUM OFF-STREET PARKING RATIOS

(PARKING REQUIRED / USE AMOUNT)

Use Type	1963 Req.	1972 Req.	1984 Req.	2013 Req.
Single Family Home	1 / DU	2 / DU	2 / DU	1.5 / DU
Office	1 / 400 SF	1 / 250 SF	1 / 200 SF	1 / 300 SF
Commercial / Retail	Off-street parking equal in area to ground floor of building	1 / 250 SF	1 / 200 SF	1 / 300 SF
Restaurant	Included in "commercial"	1 / 5 seats	1 / 4 seats + 1 / 2 employees	1 / 180 SF

SMART CODE MODEL

Should Downtown and other urban centers in City have parking requirements? *Downtowns in other cities that do not have parking requirements have a well developed transit system.*

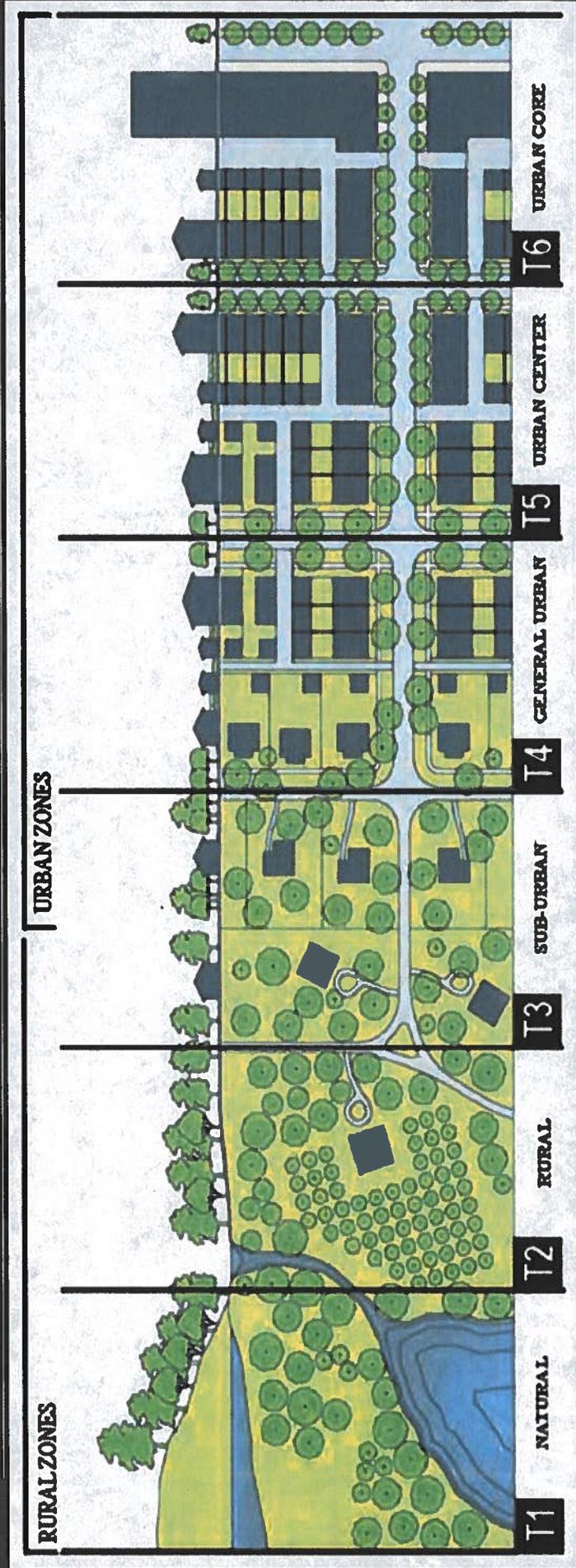
Fredericksburg will rely on personal vehicles as access for the immediate future. *Good planning practice over the past few decades has advocated a return to traditional development patterns for walkable urban places with a mixture of uses.*

The "Smart Code" is a model code to implement traditional development patterns. It emphasizes form over use as the key to good development.

The "Smart Code" is the basis of the proposed parking amendments.

SMART CODE TRANSECTS

R2 R4 / R8 / CD
R12 CT / HC

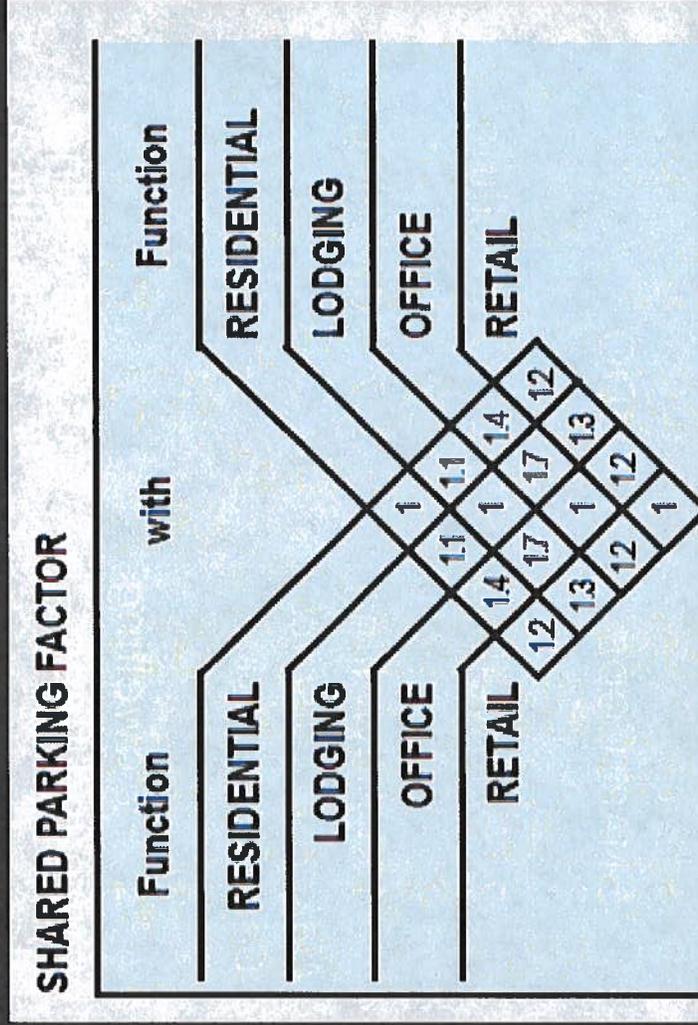


What ?

Recalibrate parking standards:

- Base residential requirements increase Downtown
- *No change for in-door restaurant requirements*
- Change of use **will** be recalculated except Downtown and Maker Districts: Don't want to encourage more surface parking
- *Retail and Office requirements decrease, especially in Downtown, Maker, and Planned Development Districts*
- Automatically apply 'Shared Parking Factor' for mixed use
- *Expand Downtown Parking District (payment instead of parking):*
 - *Geographically, Fund Use, % of spaces eligible for payment*

SHARED PARKING FACTOR



REQUIRED NUMBER OF SPACES

	SMARTCODE	UDO	Proposed
<u>Residential</u>			
-	Single Family T-3	2 / dwelling	2 / dwelling
-	Townhouses T-4 <i>in Downtown, Maker, PD district & Form Based Code projects</i>	1.5 / dwelling	1.75 / dwelling 1.5 / dwelling
-	Multifamily T-5 <i>w/ commercial on ground floor w/ no commercial In Downtown, Maker, PD districts & Form Based Code projects</i>	1 / dwelling	1.75 / dwelling
		0.5 / dwelling 1.7 / dwelling	1 / dwelling <i>apply Shared Parking Factor</i>

REQUIRED NUMBER OF SPACES

	SMARTCODE	UDO	Proposed
<u>Lodging</u>			
T-4, T-5	1 / bedroom 100% of req'd spaces for accessory uses apply Shared Parking Factor	1 / guest room 75% of req'd spaces for accessory uses	1 / guest room 100% of req'd spaces for accessory uses apply Shared Parking Factor
<u>Office</u>			
T-3 & T-4	3 / 1000 sq ft (1 / 335 sq ft)	1 / 300 sq ft	1 / 335 sq ft
T-5 in Downtown, Maker, PD districts	2 / 1000 sq ft (1 / 500 sq ft)	1 / 300 sq ft	1 / 500 sq ft

REQUIRED NUMBER OF SPACES

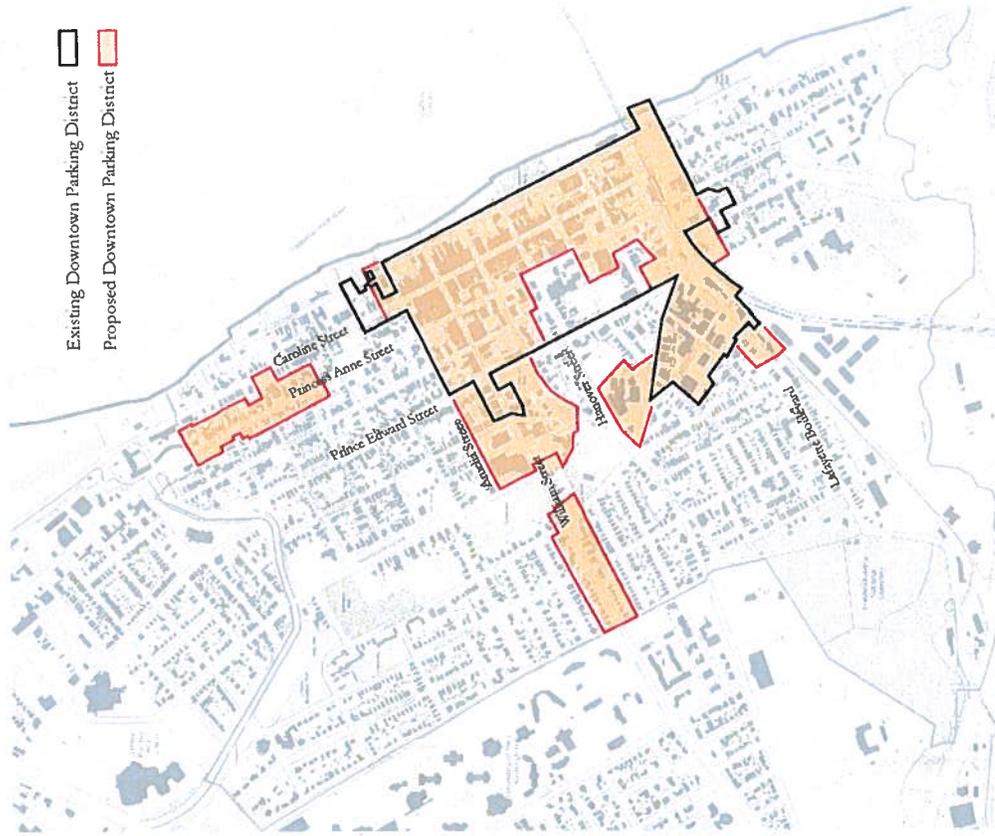
	SMARTCODE	UDO	Proposed
<u>Retail</u>			
T-3 & T-4	4 / 1000 sq ft (1 / 250 sq ft)	1 / 300 sq ft	<60K sf: 1 / 300 sf 60K sf to 100K sf: 1 / 400 sf >100,000 sf: 1 / 450 sf
T-5	3 / 1000 sq ft (1 / 335 sq ft)	1 / 300 sq ft	<60K sf: 1 / 335 sf 60K sf to 100K sf: 1 / 400 sf >100,000 sf: 1 / 450 sf
<i>in the C-D, C-M, or Planned Development Zoning Districts</i>			
	(retail <1500 sq ft exempt from requirement)		(retail ≤1500 sq ft exempt from requirement)

DOWNTOWN PARKING DISTRICT

CHANGE BOUNDARIES

ADD TRANSIT AND BICYCLE FACILITIES

ALLOW PURCHASE OF 100% OF SPACES AT HIGHER RATE



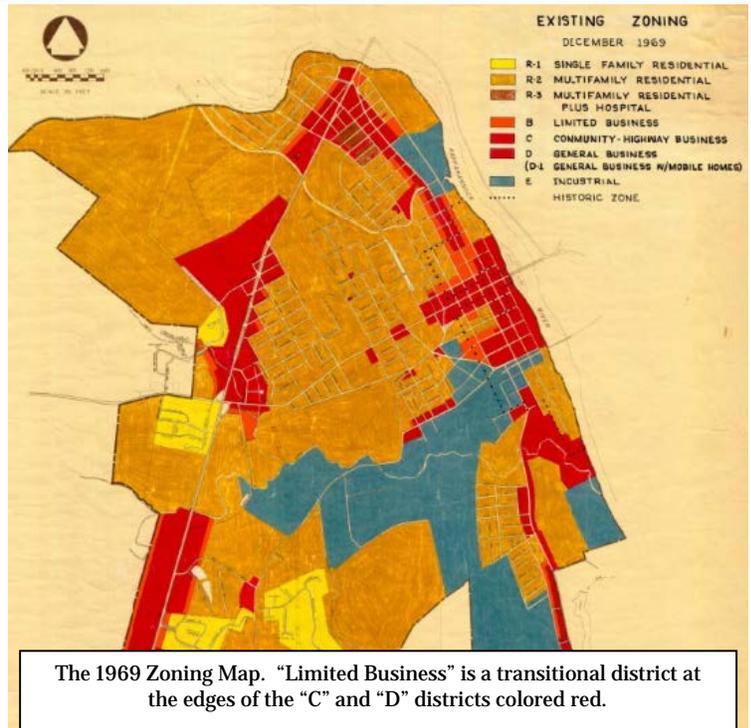
PART III

A HISTORY OF PARKING IN THE CITY OF FREDERICKSBURG

THE EVOLUTION OF THE CITY'S PARKING REGULATIONS

As early as 1963, City zoning ordinances required minimum off-street parking based on the quantity of a land use. In 1963 parking ratios were divided up by each zoning district. The ratios were based on different variables including number of units and square foot of use. Commercial uses in the “Community-Highway” (C) and “General Business” (D) Districts were required to provide off-street parking area on the same lot with the building equal to the square feet of the first floor of the building.

Some focus was given to balancing urban form with required parking. An exemption was included in the “Limited Business District” which stated that the regulations should not require the reuse of buildings existing prior to 1952 “to furnish more off-street parking spaces than can be provided within the confines of the property and no structural alteration of the building or buildings thereon shall be required” (§ 18, 1963 Zoning Ordinance). Otherwise, the requirement for off-street parking applied legal and regulatory pressure to consolidate lots and tear down buildings for car storage.



The zoning ordinance was rewritten on April 25, 1972 and included a new standalone chapter dedicated to parking. The chapter introduced dimensional and locational standards to accompany minimum parking ratios (Ord. 72-92). Parking spaces had to be a minimum of 200 square feet in size, were required to have curbed entrances, and access aisles for on-site circulation. Residential parking ratios increased (see chart below for some examples). Non-residential parking ratios became more complex as more uses were granted their own ratios. The only permitted waiver for parking was a provision limiting the amount of parking required to be built for a change of use in an existing buildings. In that case only additional parking deficit was required to be built for the new use.

The zoning ordinance was rewritten again in 1984 and the amount of land area required for car circulation and storage reached its zenith along with the corresponding legal and regulatory pressure to demolish existing fabric. The structure of the ordinance remained the same with no additional exceptions despite the parking ratios increasing again.

Use Type	Minimum Off-Street Parking Ratios (Parking Required / Use Amount)			
	1963 Req.	1972 Req.	1984 Req.	2013 Req.
Single Family Home	1 / DU	2 / DU	2 / DU	1.5 / DU
Office	1 / 400 SF	1 / 250 SF	1 / 200 SF	1 / 300 SF
Commercial / Retail	Off-street parking equal in area to ground floor of building	1 / 250 SF	1 / 200 SF	1 / 300 SF
Restaurant	Included in "commercial"	1 / 5 seats	1 / 4 seats + 1 / 2 employees	1 / 180 SF

Minimum parking ratio and minimum dimensional standards adopted in the 70's and 80's are based on suburban behavioral assumptions. They assume a single use environment where home, store, office, playground, etc. are all individual destinations, connected only by a system of primary highways. The trip from place to place (home to work to shop to restaurant back home) occurs within the vehicle. Sufficient parking infrastructure for each individual use is the paramount design concern in this suburban form. Sufficient off-street area must be provided for vehicles to circulate safely out of the flow of automobiles on-street and be stored on the same site as the use. The amount of space required for car circulation and storage is required to be greater than the amount of space where the person is permitted to be (ie. within the building or meaningful open spaces) in part because the car is four + times the size of a person.

The suburban parking premise conflicts with the existing urban form of the older areas of the City and the desirable urban form of new areas of the City. To illustrate the conflict, a chart containing the total land use in the block bounded by Caroline Street, Hanover Street, Princess Anne Street, and Charlotte Street is on the next page. The data is derived from the City's GIS system. The table includes the name of the building, the type and amount of uses in the building, the modern (2019) requirement for off-street parking per amount of use, the total required parking, and the total existing parking:



NAME	USE TYPE	USE AMOUNT	REQ. PK / USE (2019)	REQ. PK	EX. PK
City Hall	Government Office	29,139	1 / 300 SF	98	19
Courthouse	Courthouse	4 Courtrooms	65 per Courtroom	260	0
Visitors Center	Government Office	5,271	1 / 300 SF	18	14
Mixed-Use (Beck's)	Retail / US DU	1,000 SF / 1 DU	1 / 300 SF; 0.5 / DU	4	0
Mixed Use (O.T.C.)	Pers. Service / Apt / US DU	1,000 SF / 1 Apt / 2 DU	1 / 240 SF ; 1.5 / Apt ; 0.5 / DU	7	0
Mixed Use (Pon Shop)	Retail / Upper Story DU	1,000 SF / 3 DU	1/ 300 SF ; 0.5 / DU	5	0
Skin and Touch Therapy	Pers. Service	2,505 SF	1/ 240 SF	11	0
718 Venue	Theater	82 Occupants	1 / 4 Seats	21	0
Mixed Use (Peecabo)	Retail / US DU	1,000 SF / 2 DU	1 / 300 SF ; 0.5 / DU	5	0
Benny Vitalis	Fast Food	1,280 SF	1 / 100 SF	13	0
Mixed Use (J. B's / S & S)	Rest. / Retail / US DU	5,204 ¹ SF / 1,500 SF / 10 DU	1 / 180 SF ; 1 / 300 SF ; 0.5 DU	39	0
TOTAL				481	43

¹ J. Brian's square footage includes outdoor seating on the front and rear patios.

Using a typical parking lot arrangement, two perpendicular parking spaces and the aisle between them require a minimum of 480 square feet of asphalt². The 481 parking spaces required off-street within the block would require 260,880 square feet (or 5.3 acres!). The block is a total of 2 acres in size. Without modification, the amount of use in one Downtown block would require the demolition of almost 3 additional blocks for surface parking.

Over thirty years, the parking ordinances applied legal and regulatory pressure to suburbanize the City's urban form. By 1993, it was apparent that what this pressure produced was problematic. In 1993, a provision was added to the parking regulations that states "for lots in development areas where yard geometry has already been established by existing residential dwellings and development patterns (ie., infill lots), the zoning administrator... may waive or reduce this requirement if necessary to preserve the urban streetscape or to maintain the consistency of building setbacks within the same block." This provision remains in place today, though rewritten as an exception for residentially zoned lots, vacant or otherwise, existing prior to April 25, 1984.

The City Council took broader action in 2007 and again in 2009 to address the impacts of modern parking standards on the Downtown core. The 2009 ordinance created the Downtown Parking District and the fee-in-lieu parking program, reduced required parking for certain new or expanded uses, permitted adjacent on-street parking to be counted towards meeting the parking requirement, amongst other parking exemptions and waivers. The 2009 ordinance approving these changes states,

"the City values its downtown and does not wish to encourage the demolition of structures to provide new surface parking spaces. However, its current parking regulations require suburban-style parking to be provided for expanding businesses or for the change of use of structures. These regulations, combined with the prohibition against demolition of structures, have combined to discourage the expansion of businesses and the change in the use of downtown structures.

The parking regulations contained herein are more appropriate for Fredericksburg's downtown. The new regulations will encourage investment in the downtown, preserve the historic built environment, provide parking where feasible, and aggregate funding for public development or leasing of parking spaces." (Ord. 09-22)

The adoption of the Unified Development Ordinance (UDO) in 2013 included more changes to parking standards (see the chart of the current parking standards attached to this memo). § 72-53.1B(2) included some of the rules adopted in 1993 and 2009 related to infill housing and permitting on-street parking to be counted towards the off-street parking requirement. The rehabilitation or re-use of a historic building was exempted from the parking requirements and changes in building use were exempted from providing any additional parking off-street parking than already existed. § 72-53.1C kept the basic structure of minimum off-street parking ratios and dimensional standards, but the ratios were reduced. A provision was added limiting the maximum amount of parking that a person may build on-site. § 72-53.3 add an alternative parking plans section permitting surplus off-site parking (meeting certain locational parameters) to be allocated to non-residential uses, permitting uses with staggered peak parking demands to share parking, and providing for a general 30% reduction in the parking standard with appropriate justification. The Downtown Parking District and Fund were retained.

The City's parking standards have evolved over the last fifty-six years. The evolution reflects the complex balance between protection and nurturing of the character of the City's neighborhoods and historic Downtown and adequate quantity of car storage. The purpose of this ordinance is to ensure that the proper balance between urban form and asphalt is maintained.

² UDO § 72-53.1D Configuration requires parking spaces to be 8 feet wide and 18 feet long. Two way access aisles serving perpendicular parking must be a minimum of 24 feet wide. These standards vary depending on the angle of the parking.

PARKING AND THE DOWNTOWN CORE

The 2017 Walker Parking Action Plan (PAP) analyzed the Downtown core public parking supply. The Plan studied the public parking supply. The Plan found that supply was sufficient, but recommended several management techniques to make the supply more efficient (PAP iv). The focus in the Downtown core was to “push” or “pull” long term parkers out of on-street spaces and into public parking lots.

The Action Plan also contained recommendations for zoning regulations. The Plan “supports the City’s fee-in-lieu program and alternative parking plan requirements... as they are rather forward thinking strategies” (Parking Action Plan vii). The Plan also encouraged innovation and experimentation in parking requirements and policies (PAP 53). In 2009, the City Council adopted a \$5,500 fee per parking space. In 2014 the fee was increased to \$6,500 and the Plan stated that was sufficient, but that it should be adjusted based on increase in cost of living every two years (PAP 64). The fee was adjusted as prescribed in 2019 so that an applicant may now pay \$7,150 per space for up to 50% of their parking.

Downtown Parking Fund - Revenue and Capital Projects				
	Year	Project	Total Pk Sp	Payment
Revenue	2015	Sedona Tap House	13	\$ 84,500
	2016	Amelia Square - Phase 5	5	\$ 32,500
	2018	Castiglia's Roof Top	7	\$ 45,504
	2019*	Hanover One (* Proposed*)	46	\$ 299,000
Total			71	\$ 461,504
Projects	2016	Charles Street Parking Lot	46	\$ 538,129
Total			46	\$ 538,129³

EMERGING WALKABLE URBAN PLACES: PARKING AND URBAN FABRIC

The William Street Node, Canal Quarter Maker District, Jackson + Wolfe Warehouse District, and to a lesser extent Lafayette Boulevard City are walkable urban places within Area 7 in addition to the Downtown core. A design analysis was completed for these areas as part of the Area 7 Small Area process. The design analysis included 5 focus areas comprised of 46 individual lots. The analysis compared existing conditions with zoning ordinance requirements. The purpose was to determine how these places functioned and whether or not the valuable fabric in these areas was legally permitted to grow. On the one hand, these places have the potential to be echoes of the type of urban fabric found on Caroline and William Street. They contain historically unique building envelopes, are walkable and bikeable, and are incorporated into the Downtown fabric.

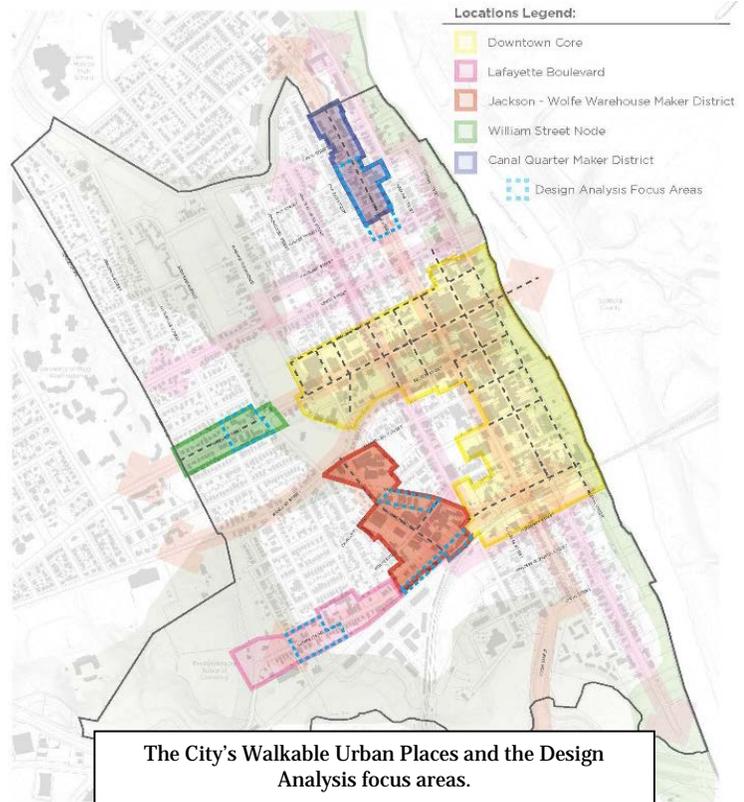
On the other, they face similar regulatory challenges to the Downtown core. Out of the 46 individual lots, only 15 (33%) contain the required amount of off-street parking. Even fewer contained parking areas that met current parking dimensional standards for on-site vehicle circulation. Under current standards roughly 575 off-street parking spaces would be required but only 404 are currently provided (a difference of 171 off-street parking spaces, which based on the formula on page 4 equates to 82,820 square feet of asphalt). With the provision permitting adjacent on-street parking to be counted toward a use that number drops to 113 parking spaces.

³ The Charles Street Parking Lot provided 46 parking spaces at a cost of \$538,129 or \$11,700 per parking space.

Despite the deficit in required parking these focus areas are all high in asphalt saturation. Combined 44% of the total lot area in these places is devoted to surface parking and circulation. Outside of the building footprint that number jumps to 64%. Take out the West Lafayette focus area around the Allstate building and that number jumps again to 75%. Open space is anemic and poor quality, consisting mostly of landscape strips at the sides and rear of lots. In total, the square footage of asphalt exceeds the amount of total building square footage by 58,000 square feet.

Current parking regulations cannot foster the unique urban fabric in the City's emerging walkable urban places. These areas have unique assets: a solid block network, historic building envelopes and frontages that are capable of becoming vibrant streetscapes. However, parking requirements still require more area for on-site car circulation and storage than they permit for building area or meaningful open space in these areas.

Empty lots and derelict buildings are legally required to be consolidated for and converted into asphalt. The purpose of this ordinance is to establish the primary design consideration for these potential commercial cores.



Walkable urban fabric in the 1600 block of Princess Anne Street built in (from left to right) 1959, 2010, 1900, and 1900. The gap in the fabric was created when a building built in 1800's was torn down in the 1980's.

SMARTCODE

TABLES 10 & 11. BUILDING FUNCTION & PARKING CALCULATIONS

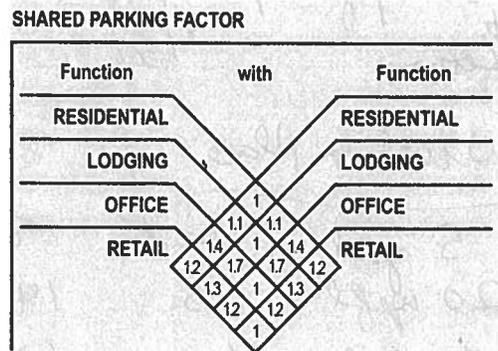
Municipality

TABLE 10: Building Function. This table categorizes Building Functions within Transect Zones. Parking requirements are correlated to functional intensity. For Specific Function and Use permitted By Right or by Warrant, see Table 12.

	T2 T3	T4	T5 T6
a. RESIDENTIAL	Restricted Residential: The number of dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building, with 2.0 parking places for each. Both dwellings shall be under single ownership. The habitable area of the Accessory Unit shall not exceed 440 sf, excluding the parking area.	Limited Residential: The number of dwellings on each Lot is limited by the requirement of 1.5 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).	Open Residential: The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).
b. LODGING	Restricted Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	Limited Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.	Open Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated and provided with parking according to Retail Function.
c. OFFICE	Restricted Office: The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	Limited Office: The building area available for office use on each Lot is limited to the first Story of the principal building and/or to the Accessory building, and by the requirement of 3.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	Open Office: The building area available for office use on each Lot is limited by the requirement of 2.0 assigned parking places per 1000 square feet of net office space.
d. RETAIL	Restricted Retail: The building area available for Retail use is restricted to one Block corner location at the first Story for each 300 dwelling units and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 20.	Limited Retail: The building area available for Retail use is limited to the first Story of buildings at corner locations, not more than one per Block, and by the requirement of 4.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 40.	Open Retail: The building area available for Retail use is limited by the requirement of 3.0 assigned parking places per 1000 square feet of net Retail space. Retail spaces under 1500 square feet are exempt from parking requirements.
e. CIVIC	See Table 12	See Table 12	See Table 12
f. OTHER	See Table 12	See Table 12	See Table 12

TABLE 11: Parking Calculations. The Shared Parking Factor for two Functions, when divided into the sum of the two amounts as listed on the Required Parking table below, produces the Effective Parking needed for each site involved in sharing. Conversely, if the Sharing Factor is used as a multiplier, it indicates the amount of building allowed on each site given the parking available.

	REQUIRED PARKING (See Table 10)		
	T2 T3	T4	T5 T6
RESIDENTIAL	2.0 / dwelling	1.5 / dwelling	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	1.0 / bedroom
OFFICE	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	2.0 / 1000 sq. ft.
RETAIL	4.0 / 1000 sq. ft.	4.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.
CIVIC	To be determined by Warrant		
OTHER	To be determined by Warrant		



- calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase or lease from a Civic Parking Reserve within the Pedestrian Shed, if available.
- b. The actual parking may be adjusted upward according to the Shared Parking Factor of Table 11 to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any pair of adjacent Blocks.
 - c. Based on the Effective Parking available, the Density of the projected Function may be determined according to Table 10.
 - d. Within the overlay area of a Transit Oriented Development (TOD) the Effective Parking may be further adjusted upward by 30%.
 - e. The total Density within each Transect Zone shall not exceed that specified by an approved Regulating Plan based on Article 3 or Article 4.
 - f. Accessory Units do not count toward Density calculations.
 - g. Liner Buildings less than 30 feet deep and no more than two Stories shall be exempt from parking requirements.

5.10 PARKING LOCATION STANDARDS

5.10.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.
- b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.
- c. For buildings on B-Grids, open parking areas may be allowed unmasked on the Frontage by Warrant, except for corner lots at intersections with the A-Grid.

5.10.2 SPECIFIC TO ZONES T2, T3

- a. Open parking areas shall be located at the second and third Lot Layers, except that Driveways, drop-offs and unpaved parking areas may be located at the first Lot Layer. (Table 17d)
- b. Garages shall be located at the third Layer except that side- or rear-entry types may be allowed in the first or second Layer by Warrant.

5.10.3 SPECIFIC TO ZONES T3, T4

- a. Driveways at Frontages shall be no wider than 10 feet in the first Layer. (Table 3B.f)

5.10.4 SPECIFIC TO ZONE T4

- a. All parking areas and garages shall be located at the second or third Layer. (Table 17d)

5.10.5 SPECIFIC TO ZONES T5, T6

- a. All parking lots, garages, and Parking Structures shall be located at the second or third Layer. (Table 17d)
- b. Vehicular entrances to parking lots, garages, and Parking Structures shall be no wider than 24 feet at the Frontage. (Table 3B.f)
- c. Pedestrian exits from all parking lots, garages, and Parking Structures shall be directly to a Frontage Line (i.e., not directly into a building) except underground levels which may be exited by pedestrians directly into a building.
- d. Parking Structures on the A-Grid shall have Liner Buildings lining the first and second Stories.
- e. A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.



BICYCLE PARKING

RULES AND REGULATIONS ESTABLISHING THE DIMENSIONAL AND EQUIPMENT STANDARDS FOR BICYCLE PARKING AREAS

I. Objectives for Bicycle Parking

1. To encourage the use of bicycles for transportation as an alternative to motor vehicles.
2. To provide for bicycle access to employment, commercial, residential and other transportation and travel destinations.

II. Bicycle Parking Standards

Per the 2008 Alexandria Pedestrian and Bicycle Transportation Master Plan, the “Inverted U” type of bicycle racks are the required bicycle parking rack. Any other type proposed rack would be subject to approval by the Director of the Department of Transportation & Environmental Services (T&ES).

III. Required Provision of Bicycle Parking

The developer agrees to provide, at no charge to the user, secure bicycle storage facilities. These facilities should be highly visible to the intended users and protected from rain from within a structure shown on the site plan.

The following minimum standards should be met for office, retail and residential developments:

Office Bicycle Storage Facilities:

The office requirement for bicycle parking is one (1) employee space for every 7,500 square feet, or portion thereof, of office floor area and one (1) visitor space for every 20,000 square feet, or portion thereof, of office floor area to the satisfaction of the Director of T&ES.

Facilities for office users must meet the acceptable standards for Class 1 or Class 2 bicycle parking. Visitor spaces can be Class 2 or Class 3. Drawings showing that these requirements have been met shall be approved by the Director of T&ES before the issuance of the Construction Permit.



Series of Inverted U Type Bicycle Racks
(photo courtesy James Mackay, City of Denver, CO)

**Retail Bicycle Facilities:**

The retail requirement is two (2) Class 2 or Class 3 spaces for every 10,000 square feet, or portion thereof, of the first 50,000 square feet of retail floor area; one (1) space for every 12,500 square feet, or portion thereof, of additional retail floor area and one (1) employee space for every 25,000 square feet, or portion thereof, of retail floor area. These bicycle parking spaces shall be installed at exterior locations that are within 50 feet of the entrance for retail customers and employees, and such locations shall be reviewed by T&ES.

Residential Bicycle Facilities:

The residential requirement is three (3) spaces for every 10 residential units, or portion thereof, and one (1) visitor space for every 50 residential units, or portion thereof to the satisfaction of the Director of T&ES. Residential spaces shall be Class 1 or Class 2 bicycle parking. Visitor spaces may be Class 2 or Class 3 bicycle parking.

Hotel Bicycle Facilities:

The hotel requirement is one (1) rack per fifteen (15) rooms for less than 75 rooms, and six (6) visitor racks for a hotel with more than 75 rooms. Visitor and employee spaces may be Class 2 or Class 3 bicycle parking.

Additional development standards:

Public or Commercial Recreation Facilities—Provide Class 2 or Class 3 bicycle parking spaces that amount to 15 percent of required automobile parking.

Lodging—Provide Class 2 or Class 3 bicycle parking spaces that amount to 10 percent of required automobile parking.

Plan Requirements:

- Bicycle parking locations with dimensions shall be shown on the preliminary site plan
- Detail of proposed Class 1 & 2 bicycle parking shall be provided with the first final site plan submission



IV. Type of Bicycle Parking Required:

Class 1: Locked Storage Room or Cage (Long Term)

Class 1 storage for bikes consists of a cage or room where entry is controlled via locking mechanism (may be combination, key, fob, etc) and where the bicycles are protected from inclement weather. Class 1 storage could be in a garage, lockable ground floor room or some other agreed upon location. A ground floor room has the advantage of cleaner facilities, fewer conflicts with automobiles and easier access to the outside. This type of bicycle parking is most appropriately used for long term residential storage or office parking.

- This is a fully enclosed room (block, concrete, or studs with drywall) or cage covered by industrial grade expanded metal mesh or welded wire mesh.
- Has a heavy-duty cipher or electronic lock on the entrance.
- Bikes are locked to racks within the enclosure.
- Has 72 inch (6 foot) wide aisles inside the enclosure that allows bikes to be maneuvered in and out.



Double-decker Bicycle Racks
(photo courtesy of Arlington County)



Double cage with inverted U racks
(photo courtesy of Tacoma-Pierce County Chamber)

For additional information on bicycle parking, visit <http://alexandriava.gov/localmotion/> or contact Hillary Poole, Complete Streets Coordinator, at 703-746-4017 or via e-mail at Hillary.Poole@alexandriava.gov.



**Class 2: Protected or Covered
Bicycle Parking
(Long or Short Term)**

Bicycles parked in a Class 2 facility are protected from the elements, whether in a garage or under a covered shelter but are not in a fully enclosed locked room or cage. If parking areas are located in a garage, they should be visible by a parking attendant booth or a visitor/customer entrance.



Class 2 bicycle parking at City Hall in Alexandria

Class 3: Light Security for Visitor Parking (Short Term)

The standard bicycle rack for short term or visitor parking is the “Inverted U” style rack. These racks are designed to accommodate two bicycles and should be installed exterior to the building. The specifications for the Inverted U racks are described below, and the rack installation guidelines can be found on [The Local Motion Website](#).



Class 3 bicycle parking at the King Street Metro Station
(Photo courtesy of live-in-washingtondc.com)

For additional information on bicycle parking, visit <http://alexandriava.gov/localmotion/> or contact Hillary Poole, Complete Streets Coordinator, at 703-746-4017 or via e-mail at Hillary.Poole@alexandriava.gov.



V. Description - "Inverted U" Bicycle Rack

The Inverted U's shall be fabricated from 1.5" inner diameter (I.D.) (1.9" outer diameter (O.D.)) to - 2.0" I.D. (2.375" O.D.) Schedule 40 Steel Pipe. The inverted U's shall measure approximately 36" high x 18-24" wide once installed. The bicycle racks shall not be welded in sections. Only the baseplate shall be welded to the steel pipe with two (2) 1/8" vent holes - one on the inside of each upright where the pipe is welded to the baseplate. After fabrication, the rack shall be coated with a Thermoplastic (polyethylene copolymer based) powder coating (polyarmor) to a thickness 200-250 micrometers (8 - 12 mils).



Example of baseplate - note the vandal resistant fasteners used to anchor the rack.
(photo courtesy James Mackay, City of Denver)



Detail of the vandal resistant fastener –
Rawlplug #5550
(photo courtesy James Mackay, City of Denver)

Racks shall be flange mounted on concrete or set in concrete, depending on conditions. Where mounted on concrete, a minimum of 6" diameter baseplates with 3/8" thick steel in accordance with ASTM A36 will be used, with at least three 7/16" diameter mounting holes on each base plate.

The expansion anchor is to be a carbon steel mushroom head, 3/8" x 3" "spike" #5550 as manufactured by Rawl or an approved equal, manufactured from grade 8.2 materials exhibiting equivalent theft-proof performance. Racks shall be set firm and aligned with a tolerance of plus or minus 1/4" from plumb. Where required, steel tapered shims shall be installed prior to anchoring in place. Any departure of baseplate from grade by more than 3/8" shall require the separation to be filled with high-strength epoxy non-shrinking grout and made level.

For additional information on bicycle parking, visit <http://alexandriava.gov/localmotion/> or contact Hillary Poole, Complete Streets Coordinator, at 703-746-4017 or via e-mail at Hillary.Poole@alexandriava.gov.



VI. Description - “Inverted U” Baserail Array Alternate

Inverted U baserail arrays can be used instead of individual inverted U’s in some cases. The inverted U’s should be mounted 36" on-center via baseplate rails. Racks shall be mounted to concrete via baseplate rails ½" x 3" steel in accordance with ASTM A36 to create a free-standing array.

Only the baserails shall be welded to the steel pipe. The baserails shall have 7/16" diameter mounting holes located on the bicycle rack details (mounted via the same expansion anchors as described above).

VII. Location of Bicycle Parking Racks

Racks should either be installed in the public right-of-way, or on private sites in conformance with front setback requirements. Racks should be placed within 50' of building entrances where bicyclists would naturally transition to pedestrian mode.

The rack placement would ideally allow for visual monitoring by people within the building and/or people entering the building. The placement of the racks should minimize conflicts with both pedestrians and motorized traffic. All bicycle parking provided should be on concrete, and located a minimum of 36" from a parallel wall, and 36" from a perpendicular wall (as measured to the closest inverted U). An inverted U rack with two parked bicycles will require roughly 7' in length and 3' in width.



VIII. Use of Alternative (Non-Inverted U) Bicycle Parking Racks

As stated above, the inverted U is the required rack for all applications, however other bicycle parking devices may be approved for use as long as they provide for:

1. Supporting the bicycle frame at two locations (not just the wheel);
2. Allowing both the frame and at least one wheel to be locked to the rack (without requiring that the lock be placed near the bicycle chain);
3. Allowing the use of either a cable or “U-type” lock;
4. Bicycles which are equipped with water bottle cages;
5. Bicycles which are not equipped with kickstands; and
6. All types and sizes of bicycles, including various types and sizes of frames, wheel sizes, and tire widths.

Wave-type racks, pictured below, may not be installed as they are commonly used “broadside,” which decreases the availability of bicycle parking spaces.



**Bike Circle Type Rack
(City of Alexandria)**



Wave-type racks are not permitted

For additional information on bicycle parking, visit <http://alexandriava.gov/localmotion/> or contact Hillary Poole, Complete Streets Coordinator, at 703-746-4017 or via e-mail at Hillary.Poole@alexandriava.gov.



IX. Availability of Bicycle Parking Racks

Vendors of inverted U racks can be found in the yellow pages under “Bicycle Racks and Security Systems” and through an Internet search. The City does not recommend any particular vendor, however, vendors that sell this type of bicycle rack include Creative Pipe (www.CreativePipe.com), Dero (www.Dero.com) and Graber (www.GraberProducts.com).

X. Office Bicycle Parking Lockers and Shower Facilities

The City of Alexandria requires that for every 50,000 square feet or fraction thereof of office gross floor area, one (1) shower per gender shall be installed, up to a maximum of three (3) showers per gender. Also, a minimum of one (1) clothes storage locker per gender shall be installed for every required employee bicycle parking space. The lockers shall be installed adjacent to the showers in a safe and secured area and both showers and lockers shall be accessible to all tenants of the building. The location, layout and security of the showers and lockers shall be reviewed by T&ES before issuance of the Construction Permit. The showers and lockers shall be open during normal working hours. There are no locker or shower facility requirements for retail or residential developments.

XI. Additional Bicycle Parking Information

For additional information on any bicycle parking topics, visit <http://alexandriava.gov/localmotion/> or contact Hillary Poole, Complete Streets Coordinator at 703-746-4017 183 or via e-mail at Hillary.Poole@alexandriava.gov.

BICYCLE PARKING RACK PLACEMENT

RACK PLACEMENT

RULES:

5' from:

Fire hydrant
Crosswalk

4' from:

Loading zone
Bus stop
Bus shelter
Bus bench

Min. 2', Rec. 3' from:

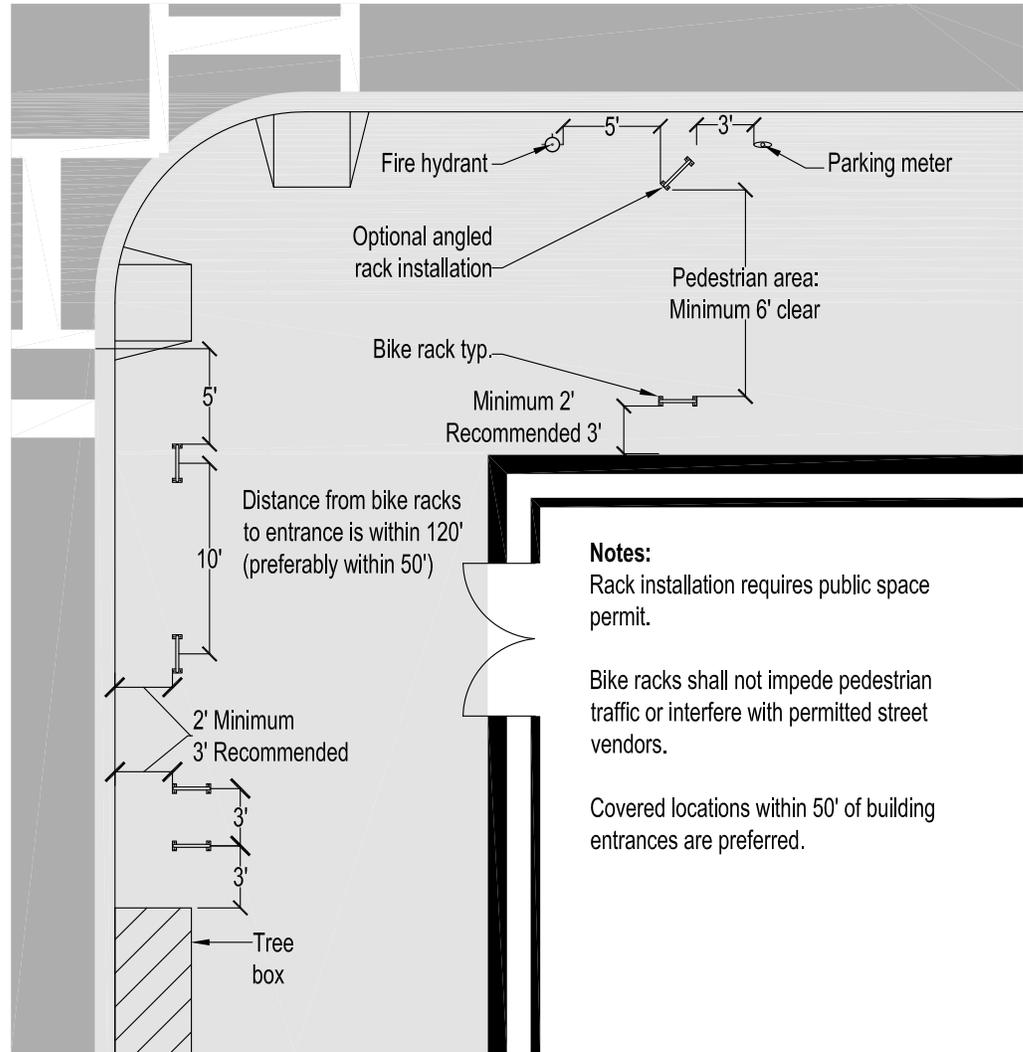
Curb

3' from:

Parking meter
Newspaper rack
US mailbox
Light pole
Sign pole
Driveway
Tree space
Trash can
Utility meter
Manhole
Other street furniture
Other sidewalk obstructions

WALL SETBACKS

For racks set parallel to a wall:
Min. 24", Rec. 36"
For racks set perpendicular to a wall:
Min. 28", Rec. 36"



Notes:

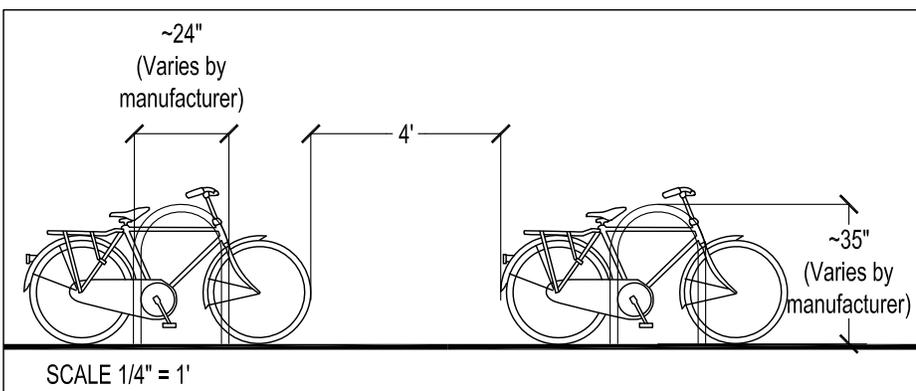
Rack installation requires public space permit.

Bike racks shall not impede pedestrian traffic or interfere with permitted street vendors.

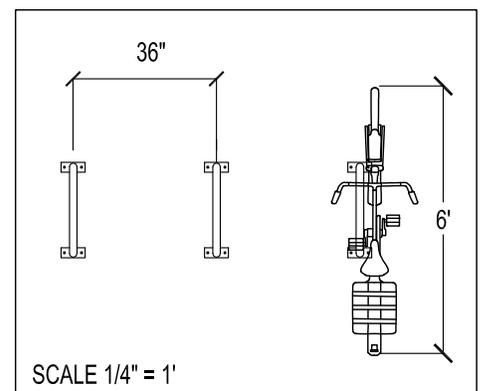
Covered locations within 50' of building entrances are preferred.

SCALE 1" = 10'

SIDE VIEW



SIDE BY SIDE RACKS:



Alexandria Department of Transportation
and Environmental Services
Bicycle and Pedestrian Program

REVISED:
February 2013

SCALE:
AS NOTED

B

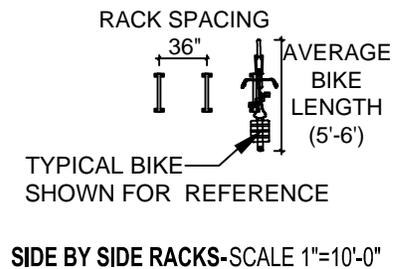
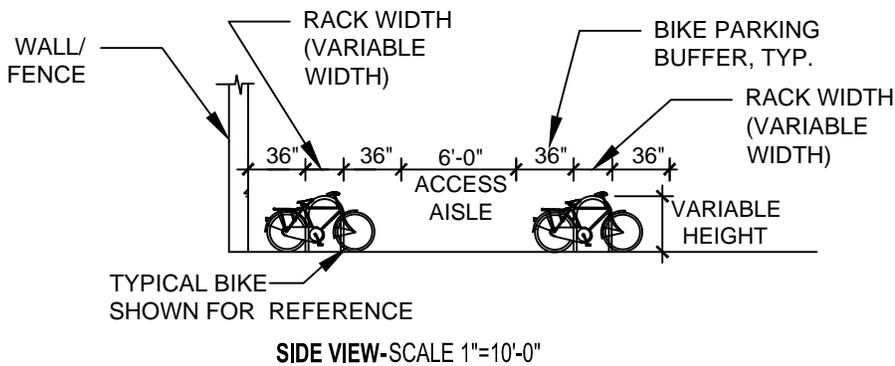
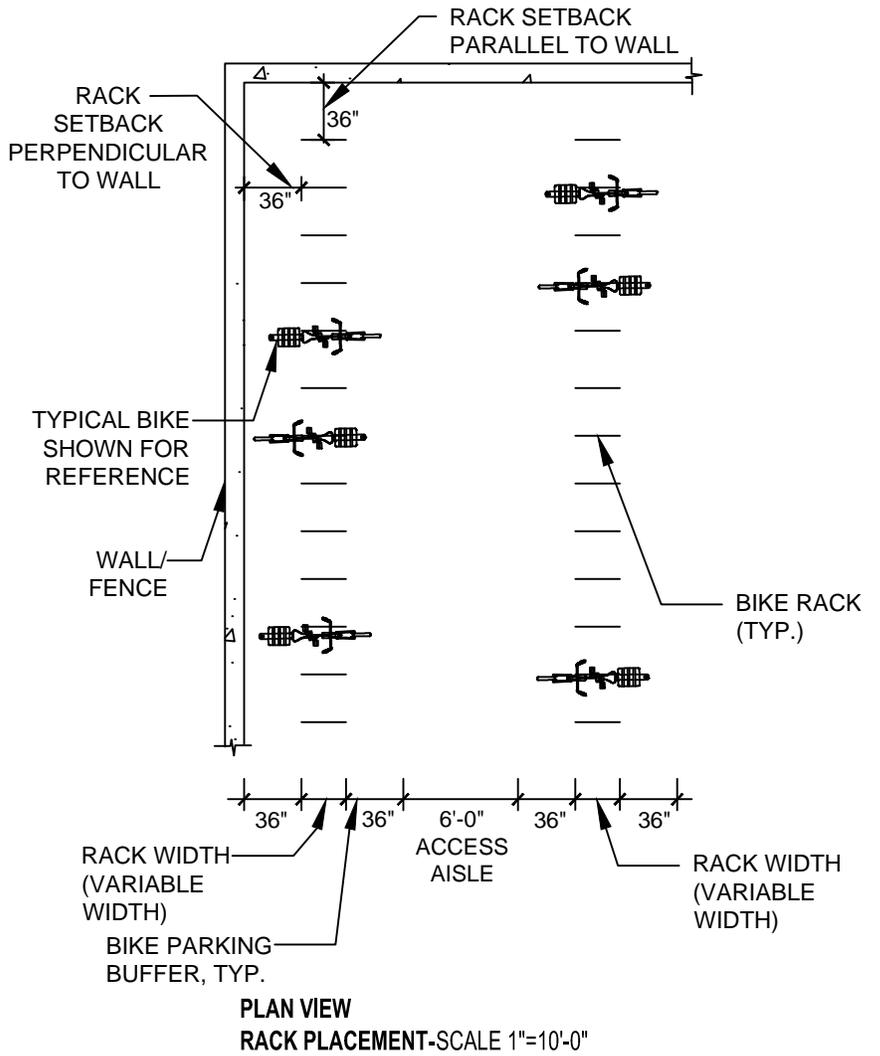
BICYCLE PARKING RACK PLACEMENT (INTERIOR LOCATIONS)

**HOOP/ U RACK
SETBACKS:**

Parallel To Wall:
Recommended: 36"
Minimum: 24"

Perpendicular To Wall:
Recommended: 36"
Minimum: 30"

Rack Spacing:
Recommended: 36"



Alexandria Department of Transportation
and Environmental Services
Bicycle and Pedestrian Program

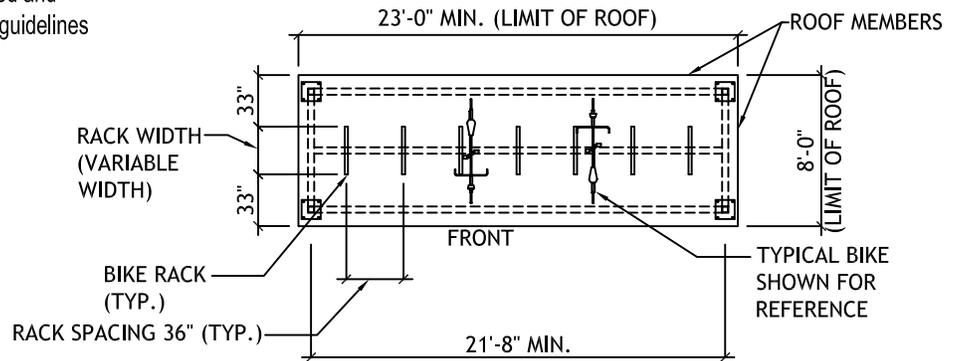
REVISED:
December 2013
SCALE:
AS NOTED

C

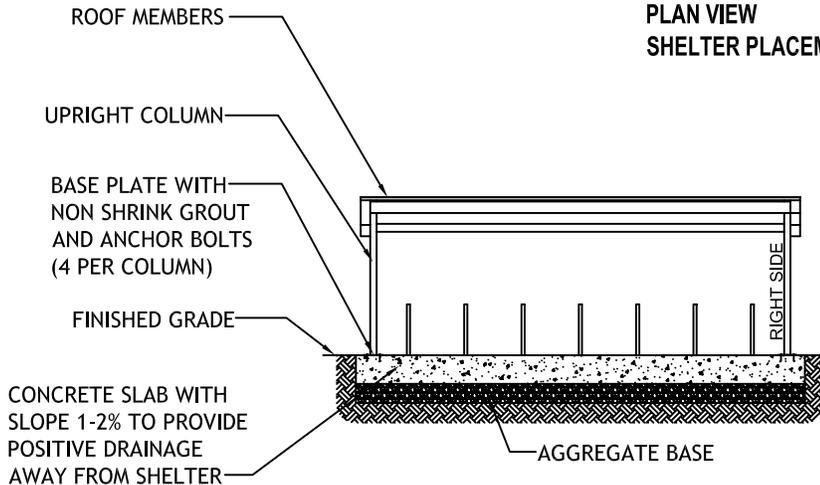
BICYCLE PARKING SHELTER PLACEMENT

SHELTER SETBACKS:

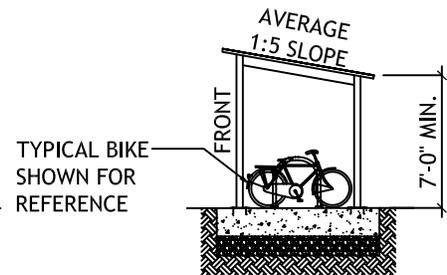
- Existing walls/ streets: 3' Minimum from limit of roof
- Shelter shall comply with all local requirements and guidelines
- All existing utilities shall be located and verified by state and local requirements
- Shelter shall be assembled and installed to manufactures guidelines



PLAN VIEW
SHELTER PLACEMENT- SCALE 1"=10'-0"



FRONT ELEVATION-SCALE 1"=10'-0"



RIGHT SIDE ELEVATION-SCALE 1"=10'-0"



Alexandria Department of Transportation
and Environmental Services
Bicycle and Pedestrian Program

REVISED:
February 2013
SCALE:
AS NOTED

E

2018
UPDATE



ARLINGTON COUNTY

Bicycle Parking Standards

INTRODUCTION

This guide is designed to give developers, architects, property managers, construction professionals, and County staff, the knowledge to design, install, and maintain great bicycle parking facilities. This guide outlines the current County design and installation standards and procedures for secure and visitor bicycle parking in both new and retrofitted construction. It is the property owner's responsibility to keep these bicycle facilities well maintained and useful for tenants and residents. These high quality facilities aim to promote and encourage bicycling as an efficient and convenient form of transportation for residents, workers, and visitors to Arlington County.



TABLE OF CONTENTS

Short-Term Visitor Bicycle Parking (Class III)	4
General Requirements	
Approvable Class III Bicycle Rack Specifications	
Class III Layout and Installation	
Minimum Clearances	
Class III Plan Requirements	
Long-Term Secure Bicycle Parking (Class I)	9
General Requirements	
Class I Bike Parking Location Options	
Approvable Class I Bicycle Rack Options and Specifications	
Minimum Clearances	
Class I Plan Requirements	
Shower and Locker Facility Requirements	
Plan Review	17
Step by Step Guide to Bicycle Parking in New Construction Process	
Step by Step Guide to Bicycle Parking in Renovation or Retrofit Process	
Appendix	20
List of Approvable Racks and Vendors	
County Technical Specifications Sheets	
County Contact Information	



PUBLIC

SHORT-TERM VISITOR BICYCLE PARKING (CLASS III)

Class III bicycle parking refers to short term bicycle parking intended for visitors to an establishment. This parking is outdoors and uncovered. While this type of parking is exposed to the elements, it is meant to be convenient for visitors and customers who intend to stay a brief amount of time. Cyclists use their own locks to secure their bicycles to these racks.

General Requirements

- Installed within 50 feet of a main entrance
- Leaves pedestrian paths and vehicle rights-of-way clear
- Highly visible
- Other considerations:
 - Often placed in “landscape zone” in line with tree pits, benches, lamp posts, etc.
 - Achieves “Class II” status when covered by roof or overhang, which protects the rider and the bicycle from precipitation

Approvable Class III Bicycle Rack Specifications

- At least 18” wide and 33” tall when installed
- Secure anchor to a solid, immovable surface
- Provides two points of contact for typical adult or child’s bicycle frame
- Allows user to lock frame and one wheel to rack using standard U-lock
- Constructed of 2” Nom. (2.38” O.D.) Sch. 40 or 2” square steel pipe
- Approvable outdoor finishes include hot-dip galvanized, thermoplastic, or stainless steel
- See Appendix for list of approvable racks and County Construction Specifications



Class III Layout and Installation

Below is an overview of approvable options for Class III layout and installation. For detailed information on installation requirements, please see County specifications in the Appendix.

1. In-Ground Mount (Preferred Method)

- Legs must be anchored 9” deep in new concrete within minimum dimensions, including a minimum of 3” of concrete encasement on all sides
- Legs must be fitted with anchor pins to prevent lift-out



In Ground Mount

2. Flange (Surface) Mount

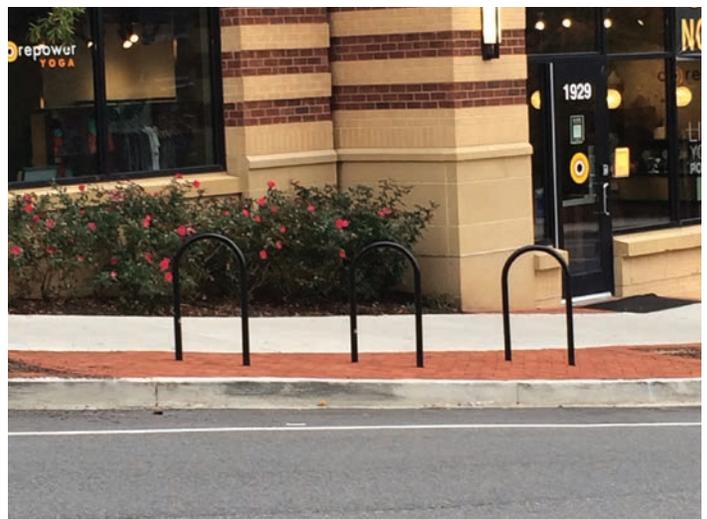
- Must be installed on cured concrete sidewalk or continuous concrete subbase
- Legs must have a minimum of two fasteners per flange
- Concrete sidewalk must be minimum 4” thick and conform to County sidewalk standard
- Anchors must be friction, mechanically expanded, or adhesive bonded, and may be threaded or driven; if threaded, they must be fixed with tamper-resistant nuts as approved by the County
- Rack may not be bolted to unit pavers; however, unit pavers may be installed over flanges mounted to concrete
 - o Pavers must be neatly cut and fit around flanges, fasteners, and legs of rack while maintaining the minimum height from finished grade



Flange (Surface) Mount and Tamper Resistant Nuts

3. Rack installation on a sloped sidewalk

- Ensure the legs of the rack are vertical (plumb) in two planes
- Preferred method is using in-ground racks
- For surface-mounted racks, the use of shims may accomplish this task



Sloped sidewalk installation

MINIMUM CLEARANCES

2 FT

MINIMUM
CLEARANCE

Distance from any
obstruction

3 FT

MINIMUM
CLEARANCE

Perpendicular on-center
distance between parallel
or angled racks

8 FT

MINIMUM
CLEARANCE

Distance—end to end
U racks

Note: for complete installation, dimensions, and hardware details of bike racks, please reference "General Notes for Bicycle Rack Installation" Drawings R8.0 - R8.3 in the Appendix.

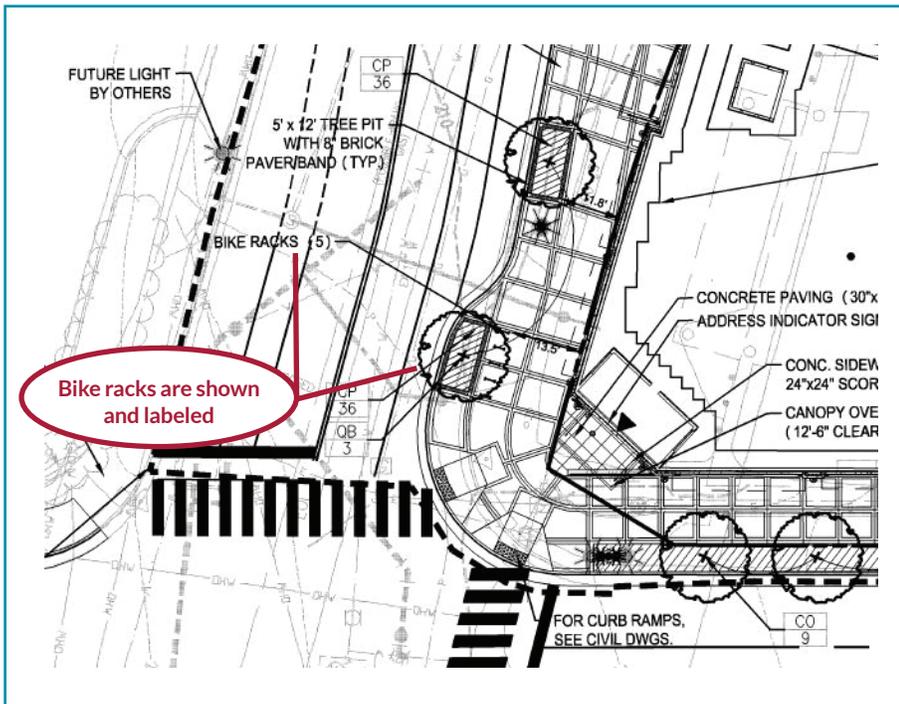


Class III Plan Requirements

Civil/Landscape Plans

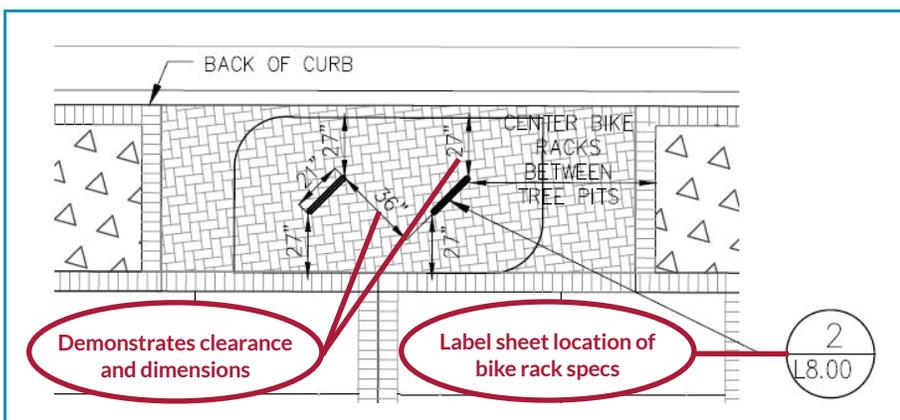
Site or Streetscape Plan Sheet

1. Show and label all exterior bike parking locations. Must be able to count number of spaces in design.



Detail Drawings

1. Show and label distance between racks and all obstructions.
2. For each type of bicycle rack—provide a construction specification sheet with information from the manufacturer and hardware schedule.
3. Include County technical specification sheets R8.0-R8.3.



Civil and Landscape Plans Must Match

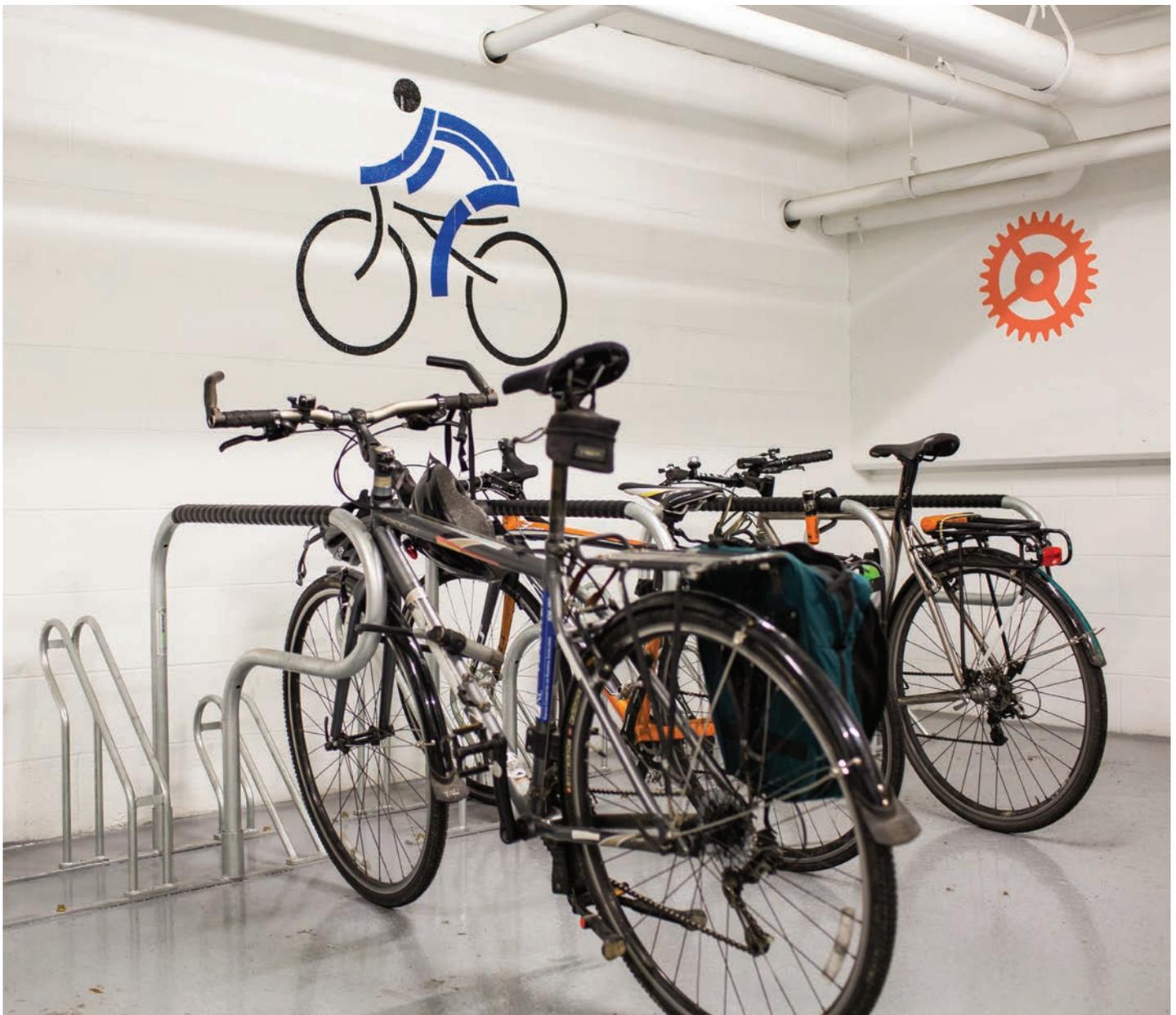


LONG TERM SECURE BICYCLE PARKING (CLASS I)

Class I bike parking refers to secure bicycle storage facilities that are intended for all-day or overnight storage. These are typically provided for employees in commercial buildings or residents and regular employees in multi-family residential properties. Class I facilities are characterized by protection from the weather and protection from theft via a locked, enclosed room. Class I bike parking requirements for commercial properties in Arlington may also include shower and locker facilities to serve bike commuters.

General Requirements

- Protection from weather
- Security of locked room or cage
- Ability to lock bicycle to a rack within the room or cage



Class I Bike Parking Location Options

Preferred option

- Fully enclosed ground floor room with direct sidewalk access
Clean, efficient to access, highly secure, less conflict with cars

Additional options

- Fully enclosed room in garage
Discrete, highly secure; however, can conflict with cars and be less inviting for users
- Cage in a garage
Secure; however, conflicts with cars, can appear less clean and inviting, and bikes are visible to potential thieves
- Bike lockers (for unique scenarios)
Secure; however, not space-efficient and if placed outdoors, bicycle riders are not protected from the weather



Bike room with direct street access



Fully enclosed room



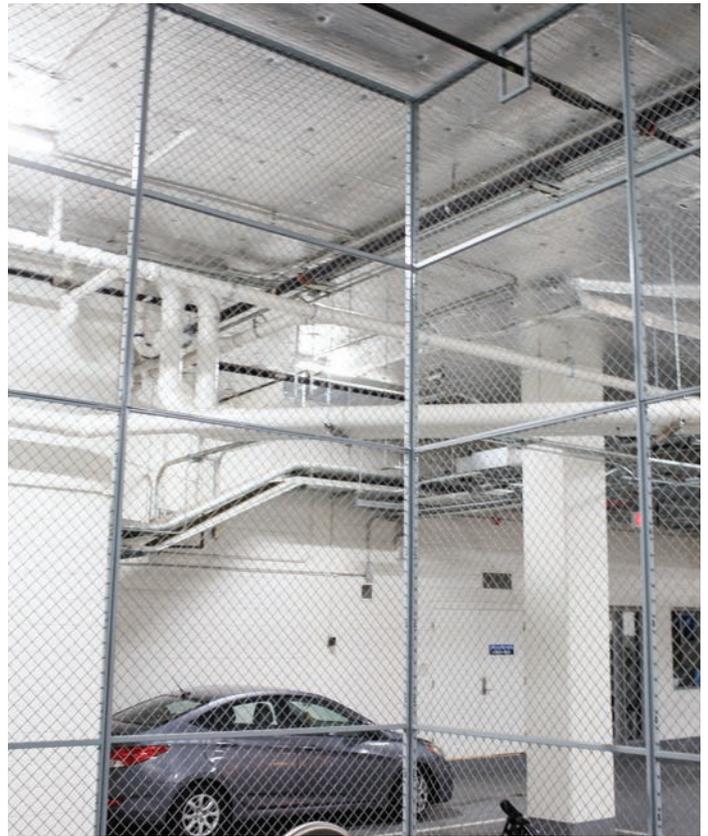
Cage in a garage



Bike locker

Design requirements

- At least 30% of bicycle parking must be horizontal and at floor level
- Doors must be hollow metal
- Doors must use a heavy-duty cipher lock or electronic lock
- For cages only:
 - Hollow metal doors still required, but cage walls may need to be supplemented by sheet metal plating (3 feet in each direction) as needed to prevent tampering with door handle or lock
 - Cage walls must be made of industrial grade expanded metal or welded wire mesh; other acceptable wall materials are concrete block and drywall
 - Cage walls must reach all the way from floor to ceiling (not drop ceiling)



Cage walls reach ceiling



Electronic fob lock



Cipher lock

Photos are only intended to show approvable lock types and are **not** representative of approvable door/cage material or design.

Approvable Class I Bicycle Rack Options and Specifications

- Standard inverted-U or hoop racks for surface mount to floor. At least 30% of bicycle parking must be horizontal and at floor level.
- Vertical racks on walls or freestanding frames
- “Double-decker” racks for more efficient use of extra vertical space



Floor surface racks and vertical racks



Double-decker racks



Vertical wall mounted racks

MINIMUM CLEARANCES

5 FT

MINIMUM
CLEARANCE

Aisle width—single
level

7 FT

MINIMUM
CLEARANCE

Aisle width—double-decker
racks

3 FT

MINIMUM
CLEARANCE

Perpendicular on-center
distance between parallel
or angled racks

8 FT

MINIMUM
CLEARANCE

Distance—end to
end U racks

2 FT

MINIMUM
CLEARANCE

Distance from any
obstruction

See specific
manufacturer's
specs

MINIMUM
CLEARANCE

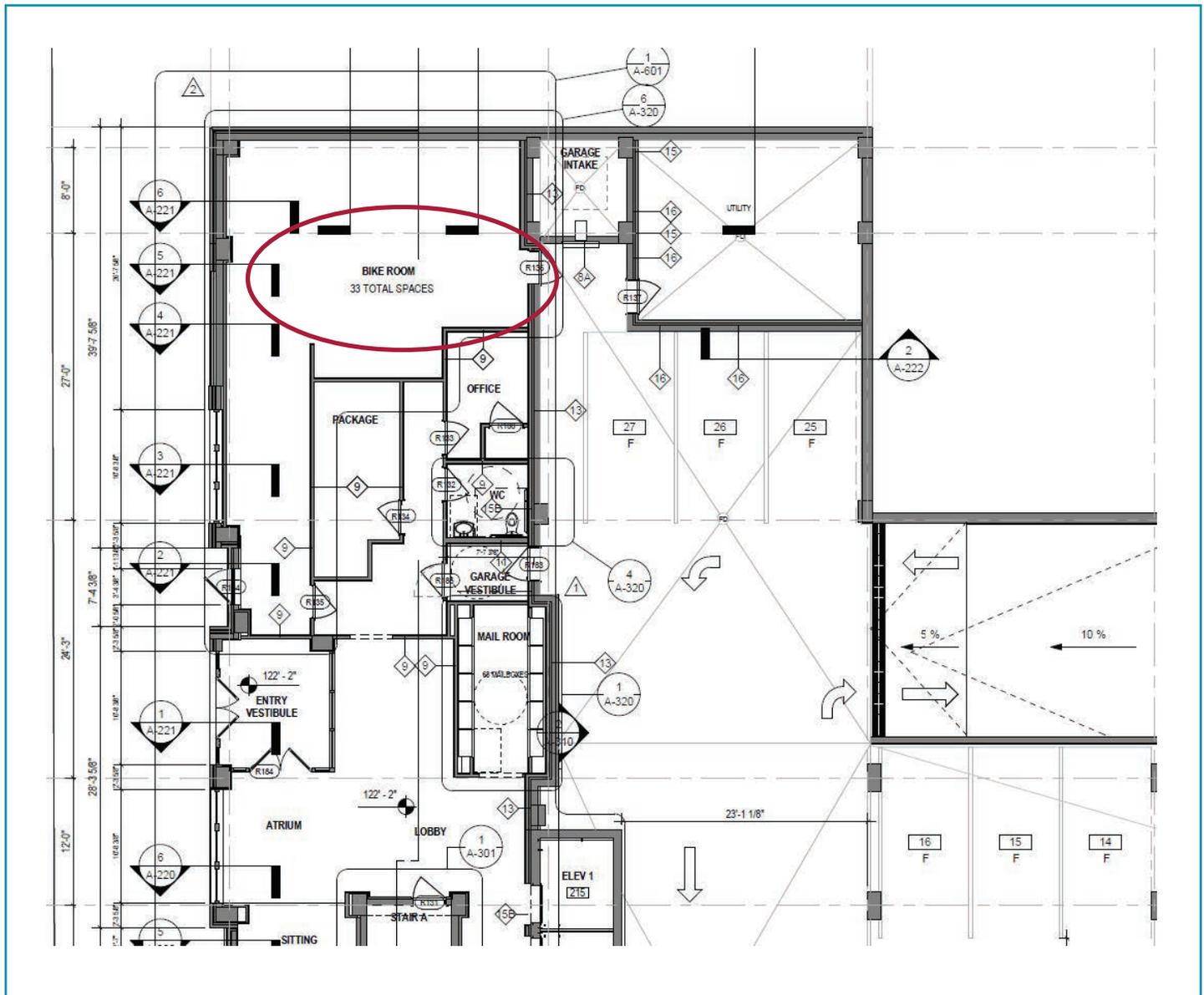
Vertical clearance for hanging
or double-decker rack

Note: for complete installation, dimensions, and hardware details of bike racks, please reference “General Notes for Bicycle Rack Installation” Drawings R8.0-8.3 in the Appendix.

Class I Plan Requirements

Architectural plans: interior bike rack locations

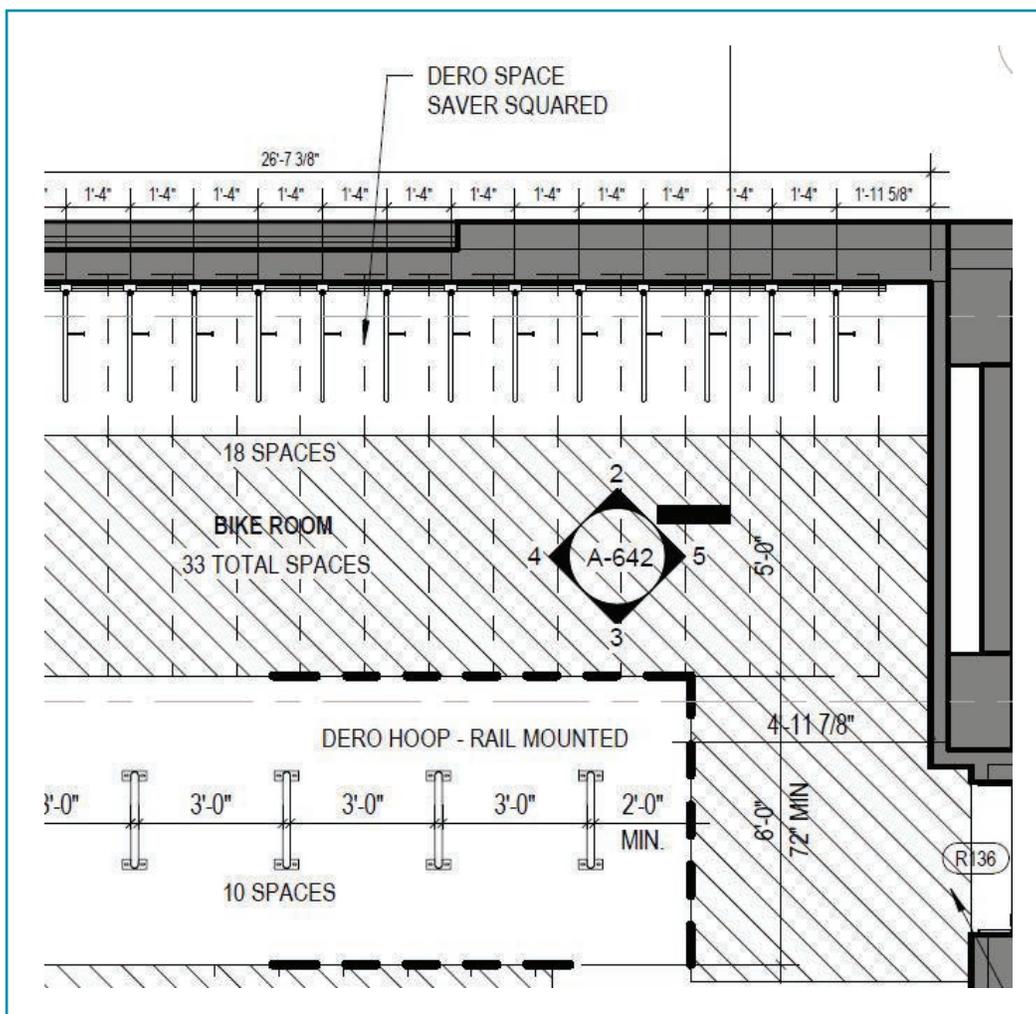
1. Show and label all interior bike parking locations on appropriate architectural floor plan.



Enlarged architectural plans: interior bike rack details

Show and label the following:

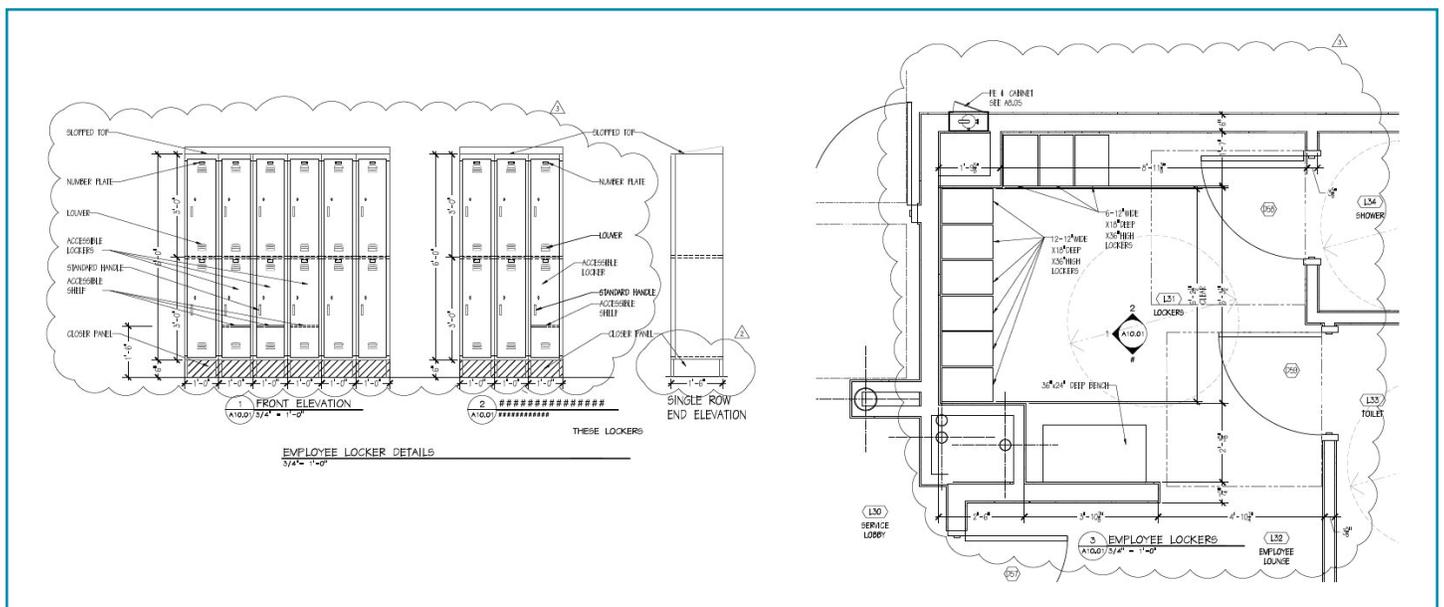
- Proposed room or cage walls
- Wall and door material
- Cage wall and/or door security plates (if applicable)
- Door lock type
- Dimensions between racks
- Dimensions from racks to walls and other obstructions
- Aisle widths
- For each type of bicycle rack—provide a construction specification sheet with information from the manufacturer and hardware schedule
- Include County technical specification sheets R8.0-R8.3
- Where needed for clarity for vertical and double-decker rack installations, there should be a drawing depicting sufficient ceiling clearance above the racks



Shower and Locker Facility Requirements

Showers and lockers complement Class I bike parking for bicycle commuters by providing dedicated space for riders to clean up before the workday and to store things such as clothes or toiletries rather than traveling back and forth with these items.

- Shower and locker facilities should be accessible for storage 24/7, and at a minimum should be accessible for active use during normal business hours
- Lockers should be provided within the secure bike parking area or nearby locker room and located adjacent to shower facilities
- If lockers are provided in separate gender locker rooms, each room needs to have the required number of lockers (not split between the two)
- The minimum acceptable locker dimensions are 12” wide, 18” deep, 36” tall





PLAN REVIEW

Step by Step Guide to Bicycle Parking in New Construction Process

1. Depict interior bike parking on architectural plans.
2. Depict exterior bike parking on civil engineering plans (civil and landscape plans must match).
3. Submit complete plans via electronic plan review.
4. Make revisions to plans as required (typically for Footing to Grade Permit) until approved.
5. Order materials.
6. Schedule installation coordination meeting with TDM staff prior to install for layout guidance and troubleshooting.
7. Complete installation.
8. Schedule inspection of installation with TDM staff prior to need for release of First Certificate of Occupancy.



Step by Step Guide to Bicycle Parking in Renovation or Retrofit Process

1. Obtain copy of relevant plan sheets for area on property where bike rack installation is to be considered.
2. Schedule site selection meeting with TDM staff for location and layout guidance and troubleshooting.
3. Submit drafts of revised plan and detail drawings to TDM staff for review.
4. Submit approvable drawings as a part of application for administrative change (contact Zoning for determination if administrative change is necessary).
5. If administrative change is approved, order materials.
6. Schedule installation coordination meeting with TDM staff prior to install for layout guidance and troubleshooting.
7. Complete installation.
8. Schedule inspection of installation with TDM staff.





APPENDIX

List of Approvable Racks and Vendors (Not Exhaustive)

VENDOR	APPROVABLE PRODUCT
American Bicycle Security Company	Same as approvable Dero models
BikeParking.com	Double-Decker with Locking Arm Welle Series Racks (standard and flat top) Welle Circular Racks (round and square)
Creative Pipe	Inverted-U (SU-20 or WU-20) Horseshoe Funnel
Cyclesafe	U/2 Square Staple
Dero	Hoop Rack Heavy Duty Downtown Arc Ultra Space Saver Decker Alley**
Landscape Forms	Ring Rack (special order height only)*
Madrax	U (Square only) U-two UX (Square and Round)
Bike Fixation by Saris	Bike Dock (2.38" and 2" square) Circle Dock Stretch Rack (locking arm)
Victor Stanley	BRHS-101 BRWS-101 BRQS-101
Sportworks	Circular Inverted-U Narrow Inverted-U Wide Heavy Duty Inverted-U

Notes

1. The focus of this list is on Class III installations, though some Class I options are provided. Other Class I products may be approvable with staff review.
2. All racks must be installed to offer a minimum of 33" of height and 18" of width.
3. This list is not comprehensive—any racks that meet the standards in this guide will be considered for approval.
4. Staff reserves the right to not approve a rack model on this list based on site design context, changes to rack design/finish by the vendor, or other considerations.

* Landscape Forms ring rack **default** height from their website is not approvable. This rack may only be approvable special ordered to meet minimum height requirements, which will vary based on the installation finished grade material.

** Alley rack by Dero may be approved for special situations only.

County Technical Specifications Sheets

NOTES:

GENERAL:

1. THIS TECHNICAL SPECIFICATION IS INCLUDED BY REFERENCE IN THE [ARLINGTON COUNTY BICYCLE PARKING STANDARDS](#).
2. BICYCLE RACKS SHALL BE OF AN ACCEPTED DESIGN THAT PROVIDES TWO POINTS OF CONTACT WITH A PARKED BICYCLE. INVERTED "U" RACKS AND OTHER DESIGNS CONSTRUCTED OF TUBING SHALL BE 2" NOM. (2.38" O.D.) SCH. 40 STEEL PIPE AS PER ASTM A53, OR 2" SQUARE SECTION 8 GAUGE AS PER ASTM A-500.
3. TOP OF INSTALLED BICYCLE RACKS SHALL BE MINIMUM 33" ABOVE FINISHED GRADE.
4. BICYCLE RACKS SHALL BE INSTALLED USING THE FOLLOWING OPTIONS ONLY:
 - a. FLANGE-MOUNTED TO CURED CONCRETE
 - b. IN-GROUND (ANCHORED IN NEW CONCRETE)
 - c. MOUNTED ON RAILS MOUNTED TO CURED CONCRETE OR ASPHALT
5. IF MULTIPLE RACKS ARE INSTALLED, THEY SHALL BE UNIFORMLY ALIGNED, AND EVENLY SPACED. FOR LAYOUT PURPOSES, EACH BICYCLE RACK SHALL BE CENTERED IN A "DESIGN STALL" OF MINIMUM DIMENSION 36" X 72".
6. ACCEPTABLE MATERIALS AND COATINGS. PIPE (AND FLANGES, RAILS, ANCHOR PINS, SHIMS, AND FASTENERS, IF APPLICABLE) SHALL BE HOT-DIP GALVANIZED (HDG) AS PER ASTM A123 AND A304; OR STAINLESS STEEL AS PER ASTM A666 AND A240. BICYCLE RACKS MAY BE POWDER COATED OVER HDG AS PER ASTM D 7803, OR THERMOPLASTIC COATED AS APPROVED BY THE COUNTY. COATING MUST BE COMPLETE, I.E., DIPPED OR COMPLETELY POWDER COATED.
7. BICYCLE RACKS SHALL BE ANCHORED FIRMLY, AND INSTALLED VERTICAL (PLUMB) IN TWO PLANES.
8. NO COMPONENT OF THE INSTALLED BICYCLE RACK SHALL RESULT IN A TRIPPING HAZARD.
9. BICYCLE RACKS SHALL NOT BE MOUNTED DIRECTLY TO UNIT PAVERS ONLY.
10. FASTENERS WHEN USED SHALL:
 - a. BE OF ACCEPTABLE MATERIAL AND COATING.
 - b. MEET ONE OF THE FOLLOWING REQUIREMENTS

TYPE	SPECIFICATION	MINIMUM SIZE	MINIMUM INSTALLATION DEPTH	ACCEPTABLE EMBEDMENT MATERIAL
THREADED	ASME B18.18:2017	3/8"	AS NECESSARY	METAL TO METAL. TAMPER RESISTANT NUTS REQUIRED.
FRICTION	A-A-1925a, ASTM E 488	3/8"	3"	CONCRETE
MECHANICALLY EXPANDED	A-A-55614, ASTM E 488	3/8"	3.5"	CONCRETE
ADHESIVE BONDED	ASTM C 881, ASTM E1512	3/8"	6"	CONCRETE, ASPHALT

- c. BE ABLE TO PROVIDE FIRM, SECURE ANCHORING WITH A MAXIMUM OF ¼-INCH NON-TRIP HAZARD PROJECTION ABOVE FINISHED GRADE.
- d. BE THREADED OR DRIVEN ANCHORS. THREADED FASTENERS TO BE FIXED WITH TAMPER-RESISTANT NUTS AS APPROVED BY THE COUNTY.

GENERAL NOTES FOR BICYCLE RACK INSTALLATION

REVISION & DATE

NOTES:

FLANGE MOUNTED INSTALLATION:

1. FLANGE MOUNTED RACKS SHALL BE INSTALLED ON EXISTING CURED CONCRETE. USE FLANGE RACKS WITH FASTENERS AS SPECIFIED ABOVE. EXISTING CONCRETE SHALL CONFORM TO CONCRETE SIDEWALK STD., ARLINGTON COUNTY CONSTRUCTION SPECIFICATION SECTION 02611, AND STD. DWG. R-2.0 (MIN. 4" THICKNESS).
2. RACK LEGS SHALL BE WELDED TO FLANGES WITH COMPLETE SEAMLESS CONTINUOUS FILLET WELDS CONFORMING TO ASTM A36, ASTM A312, AND AWS D1.1. SPOT, TACK, OR INTERMITTENT WELDING IS NOT ACCEPTABLE.
3. FLANGES SHALL BE MINIMUM 3/8" THICK, WITH MINIMUM TWO 1/2" DIA. HOLES (TWO FASTENERS) PER FLANGE.
4. FLANGE MOUNTED RACKS SHALL NOT BE BOLTED TO UNIT PAVERS.
5. WHERE CONCRETE PAVERS OR FIRED CLAY BRICK ARE INSTALLED OVER CONTINUOUS CONCRETE SUB-BASE, FLANGE-MOUNTED RACKS SHALL BE INSTALLED ON CONCRETE SUB-BASE. INSTALLATION MUST NOT COMPROMISE ANY WATERPROOFING OF CONCRETE. (FOR EXAMPLE, INSTALLATION ABOVE UNDERGROUND PARKING STRUCTURE.)
6. UNIT PAVERS SHALL BE INSTALLED IN ACCORDANCE WITH ARLINGTON COUNTY CONSTRUCTION SPECIFICATION SECTION 02612.
7. UNIT PAVERS SHALL BE NEATLY CUT AND FIT AROUND FLANGES, FASTENERS, AND LEGS OF RACK.
8. LEGS OF FLANGE MOUNTED RACKS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE MINIMUM ACCEPTABLE HEIGHT OF 33" ABOVE FINISH GRADE.

IN-GROUND RACK INSTALLATION:

1. LEGS OF IN-GROUND RACKS SHALL BE FITTED WITH ANCHOR PINS TO PREVENT LIFT-OUT. ANCHOR PINS SHALL BE:
 - a. OF ACCEPTABLE MATERIAL.
 - b. MIN. 3/8" DIAMETER WITH MIN. 3" CONCRETE ENCASEMENT.
2. IN-GROUND RACKS SHALL BE INSTALLED AND FIRMLY ANCHORED IN NEW CONCRETE OF MINIMUM DIMENSIONS SHOWN. ANCHORED PORTIONS OF RACK SHALL HAVE MIN. 3" CONCRETE ENCASEMENT ON ALL SIDES.
3. FOR RACK INSTALLATIONS ON SITES WITH CONCRETE PAVERS OR FIRED CLAY BRICK INSTALLED OVER COMPACTED SOIL SUB-BASE AND SAND LEVELING COURSE AS PER ARLINGTON COUNTY STANDARD SPECIFICATIONS SECTION 02612, AND STANDARD DWG. R-2.1, RACKS SHALL BE INSTALLED IN CONCRETE FOOTING OF DIMENSIONS SHOWN.
4. WHERE IN-GROUND RACKS ARE INSTALLED IN UNPAVED SOIL, OR SOD/GRASS/TURF, PROVIDE A SINGLE CONCRETE FOOTING OF DIMENSIONS SHOWN. PROVIDE A TAMPED GRAVEL PAD MIN. 4" THICKNESS, AND MIN. 36" X 72" CENTERED ON EACH INSTALLED RACK.
5. LEGS OF IN-GROUND RACKS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE ANCHORING BELOW GRADE A MINIMUM OF 9" AND BE A MINIMUM HEIGHT OF 33" ABOVE FINISH GRADE.

INSTALLATION ON RAILS:

1. BICYCLE RACKS MAY BE APPROVED IN "GANGED" ASSEMBLIES OF FROM 2 TO 7 RACKS ON CONTINUOUS RAILS.
2. RAILS SHALL BE TYPE AISI C3 X 4.1 STEEL CHANNEL AS PER ASTM A36, HDG, OR POWDER COATED OVER HDG TO MATCH RACKS.
3. INDIVIDUAL RACKS CAN BE WELDED TO RAILS. WELDS SHALL BE COMPLETE SEAMLESS CONTINUOUS FILLET WELDS CONFORMING TO ASTM A36, ASTM A312 AND AWS D1.1. SPOT, TACK, OR INTERMITTENT WELDING IS NOT ACCEPTABLE.
4. INDIVIDUAL RACKS CAN BE BOLTED TO RAILS.
5. IF RACKS ARE BOLTED TO RAILS, FASTENERS SHALL BE:
 - a. OF ACCEPTABLE MATERIAL.
 - b. MIN. 3/8" DIAMETER.
 - c. ABLE TO PROVIDE FIRM, SECURE ANCHORING WITH THREADED NUTS ON UNDERSIDE OF STEEL CHANNEL.
 - d. FITTED WITH TAMPER- RESISTANT THREADED NUTS AS APPROVED BY THE COUNTY.
6. RACKS ON RAILS MAY BE APPROVED FOR INSTALLATION ON FINISHED ASPHALT. IN SUCH CASES, A PERMANENTLY GRCUTED, INTERNALLY THREADED ASPHALT ANCHOR AS APPROVED BY THE COUNTY SHALL BE USED TO PROVIDE ATTACHMENT.

SITE APPLICATION NOTES FOR BICYCLE RACK INSTALLATION

REVISION & DATE

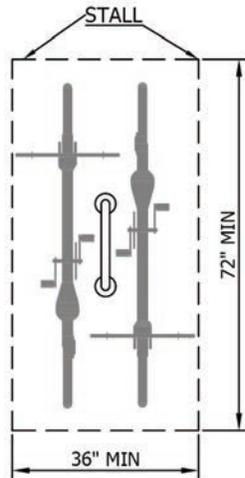


**ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES**

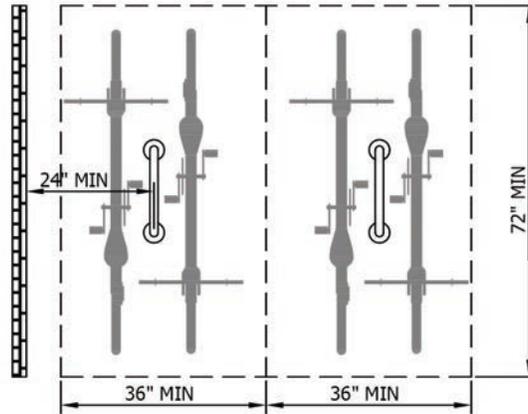
**DRAWING NO.
R-8.1**

NOTES:

1. FOR LAYOUT PURPOSES, EACH BICYCLE RACK SHALL BE CENTERED IN A "STALL" OF MINIMUM DIMENSION 36" X 72".
2. IF MULTIPLE RACKS ARE ANGLED OR SKEWED, CENTER-TO-CENTER SEPARATION BETWEEN PARALLEL RACKS MUST BE INCREASED TO MAINTAIN THE MINIMUM 36" X 72" CLEAR "STALL" AREA AT EACH RACK.
3. MINIMUM 24" CLEARANCE IS NEEDED FROM WALL OR OTHER OBSTRUCTIONS.

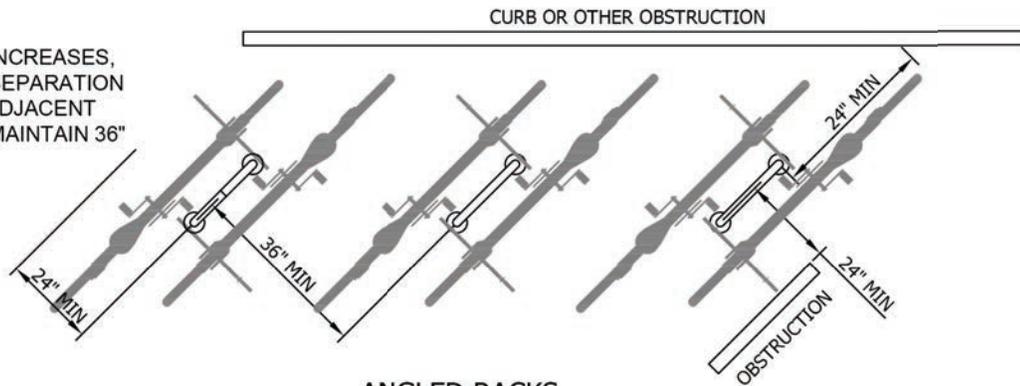


SINGLE RACK

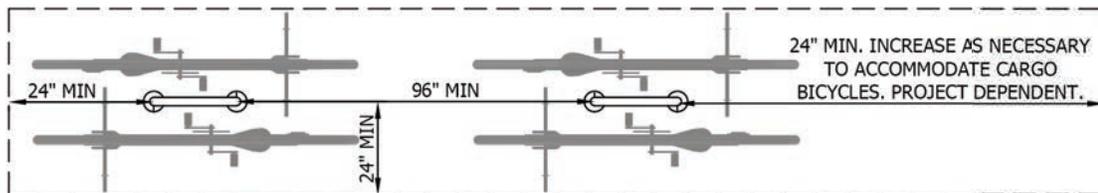


SIDE BY SIDE RACKS

AS ANGLE INCREASES,
INCREASE SEPARATION
BETWEEN ADJACENT
RACKS TO MAINTAIN 36"



ANGLED RACKS



END TO END RACKS

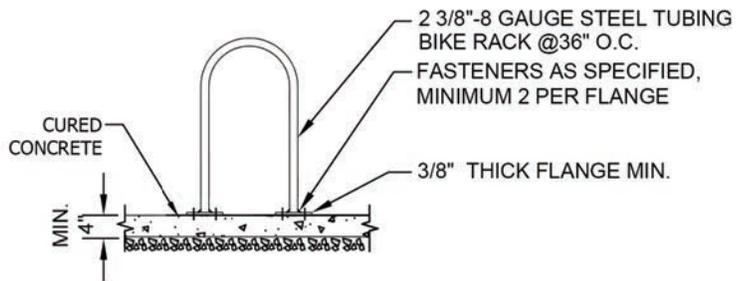
BICYCLE RACK LAYOUT

REVISION & DATE

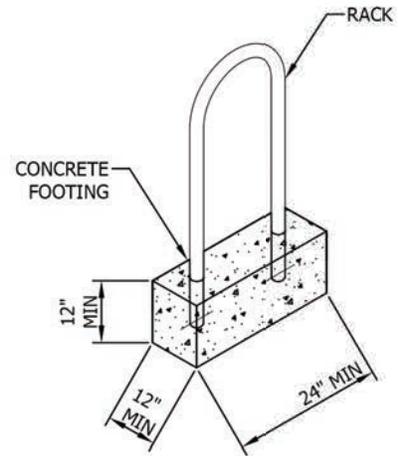
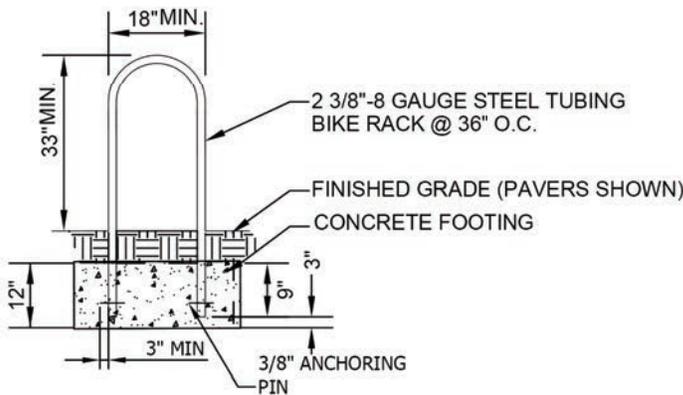


**ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES**

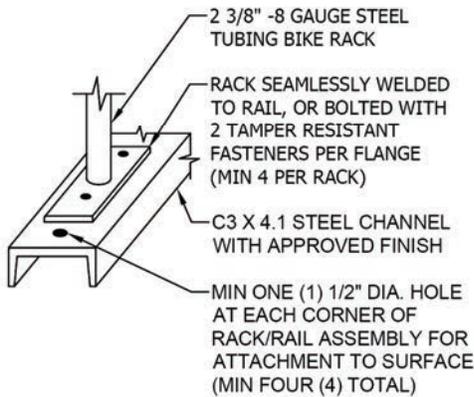
**DRAWING NO.
R-8.2**



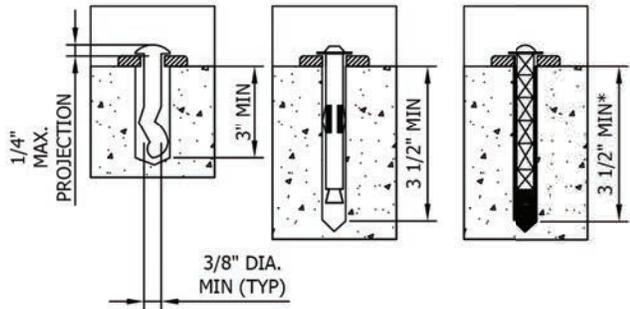
**FLANGE MOUNT FLUSH
(TYPICAL INSTALLATION)**



IN-GROUND RACK INSTALLATION



INSTALLATION ON RAILS



ANCHOR DETAILS

* MIN 3 1/2" FOR ADHESIVE BONDED ANCHOR IN CONCRETE.
MIN 6" FOR ADHESIVE BONDED ANCHOR IN ASPHALT.

BICYCLE RACK INSTALLATION

REVISION & DATE



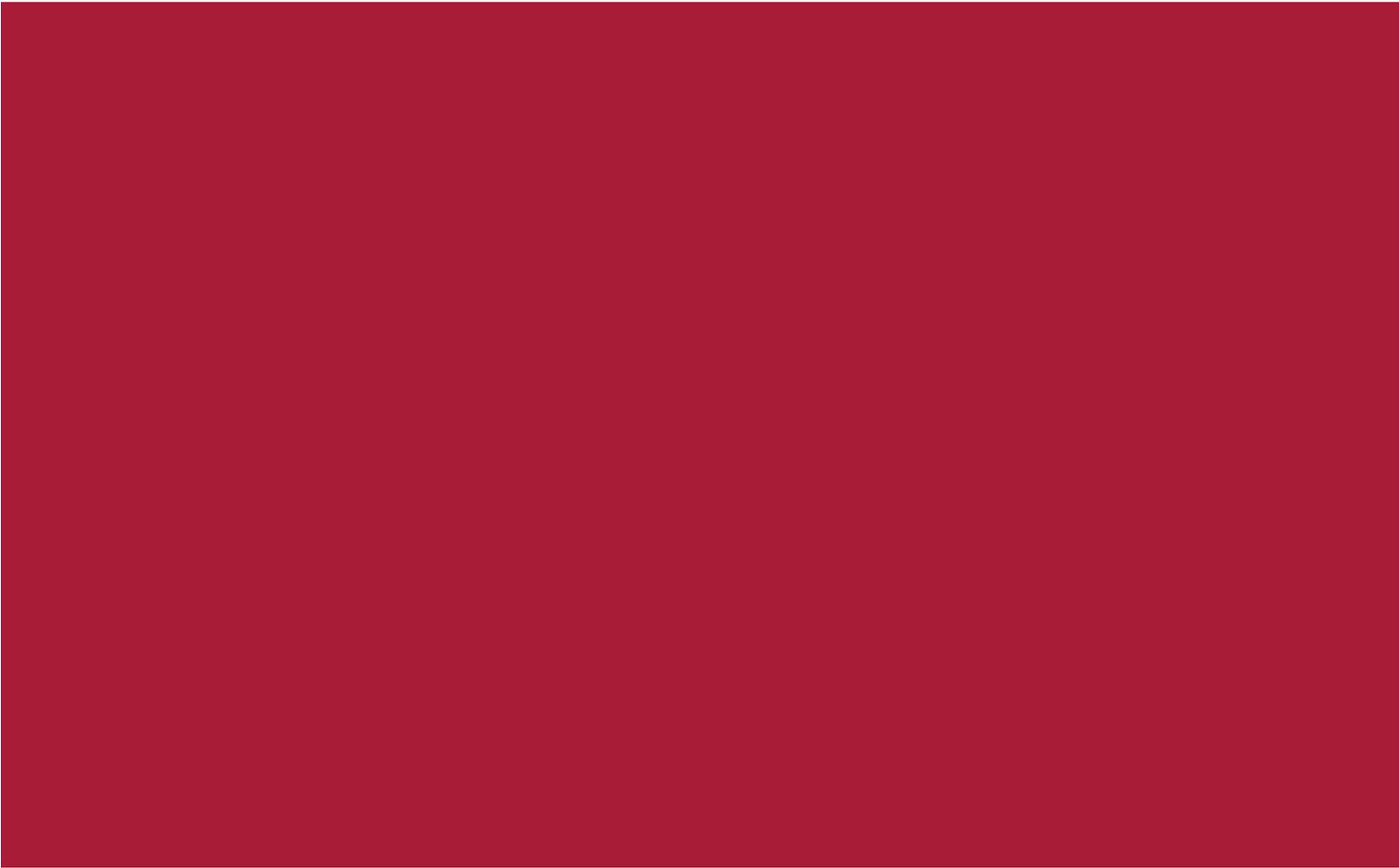
**ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES**

**DRAWING NO.
R-8.3**

For more information, contact:

TDM Planning Program Manager
Melissa McMahon | w: 703.228.0651 | mmcmahon@arlingtonva.us





ARLINGTON
VIRGINIA

Table of Contents

I.	Introduction	2
II.	Summary	2
III.	Policies, Implementation Actions and Performance Measures	3
	o Complete the Bikeway Network	
	o Increase Bicycle Use	
	o Improve Bicycle Safety	
	o Manage and Maintain the Bikeway System	
	o Integrate All Modes of Transportation With Bicycling	
IV.	Network and Program Implementation Procedures	9
	o Prioritizing Proposed Facility Improvements	
	o Implementation	
Appendixes		
	o Appendix A. Context and Bicycle Facility Classifications.....	11
	o Appendix B. Bikeway Facility Project Lists.....	20
	o Appendix C. Facility Design Principles.....	29
	o Appendix D. Bicycle Parking Standards.....	32
	o Appendix E. Maintenance Program.....	35
Tables and Figures		
	o Table A-1. Bicycle Crash Fatalities and Injuries in Northern Virginia	15
	o Table A-2. Commute Mode for Arlington, Other Area Jurisdictions, and Select U.S. Cities.....	18
	o Figure A-1. Proposed Bikeway Network.....	14
	o Table B-1 Funded Projects	20
	o Table B-2 Planned Trail Projects.....	21-24
	o Table B-3 On-Street Facilities Including Bike Lanes.....	25-28
	o Table B-4 Bike Parking and Countywide Projects.....	28
	o Table E-1 On-Road Maintenance Schedule.....	37
	o Table E-2 Off-Road Maintenance Schedule.....	37

I. Introduction

The Master Transportation Plan (MTP) Goals and Policies document specifies three general policies that form the foundation of the MTP and, therefore, transportation in Arlington in the years ahead: integrating transportation with land use, supporting the design and operation of complete streets, and managing travel demand and transportation systems. This element of the MTP focuses on bicycle travel, which is greatly affected by land use, street design, traffic volumes, fuel prices, public perception and transportation system management. Bicycling can also substantially affect demand management by substituting for local travel by motorized vehicles.

The MTP establishes six broad goals for Arlington's transportation policy that direct the policies and implementation actions for bicycle travel identified in this document. Those goals are:

1. Provide high-quality transportation services.
2. Move more people without more traffic.
3. Promote safety.
4. Establish equity.
5. Manage effectively and efficiently.
6. Advance environmental sustainability.

Those goals are supported by 27 strategy directives including the following statements which directly relate to bicycle policy. Those strategies are:

- Expand and complete the bikeway network with a focus on high-quality facilities, overcoming barriers and facilitating overall connectivity.
- Encourage the use of environmentally sustainable modes including bicycling, walking, transit, carpooling and telecommuting.
- Minimize rates of injuries and accidents for each mode and ensure that transit riders, pedestrians, bicyclists, and motorists feel safe and comfortable to all times when traveling in Arlington.
- Manage motor vehicle congestion by emphasizing transportation alternatives, parking management and queue management.
- Increase energy efficiency and reduce hydrocarbon emissions by encouraging and accommodating non-motorized travel, public transit, carpooling, telecommuting and alternative fuel vehicles.

II. Summary

Arlington envisions itself as becoming, if not already being, one of the nation's best places to bicycle. The County's emphasis on mixed-use development, medium- to high-density and compact neighborhoods, creates an environment that generates many short trips where bicycling is most effective. Many residents and visitors regularly use bicycles for transportation and recreation. The County also has a history of working to improve bicycling conditions through its extensive Bike Arlington Program. Despite these positive aspects, many people still perceive bicycling to be a challenging or impractical means of transportation. It is Arlington's vision that everyone—residents, incoming daily commuters and other visitors—feel safe and comfortable bicycling on the County's streets and trails. This document sets forth the plan for making that vision a reality. Arlington's ability to increase the number of people who bicycle,

and the frequency with which they do so, will be a measure of the County's ability to preserve and improve overall quality of life.

The current bikeways network, comprising shared-use trails, marked bike lanes, and signed bicycle routes, serves much of Arlington well, links across the Potomac River, and includes trails that extend south and west into neighboring Virginia jurisdictions. Significant gaps, however, remain in the network, resulting in barriers that leave bicyclists in portions of Arlington disconnected from the overall network. The primary focus of the Bicycle Element is the completion of a more fine-grained and comprehensive bicycle network of trails, bike lanes, and other on-street facilities. Bicycling would be a more viable travel option for many Arlingtonians if several key bikeway network connections were completed. Enhancements in bicycle parking facilities at transit stations, shopping centers, offices, and in multifamily residential buildings will also improve the effectiveness of the network.

The plan establishes an objective of having at least half of all residents ride bicycles for transportation purposes at least occasionally. Such a participation level would indicate that "average" residents find bicycling to be safe and convenient enough to use for at least some of their transportation needs. Achieving this level of comfort with bicycling will require, in addition to the facility network improvement, an effort by the County to address safety concerns. Policy proposals in the plan aimed at achieving greater safety and user comfort include enhanced traffic law enforcement, safety education efforts, and promotional events such as mass rides. Young bicyclists, in particular, would benefit from the proposed greater emphasis on "safe routes to school" educational and promotional efforts.

Bicyclists are also expected to gain from the overall efforts of the County to expand the multimodal aspects of its transportation system. In particular, the effort to rebalance street space allocation to achieve more Complete Streets (explained in detail in the Streets Element of this plan) will help cyclists. An upgrade of bicycle access to transit stations, through the construction of "bike stations" and other secure, sheltered parking, will strengthen the intermodal connection between bicycling and public transit.

III. Policies, Implementation Actions and Performance Measures

The MTP's Goals and Policies element, which establishes overall County transportation policy, includes nine principal policies regarding bicycling. Those policies are grouped in this section into five categorical areas – completing the bikeway network, increasing bicycle use, enhancing safety, managing and maintaining facilities and integrating bicycling with other modes. For each policy statement one or more implementation action is identified to provide specific direction in how to achieve the policy's intended outcomes. The policies have been given new numbers as well as have the number assigned in the Goals and Policies document in parentheses. Performance measures are proposed as appropriate to assess progress toward achieving the policies.

Complete the Bikeway Network

Expand and complete a diverse network of bikeway facilities that overcome existing barriers and improve connectivity between and among residential neighborhoods, retail and commercial districts, recreation centers and parks, employment sites, transit stations, and activity centers in neighboring jurisdictions.

Policy 1 (1): Complete the Bikeway Network with a focus on overcoming barriers. Examples of barriers include Shirley Highway (I-395) and the George Washington Memorial Parkway. Improve connectivity between trails and other major bikeway corridors. Enhance bikeway information and way-finding signage.

Implementation Actions

- a. Implement currently funded projects listed in Appendix B, Table B-1, as soon as is practical.
- b. Fund and implement planned projects listed in Appendix B, Tables B-2, B-3, and B-4 and also those trail improvements identified in the Four Mile Run Restoration Plan. Initial emphasis should be on implementation of the identified “short-term” projects. Regularly implement projects in Table B-3 as opportunities arise.
- c. Add grade-separated crossings of major highways where feasible, improve existing crossings of major highways, and develop improved alternatives for crossing or circumnavigating large federal institutions and properties, such as Fort Myer, the Pentagon complex, and Arlington National Cemetery.
- d. Plan and construct new shared-use trails and trail connections in conjunction with new development. Focus on trails, bridges, and overpasses that link with other sections of the bikeway network, thereby enhancing the connectivity of the entire network and with regional bikeways in adjacent jurisdictions.
- e. Work with regional partners to ensure that bikeways are provided on and across VDOT and National Park Service (NPS)-owned arterial roadways, interstate and parkway corridors, as part of all projects to improve, or reconstruct these roadways.
- f. Coordinate with the National Park Service to complete implementation of remaining trail-improvement projects identified in the NPS’s 1990 Paved Recreational Trails Plan.
- g. Evaluate, expand and upgrade the signed bike route system, and improve wayfinding information for bicyclists provided both on-site and electronically.

Policy 2 (2): Provide high-quality bicycling facilities as part of all street improvement projects. Use marked bicycle lanes or shared –use lane symbols (“sharrows”) on arterial streets that provide access to commercial centers, schools and government facilities.

Implementation Actions

- a. Develop the bikeway network by installing proposed bike lanes, signed bike routes, and other bicycle facilities on arterial roadways and neighborhood principal roadways in conjunction with street/bridge improvements or as independent bicycle projects.
- b. Provide bikeways on new or existing streets in conjunction with major new development or redevelopment activities in Pentagon City, Crystal City, the Potomac Yard North and South Tracts, Rosslyn, and other areas.
- c. As appropriate, pilot innovative facility designs (see Appendix A for a description of these measures) including— shared-lane pavement markings (sharrows), colored bicycle lanes, bicycle boulevards, bicycle box markings, and bicycle-specific traffic signal heads.
- d. Improve bicycle access to shopping districts, employment centers, and activity centers in nearby neighboring jurisdictions including Georgetown in D.C.; Potomac Yard in Alexandria; and Bailey’s Crossroads and Seven Corners in Fairfax County.
- e. New and renovated shared-use trails and bike lanes should be designed and constructed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) guidelines. The design of new or significantly widened trails should go through Arlington’s environmental assessment process early in the design stage.

Performance Measures for Policies 1 and 2

1. Use the list of projects in Appendix B to monitor progress on completion of the planned bicycle network. Target the completion of an average of five projects per year.
2. Track the installation of new bicycle racks available for use by the public. Seek to install 250 new racks (500 parking spaces) over the next 10 years.

Increase Bicycle Use

Make using a bicycle for transportation, at least occasionally, a normal and accepted travel option for more than 50 percent of the Arlington residential population. When a large-enough portion of a community participates in an activity, it spawns a culture whereby an activity previously considered “fringe” becomes embraced by the mainstream of the community. Currently Arlington has the beginning of a bicycle culture, with a reported 38 percent of the population bicycling at least occasionally. Two key strategies are attaining a higher bike-to-school rate among Arlington County students; and increasing use of the bicycle for short trips within Arlington, such as access to transit and non-work-related travel needs.

Policy 3 (6): Create a community culture that embraces bicycle use as a mainstream travel mode. Raise the visibility and participation of bicycling in Arlington through regularly organized bicycling events, prominent facilities and other encouragement activities.

Implementation Actions

- a. Expand the encouragement programs of BikeArlington, including map publication, Bike-to-Work Day, the Community Bike Ride, Car Free Day, valet bicycle parking at events and route assistance. Bikeway maps, program brochures, and safety education materials should be distributed widely and include guidance for safe and courteous use of shared-use paths and streets especially those facility types that are relatively new to the public.
- b. Continue to promote bicycling as part of the County’s Transportation Demand Management (TDM) activities aimed at businesses, employees, and residents.
- c. Undertake regular surveys or focus groups to determine what actions might encourage greater bicycle use. Identify new marketing approaches to reach populations that are not regular bicyclists through the provision of Bicycle Program information and encouragement messages.
- d. Promote bicycling as an activity that will improve citizen health and fitness and provide convenient recreational opportunities. The County should support a variety of programs to encourage bicycling for transportation, fitness, and fun which may include:
 - i. Conduct bicycle fitness and training programs by the County and schools and encourage similar programs by bike shops, bicycle advocacy organization and bicycle clubs.
 - ii. Support additional periodic cycling races and/or mass-ride days.
 - iii. Establish cycling recognition awards and incentives — e.g., awards honoring citizens who cycle to work; awards for businesses and citizens who help make Arlington a better place for



- cycling; awards for exemplary bicycling support in schools, businesses, and youth organizations.
- iv. Organize or encourage regular community-based bike rides that appeal to less-experienced cyclists.
- v. Work with area colleges and universities to develop bicycling incentive programs for their commuting students.
- vi. Evaluate the feasibility of constructing a velodrome (a track for bicycle racing) on County property or in conjunction with a private redevelopment project.
- e. Incorporate information about Arlington’s bicycle registration program in County publications.
- f. Undertake measures recommended for achieving Gold Bicycle Friendly Community status, an honor awarded by the League of American Bicyclists for communities with exemplary bicycle programs and commuting usage of bicycles.

Policy 4 (5): Require the provision of appropriate facilities to support bicycling, such as showers, lockers and bicycle parking by new development.

Implementation Actions

- a. Refine bicycle parking standards per detailed recommendations in Appendix D. Periodically review the bicycle parking requirements for new developments, and update as needed.
- b. Assist the managers/owners of retail, office and multifamily residential properties in selecting the appropriate locations and equipment needed to provide high-quality bicycle parking at existing buildings and complexes.
- c. Ensure that the new parking and shower facilities required in site plan conditions for developments meet minimum standards for quality and correct location.
- d. Explore whether the County’s zoning ordinance can be amended to require all commercial and multifamily residential buildings to provide convenient and secure bicycle parking.

Policy 5 (7): Annually collect bicycling data on County streets and trails.

Implementation Action

- a. Develop methods of bicycle-use data collection, establish a baseline, and continue regular measurement to monitor usage. Establish locations where regular bicycle counts are made and volumes can be compared over time to determine changes in usage.

Policy 6 (9): Implement a bike-sharing program in the transit corridors and other densely developed areas.

Implementation Action

- a. Initiate a bike-sharing program. Coordinate with any programs in adjacent jurisdictions.
- b. Support privately-provided loaner bicycle programs such as by business for their employees and hotels for their guests.

Performance Measures for Policies 3 through 6

- 1. Use data collected in trip diaries and at regular locations to measure progress in achieving greater bicycle use. In the Year 2008 – establish baseline bicycle usage rates for transportation and recreation. In successive years achieve greater reported bicycle usage than in the prior years. By the Year 2030 achieve a reported 50% of the population bicycling for transportation at least occasionally, with 20 percent using a bicycle frequently and 10 percent regularly.

2. Use the Year 2010 U.S. Census Journey to Work data to measure commuting travel mode. Seek to double the percentage of bicycle commuting reported in the Year 2000 Census.
3. Track the annual allocation of resources, such as amounts of money spent on encouragement and marketing programs/events, as well as numbers of participants in such programs and events.
4. Achieve the League of American Bicyclists' gold level *Bicycle Friendly Cities* status by the Year 2011

Improve Bicycle Safety

Change the public image of bicycle transportation in Arlington from one of being a potentially unsafe travel mode to one that is safe, secure, and easy to use. This will include improving actual bicycle safety, as indicated by bicycle crash rates and injury severity, as well as the public's perception of bicycle safety and security.

Policy 7 (8): Conduct an ongoing safe bicycle route to schools program including semi-annual bicycle safety educational programs for children and adults.

Implementation Actions

- a. Support an ongoing Safe Routes to School program that includes Education, Enforcement, Encouragement, Engineering and Evaluation interventions. This program should be developed in conjunction with the Arlington Police Department and the Arlington County Schools, including administrators, teachers, parents, and students. Over time include all public and private schools in Arlington.
- b. Coordinate with Arlington Public Schools to provide Arlington elementary and middle school students training in pedestrian and bicycle operations and safety, and continue offering bicycle and pedestrian training in the high school physical education program.
- c. Designate recommended bicycling routes to school. Criteria for "safe" routes should be established jointly among the staff of the Arlington Public Schools, Transportation, and Police. Continue to make necessary engineering improvements to the public infrastructure to increase the number, and distribution of routes that can be recommended for bicycling to school.
- d. Work with Arlington Public Schools to conduct County-wide school transportation surveys on select days and develop multimodal travel profiles of student, teacher, and staff trips to and from school.
- e. Develop Countywide and school-based implementation plans for Safe Routes to Schools programs.
- f. Conduct bicycle safety and maintenance courses through the Arlington Adult Education and BikeArlington programs, and encourage community colleges, bicycle organizations, fitness clubs, and other educational institutions to initiate safety instruction. Consider providing financial assistance to institutions or to students as an incentive to encourage participation.
- g. Produce Spanish language and multilingual bicycle safety education literature and media campaigns and continue to participate in the Washington region's multi-lingual Street Smart safety campaign.



- h. Promote proper shared-use trail behavior through signs, trailside displays, brochures, video education programs, and recreation program classes.
- i. Coordinate with local law enforcement officials to implement bicycle safety enforcement programs directed toward bicyclists and motorists who commit traffic violations including targeted efforts at locations with regular bicycle/motor vehicle or bicycle/pedestrian conflicts.
- j. Continue to conduct safety outreach programs such as headlight and helmet distributions that reach young cyclists and other persons of limited incomes.
- k. Offer training to continuously upgrade planning, engineering, law enforcement and maintenance staffs' knowledge of best practices to improve cyclist safety.
- l. Initiate physical improvements to streets and bikeways and law enforcement efforts, as appropriate, to address identified bicycling safety concerns

Performance Measure for Policy 7

- 1. Continue to collect and analyze bicycle crash data along with parallel bicycle usage data to determine crash rates relative to exposure and total population. Regularly collect perception of safety data as part of a public opinion survey conducted in association with the trip diary.
- 2. Track annual participation in bicycle safety education programs conducted by Arlington County government and schools.

Manage and Maintain the Bikeway System

Manage and maintain the network of bikeways (including the street system) and associated infrastructure and services to provide sufficient bicycle travel capacity, an attractive level of service, functional reliability, safety, and security.

Policy 8(4) : Manage the trails for safety with increased use. Undertake facility improvement projects to address overcrowding and user conflicts on trails and develop instructional materials and signs to encourage safer user practices.

Implementation Actions

- a. Expand the e-mail bicycle information/ alert program to ensure that information alerts address the entire Arlington and regional bicycling networks, and incorporate additional communication methods, such as radio and television traffic reports, traffic alert Web sites, and/or other technologies.
- b. Continue to operate and expand promotion of the County spot-improvement request system that allows individuals to report maintenance problems in writing, over the phone, via e-mail, and by other methods.
- c. Adopt the maintenance program and practices outlined in Appendix E.
- d. Incorporate County trail repaving/repair into a regular maintenance cycle similar to that used for County streets including periodic pavement quality assessments.
- e. Prioritize trail widening and trail/roadway intersection projects, especially in those areas where multiple crashes or near-crashes have been documented.
- f. Undertake safety evaluations of street/trail intersections. Identify how safety might be improved through traffic signals, signage, markings, traffic calming, tunnel/overpasses, or other measures.
- g. Implement measures such as new trail entry points and GPS Coordinates to give emergency personnel and vehicles better access to the trail system.
- h. Protect the trails and significant buffer areas against encroachments from adjacent roadways and new development.

- i. Promote volunteer maintenance and enhancements to trails including establishment of a “share-the-trail” program.
- j. Conduct regular patrolling of trails by Police, Park Rangers and volunteers particularly during early morning and evening hours.

Performance Measures for Policy 8

- 1. Track the percentages of the trail and bicycle lanes systems that are repaved or remarked each year.
- 2. Utilize the trip diary to assess general public and bicycle-user opinion on maintenance and management of the bikeways system.

Integrate Bicycling with All Other Modes of Transportation

Continue to integrate bicycling with transit, walking, taxicab and high occupancy vehicle (HOV) travel modes to enable more direct integration.

Policy 9 (3): Provide convenient, covered and secure bicycle parking at transit stations, schools, public facilities and commercial centers.

Implementation Actions

- a. Coordinate with WMATA and private property owners to increase bicycle parking at Metrorail stations, initiate new bike/transit integration services, and manage existing services. The quality and quantity of bicycle parking should be upgraded at Metrorail stations, especially Rosslyn, Crystal City, Pentagon City, Ballston-MU, and Clarendon. Provide sufficient amounts of free parking that offers a high level of security and weather protection.
- b. Construct bicycle stations at a minimum of one of the following Metro stations - Ballston-MU, Rosslyn, East Falls Church and Pentagon City.
- c. Ensure that new streetcar and commuter rail cars can accommodate the transport of bicycles.
- d. Assess the market for integration of bicycle transportation with carpools, vanpools, taxis, car-sharing programs, and commuter bus and commuter rail services.



Performance Measures for Policy 9

- 1. Track inter-modal integration in terms of percent of buses equipped to carry bicycles, amount of high-security bike parking provided at transit stations, and number of new bicycle-accommodating services initiated.
- 2. Track usage of bike-on-bus, bike-on-rail services and bike parking at Metrorail stations. Track numbers of customers served at bicycle stations and through bike-sharing programs.

IV. Network and Program Implementation Procedures

Prioritizing Proposed Facility Improvements

Appendix B provides lists of planned projects with locations and project descriptions. Existing and planned facilities are depicted in the MTP Map document. The entire planned bikeway network is shown in Figure A-1 of this document. The Arlington Bicycle Advisory Committee and the BikeArlington staff categorized all the planned projects as being either near-, mid-, or long-term based upon their readiness for implementation and assessed need. The near-term projects were also rated as being either first (1) or second (2) priority. Prioritizing projects remains a dynamic process that will evolve over time as the MTP is implemented.

The Prioritizing Process and Criteria

Bikeway project priorities are periodically reevaluated in conjunction with funding opportunities, such as the Arlington CIP. Prioritization takes place through a formal process that involves Bicycle Advisory Committee members, BikeArlington staff, and representatives of other agencies as appropriate. The prioritization criteria in the text box below are to be considered in project scoring and ranking. While these criteria are used to develop project priorities, public input is also considered in finalizing priorities.

Project Prioritization Criteria	
1.	Importance to bikeway network connectivity.
2.	Safety needs and implications.
3.	Estimated demand for usage.
4.	Potential to attract new bicyclists.
5.	Community support.
6.	Cost relative to capital budget.
7.	Ease of implementation, including neighborhood, environmental clearance, and need for additional right-of-way.
8.	Availability and quality of existing alternative routes/facilities.
9.	Opportunity to achieve cost savings or easier implementation through combination with another project.

Reporting priorities to neighboring jurisdictions, State and regional transportation planning agencies can allow planned projects to take advantage of proximate roadway work by other area agencies.

Implementation

The BikeArlington program is responsible for implementing the policies and strategies in this document to ensure that bicycling accommodations and considerations are appropriately integrated into land development and regional transportation plans. The program also manages the design and construction of bicycling improvements undertaken by the County and works with the agencies responsible for projects not controlled directly by the County. Coordination amongst County agencies, especially

agencies such as Parks, Recreation, and Cultural Resources (PRCR); Police; Community Planning, Housing and Development (CPHD); and Arlington Public Schools (APS) is essential. For example, PRCR maintains Arlington's trails and is involved in bicycle promotion and recreation. The Police Department is responsible for traffic law enforcement and crash reporting. CPHD directs neighborhood and sector planning, zoning, and development review. APS is responsible for guiding Safe Routes to School initiatives, providing safety education, and addressing school transportation issues. Coordination with neighborhood-based and business associations is also important for successful project implementation.

Staff

As of 2008, the County applies the equivalent of one to one-and-a-half full-time employees for staff to implement BikeArlington activities. This work includes developing and managing projects, encouraging bicycling, and educating people about bicycling. Additionally, other staff members work on projects and activities that are bicycle-related, such as: 1) managing multimodal projects that include bicycle facilities and elements; 2) conducting promotional activities related to bicycling; and 3) working on safety, maintenance, traffic operations, and other multimodal transportation activities. Staffing is required to develop the large projects that enhance the bikeway network, as well as review all street improvement projects, increase the amount and quality of bicycle parking, enable bicycle safety education efforts and initiate the many encouragement activities that build the bicycle culture. The pace of project implementation will largely be governed by the staff and financial resources available to the program. Significant increases in the annual number of projects implemented will require additional staff resources. The County benefits from volunteer assistance with bike counts, facility inspections, educational efforts, and other activities.

Project Implementation Mechanisms

Bicycle facility projects will continue to be implemented in a variety of ways. Many will be done as opportunities arise, such as street resurfacing or rehabilitation projects, while others will be implemented as independent bicycle improvements. Some projects may be developed for both bicyclists and pedestrians and as part of "Complete Street" efforts. Bicycle accommodations and considerations are routinely considered in the planning and scoping phases of new projects in Arlington County. To avoid missed opportunities, planned facilities may be implemented in a piece-meal manner.

Providing high-quality bicycle facilities is a priority when considering improvements to the streets in the bikeway network. However, some streets in this network are also significant for other modes' networks. In situations where limited right-of-way exists to adequately accommodate the highest-quality facility for each user group, the priorities of each mode will be considered on a case-by-case basis and balanced as much as possible. This balancing will consider the overall MTP goals and the need to complete the bikeway network for certain modes. Typically bike lanes and shared-use-lanes "sharrows" are created by reallocating roadway space from overly-wide travel lanes. Alternatively, on-street bicycle improvements may be provided by reducing the number of travel or parking lanes. Impacts upon traffic flow, safety and community welfare are all considered in deciding whether existing lane area can be reallocated.

Regional Coordination

Many of the arterial roads within Arlington are under Federal or State management and are not directly subject to County policy. As a result, many bicycle projects will be implemented by or in conjunction with other agencies. In addition, large areas of Arlington, and several key travel routes, are under the control of Federal agencies such as the Department of Defense. It is critical that Arlington staff continue to coordinate closely with regional, state, and federal agencies to ensure that projects undertaken by these agencies contribute to the completion of the Arlington bikeway network. Arlington staff will also work

closely with neighboring jurisdictions on bicycling-related improvements within those jurisdictions that are of particular interest to Arlingtonians.

Funding

In both the areas of capital improvements and maintenance, an adequate amount of funding needs to be available to ensure regular progress toward achieving the bicycle objectives of the MTP. The County works to identify new sources of funding to implement bicycle-related projects and programs and seeks to maximize the amount of Federal, State and private funding that can be leveraged by local dollars. Funding decisions will be made by the Arlington County Board as part of the Capital Improvement Program (CIP) and the annual budget processes.

APPENDIX A – CONTEXT AND BICYCLE FACILITY DEFINITIONS

Existing Facilities and Services

Arlington’s first plan for bikeways (the Master Bikeways Plan) was adopted in 1974 and called for the development of a network of bicycle facilities. Since that time, the County has worked with the National Park Service (NPS), Virginia Department of Transportation (VDOT), and Northern Virginia Regional Park Authority (NVRPA) to develop and manage a system of trails and on-road bikeways that extends throughout the County.

Arlington’s bikeway network was developed to provide a safe and convenient bicycling environment for transportation and recreation. The bikeway network is intended to provide access to the Potomac River bridges, Metrorail stations, and local and regional employment, retail, recreation, and government centers. Complementing the bikeway network are Arlington’s neighborhood streets (which are generally bicycle-friendly because of low traffic speeds and volumes), public bicycle parking accommodations, and bicycle access to bus and rail public transit systems. Arlington’s relatively small size (26 square miles) means that trips that begin and end in Arlington are short. Because the bicycle has its greatest advantage, relative to other transportation modes, for short trips (less than 5 miles), there is great potential for increasing bicycling in Arlington.

Existing Bikeways

As of 2008, Arlington has 113 miles of designated bikeways (see Figure A-1, and the MTP Map), comprising 46 miles of off-street shared-use paths, 24 miles of bicycle lanes, and 43 miles of signed on-street bicycle routes. The hundreds of miles of local and arterial streets that are not specifically designated “bikeway” are also available for bicyclists’ use.

The Arlington “bikeway network” includes those designated on-street facilities, signed routes, and off-street trails that achieve at least one of the following:

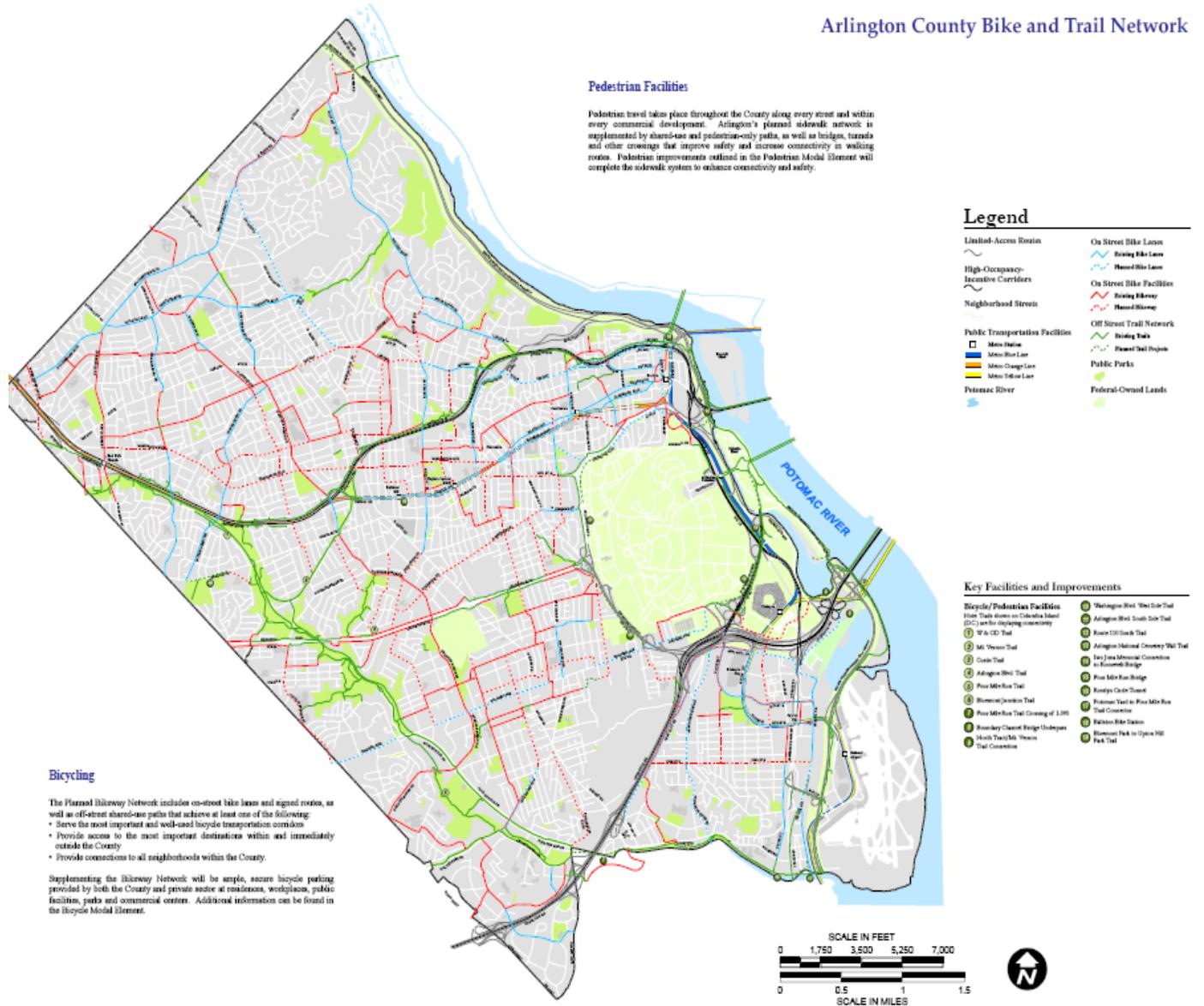
- Serve the most important and well-used bicycle transportation corridors.
- Provide access to the most popular destinations within and immediately outside the County.
- Provide direct linkages between other bikeways.
- Provide access to all neighborhoods within the County.

The “bikeway network” is supplemented by the hundreds of miles of streets that are available for bicycling but have not been specifically designated with special signage, markings, or other treatments that designate them as bikeways. Arlington’s secondary residential and commercial streets, in particular, serve as bicycle transportation routes that supplement the bikeway network by feeding and distributing bicyclists to and from the primary bikeways.



Figure A-1: Proposed Bikeway Network

Arlington County Bike and Trail Network



Intermodal Bike-Transit Accommodations and Services

All Metrobuses and Arlington Transit (ART) buses are equipped with front-mounted racks that can carry two bicycles at no extra charge to customers. Metrorail allows bicycles to be taken onboard trains on weekends as well as on weekdays before 7:00 a.m., between 10:00 a.m. and 4:00 p.m., and after 7:00 p.m.

Select Metrorail stations provide bicycle parking using various combinations of equipment, including bike racks for short-term parking and lockers for long-term parking needs. Of Arlington’s 11 Metrorail stations only the Ronald Reagan Washington National Airport, Arlington Cemetery, and Pentagon stations lack bike parking. However, the quality, quantity, and degree of security and weather protection of the bicycle parking vary from station to station.

Bike Parking

Over the past two decades, Arlington County has given greater attention to providing high-quality bicycle parking facilities. Arlington negotiates with site plan developers to provide secure bicycle parking for employees and visitors (see Appendix D for details). A site plan condition encouraging the provision of showers and changing facilities in office buildings has been generally included in site plans since 1993. Similarly, high-quality bicycle parking has become a standard element of County facility, school, and park construction projects. In the late 1990s, about 300 bike racks were installed at County facilities and in commercial areas. The County continues to install new bike racks in commercial areas and public facilities as needed. However, some locations, such as small commercial establishments, by-right developments, and older buildings, continue to have insufficient secure bicycle parking, particularly those destinations with limited adjacent public right-of-way.



Bicycling Conditions

General Safety

On average, about 50 Arlington bicyclists are injured annually in crashes with motor vehicles (see Table A-1). Bicycle fatalities, however, are quite rare (only one since 1986). The Rosslyn Circle area, where the Mount Vernon and Custis trails converge, remains the location with the highest frequency of bicycle crashes. While crash statistics show that, overall, Arlington is a safe place for bicycling, the fear of interaction with motor vehicle traffic remains a primary reason why many people do not travel more often by bicycle.

Table A-1: Reported Arlington Bicycle Crashes with Motor Vehicles (1997-2006)

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
55	54	46	41	30	48	24	50	43	53

On-Street Bicycling Conditions

The Arlington street system was largely built decades ago without much thought for bicyclists’ needs. Recently, bicyclists’ interests have received greater attention in roadway planning, operation and design. While the County’s neighborhood streets are generally bicycle friendly, arterial roads vary in their suitability. Factors that determine suitability for bicycling include the speed and volume of traffic and the

provision of operating space or exclusive facilities for bicyclists. Generally the lower the operating speed of motor vehicles, the greater the opportunity for safe bicycling in a shared lane. Some roads provide ample width for comfortable use by both bicyclists and motorists. Others, such as portions of Old Dominion Drive and Columbia Pike, are unpleasant for bicycling because of their limited travel lane width and high traffic volumes. With employment, shopping, and housing becoming increasingly concentrated in the Rosslyn-Ballston, Jefferson Davis Highway, Columbia Pike and Lee Highway corridors, there is a greater need for better bicycle access to those areas via the primary streets.

Trail Conditions

Arlington's multi-use trails are extremely popular and their popularity with cyclists and non-cyclists continues to increase. The greater demand and mix of users sometimes creates conflict. Increased levels of bicycling and existing safety concerns may necessitate that certain shared-use trails be widened and new trails constructed. Moreover, older shared-use trails, such as the Arlington Boulevard paths and the Custis Trail, require major renovations to make them safer and more attractive. Some trail widening is already under way, and an educational program that promotes user safety is ongoing. Educational efforts include: trail safety messages and etiquette guidance on Arlington bicycle and trail maps on the WALKArlington (www.WALKArlington.com) and BikeArlington (www.BikeArlington.com) Web sites, in bicycling and walking brochures, and through signs posted at select locations along various trails.

Barriers

Despite having some of the most extensive and well-designed bicycle facilities in the region, the full potential for bicycling in Arlington remains significantly constrained by substantial physical barriers. These barriers include—

- Shirley Highway (I-395).
- George Washington Memorial Parkway (GWMP).
- VA Route 110.
- Arlington Boulevard (U.S. 50).
- Washington Boulevard (U.S. 27).
- Fort Myer.
- The Pentagon.
- Arlington National Cemetery.
- Army-Navy Country Club.
- Arlington Hall.

While some improvements have been made to improve access across the GWMP, Arlington Boulevard, and Potomac River bridges over the past 25 years, these barriers continue to make bicycle travel between certain parts of Arlington and the District of Columbia very difficult. Bicyclists are often faced with choosing between an indirect, time-consuming route and a faster, but less safe route.

North-south bicycle travel is also difficult. Viable bicycle routes are limited because there are few through streets in this direction and exceptionally heavy traffic and narrow roadways on the two primary arterials that do serve this direction of travel - George Mason Drive and Glebe Road. The Mount Vernon Trail and Washington and Old Dominion (W&OD)/Four Mile Run trails provide valuable north-south bicycle access that helps to offset the constraints of the street system.

Existing Bicycle Information and Promotion Programs

BikeArlington

BikeArlington, a bicycle promotion program operated by the County distributes thousands of bikeway system maps and informational brochures annually. This program conducts the annual Bike-to-Work and Community Bike Ride events. It also coordinates with neighboring and regional bicycle advocacy, promotion, and safety education efforts.



Access to information about bicycling is relatively easy to obtain on the BikeArlington Web site.

However, non-English-speaking bicyclists and those who do not have access to a computer may

currently have some difficulty learning about bicycle transportation options and support programs.

Safe Routes to School Initiative



In 1999, Arlington established a Safe Routes to School program to provide greater safety for students traveling to and from Arlington's schools. The program includes education, encouragement, engineering, and enforcement elements. Currently, bicycle safety is only addressed in the high schools, where the physical education curriculum for all students includes training in bicycle riding, and elective physical education and recreation courses are offered as well.

Who Bicycles?

As is the case in most communities, bicycling data is not plentiful. The County and other agencies that own and manage bicycle facilities, including the NPS, the NVRPA, and VDOT collect little data of this type. The Metropolitan Washington Council of Governments (COG) and the U.S. Census provide the most available data. Following is a summary based on these available sources.

Bicycle Commuting

While extremely limited with respect to bicycling and walking, U.S. Census 2000 *Journey to Work* data provides the beginning of a baseline on bicycle use.¹ Based on this data, less than 1 percent (0.69 percent) of working Arlingtonians bicycle to work (see Table A-2). Because of the shortcomings of this data, however, it can safely be assumed that the rate of bicycle use for both commuting and overall transportation is higher.

One important attribute of U.S. Census data is that it can be used to compare Arlington with other jurisdictions, since it is consistent across the country. Table A-2 shows how Arlington compares with other jurisdictions in this region and with select communities around the United States that are known

¹This number does not include trips made by the following people: those who are 15 and under, those who are unemployed or underemployed, those who sometimes bike to work but not regularly, those who bicycle to transit, and those who use bicycles for non-work trips. Moreover, it is based solely on reported travel patterns for a single weeklong period in March, a low bicycle activity month in the mid-Atlantic region.

for their high levels of bicycle activity and public support for non-motorized transportation. Nationwide, the 2000 Census reported that 0.38 percent of workers bike to work and 2.9 percent walk. In U.S. urban areas, 0.9 percent bike to work and 9.5 percent walk.

Table A-2: Commute Mode for Arlington, Other Area Jurisdictions, and Select U.S. Cities

Washington Area Jurisdictions	Number of Workers	Walk	Bicycle	Public Transportation	Motor Vehicle
Washington, D.C.	260,884	11.8%	1.2%	33.2%	49.4%
Arlington	116,046	5.6%	0.7%	23.3%	66.4%
Baltimore City	249,373	7.1%	0.3%	19.5%	70.0%
Montgomery County	455,331	1.9%	0.3%	12.6%	79.9%
Prince George’s County	397,403	2.2%	0.2%	11.9%	83.0%
Loudoun County	92,315	1.2%	0.1%	1.5%	91.4%
Prince William County	150,526	1.4%	0.1%	3.1%	91.5%
Fairfax County	527,464	1.3%	0.1%	7.3%	86.5%
Baltimore County	373,496	2.0%	0.1%	4.0%	90.5%
Select Jurisdictions	Workers	Walk	Bicycle	Public Transportation	Motor Vehicle
Boulder, CO	53,828	9.0%	6.9%	8.3%	68.5%
Madison, WI	119,707	10.7%	3.2%	7.2%	75.3%
Portland, OR	270,996	5.2%	1.8%	12.3%	75.5%
Cambridge, MA	54,959	24.4%	3.9%	25.1%	40.4%
Evanston, IL	37,655	11.7%	1.7%	18.4%	61.7%

Source: U.S. Census, Year 2000 data.

Bicycling in the Region

In addition to census data, information collected in COG cordon counts and the *Commuter Connections State of the Commute Survey* provide clues to bicycle usage trends in the Washington metropolitan region. The 2007 *Bicycle and Pedestrian Plan for the National Capital Region* reports, “The number of bicyclists entering the Metro core has grown steadily from 474 in 1986 to 1379 in 2002. The number of cyclists crossing the Potomac River bridges grew from 317 in 1986 to 525 in 2002. Bicycle traffic into the Arlington section of the Metro core increased from 409 to 645 bicyclists between 1999 and 2002 . . . indicating that more people are bicycling to destinations, probably employment, within Arlington in the morning.”



Bicyclists and Metrorail

Bicyclists' use of Metrorail stations was studied through a 2002 survey of Metrorail passengers conducted by WMATA. Additionally, Arlington County staff conducted a survey of bicycle rack usage at select Arlington Metrorail stations in 2005. WMATA found that, system-wide, 0.31 percent of passengers arrived at Metro stations by bicycle, which equated to about 2,000 bike trips daily out of 650,000 daily Metrorail trips. Arlington's 11 stations accounted for 245 of these trips, or 12 percent.² In 2005 counts, the County found the greatest use of bicycle parking racks to be at the East Falls Church and Ballston stations at 89 and 47, respectively. Demand at several stations, including Rosslyn, Ballston and Crystal City, often exceeds the supply of available working racks. Currently, few of the racks are weather-protected.

The most current bicycle usage data available for this plan was gathered in the fall of 2005, by means of a self-selecting online questionnaire conducted as a part of the Master Transportation Plan process.³ Of the nearly 800 people who completed the survey, 38 percent reported that they use a bicycle for transportation frequently or occasionally. The same survey found that bicycle lanes and multiuse trails were cited among the top three most enjoyable aspects of traveling in Arlington.

The Master Planning Process

The Bicycle Element of the Master Transportation Plan is based on an effort begun in 2004 to update the 1994 Arlington Bicycle Transportation Plan. In October 2005, the Bicycle Advisory Committee and staff began integrating the draft bicycle plan into the multimodal master transportation planning process initiated by the County in 2005, resulting in this document.

Coordination of Arlington's plan with neighboring jurisdictions was undertaken in two ways: 1) through direct staff liaison, and 2) by the Bicycle Technical Subcommittee of the National Capital Region Transportation Planning Board (TPB). Concurrently with Arlington's MTP planning process, the TPB has updated the regional bicycle and pedestrian long-range plan. Arlington's Bicycle Element and the multimodal MTP both informed and were informed by the regional planning effort.

Bikeway Facility Definitions

For the purposes of this Bicycle Element of the MTP, components of Arlington's bicycle network are defined below.

Bikeway – Any street or shared-use trail facility that the County has specifically designated through signs and/or markings for bicycle travel, whether exclusive or shared.

Shared-Use Trail – A facility for the exclusive use of non-motorized travel that is physically separated from motorized traffic by an open space either within the street right-of-way or within an independent right-of-way.

Bicycle Lane – A portion of a roadway that has been legally designated for the exclusive use of bicyclists or individuals with disabilities using human-powered or motorized chairs/scooters, and indicated by signage, striping, and other pavement markings. Color may be added to bicycle lanes to highlight their presence particularly in locations with a high degree of conflict between motor vehicles and bicycles.

² This survey found that three of Arlington's Metrorail stations reported no passengers accessing the station by bicycle: Ronald Reagan Washington National Airport, National Cemetery, and the Pentagon. While this may not be completely accurate, these stations have no bicycle parking provided.

³ Questionnaires were also collected at a variety of public meetings held in conjunction with the master plan process.

Bicycle Route – A series of streets that has been designated by the installation of signs to direct bicycle travel through selected corridors or to specified destinations. A bicycle route includes streets where bicyclists share the travel space with motor vehicle traffic.

Bicycle Boulevard – A neighborhood street that has been retrofitted to encourage use by cross-County bicycle traffic. A bicycle boulevard is shared with motorists but provides priority to bicycle traffic through the use of various markings and traffic calming treatments. Using traditional traffic calming devices, motor vehicle traffic is slowed to a speed of 15–25 mph, closer to the speed of most bicyclists. In some cases non-local motor vehicle traffic may also be discouraged using a variety of methods (such as entry prohibitions, or traffic diverters) that also reduce cut-through traffic. Stop signs and signals on the bicycle boulevard are limited except where they aid bicyclists in crossing busy streets.



Bicycle boulevards are generally too narrow to install a bicycle lane or have such low vehicle volumes that a bike lane is unnecessary. Direct, cross-town routes are preferable for use by bicyclists.

Bicycle Box – A marked area at an intersection that is reserved for bicyclists to use while waiting for a traffic signal light to change from red to green. The box is designed for exclusive use by bicyclists and typically placed between the traffic lane stop bar and the crosswalk. The box may also be marked between vehicular through lanes and left-turn lanes to provide left-turning bicyclists with a safe standing area while waiting for a suitable gap in oncoming traffic.

Shared-Lane Marking or “Sharrow” – The shared-lane marking consists of two white chevron stripes and the bicycle symbol typically used to mark bicycle lanes. This marking is primarily for use on arterial or collector streets that are too narrow to add full bicycle lanes. They indicate to bicyclists and motorists that the lane is to be shared by both users. They are installed on the right side of the traffic lane. They are most effective in travel lanes that are 12–14 feet wide, i.e., where some space is available for bicyclists to operate on the right side of moving vehicles. They can also be used to provide continuity and route marking for bicyclists in situations where the pavement being marked is shared with motor vehicles.



Bike Station – A secure bicycle parking facility that serves a large number (50 or more) of bicycles. Bicycle parking is provided within a large weather-protected structure that is often operated by an attendant. Other amenities for bicyclists may include bicycle repair service, accessory sales, restrooms, maps, and information displays. Bike stations are typically constructed at rail stations and in high-density commercial centers.

Bicycle Racks, Bicycle Lockers, and Storage Facilities – Defined in Appendix D.

APPENDIX B – BIKEWAY FACILITY PROJECT LISTS

The projects included in the following tables constitute the Bikeway Network improvements currently envisioned to occur by the year 2030. Over time the project lists may be amended to reflect changes in the network vision including the addition, modification or deletion of certain projects. Only the projects listed in Table B-1 were funded at the time of this plan’s adoption in July 2008. Actual prioritization and funding decisions will be made on an annual basis by the County Board. Unless indicated otherwise, all projects to be implemented by Arlington.

Table B-1. Funded Projects

Project	Title	Description
1-1	Arlington Blvd. – South Side Trail and North Side Trail Improvements	Construct a new trail on the south side of Arlington Boulevard between Pershing Drive and N. Rolfe Street as part of the reconstruction of Arlington Boulevard in the vicinity of 10th Street N. and N. Courthouse Road (0.7 mile). Upgrade the existing North Side Trail between Rolfe Street and Pershing Drive. (0.5 mile)
1-2	Arlington Boulevard, South Side Trail Extension Study	Investigate the feasibility of extending the east side/south side trail to Washington Boulevard and continuing the trail south along Washington Boulevard to 2nd Street S. and Columbia Pike.
1-3	Boundary Channel Bridge Underpass Trails	Connect to the Potomac shoreline and the Mount Vernon Trail via an underpass of the George Washington Memorial Parkway (GWMP) “Humpback” bridge. Link to a proposed trail (see project 2-7) around the Boundary Channel basin and through the Pentagon reservation to Columbia Pike. (NPS) (0.5 mile)
1-4	Crystal Drive and Potomac Ave. Bike Lanes	Mark bicycle lanes on Crystal Drive, from existing lanes at 23rd Street to the junction with Potomac Ave. Continue bike lanes on Potomac Ave. to Four Mile Run and the trail linking into Alexandria. (0.9 mile)
1-5	Four Mile Run Trail– Shirley Highway Crossing	Make a trail link between the S. Glebe/W. Glebe intersection and the Shirlington area trails across Shirley Highway (I-395). Construct grade-separated crossings of I-395 and W. Glebe Road, in the vicinity of Four Mile Run. (0.5 mile)
1-6	S. Joyce St. Bike Lanes	Mark bicycle lanes on Joyce Street between Columbia Pike and 15th St. (0.7 mile)
1-7	Metro Station Bike Parking Enhancement	Enhance bicycle parking at the Rosslyn, Ballston, Clarendon, and Pentagon City Metro stations, including a bike station at the Ballston station.
1-8	Old Dominion Dr. Bike Lanes	Mark bicycle lanes between Lee Highway and 26th Street N. (0.4 mile)
1-9	Old Jefferson Davis Highway Bike Lanes	Mark bicycle lanes on the reconstructed Old Jefferson Davis Highway between 12th Street S. and the intersection with Boundary Channel Drive. Include connections to the park and recreation facilities in the North Tract. (0.6 mile)
1-10	Rosslyn Circle Area Improvements – Street Level	Make improvements recommended in the Rosslyn Circle Study, including widening the trail between Oak Street and Fort Myer Drive, and improvements at Fort Myer and N. Lynn Street. (Arlington, NPS, VDOT) (0.1 mile)
1-11	Route 110 South Trail Paving	Pave an existing informal trail that provides access to the Pentagon from Memorial Drive and Memorial Bridge. (Arlington, NPS) (0.7 mile)
1-12	Washington Blvd. Trail – West Side Trail	Construct a trail parallel to Washington Boulevard to link the existing Arlington Boulevard Trail with Columbia Pike, near the proposed Hoffman-Boston Connector bicycle route and trail. Include a connection to Towers Park. (1.0 mile)

Table B-2. Planned Trail Projects.

Project	Time Frame	Priority	Title	Description
2-1	Near Term	1	Arlington National Cemetery Wall Trail	Construct a trail parallel to the east wall of Arlington Cemetery to link Southgate Road, near the Navy Annex, to Memorial Drive. The trail could also utilize an existing pedestrian underpass to provide access across Washington Boulevard to the Pentagon. (Arlington, NPS, DOD) (1.2 miles)
2-2	Near Term	1	Bluemont Park to Upton Hill Park Trail	Construct a 10-foot-wide, paved trail adjacent to Wilson Boulevard from the W&OD and Four Mile Run trails in Bluemont Park, past Ashlawn School, the Dominion Hills Recreation Association Pool, Powhattan Springs Park, and into Upton Hill Regional Park to facilitate non-motorized access to these recreational and school facilities. (Arlington, NVRPA) (0.7 mile)
2-3	Near Term	1	Columbia Pike Parallel Bike Routes	Develop parallel bike routes along 9th Street S. and 12th Street S. between Quincy and Wayne streets, consistent with the adopted Columbia Pike Plan. The facility will mostly be an on-street route although some new sections of street or trail will be required to link across gaps. (4.3 miles)
2-4	Near Term	1	Custis (I-66) Trail Renovation	Renovate trail sections with asphalt cracking and washout, and, where feasible, widen the Custis Trail to 12 feet. The improvements will reduce trail user conflicts and prevent safety problems caused by deterioration of the trail surface. (Arlington, VDOT) (3.7 miles)
2-5	Near Term	1	Four Mile Run Trail Widening (North)	The Four Mile Run Trail should be widened to 12 feet and straightened in the East Falls Church Park. The trail widening would reduce trail-user conflicts and reduce pavement damage caused by utility and maintenance vehicles. (Arlington, NVRPA) (0.2 mile)
2-6	Near Term	1	North Tract–Mount Vernon Trail Connection	Construct a trail to link the North Tract park and trail facilities to the Mount Vernon Trail via an overpass of the George Washington Memorial Parkway. (Arlington, NPS) (0.2 mile)
2-7	Near Term	1	Pentagon Area Trail	Designate and construct an on- and off-street bikeway to link Columbia Pike at S. Rolfe Street with Southgate Road, the Pentagon, and Boundary Drive. At Boundary Drive, a connection would be made to the trail and underpass (project 1-3) that leads to the Mount Vernon Trail and the 14th Street Bridge. The project would provide a safer and more direct route for commuting through federal property. (Arlington, DOD, NPS, VDOT) (1.8 miles)

Project	Time Frame	Priority	Title	Description
2-8	Near Term	1	W&OD Crossing at Columbia Pike	Improve at-grade crossing, examining alternatives including under/overpasses (grade separation), medians, signal timing, etc. (0.1 mile)
2-9	Near Term	1	W&OD Crossing at Shirlington Road	Improve at-grade crossings, examining alternatives including under/overpasses (grade separation), medians, signal timing, etc. (0.1 mile)
2-10	Near Term	1	Arlington Boulevard Trail Renovation	Deteriorated sections of the Arlington Boulevard Trail would be renovated to extend facility life and improve user safety. Portions could be redesigned as a bicycle boulevard. (Arlington, VDOT) (2.0 miles)
2-11	Near Term	2	Clarendon Connector	Create an on- and off-street connector of the Fairfax Drive bike lanes to the Wilson and Clarendon Boulevard bike lanes via Clarendon Circle. (0.2 mile)
2-12	Near Term	2	Fairfax Drive Trail Connectors	Reconstruct Fairfax Drive west of N. Glebe Road to improve access to the Bluemont Junction and Custis trails, through wider sidewalk/trails, and improved ramps and signage. (0.2 miles)
2-13	Near Term	2	Four Mile Run Trail Widening (South)	Widen the Four Mile Run Trail to 12 feet in the area between W. Glebe Road and W. Eads Street. The trail widening would reduce trail-user conflicts and reduce pavement damage caused by utility and maintenance vehicles. (1.3 miles)
2-14	Near Term	2	Four Mile Run and W&OD Trail Connector	Construct a connector trail along the west sidewalk of the Shirlington Road to connect the Four Mile Run to the W&OD Trail. Includes widening of the bridge deck for the Shirlington Road bridge over Four Mile Run. (Arlington, NVRPA) (0.1 mile)
2-15	Near Term	2	N. Harrison St to Custis Trail Connector	Construct a connector trail from N. Harrison Street to the Custis Trail utilizing available public right-of-way. (0.1 mile)
2-16	Midterm	TBD	Four Mile Run Bridge	Construct a bike/pedestrian bridge over Four Mile Run that will link S. Eads Street to Commonwealth Ave. and connect the two trails paralleling Four Mile Run on the Arlington and Alexandria sides of the stream. (Arlington, Alexandria) (0.2 mile)
2-17	Midterm	TBD	Four Mile Run Trail Relocation - Columbia Pike to George Mason Drive – Study	Conduct a study of relocating or adding a segment of the Four Mile Trail on the west side of Four Mile Run between Columbia Pike and George Mason Drive.
2-18	Midterm	TBD	Hoffman-Boston Connector	Construct a trail along the edges of the Hoffman-Boston School and Army Navy Country Club properties to link Columbia Pike and Army Navy Drive, using an existing driveway underpass of Shirley Highway (I-395). The trail would link to Columbia Pike (and project 13) via a bicycle route

Project	Time Frame	Priority	Title	Description
				along S. Queen Street, 12th Street S., and S. Quinn Street. An alternative alignment may bridge from the Arlington View neighborhood to Arlington Ridge Road via new and existing overpasses of I-395 ramps. (Arlington, VDOT) (0.7 mile)
2-19	Midterm	TBD	Iwo Jima Memorial Connection to the Theodore Roosevelt Bridge	Include a connection from the Theodore Roosevelt Bridge to the Iwo Jima Memorial roadway in a reconstruction of the bridge. This connection would improve access to Rosslyn and the Fort Myer Heights neighborhood. (Arlington, DC, NPS) (0.9 mile).
2-20	Midterm	TBD	Lyon Village–Custis Trail Upgrade	Upgrade intersection of Custis Trail access ramp at the north end of the Lyon Village Shopping Center. (0.2 mile)
2-21	Midterm	TBD	Mount Vernon Trail Extension from N. Randolph Street to the Arlington County Line	Extend the Mount Vernon Trail from its current terminus at Theodore Roosevelt Island using existing trails, bike lanes, and proposed bike lanes in Arlington. Construct a short segment of trail between N. Randolph Street and the Fairfax line, following an existing sanitary sewer easement near Pimmit Run. (Arlington, NPS) (0.2 mile)
2-22	Midterm	TBD	Mount Vernon Trail Widening	Widening of the Mount Vernon shared-use trail between the Roosevelt Island Bridge over the George Washington Memorial Parkway and the Four Mile Run Trail (NPS) (4.8 miles)
2-23	Midterm	TBD	Potomac Yard–Four Mile Run Trail Connector	Construct trail from the existing Four Mile Run Trail in the Potomac Yard to the planned bike lanes on Potomac Ave. (0.1 mile)
2-24	Midterm	TBD	Roosevelt Bridge to Mount Vernon Trail	Construct a trail to link the sidewalk along the south side of the Roosevelt Bridge directly to the Mount Vernon Trail. (DC, NPS) (0.2 mile)
2-25	Midterm	TBD	Rosslyn Circle Area Improvements – Tunnel	Make area improvements consistent with the recommendations in the Rosslyn Circle Study, including the construction of a tunnel under Lynn Street near the intersection of Lee Highway. (Arlington, NPS, VDOT) (0.1 mile)
2-26	Midterm	TBD	Route 110 North Trail Renovation	The existing trail around Arlington Cemetery would be upgraded between Marshall Drive and Memorial Drive to reduce user conflicts and improve safety. (Arlington, NPS) (0.4 mile)
2-27	Midterm	TBD	Washington Boulevard Sidewalk Upgrade	Widen the existing Washington Boulevard sidewalk between Memorial Circle and the Pentagon to meet trail standards. The trail would link with other Pentagon area trails. (Arlington, DC, NPS, VDOT) (1.2 miles)

Project	Time Frame	Priority	Title	Description
2-28	Midterm	TBD	W&OD Crossing at George Mason Drive	Improve at-grade crossings, examining alternatives including grade separation, medians, signal timing, etc. (Arlington, NVRPA) (0.1 mile)
2-29	Midterm	TBD	W&OD Crossing at Walter Reed	Improve at-grade crossings, examining alternatives including under/overpasses, medians, signal timing, etc. (Arlington, NVRPA) (0.1 mile)
2-30	Midterm	TBD	W&OD Realignment at East Falls Church	Realign W&OD from Brandywine Castle to Van Buren (east of Sycamore underpass) (blind curves need rebuilding from flooding, 90-degree turn, too much pavement). (Arlington, NVRPA) (0.2 mile)
2-31	Midterm	TBD	W&OD Trail Crossing at Lee Highway	Improve at-grade crossings, examining alternatives including under/overpasses, signal timing, etc. (Arlington/NVRPA) (0.1 mile)
2-32	Long Term	TBD	Airport Viaduct Connector	Provision of a shared-use path connection from the east end of Virginia Route 233 (Airport Viaduct) to the Mount Vernon shared-use path. (NPS) (0.3 mile)
2-33	Long Term	TBD	Arlington Hall Trail/Bike Route	Provide an east-west connection between Glebe Road at 2nd Street S. and S. Pershing Drive at Arlington Boulevard. Use the existing George Mason Drive underpass to traverse the Arlington Hall and connect to the Arlington Boulevard bikeway and the Thomas Jefferson Community Center via local streets. (Arlington, Foreign Service Institute) (0.5 mile)
2-34	Long Term	TBD	Bicycle/Pedestrian Bridge Crossing Spout Run	Construct a bicycle/pedestrian bridge, establishing a Custis Trail to Mount Vernon Trail connection near Lorcom Lane, to allow cyclists and pedestrians to avoid crossing arterial highways at uncontrolled intersections. Bridge would also enhance access to Fort CF Smith park. (Arlington, NPS) (0.2 mile)
2-35	Long Term	TBD	Chain Bridge Road Trail	Construct a trail along Chain Bridge Road from Glebe Road to Fairfax County as part of a project that improves roadway geometrics and provides pedestrian accommodations. A shoulder or lane would be minimally sufficient. (Arlington, Fairfax County, VDOT) (0.4 mile)
2-36	Long Term	TBD	Foxcroft-Penrose Connector	Construct a bicycle/pedestrian bridge over Washington Boulevard Bridge north of Columbia Pike to connect Foxcroft neighborhood to Penrose and Towers Park. (0.3 mile)
2-37	Long Term	TBD	Mount Vernon Trail–Roosevelt Bridge Connector	Construction of a connection between the downstream side of the Roosevelt Bridge and the Mount Vernon shared-use path. (NPS, DC) (0.1 mile)

Note: Only projects considered to be near term have been prioritized. Mid- and long-term projects will be prioritized later.

Table B-3. On-Street Facilities Including Bicycle Lanes, Routes, and Boulevards

The listed projects have been divided into three time-frame categories (near term, midterm, and long term) based upon the anticipated work that would be involved to implement each project. In actuality, implementation of many projects will be tied to the schedules for street improvement projects ranging from street resurfacing to reconstruction.

Project Number	Time Frame	Title	Description
3-1	Near Term	14th/15th Street N. Bicycle Route	Sign a bicycle route along 15th and 14th streets N. linking the Court House Metro station and government center with the bicycle lanes on N. Rhodes Street. Where space permits, mark a bicycle lane in the uphill direction. (0.5 mile)
3-2	Near Term	15th and 16th Streets N. Bicycle Route	Sign a bicycle route from the Westover shopping center to Washington-Lee High School and the Custis Trail along 16th and 15th streets N. (1.6 miles)
3-3	Near Term	15th Street S. Bicycle Lanes	Mark bicycle lanes or sharrows on S. 15th Street between the bicycle lanes on S. Hayes Street and Crystal Drive. (0.6 mile)
3-4	Near Term	18th Street S. Bicycle Lanes	Mark bicycle lanes along S. 18th Street to connect the bicycle lanes at S. Eads Street with Crystal Drive. (0.2 mile)
3-5	Near Term	23rd Street S. Bicycle Route	Sign a bicycle route along 23rd Street S. from Army Navy Drive to Crystal Drive. (1.3 miles)
3-6	Near Term	Army Navy Drive Bicycle Lanes	Designate bicycle lanes or mark sharrows along Army Navy Drive between S. Glebe Road and 12th Street S. (2.4 miles)
3-7	Near Term	N. Lynn Street Bicycle Lane	Designate a bicycle lane along N. Lynn Street between Lee Highway at Rosslyn Circle and Fairfax Drive south of Arlington Boulevard. (0.5 mile)
3-8	Near Term	Fairfax Drive Bike Lanes	Designate bicycle lanes or mark sharrows along Fairfax Drive along the south side of Arlington Boulevard between N. Rolfe and N. Meade streets. (0.5 mile)
3-9	Near Term	Fairfax Drive Bicycle Route	Sign a bicycle route along Fairfax Drive from N. Barton Street to the Arlington Boulevard Trail. Include sharrows or bicycle lanes. (0.3 miles)
3-10	Near Term	Fort Myer Drive Bicycle Lane	Designate a bicycle lane along Fort Myer Drive between Lee Highway at Rosslyn Circle and Fairfax Drive south of Arlington Boulevard. (0.5 mile)
3-11	Near Term	Henderson Road/S. Abingdon Street/3rd Street/S. Wakefield Street Bicycle Route	Sign a bicycle route that links the Buckingham area, at Henderson Road and N. Glebe Road with Columbia Pike via the Henderson Road, S. Abingdon Street, 3rd Street S., and S. Wakefield Street. (1.5 miles)
3-12	Near Term	Irving Street Bicycle Route	Sign a bicycle route on Irving Street between N. 6 th Street and S. 7 th Street. (1.0 mile)
3-13	Near Term	Kirkwood Road Bike Lanes	Mark bicycle lanes on Kirkwood Road between the existing lanes at Washington Boulevard to the existing bike lanes at Fairfax Drive. (0.1 mile)

3-14	Near Term	Lee Highway Sharrows	Mark sharrows on Lee Highway/Old Lee Highway between N. Quincy and N. Culpepper streets. (1.1 miles)
3-15	Near Term	N. Glebe Road Bike Lanes	Mark bike lanes on N. Glebe Road between Old Dominion Drive and Old Glebe Road. (1.4 miles)
3-16	Near Term	Little Falls Road/Westmoreland Street Sharrows	Mark sharrows along Westmoreland Street and Little Falls Road to link the W&OD Trail with Williamsburg Boulevard. (0.5 mile)
3-17	Near Term	Lyon Park– Courthouse Bicycle Route	Sign a bicycle route from Long Branch Elementary School to Key Elementary School along 1st Road N., N. Cleveland Street, 3rd Street, and N. Barton Street. (1.3 miles)
3-18	Near Term	Military Road Sharrows	Mark sharrows on Military Road between Lee Highway and Nelly Custis Drive. (0.5 mile)
3-19	Near Term	N. Edison Street/4th Street N. Bicycle Route	Sign a bicycle route along N. Edison and 4th Street to connect the Bluemont Junction and Lubber Run trails. (0.5 mile)
3-20	Near Term	N. Fillmore Street Bicycle Route	Sign a bicycle route along N. Fillmore Street from Arlington Boulevard to Pershing Drive. (0.4 mile)
3-21	Near Term	N. George Mason Drive Bicycle Lanes or Sharrows	Mark bicycle lanes or sharrows on N. George Mason Drive between Fairfax Drive and Lee Highway. (1.3 miles)
3-22	Near Term	N. Jackson Street Bicycle Route	Sign a bicycle route on N. Jackson Street from 6th Street N. to the bicycle lanes on Fairfax Drive. (0.3 mile)
3-23	Near Term	N. Park Drive Bicycle Route	Sign a bicycle route along N. Park Drive from Arlington Boulevard to N. Vermont Street. (0.9 mile)
3-24	Near Term	N. Pershing Drive Bicycle Route	Sign a bicycle route along N. Pershing Drive between Washington Boulevard and Henderson Road/ (1.4 miles)
3-25	Near Term	N. Utah Street and 11th Street Bike Route	Sign a bicycle route from Old Lee Highway to Ballston via N. Utah Street, 11th Street N., and Stafford Street. (1.2 miles)
3-26	Near Term	N. Woodstock Street Bicycle Route	Sign a bicycle route along N. Woodstock Street between N. Glebe Road and Lee Highway. (0.4 mile)
3-27	Near Term	Shirlington Road/S. Kenmore Street Bicycle Lanes	Designate bicycle lanes or mark sharrows between Shirlington and Walter Reed Drive. (1.0 mile)
3-28	Near Term	S. Carlin Springs Road Sharrows	Mark sharrows on S. Carlin Springs Road between Columbia Pike and Arlington Boulevard. (1.0 mile)
3-29	Near Term	S. Courthouse Road Bicycle Lanes or Sharrows	Mark bicycle lanes or sharrows on S. Courthouse Road between Washington Boulevard and 12th Street S. (0.7 mile)
3-30	Near Term	S. Fern Street Bicycle Route	Mark a bicycle route to link the Pentagon with an existing bicycle route in Pentagon City on 18th Street S. (0.8 mile)
3-31	Near Term	S. Joyce Street Bicycle Route	Sign a bicycle route along S. Joyce Street from 15th Street to 23rd Street. (0.6 mile)
3-32	Near Term	S. Lynn Street /S. Arlington Ridge Road Bicycle Lanes	Mark bicycle lanes or sharrows on S. Lynn Street and Arlington Ridge Road to link the Four Mile Run Trail with Army Navy Drive. (1.5 miles)

3-33	Near Term	S. Monroe Street Bicycle Route	Sign a bicycle route between on S. Monroe Street from Walter Reed Drive to 7th Street S. (0.9 mile)
3-34	Near Term	Virginia Square–Cherrydale Bicycle Route	Sign a bicycle route that links the Virginia Square Metro Station, Central Library, Quincy Park, the Custis Trail, Arlington Science Focus School, and Cherrydale via a route along N. Nelson, 14th and N. Monroe streets. (1.1 miles)
3-35	Near Term	Walter Reed Drive Bicycle Lanes	Designate bicycle lanes from S. Arlington Mill Drive to S. Monroe Street. (0.5 mile)
3-36	Near Term	Washington Boulevard Sharrows	Mark sharrows on Washington Boulevard between N. Glebe Road and Wilson Boulevard. (1.1 miles)
3-37	Near Term	Williamsburg Boulevard Bicycle Lanes	Mark bicycle lanes or sharrows on Williamsburg Boulevard between the existing bicycle lanes at Westmoreland Street to the Falls Church line. (0.3 mile)
3-38	Near Term	Wilson Boulevard Sharrows	Mark sharrows on Wilson Boulevard between N. Lynn Street and the bicycle lanes at N. Oak Street. (0.2 mile)
3-39	Midterm	10th Street N. Sharrows	Mark sharrows on 10th Street between Washington Boulevard and N. Barton Street. (0.3 mile)
3-40	Midterm	22nd Street N. Bicycle Boulevard	Develop a bicycle boulevard along N. 22nd Street between Lee Highway and N. Sycamore Street. (1.7 miles)
3-41	Midterm	John Marshall Drive/N. Ohio Street Bicycle Boulevard	Develop a bicycle boulevard along N. Ohio Street and John Marshall Drive between 26th Street N. and Washington Boulevard. (0.6 mile)
3-42	Midterm	Lee Highway Bicycle Lanes	Designate bicycle lanes along both sides of Lee Highway between N. Lynn and N. Quincy streets. (2.1 miles)
3-43	Midterm	N. 26th Street Bicycle Boulevard	Develop a bicycle boulevard on 26th Street between Westmoreland Street and Old Dominion Drive. (2.3 miles)
3-45	Midterm	N. Harrison Street Bicycle Boulevard	Develop a bicycle boulevard on N. Harrison Street between the Bluemont Junction Trail and Williamsburg Boulevard. Use bike lanes or sharrows on the arterial sections. (2.7 miles)
3-45	Midterm	N. Abingdon Street Bicycle Boulevard	Develop a bicycle boulevard on N. Abingdon Street between Glebe Elementary School and the Custis Trail. (0.4 mile)
3-46	Midterm	S. 2nd Street Bicycle Boulevard	Develop a bicycle boulevard along S. 2nd Street between S. Glebe Road and Fort Myer. (1.0 mile)
3-47	Midterm	Washington Boulevard Wide Curb Lanes/Sharrows	Incorporate wide curb lanes in the street improvements for Washington Boulevard between Sycamore Street and Glebe Road. (1.7 miles)
3-48	Long Term	10th Street N. Bicycle Lanes	Designate bicycle lanes on 10th Street between Fairfax Drive and Washington Boulevard. (0.3 mile)
3-49	Long Term	Glebe Road–Chain Bridge Connection	Any potential widening of Glebe Road should include paved shoulders, particularly for the uphill direction. (0.4 mile)
3-50	Long Term	Columbia Pike Bike Lanes	Develop bike lanes on Columbia Pike consistent with the adopted Columbia Pike Street Space Plan. (2.3 miles)

3-51	Long Term	N. Carlin Springs Road Bicycle Lanes	Mark bicycle lanes or sharrows along N. Carlin Springs Road from Arlington Boulevard to N. Glebe Road. (1.3 miles)
3-52	Long Term	N. Glebe Road Bike Lanes or Sharrows	Mark bike lanes or sharrows where space permits, on Glebe Road between Henderson Road and Woodstock St. (1.4 miles)
3-53	Long Term	N. Sycamore Street/Roosevelt Street Bicycle Lanes	Designate bicycle lanes on Sycamore and Roosevelt streets between the Falls Church line and Williamsburg Boulevard. (1.5 miles)
3-54	Long Term	S. Eads Street Bike Lanes	Stripe bike lanes along S. Eads Street, between the existing lanes at 23rd Street S. and 18th Street S. (0.3 mile)
3-55	Long Term	Walter Reed Drive/S. Fillmore Street Bike Lanes/Sharrows	Mark bicycle lanes or sharrows along Walter Reed Drive between S. Monroe and S. Fillmore streets and sharrows along S. Fillmore Street from Walter Reed Drive to Arlington Boulevard. (1.5 miles)
3-56	Long Term	Washington Boulevard Bike Lanes	Designate bicycle lanes on Washington Boulevard between Wilson Boulevard and Arlington Boulevard. (0.9 mile)
3-57	Long Term	Wilson Boulevard Sharrows	Mark sharrows along Wilson Boulevard between N. George Mason Drive and N. Taylor Street. (0.5 mile)
3-58	Long Term	Wilson Boulevard Sharrows or Bicycle Lanes	Mark sharrows or bicycle lanes along Wilson Boulevard between the County line at Seven Corners and Ballston at N. Glebe Road. (1.8 miles)

Table B-4. Bicycle Parking and Countywide Projects

Project Number	Time Frame	Priority	Title	Description
4-1	Near Term	1	Bicycle Parking County Facilities	Provide adequate bicycle parking for visitors, students, and employees at County offices, schools, libraries, parks, and community recreation and nature centers to meet identified needs. Replace existing poorly designed or damaged racks with racks that satisfy design standards. Provide or upgrade parking with all programmed facility renovations.
4-2	Near Term	2	Bicycle Parking in Commercial Areas	Bicycle racks will be installed in the public right-of-way at locations within primary commercial corridors. Provide racks where there is an established unmet need for bicycle parking and sufficient public space exists for installation.
4-3	Near Term	2	Transit Station Bicycle Parking	Add or upgrade bicycle parking at transit stations and heavily used bus stops. Develop bicycle stations at the Ballston, Pentagon City, East Falls Church and/or Rosslyn Metro stations.
4-4	Mid Term		On-Street Bicycle Route Safety Assessment	Conduct a study of the County's designated bicycle routes to evaluate the function, safety, and convenience of each existing bicycle route. Identify modifications to the bicycle route system, which could include additional signage, rerouting, and additions or deletions.

APPENDIX C – BIKEWAY DESIGN PRINCIPLES

Street width in excess of what is needed for motor vehicle travel may provide an opportunity for right-of-way for shared-use trails, bike lanes, or widened sidewalks.

1. **Trail Widths** – shared-use trails should be a minimum of 10 feet wide; however, a 12-foot width should be considered where feasible and warranted by user demands. Tunnels and bridges should be 2 feet wider than the approaching shared-use trails. A 2-foot minimum graded grass shoulder area should be provided adjacent to each side of shared-use trail or, where appropriate, a 2- to 3-foot wide crushed rock path may replace one grass shoulder. Connector trails with expected low volumes and travel speeds may be constructed 8 feet wide.
2. **Bicycle Accommodation on Sidewalks** – For adults, sidewalk bicycling is generally appropriate or permitted in certain situations:
 - a. Where shared use paths must merge with existing sidewalks to maintain continuity.
 - b. Where existing sidewalk segments provide the neighborhood linkage to and from shared-use paths.
 - c. Where one-way sidewalk bicycling may be determined to be the safer and preferred accommodation for most cyclists, such as a location where roadway space is severely limited and traffic volumes and/or speeds are high.
 - d. Where access over or under major highways, railroads, or waterways is available only on existing roadways that have minimal travel space.
 - e. Where designation is determined to be a measure needed to help ensure pedestrian and bicyclists' safety on facilities that are being shared.
 - f. Where no prohibitions against on-sidewalk bicycling have been enacted.

Segments of sidewalk where more than occasional two-way bicycle travel is expected should have a minimum sidewalk width of 10 feet, with a preferred width of 12 to 14 feet. If one-way bicycle access is designated for the sidewalks on *each* side of the street the minimum sidewalk width may be 8 feet. A utility buffer of at least 2 feet, preferably 4 feet, is recommended.

3. **Bike Lane Widths** – Designated bicycle lanes along streets without parking require a width of 3.0 to 5.0 feet, plus the width required for any concrete gutter. Bicycle lanes along streets where parking is permitted should be 5.0 to 6.0 feet wide.
4. **Crosswalk Widths** – Shared-use trail crosswalks and curb ramps are to be a minimum of 10 feet in width and generally as wide as the intersecting trail.
5. **Grades** – Shared-use trails are to be constructed with a relatively flat grade and smooth surface—generally having no more than a 5 percent grade for long sections and an 8 percent grade for short runs (less than 150' in length), with switchbacks and pull-off areas provided as per ADA guidelines on long grades. Cross slopes on trails should be between 1 and 3 percent.
6. **Visibility** – Bikeways are to be designed to provide high visibility between motorists, pedestrians, and bicyclists at potential points of conflict, including warning signs for motorists,

pedestrians, and bicyclists, and, where appropriate, removal or relocation of signs, poles, vegetation, or other obstructions.

7. **Trail Accessibility** – Shared-use trails are to be designed with wide curb cuts suitable for wheelchair and bicycle use; any necessary utility openings, such as manholes and sewer inlets, are to be flush with the surface and of a design suitable for safe wheelchair and bicycle travel.
8. **Vertical Clearance** – AASHTO establishes the minimum height clearance for designated multiuse shared-use trails as 8 feet.⁴ Ten feet or more is required to provide clearance for maintenance vehicle access. In the United States, underpasses have become undesirable and little used in many communities. One reason is that most were built to be very low and narrow, making users feel highly constrained and severely limiting sight distances on the approach and from inside the facility. A higher vertical clearance and wider opening greatly increases the users' sense of safety and comfort.
9. **Curve Radii** – Whenever warranted and feasible the minimum radius of curvature for shared-use trail curves should be 100 feet, corresponding to safe travel at 20 miles per hour.
10. **Pedestrian Accommodation** – Designated shared-use trails are to have design features satisfactory to all users including pedestrians.
11. **Lighting** – Lighting is desired along designated commuter shared-use trails and in underpasses, at a minimum level of one-half foot candle (5.4 lux) for shared-use paths and two foot candles (21.5 lux) for underpasses. Vandal-resistant fixtures should be used.
12. **Motor Vehicle Barriers** – Shared-use trails are to be designed to minimize potential use by unauthorized motor vehicles, with brightly painted and reflective bollards, installed on trail centerlines, are to be used only where other enforcement methods are unsatisfactory.
13. **Trail Crosswalks** – Intersection and mid-block crossings of streets, by shared-use trails should be designated by high-visibility markings.
14. **Traffic Signal Detection** – Traffic signals should be constructed and maintained so that the vehicle-detection sensors will respond to bicycles.
15. **Environmental and Historic Considerations** – Design of shared-use trails is to minimize disruption to historic resources, trees, and the natural environment. Shared-use trail designs should undergo public review focusing on impacts to natural, scenic, and historical resources, as prescribed by public regulations including County Administrative Regulation 4.4. Projects near the Mount Vernon Trail should recognize the national historic designation of the trail and the George Washington Memorial Parkway.
16. **Tree Preservation** – Shared-use trails are to be designed to avoid injury to healthy mature trees and wetlands; however, trails should have relatively straight alignments whenever possible. Landscaping of shared-use trails is to emphasize planting locations and species whose limbs and

⁴Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials, 1999; page 36.

roots will not intrude into the pathway, require frequent trimming, or create concealment areas. New trees and large shrubs should not be planted within 10 feet of existing paved trail surfaces.

17. **Trail Landscaping** – Where feasible, landscaping should be used to separate shared-use trails from streets and create an attractive environment.
18. **Design of Traffic-Reduction Measures to Accommodate Bicycle Travel**– Physical turn prohibitors, diverters, street closures, and other physically restrictive measures imposed to reduce motor vehicle volumes should not restrict bicycle traffic, except where necessary for safety reasons or as required by law.
19. **Traffic Calming Design** – Nubs, traffic circles, speed humps, and other devices installed to reduce motor vehicle speeds should not adversely affect bicycle safety.
20. **Trail Buffers** – Shared-use trails should be designed to include buffer areas, a minimum of 25 feet in width, between the shared-use trail surface and adjacent active recreational facilities. Buffers can be reduced to 3 feet in width where a fence, wall, or other barrier is used to separate the trail from other uses.
21. **Street Design** – All new street construction, widening, and extensive rehabilitation projects should include provisions for motor vehicle, pedestrian, and bicycle use. Arterial streets should at least accommodate advanced bicyclists, while neighborhood streets should be designed to a standard that encourages use by basic and child bicyclists.
22. **Trail Surface** – Shared-use trails should be paved with a hard, relatively smooth surface. Appropriate materials include asphalt and concrete. Permeable asphalt and concrete applications should be investigated for suitability.

APPENDIX D – BICYCLE PARKING STANDARDS

Bicycle parking should meet standards appropriate for the location and land use. Criteria to consider in determining the appropriate bike parking include:

- Quantity of parking spaces.
- Location on the site.
- Level of security needed for the type of users served—employee/resident or visitor/customer.
- Convenience and ease of use.
- Protection from weather.
- Support facilities needed, such as showers, changing rooms, clothing lockers.

Standard Arlington Site Plan Conditions Regarding Bicyclist Accommodations

Bicycle Parking

The developer agrees to provide secure bicycle storage facilities in a location convenient to both office and retail areas on the following minimum basis:

One (1) employee space for every 7,500 square feet, or portion thereof, of office floor area and one (1) visitor space for every 20,000 square feet, or portion thereof, of office floor area;

Three (3) spaces for every 10 residential units, or portion thereof, and one (1) visitor space for every 50 residential units, or portion thereof;

Two (2) visitor/customer spaces for every 10,000 square feet, or portion thereof, of the first 50,000 square feet of retail floor area; one (1) space for every 12,500 square feet, or portion thereof, of additional retail floor area and one (1) employee space for every 25,000 square feet, or portion thereof, of retail floor area. The facilities for visitor and customer use shall be highly visible to the intended users and shall not encroach on the sidewalk or on any area in the public right-of-way intended for use by pedestrians. The facilities for employee and residential users must meet the acceptable standards for Class I storage space and be highly visible from an elevator entrance, a full-time parking attendant, a full-time security guard or a visitor/customer entrance.

Facilities for visitors/customers must meet the standards for either Class II or Class III storage space and be highly visible from a main street-level visitor/customer entrance. Drawings showing that these requirements have been met shall be approved by the Zoning Administrator before the issuance of the Footing to Grade Structure Permit.

Shower and Locker Facilities

In addition, the developer agrees that for every 50,000 square feet, or fraction thereof, of office gross floor area (g.f.a.), one (1) shower per gender shall be installed, up to a maximum of three (3) showers per gender. Also, a minimum of one (1) clothes storage locker per gender shall be installed for every required employee bicycle parking space. The lockers shall be installed adjacent to the showers in a safe and secured area, and both showers and lockers shall be accessible to all tenants of the building. The Arlington County Police Department before issuance of the Footing to Grade Structure Permit shall review the location, layout, and security of the showers and lockers.

The developer agrees that an exercise/health facility containing a maximum of 1,000 square feet shall not count as density (F.A.R.) but shall count as gross floor area (g.f.a.) if this facility meets all of the following criteria:

1. *The facility shall be located in the interior of the building and shall not add to the bulk or height of the project;*

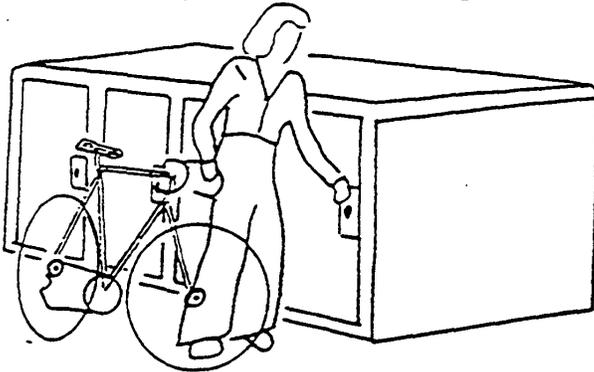
2. Showers and clothes lockers shall be provided as required above;
3. The lockers shall be installed adjacent to the showers in a safe and secured area within the exercise facility; and both showers and lockers shall be accessible to all tenants of the project;
4. The exercise facility shall be open only to tenants of the project and shall not accept or solicit memberships from outside of the project. The exercise facility (including the showers and lockers) shall be open during normal working hours.

Classes of Bicycle Parking

Class I - Maximum Security for All-Day Employee Parking

This is a locked room or cage or a fully enclosed locker. It can be located in or outside a building. If located outdoors or in a parking garage it is highly visible from an elevator entrance, parking attendant, security guard, closed-circuit television camera, or visitor/customer entrance, but such that parked bicycles are not visible from the street. If bicycles are parked vertically the bottom wheel should rest on the ground. At least 1/10 of all Class I parking for a site accommodates horizontal (both wheels touching the floor) parking.

- a. **Locked Room or Cage** – a fully enclosed room or a cage covered by industrial-grade fencing with a heavy-duty lock on the entrance. Class III parking is provided within. Unless bicycles can be wheeled straight in from door to parking stall, there is a 36-inch-wide aisle inside the enclosure that allows bikes to be maneuvered in and out.
- b. **Lockers** – a fully enclosed and locked space accessible only by a single bicyclist.



Class II – Medium Security

This facility secures and provides firm support for the frame and both wheels of the bicycle without a cable and prevents access to the user's padlock by long-handled bolt cutters. If bicycles are parallel parked (side-by-side), at least 23 inches is provided between bicycles (from one bicycle frame centerline to the next). All parking is horizontal and is highly visible from visitor/customer entrances.

Class II parking also provides protection from the weather, either by having a cover structure that is 1) part of the bicycle rack equipment, 2) installed as a part of the bicycle rack installation, or 3) located under an existing covering such as in a parking garage, under a building portico, within a covered building entry, or under an awning.



Class III – Bike Parking Racks: Light Security for Short-Term Parking

Arlington utilizes the Class III *Bicycle Parking Guidelines* developed by the Association of Pedestrian and Bicycle Professionals (APBP). For details please see the source document at: <http://www.apbp.org/> The APBP guidelines addresses the five major components of Class III bicycle parking:

1. The rack element. This device is the part of a rack that supports one bicycle.
2. The whole rack. It is important to understand how bikes interact with each other when rack elements are assembled together.
3. The rack area where multiple racks are installed to create a bicycle parking lot.
4. The rack area site: where the area is located, and the relationship of the rack area to the building entrance it serves and the cyclist's approach to that entrance.
5. Creative rack designs.

The rack element should do the following:

- Support the bicycle upright by its frame in two places.
- Prevent the bicycle from tipping over.
- Enable the frame or both wheels to be secured.
- Support bicycles without a diamond-shaped frame.
- Allow a U-lock to lock one wheel and a frame tube of an upright bicycle.
- The rack element should resist being cut or detached using hand tools.



Two examples of appropriate Class III parking racks: "Post and Loop" rack (left) and "Inverted-U" racks (right)

Ribbon, schoolyard, and other racks that provide only one point of support for the bicycle frame do not meet Arlington's standards.

APPENDIX E – MAINTENANCE PROGRAM

Introduction

Bicyclists are very sensitive to maintenance problems on bikeway facilities. Systems must be established to address both regular and repair maintenance of streets and shared-use trails. The County should adopt the bicycle facility maintenance practices and bikeway maintenance schedules to include those subjects described below:

Bikeways Maintenance Responsibility

The first step in developing a maintenance program is to identify what tasks need to be undertaken and who is responsible for each task. The Bikeways Maintenance Task List lays out maintenance tasks and identifies the department that should have lead responsibility for each task. The Bicycle Program manager is responsible for coordinating the execution of the maintenance schedule and serving as the point of contact for citizens with questions regarding maintenance.

An improvement request mechanism via phone, fax, e-mail, or the County Web site gives citizens an easy means of reporting maintenance concerns. The requests are submitted to the Bicycle Program manager, who then refers the request to the appropriate County agency or other facility-managing agency. The forms should be made widely available and on the County's Web page.

Bicycle Facility Maintenance Practices (Task List)

The following description of maintenance practices was adapted from the 1996 Oregon Bicycle and Pedestrian Plan. The descriptions serve as guidelines for Arlington departments that are responsible for bikeways maintenance.

Sweeping – A regularly scheduled inspection and maintenance program helps ensure that litter is regularly picked up or swept out of the travelway. During extended icy conditions, it may not be cost-effective to frequently remove sanding materials; however, they should be swept after major storms in high-use areas and after the winter season ends. Program elements include:

- Establish a seasonal bike lane sweeping schedule.
- Clean debris from roadways after motor vehicle crashes.
- Sweep or blow bikeways whenever there is a significant accumulation of debris or leaves.
- Provide extra sweeping in areas where leaves and cones accumulate in bike lanes.

Surface – A smooth travel surface free of holes, severe cracks, and lips must be provided for safe and comfortable bicycle travel. Program elements include:

- Inspect bikeways regularly for surface irregularities.
- Respond to citizen complaints in a timely manner.
- Repair potentially hazardous conditions as soon as possible.
- Prevent the edge of a repair from running through a bike lane.
- Sweep project areas after repairs.

Pavement Overlays and Curb/Sidewalk Replacement Projects – Pavement overlays and other partial street repair and reconstruction projects can be good opportunities to improve conditions for cyclists. Pavement cuts in the bicycling area must be done cleanly without reducing the integrity of the unreplaced pavement near the seams. Pavement fill adjacent to new curb and gutter must be packed and

rolled properly to prevent bumps and heaving from use by heavy vehicles. A prominent seam should not be left in the area where cyclists ride. Overlay projects also offer opportunities to restripe the roadway with bike lanes. Program elements include:

- Extend the overlay over the entire roadway surface to avoid leaving an abrupt edge; if this is not possible, and there is adequate bike-lane width, it may be appropriate to stop at the bike-lane stripe, provided no abrupt ridge remains.
- Raise inlet grates, manhole covers, and valve covers flush to the new pavement surface.
- Sweep the project area after overlay.

Signs, Stripes, and Legends – All bicycle-related signs and legends should be highly visible but, over time, signs may fall into disrepair. Signs and legends should be kept in a readable condition, including those directed at motorists. Pedestrians and bicyclists rely on motorists observing the signs and legends that regulate their movements. Program elements include:

- Inspect signs and legends regularly, including reflectivity at night.
- Replace defective signs as soon as possible.
- Remark legends, crosswalks, and other pavement markings as needed.



Vegetation – Vegetation encroaching into bikeways is both a nuisance and a problem. Roots should be controlled to prevent breakup of the surface. While trees and other vegetation is valued for their scenic value and shade, adequate vertical and horizontal clearances and sight-lines should be maintained along trail curves, at driveways, and at intersections: pedestrians and bicyclists must be visible to approaching motorists, rather than hidden by overgrown shrubs or low-hanging branches. Existing trees and other vegetation that pose a safety or security problem should be trimmed or removed. Activities include:

- Trim vegetation to prevent encroachment.
- Perform preventative operations such as cutting back intrusive tree roots.

Snow Removal – Snow stored on bike lanes or shared-use paths impedes bicycling and walking.

Program elements include:

- Remove all snow from bike lanes.
- Clear snow from primary shared-use paths (including the I-66/Custis Trail and the Route 110 Trail) and make sure that snow banks do not block paths where they cross plowed roads.
- Primarily recreational shared-use paths, including Donaldson Run Trail and Lubber Run Trail, should be left unplowed for skiing and other winter use.

Bikeway Maintenance Schedule

The County should follow the following schedules for maintaining its bikeways.

Table E-1. On-Road Bikeway Maintenance Schedule

Task	Frequency	Comments
Inspection	Monthly	Includes all on-road bikeways; identify needed repairs of pavement, signs, marking, etc.
Street sweeping	4 times/year	All streets with bike lanes; extra attention in the fall.
Street repairs	As needed	Repair of streets with bikeways including potholes, cracks, and other problems.
Bike lane snow removal	As needed	Clear snow completely from the travelway for streets with bike lanes and on primary shared-use paths.
Debris removal	As needed	Remove debris such as gravel and broken glass.
Signs	As needed	Repair or replace missing/damaged signs and markings.
Markings	As needed	Re-mark all bike-lane markings and symbols and crosswalks.

Table E-2. Off-Road Bikeway Maintenance Schedule

Task	Frequency	Comments
Regular inspection	Monthly	Includes all off-road bikeways, identify needed repairs of pavement signs, marking, lighting, etc.
Trail sweeping	As needed	All paved trails.
Trail snow removal	As needed	Clear snow from identified priority trails.
Trail repairs	As needed	Repair of trails including potholes, cracks or other problems on shared-use paths, and benches, trash cans, and other trail amenities.
Trail resurfacing	As needed	Applies to all asphalt trails.
Debris removal	As needed	Remove debris from trails such as limbs, silt, and broken glass.
Signs and markings	As needed	Repair or replace signs and markings identified during inspections.
Vegetation control	As needed, at least two times/year	Trim limbs and shrubs 2 feet back from trail edge; trim grass from trail edges.
Litter removal	6 times/year	Could be done with volunteers

UDO TEXT AMENDMENTS



PARKING

Why ?

Comprehensive Plan policies

Walker Parking Action Plan

Establishment and application of new Creative Maker District

Encouraging Downtown and Maker District redevelopment while accepting that auto access will be dominant for the near-term

Applying contemporary 'Smart Code' regulatory practices

COMPREHENSIVE PLAN GUIDANCE

Downtown Parking Strategy 3

- Reduce or remove parking regulations and allow market forces to provide for adequate parking.

Transportation Policy 9

- Develop parking policies that are appropriate to an active downtown.

Business Opportunity Policy 5

- Implement development/redevelopment standards that promote a human-scale, pedestrian-oriented, transit friendly community, through site layout, building configuration, landscaping, signage, parking lot design, vehicle and pedestrian circulation, stormwater management, and environmental protection.

Business Opportunity Initiative 35

- Encourage development/redevelopment activity by creating redevelopment plans, especially for older shopping centers, that will diversify uses and provide for improved multi-modal access, landscaped parking areas, and improved lighting and signage.

Land Use Revitalization Objective

Most of the City's small areas are designated as revitalization areas as defined (in part) in Virginia Code 15.2-2303.4, as having:

- Large surface parking areas on commercial land, which have revitalization opportunities for the evolution of a suburban pattern of development into a more urban, mixed-use pattern. Broad expanses of surface parking result in fragmented and inefficient development patterns that should be redeveloped so as to create complete communities that are walkable and robust.

Community Involvement

<i>Met with Parking Advisory Committee:</i>	<i>May 6, June 3, Sept. 9</i>
<i>Discussed with Planning Commission dates:</i>	<i>Sept. 11</i>
◦ <i>PC public hearing:</i>	<i>March 11</i>
<i>Economic Development Breakfast:</i>	<i>February 18</i>
<i>Fxbg Area Building Association:</i>	<i>March 6</i>
<i>Economic Development Authority:</i>	<i>March 9</i>
<i>Main Street Board:</i>	<i>March 19</i>

MINIMUM OFF-STREET PARKING RATIOS

(PARKING REQUIRED / USE AMOUNT)

Use Type	<u>1963 Req.</u>	<u>1972 Req.</u>	<u>1984 Req.</u>	<u>2013 Req.</u>
Single Family Home	1 / DU	2 / DU	2 / DU	1.5 / DU
Office	1 / 400 SF	1 / 250 SF	1 / 200 SF	1 / 300 SF
Commercial / Retail	Off-street parking equal in area to ground floor of building	1 / 250 SF	1 / 200 SF	1 / 300 SF
Restaurant	Included in "commercial"	1 / 5 seats	1 / 4 seats + 1 / 2 employees	1 / 180 SF

SMART CODE MODEL

Should Downtown and other urban centers in City have parking requirements?

- *Downtowns in other cities that do not have parking requirements have a well developed transit system.*

Fredericksburg will rely on personal vehicles as access for the immediate future.

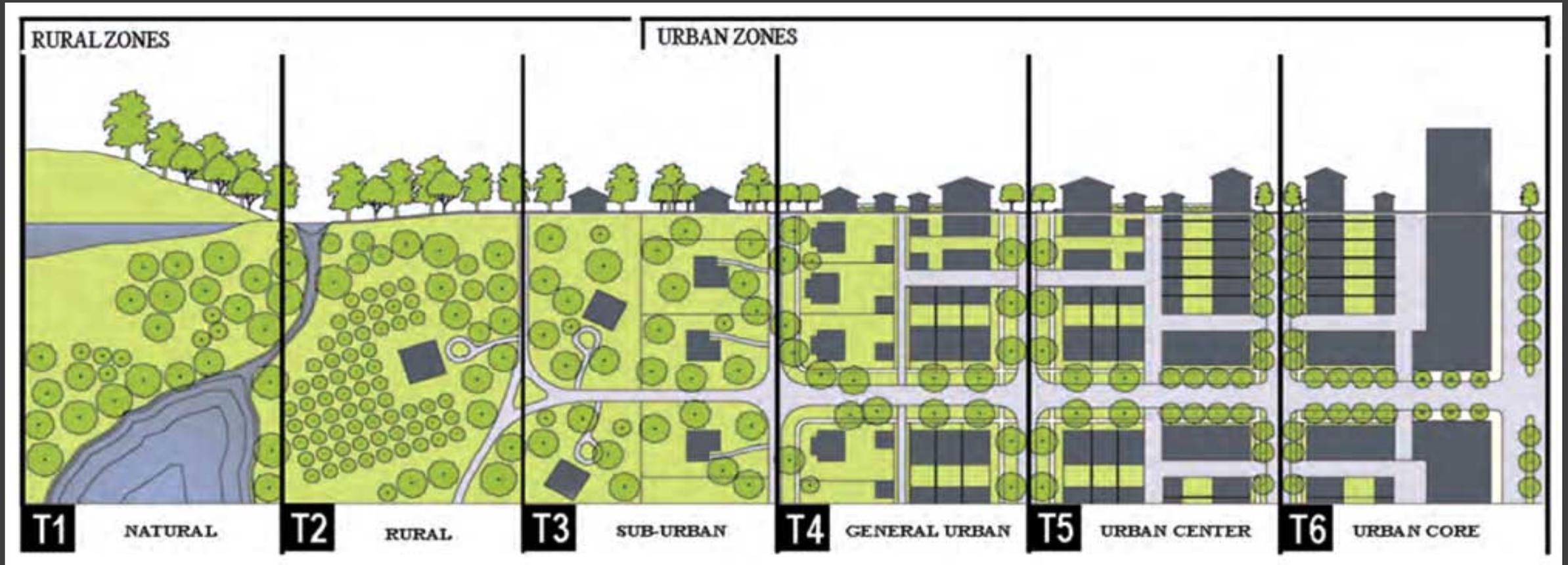
- *Good planning practice over the past few decades has advocated a return to traditional development patterns for walkable urban places with a mixture of uses.*

The “Smart Code” is a model code to implement traditional development patterns. It emphasizes form over use as the key to good development.

- *The “Smart Code” is the basis of the proposed parking amendments.*

SMART CODE TRANSECTS

R2 R4 / R8 / CD
R12 CT HC



What ?

Recalibrate parking standards:

- Base residential requirements increase Downtown
- *No change for in-door restaurant requirements*
- Change of use **will** be recalculated except Downtown and Maker Districts: Don't want to encourage more surface parking
- *Retail and Office requirements decrease, especially in Downtown, Maker, and Planned Development Districts*
- Automatically apply 'Shared Parking Factor' for mixed use
- *Expand Downtown Parking District (payment instead of parking):*
 - *Geographically, Fund Use, % of spaces eligible for payment*

SHARED PARKING FACTOR

REQUIRED NUMBER OF SPACES

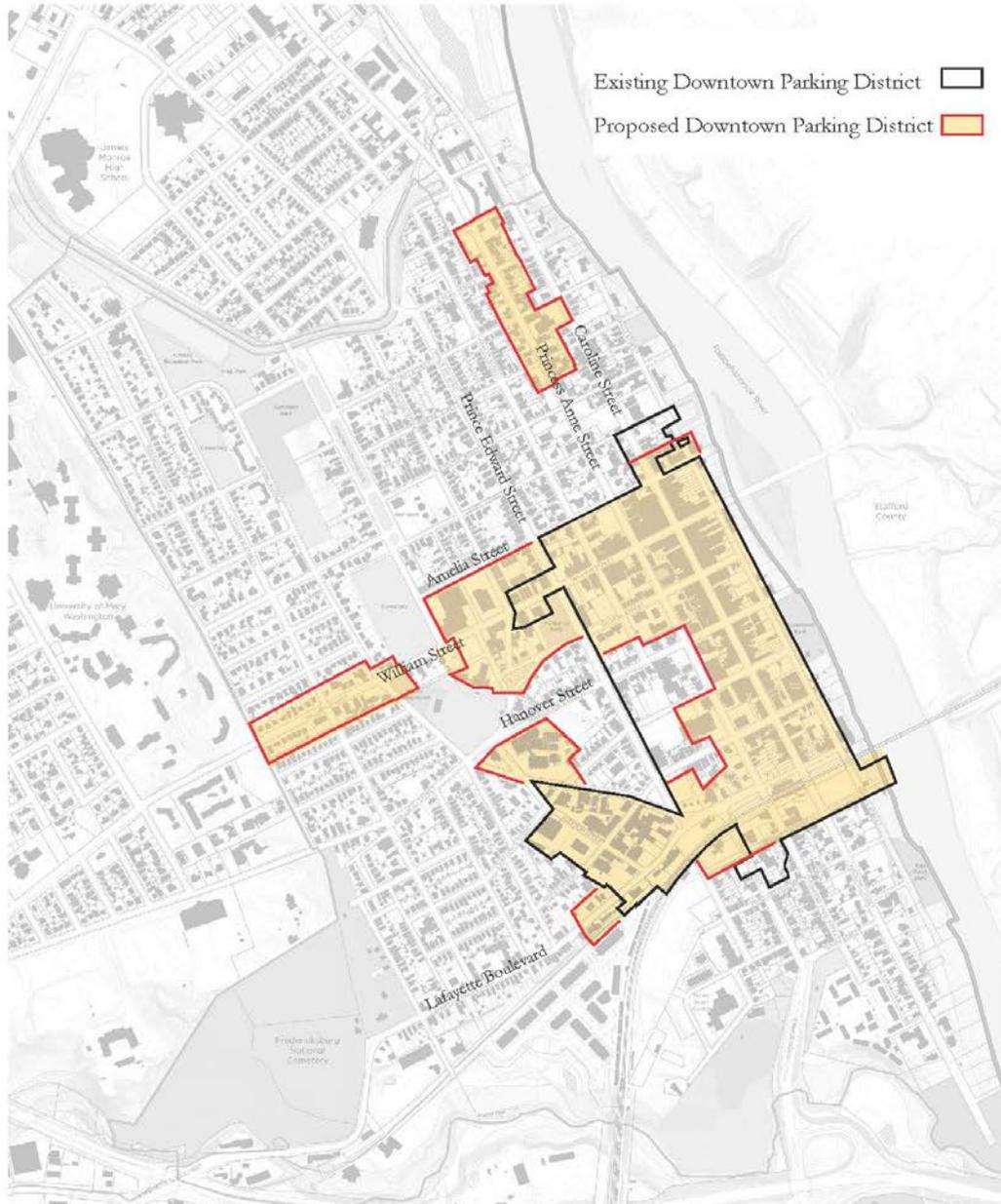
	SMARTCODE	UDO	<i>Proposed</i>
<u>Residential</u>			
- Single Family T-3	2 / dwelling	2 / dwelling	2 / dwelling
- Townhouses T-4	1.5 / dwelling	1.7 / dwelling	1.75 / dwelling
<i>in Downtown, Maker, PD district & Form Based Code projects</i>			1.5 / dwelling
- Multifamily T-5	1 / dwelling		1.75 / dwelling
w/ commercial on ground floor		0.5 / dwelling	
w/ no commercial		1.7 / dwelling	
<i>In Downtown, Maker, PD districts & Form Based Code projects</i>			1 / dwelling
			<i>apply Shared Parking Factor</i>

REQUIRED NUMBER OF SPACES

	SMARTCODE	UDO	<i>Proposed</i>
<u>Lodging</u>			
T-4, T-5	1 / bedroom 100% of req'd spaces for accessory uses apply Shared Parking Factor	1 / guest room 75% of req'd spaces for accessory uses	1 / guest room 100% of req'd spaces for accessory uses <i>apply Shared Parking Factor</i>
<u>Office</u>			
T-3 & T-4	3 / 1000 sq ft (1 / 335 sq ft)	1 / 300 sq ft	1 / 335 sq ft
T-5	2 / 1000 sq ft (1 / 500 sq ft)	1 / 300 sq ft	
	<i>in Downtown, Maker, PD districts</i>		1 / 500 sq ft

REQUIRED NUMBER OF SPACES

	SMARTCODE	UDO	<i>Proposed</i>
<u>Retail</u>			
T-3 & T-4	4 / 1000 sq ft (1 / 250 sq ft)	1 / 300 sq ft	<60K sf: 1 / 300 sf 60K sf to 100K sf: 1 / 400 sf >100,000 sf: 1 / 450 sf
T-5	3 / 1000 sq ft (1 / 335 sq ft)	1 / 300 sq ft	<60K sf: 1 / 335 sf 60K sf to 100K sf: 1 / 400 sf >100,000 sf: 1 / 450 sf
<i>in the C-D, C-M, or Planned Development Zoning Districts</i>			
	(retail <1500 sq ft exempt from requirement)		<i>(retail ≤ 1500 sq ft exempt from requirement)</i>



DOWNTOWN PARKING DISTRICT

*CHANGE
BOUNDARIES*

*ADD
TRANSIT AND BICYCLE
FACILITIES*

*ALLOW
PURCHASE OF 100% OF
SPACES AT HIGHER RATE*

CHANGE BICYCLE PARKING STANDARDS

Change required number

- From: 1 per 30 dwellings or 1 per 5,000 sq ft non-residential
- To: 10% of vehicle requirement for each type of use
 - *New standards tailored to specific non-residential use*
 - *Threshold for residential requirement dropped from 30 units to 20 units*

Establish specific performance standard for installation