

CITY OF CHARLOTTESVILLE
"A World Class City"

Department of Neighborhood Development Services

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September 10, 2014

TO: Charlottesville Planning Commission, Neighborhood Associations &
News Media

Please Take Notice

A Joint Work Session of the Charlottesville City Council, Planning Commission, Board of Architecture Review and the PLACE Task Force will be held on **Tuesday September 23, 2014 at 5:00 p.m. at the Water Street Center (407 East Water Street)**

AGENDA

1. Code Audit Presentation and Discussion

cc: Boards and Commissions
Maurice Jones
Aubrey Watts
Jim Tolbert
Planners
Melissa Thackston, Kathy McHugh
Mary Joy Scala
Craig Brown, Lisa Robertson

DRAFT

**City of Charlottesville
Policy and Code Audit
September 4, 2014**



Staff Involved in Project:

	<u>Department</u>
Missy Creasy, AICP	Neighborhood Development Services
Jim Tolbert, AICP	Neighborhood Development Services
Tony Edwards	Neighborhood Development Services
Brian Haluska, AICP	Neighborhood Development Services
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Craig Fabio	Neighborhood Development Services
Hugh Blake, PE	Neighborhood Development Services
Tom Elliott	Neighborhood Development Services
Dan Sweet, PE	Public Utilities
Kristel Riddervold	Public Works-Environmental Sustainability
Carrie Rainey, RLA	Neighborhood Development Services
Donovan Branche	Neighborhood Development Services
Britt Grimm	Fire
Steve Upman	Police
Chris Gensic	Parks & Recreation
Tim Hughes	Parks & Recreation
Juwhan Lee	Charlottesville Area Transit
Trip Stakem, PE	Public Utilities
Gary Whiting	Fire
Dan Frisbee	Public Works-Environmental Sustainability
Susan Elliott	Public Works-Environmental Sustainability
John Jones	Charlottesville Area Transit

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Report

- a. Explanation of report format
- b. Descriptions and recommendations for each of the areas reviewed as part of the code audit

Appendix

The following are available upon request, although in draft format.

Full research documents from the review process
Detailed Comprehensive Plan Review of design and code related elements.

**“White Paper”
City of Charlottesville
Policy and Code Audit**

Executive Summary

Introduction

In 2013 the PLACE Design Task Force suggested that the City undertake an audit (review) of all codes and policies related to development and land use to determine if they were aligned with the goals and values as stated in the Comprehensive Plan. PLACE appointed a subcommittee that met with staff to discuss process and format and agreement was reached on how to proceed. Since that time review has been ongoing to identify applicable Comprehensive Plan provisions and review codes for alignment.

A staff team has prepared the information in this report. A list of all those involved can be found just behind the cover sheet. It includes staff from the following departments and divisions:

Neighborhood Development Services	Parks and Recreation
Public Works	Charlottesville Area Transit
Public Utilities	Police
Environmental Sustainability	Fire

About the Project

A Policy and Code Audit is a comprehensive review of a community’s regulatory practices to determine if they are consistent with the community vision and goals. The review is performed to identify codes and policies that should be changed in order to be certain that development that follows those codes and policies results in the type of built environment that the plan envisions. For the purposes of this project, the vision and goals are those contained in the following documents:

- Comprehensive Plan 2013

- Designing Walkable Urban Thoroughfare: A Context Sensitive Approach Resolution 2013
- City of Charlottesville Complete Streets Policy 2014
- Livability Plan 2013

Codes and ordinances reviewed for consistency with the vision and goals outlined in the above documents were:

- Charlottesville Zoning Ordinance
- Charlottesville Subdivision Ordinance
- Standards and Design Manual
- Water Protection Ordinance
- Architectural Design Control District Guidelines and Conservation District Guidelines
- Entrance Corridor Guidelines
- Fire Prevention Code
- Americans with Disabilities Act (ADA) Standards

The Policy Audit is intended to help identify potential disconnects between the City's stated policies, and their implementation through zoning and other codes with particular attention to the following development and design principles:

I. Site and Building Design. Sites and buildings should be designed to provide convenient pedestrian access between public sidewalks and buildings, a human-oriented sense of scale and spatial enclosure, and visual interest for the pedestrian.

II. Mixed-use Development. Mixed use can be vertical (multiple floors) or horizontal (adjacent buildings). Mixed uses allow developments to internally capture trips by providing multiple opportunities for trip making within a reasonable walking area for a pedestrian, typically $\frac{1}{4}$ of a mile between origins and destinations, such as walking to work.

III. Street Design. Narrow streets and intersections with small turning radii help to calm traffic in locations with heavy pedestrian activity. Street connectivity helps to shorten vehicle trips, reduce vehicle concentration on individual streets, and provide opportunities for pedestrian and cycling connections. Access management strategies improve roadway capacity and safety for all users by minimizing direct driveway access to collector and arterial roads.

IV. Parking. Parking policy and design can be a major factor in the walkability of a place. Providing an over-abundance of free parking encourages driving, while on-site parking can serve as a barrier to pedestrian access of destinations.

V. Sidewalk, Bicycle & Multiuse Facilities. Sidewalks are essential to linking buildings and activities, connecting to transit stop locations, and facilitating safe movement from parking areas. Special attention should be paid to the width and design of sidewalks within commercial districts where high volumes of pedestrian activity should be promoted. Cycling facilities are most vital for roads at a collector classification or higher. Many local roads will be bikeable without specially designated cycling facilities. Development standards should also ensure that once a cyclist arrives at a destination, there is a secure location for bike storage.

VI. Transit facilities. Comfortable transit facilities and connections to the sidewalk network are necessary to promote transit use.

VII. Green Infrastructure/Climate Factors

Key Recommendations

Although many areas of our codes have been identified that need study and revision, the most critical are those that will enable us to achieve a more walkable, urban community in the appropriate locations. As outlined by Jeff Speck in his book “Walkable City”, the key principles include:

- Put Cars in their place
- Mix the Uses
- Get the Parking Right
- Let Transit Work
- Protect the Pedestrian
- Welcome Bikes
- Shape the Spaces
- Plant Trees
- Make Friendly and Unique Faces

To achieve a more walkable, urban community, the staff team identified the following recommendations:

- Explore Form Based Code in mixed use and commercial corridors as appropriate.

- Amend Standards and Design Manual to address items such as: sidewalk width, utility location and separations, street widths and turning radii, and street planting standards.
- Review parking requirements for required numbers, location of parking, parking garage, and lot access.
- Determine the continued viability of tools such as the Planned Unit Development (PUD), Special Use Permit (SUP), and Infill SUP.
- Investigate new planning/zoning tools such as alley lots, micro-units.
- Explore opportunities to provide affordable housing units through accessory units, carriage houses, and other innovative housing types.
- Review requirements for green infrastructure, resource stewardship (energy, water, materials), and energy impacts (including connection to affordable housing and economic development).
- Review requirements for bicycle infrastructure, pedestrian and vehicular connectivity, and transit related standards.

These and other specific recommendations are identified in the attached chart. The chart is arranged with action items by categories as the initial review was done by staff. The categories are for detailed analysis of the bigger picture areas. Many are interrelated and all are important factors that contribute to the walkable, urban placemaking that is desired.

Audit Process and Timeline

It is hoped that review of recommended code changes by the appropriate Board or Commission can begin by April, 2015. The schedule below is a tentative outline of the timeline that staff is working with to complete this project.

	Completion Date
Review of Various Codes/Policies	July 30, 2014
Present draft Review as Staff (Work Day)	August 1, 2014
Community Engagement	
Kick-Off Meeting	May 30, 2014
Stakeholder Meetings	August 15, 2014
Present White Paper Analysis to PLACE	September 11, 2014
Present White Paper Analysis to Joint PLACE/PC/City Council Meeting	September 23, 2014
Prioritize Code Update Areas	September 23, 2014
Begin Code Update Areas	October 2, 2014

Review Draft Code Changes with Joint PLACE/PC Work Session	February 24, 2015
Assign Code Changes to Appropriate Board to Review	April 14, 2015
Planning Commission	
Board of Architectural Review	
City Council	
Tree Commission	

Public engagement in the process will be targeted to stakeholders primarily until drafts become available. In May 2014, the City held a week-long community charrette to gather feedback on the future of our streets and public spaces. Three public meetings were held over the course of 4 days. In addition, thirteen meetings were held with various stakeholders with an interest in the design of our streets. The results of this charrette helped to highlight a number of issues that were reviewed as part of this code and policy audit. Additionally, four stakeholder meetings were held in August 2014. Invited groups were:

Developers	Designers
Businesses	Neighborhood Leaders

Although lightly attended, most present felt that the real interest would begin when specific recommendations come forward. During the period of review there will be regular conversations with City Council, the Planning Commission, PLACE Design Task Force, the Board of Architectural Review, the Tree Commission and others.

Comprehensive Plan Review

Background

This document outlines the goals and values stated in the 2013 Comprehensive Plan as they relate to the design of great places. The Comprehensive Plan covers many other aspects of the community but this project will focus more specifically on the design aspects. Each section corresponds to a chapter in the Plan. Other areas that are in the Comprehensive Plan are included for review in order to be sure that the proposed changes are coordinated. Some of the areas to be studied came to staff's attention during review of the code and some are a result of experience over the last few years.

Code review and potential revisions are inherent in:

- Introduction*
- Community Values and Characteristics: Values 3, 5, & 7*

- Land Use*: Goals 1 & 5
- Community Facilities*: Goal 17
- Environment*: Goals 1, 3, & 4
- Transportation*: Goals 1 & 2
- Historic Preservation and Urban Design*: Goal 1, 5, 7, & 8

The key points of the documents are outlined below. The full review can be found in Appendix 2.

An asterisk (*) at the end of the goals and objectives indicated that are in line with the City of Charlottesville and Albemarle County Joint Vision and Goals.

Comprehensive Plan Goals and Values

Introduction

- City will be a well-designed community with neighborhoods, buildings, and public spaces, including the Downtown Mall, that are human scaled, sustainable, healthy, equitable and beautiful.
- Land use focus groups desire: pedestrian and bicycle infrastructure improvements, strong support for open space and parks, and a need for balanced economic development.
- Livable Communities Planning Project provided recommendations for code and ordinance changes to help implement recommended policies.

Community Values and Characteristics

Value 5: A Green City... Citizens live in a community with a vibrant urban forest, tree-lined streets, and lush green neighborhoods. We have an extensive natural trail system...Our homes and buildings are sustainably designed and energy efficient.

Value 7: A Connected Community... An efficient and convenient transit system supports mixed-use development along our commercial corridors, while bike and pedestrian trail systems, sidewalks, and crosswalks enhance our residential neighborhoods.

Land Use

Goal 1: Enhance the Sense of Place throughout Charlottesville.

Goal 2: Establish a mix of uses within walking distance of residential neighborhoods...

- 2.3: Enhance pedestrian connections between residences, commercial centers, public facilities and amenities and green spaces.*
- 2.5: Expand the network of small, vibrant public spaces, particularly in areas that are identified for higher intensity uses and/or potential higher density.

Goal 4: Facilitate the creation of new opportunities for regional cooperation on land use issues...

- 4.1: Coordinate with Albemarle County and other regional stakeholders to create a link between the City's pedestrian infrastructure and Monticello.*

Goal 5: Explore progressive and innovative land use, design standards, and zoning regulations to accomplish the City's vision...

Environment

Goal 3: Protect, increase, and provide an interconnected system of green space and buffers...

- 3.6: Reduce loss of open waterways and habitats by daylighting piped streams when possible and discouraging additional underground piping of city streams.

Goal 4: Improve public and private stormwater infrastructure...

- 4.7: Update the subdivision ordinance and standards and design manual to allow for greater design flexibility that encourages tree protection and pervious surfaces.*

Transportation

Goal 1: Increase safe, convenient, and pleasant accommodations for pedestrians, bicyclists, and people with disabilities that improve the quality of life within the community and within individual neighborhoods.

- 1.2: Provide convenient and safe pedestrian connections within 1/4 miles of all commercial and employment centers, transit routes, schools and parks.

- 1.3: Provide design features on roadways, such as street trees within buffers, street furniture and sidewalk widths that improve the safety and comfort level of all users and contribute to the City's environmental goals.
- 1.4: Explore and implement safe, convenient and visually attractive crossing alternatives to enable pedestrians and bicyclists to cross major thoroughfares.
- 1.5: Continue to include bicycle and pedestrian accommodations in conjunction with the planning and design of all major road projects, all new development and road paving projects.
- 1.7: Examine and update the Standards and Design Manual to better incorporate Complete Street and Living Street design features in the public right of way.

Goal 2: Improve transportation options and quality of life through land use and community design techniques.

- 2.2: Encourage new street connections and alternate traffic patterns where appropriate to distribute traffic volumes across a network and reduce trip lengths for pedestrians, cyclists, and vehicles.
- 2.3: Improve walking and biking conditions by discouraging and/or minimizing curb cuts for driveways, garages, etc. in new development and redevelopment.
- 2.5: Develop a comprehensive set of street design guidelines based on the Complete Streets Resolution and ITE/CNU's Walkable Urban Thoroughfares Context Sensitive Solutions (CSS) Approach that balances multimodal transportation options while considering design techniques that allow for urban scale, walkable communities where appropriate.
- 2.6: Promote urban design techniques, such as placing parking behind buildings, reducing setbacks and increasing network connectivity, to create a more pedestrian friendly streetscape and to reduce speeds on high volume roadways.

Historic Preservation and Urban Design

Goal 1: Continue Charlottesville's history of architectural and design excellence by maintaining existing traditional design features while encouraging creative, context-sensitive, contemporary planning and design.

- 1.1: Emphasize the importance of public buildings, public spaces, and other public improvements as opportunities to promote a sense of place and a welcoming environment for residents and visitors.
- 1.2: Promote Charlottesville's diverse architectural and cultural heritage by recognizing, respecting, and enhancing the distinct characteristics of each neighborhood.
- 1.3: Facilitate development of nodes of density and vitality in the City's Mixed Use Corridors, and encourages vitality, pedestrian movement, and visual interest throughout the City.
- 1.4: Develop pedestrian-friendly environments in Charlottesville that connect neighborhoods to community facilities, to commercial areas and employment centers, and that connect neighborhoods to each other, to promote a healthier community.
- 1.5: Encourage community vitality and interaction through the incorporation of art in public spaces, neighborhoods, signage, and gateways.
- 1.6: Encourage the incorporation of meaningful public spaces, defined as being available to the general public, into urban design efforts.
- 1.7: Promote design excellence for public projects and installations at all scales.

Goal 5: Protect and enhance the existing character, stability, and scale of the City's older neighborhoods.

- 5.4: Study the urban forms in historic neighborhoods and consider allowing similar design standards in new neighborhoods.

Goal 8: Ensure quality of development in the City's designated entrance corridor overlay districts compatible with the City's historic, architectural, and cultural resources.

- 8.1: Emphasize placemaking elements and examine opportunities to create destinations.
- 8.2: Encourage site designs that consider building arrangements, uses, natural features, and landscaping that contribute to a sense of place and character that is unique to Charlottesville.
- 8.4: Use street trees, landscaping, and pedestrian routes to provide shade, enclosure and accessibility in streetscapes.

Conclusion

Successful implementation will be achieved through a team approach to problem solving that will involve the individuals and departments identified earlier working with the community and several boards and commission including City Council, Planning Commission, BAR, PLACE Design Task Force, Tree Commission, ADA Advisory Board, and others.

Implementation Strategy						
Suggested Action Items	Team Leader/Responsible Party	Priority	Estimated Workload	Other Depts Involved	Status	Reviewing Body(ies)
Access Management						
Limiting driveways on arterial roads	Carrie Rainey	Medium	med			PC
Proximity of driveways to intersections	Carrie Rainey	Medium	light			PC
Encouraging shared access	Carrie Rainey	Medium	med			PC
Width of driveways	Carrie Rainey	Medium	light			PC
Parking garage access	Carrie Rainey	Medium	light			PC
Drive through window locations	Carrie Rainey	Medium	light			PC
Distance of driveways from property lines	Carrie Rainey	Medium	light			PC
Alleys						
Explore the use of alleys (green alleys, access, bike/ped, utilities)	Matt Alfele	Low		Env., Fire		PC
Standard alley dimensions by context	Matt Alfele	Low		Env., Fire		PC
Standard definition for alleys	Matt Alfele	Low		Env., Fire		PC
Bicycle Facilities						
Define bike parking versus storage	Amanda Poncy	Medium	light			B/P; PC
Add bike facilities standards to SADM	Amanda Poncy	Medium	med			B/P; PC
Provide for bike traffic along major corridors	Amanda Poncy	Medium	med/heavy			B/P; PC
Street Connectivity						
Review block length standards	Carrie Rainey	High				PC
Mid-block pedestrian crossings on long blocks	Donovan Branche	High		Police		B/P; PC
Crosswalks and Curb Ramps						
Review use of materials in crosswalks	Jim Herndon	Medium		PW		ADA/PC
Provide better details for crosswalks and curb ramps	Jim Herndon	Medium		PW		ADA/PC
Amend SADM to provide perpendicular curb ramps	Jim Herndon	Medium		PW		ADA/PC
Curb Radius						
Provide appropriate curb radii per context	Carrie Rainey	High		Fire		PL/PC
Sidewalk Connections to Transit						
Appropriate location of street furniture	Carrie Rainey	Medium	med			ADA/PC
Maintain transit access in future street priorities	John Jones	High				CT
Sidewalk Widths						
Sidewalk width requirements based on context	Carrie Rainey	High	med			PL/PC
Street Widths						
Street widths based on context	Carrie Rainey	High		Fire		PL/PC
Explore shared streets	Donovan Branche	High		Env.		PL/PC
Street Furniture						
ADA Compliant street furniture	Jim Herndon	Medium				ADA/PC
Street Lighting						
Review standards for vehicle and pedestrian lighting	Matt Alfele	Medium		Police		PL/PC
Review standards based on use and adjacencies	Matt Alfele	Medium	med	Police		PL/PC
Review dark sky standards currently in code	Matt Alfele	Medium	light	Police		PL/PC
Street Trees						
Use innovative construction techniques near utilities	Tim Hughes	High		Utilities		TC/PC
Resolve conflict between trees and utilities	Tim Hughes	High				TC/PC
Review all landscaping and buffering requirements	Matt Alfele	High	high	Parks		TC/PC
Soil volume calculations	Tim Hughes	High				TC/PC
Codify street tree conflict resolution	Trip Stakem	High	high	Parks	ongoing	TC/PC
Improve tree protection standards	Tim Hughes	High				
Transit Stops and Amenities						
Guidelines for bus stop locations and design	John Jones	Medium				CT/PL/PC

Climate Factors						
Resolve solar panels and appurtenance section conflict	Susan Elliott	Low	med/light	NDS		PC
Investigate tree placement guidelines	Susan Elliott	Medium	med/light	Parks/NDS		TC/PC
Create form book	Susan Elliott	Low	heavy	NDS		BAR/PC
Green Infrastructure						
Root volume calculations tied to tree canopy calcs	Tim Hughes	Medium				TC/PC
Life-cycle costs of BMPs	Marty Silman	Low	med/hvy	Parks/Env.		PC
Stormwater Management						
Update of SADM (new regs, constructability, maintenance, access, etc.)	Marty Silman	High	Heavy	PU/Env.		PC/Council
Natural vegetation ordinance	Kristel Riddervold	Medium	light	NDS		PC/Council
First Floor Height						
Provide first floor height requirements for MU Corridors	Missy Creasy	High	light			PL/PC
Corner lot guidance for first floor heights	Missy Creasy	Low	medium			PL/PC
Building Orientation and Entrances						
Fenestration and opening regulations	Mary Joy Scala	High				PL/BAR/PC
Façade differentiation regulations	Mary Joy Scala	High				PL/BAR/PC
Building Type						
Explore use of form book for building types	Mary Joy Scala	Low				PL/BAR/PC
Density and Intensity						
Explore elimination of density regulations	Brian Haluska	High	medium			PC
Façade and Transparency						
Antenna screening regulations	Mary Joy Scala	Medium				PC
Window signage regulations	Mary Joy Scala	Medium				PC
Revise regulations for pedestrian orientation where necessary	Mary Joy Scala	High				PL/PC
Housing Types and Affordability						
Explore mico-units	Jim Tolbert	Medium				PC
Explore alley lots	Jim Tolbert	Low				PC
Lot Size						
Make the City's vision a by-right use	Missy Creasy	High	heavy			PL/BAR/PC
Relate building size to lot size	Missy Creasy	Medium	medium			PL/BAR/PC
Public street frontage for lots	Jim Tolbert	Medium				PL/BAR/PC
Massing and Scale						
Coordinate height maximums with historic character	Mary Joy Scala	High				BAR/PC
Evaluate scale on ALL sides of the building	Jim Tolbert	High				BAR/PC
Appurtenances	Brian Haluska	Low	medium			BAR/PC
Mixed-Use						
Refine mixed-use wrt horizontal vs. vertical MU	Jim Tolbert	High				PC
Open Space						
Private vs. Public (Who Owns and Maintains)	Missy Creasy	High	medium	Legal		PC
Better definition of open space	Missy Creasy	High	medium	Legal		PC
Pedestrian Walkways						
Define all pedestrian pathways (public vs. private)	Amanda Poncy	Medium	light			PL/PC
Include connections to transit	Amanda Poncy	Medium	light	Transit		PL/PC
Require better internal circulation in parking areas	Amanda Poncy	Medium	med/light			PL/PC
Material standards for pedestrian pathways	Amanda Poncy	Medium	med/light	Env./PW		PL/PC
Private Frontages						
Setback regulations as they apply to porches	Missy Creasy	Medium	light			PC
Semi-Private Space						
Define semi-private spaces, and public benefit	Missy Creasy	Medium	medium			PC
Investigate allowances for privately owned public realm in MU	Missy Creasy	Medium	medium	Legal		PL/PC
Setbacks - Front, Side, Corner						
Review corner setbacks in commercial areas	Matt Alfele	High	medium			PC

PC = PLACE						
TC = Tree Commission						
BAR = Board of Architectural Review						
ADA = ADA Committee						
CT = CATS Advisory Committee						

Order of Topics for White Paper

Street Design

- Access management
- Alleys
- Bicycle facilities
- Connectivity
- Crosswalks and curb ramps (ADA Standards)
- Curb radius
- Sidewalk connections to transit
- Sidewalk widths (ADA Standards)
- Street widths

Streetside Elements

- Street furniture
- Street lights
- Street trees and landscaping
- Transit stops/amenities
- Utility location

Environment

- Climate factors – heat island/shade/shadow/wind
- Climate Factors – Energy and Associated Greenhouse Gas Emissions
- Green infrastructure
- Stormwater Management

Site and Building Design

- 1st Floor Height
- Block size
- Building orientation/Location of entrances
- Building Type
- Density/Intensity
- Façade transparency/design
- Housing types and affordability
- Lot size
- Massing and Scale
- Mixed use- diversity of use and arrangement of use (vertical/horizontal)
- Open Space

- Pedestrian walkways
- Private Frontage (balconies/porches/galleries)
- Semi private space – courtyards & patios
- Setbacks – Front, Side and Corner
- Spatial enclosure

Parking

- Bicycle Parking
- Off-street parking requirements
- On street parking
- Parking Policy/Management
- Structured parking

Code Audit Descriptions and Recommendations

The following work is the result of review of relevant codes and ordinances by subject area that was performed by teams from each department identified in the white paper executive summary. Each team was assigned a number of topic areas and asked to review all codes that might influence the topic area and determine if there were inconsistencies. From there, the work of each of those teams was further reviewed by several other staff members and updates made.

What follows are the summary versions of the reviews. The full rough draft working notes (which include relevant code sections) are available upon request. Each item is organized with a description of the item, a summary of the review and recommendations of areas for further study.

Code Audit Descriptions and Recommendations

The following provides a detailed description and recommendations provided for each of the topic areas reviewed during the code audit.

Access Management

Discussion:

Access management is the programmatic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway (TRB Manual). The purpose of access management is to balance mobility with access. The goal is to achieve the following benefits:

- Preserve integrity of the roadway system
- Improve safety and capacity
- Extend functional life of the roadways
- Preserve public investment in infrastructure
- Preserve private investment in properties
- Provide a more efficient (and predictable) motorist experience
- Improve “thru” times through a corridor
- Improve aesthetics (less pavement, more green)
- Reduce vehicle air pollution emissions by minimizing decelerating and accelerating

These benefits can be achieved by limiting the number and impact of driver decision and conflict points from impacting on through-traffic. As a result, service can be maintained or improved and crashes can be reduced in frequency and severity.

Staff Review:

Recommended revisions:

- No policy direction, no regulation

Access management should provide information on entrances, minimum distance between access points, etc. It is hard to provide access management in an urban setting; however, limiting the number of driveways on arterial roads, applying stringent rules on the proximity of driveways to an intersection and encouraging shared access (commercial and residential uses), whenever possible, helps to improve access.

Access Management:

All access management principles are automobile oriented.

If alleys or other rear access points are provided, this can help too.
Discussion section could be revised to make language more consistent with other sections. (why is access management important in the context of walkability/bike ability in addition to vehicular mobility and capacity)

Needs more research: ADC guidelines discuss parking garage access width and I think also width and I think also driveway width. Zoning ordinance has parking garage access location regs, maximum width of residential driveways in relation to intersections; property lines, etc.

Do not remove on street parking in residential areas. Reduce required driveway widths to residences and historic districts. Do not permit backing out in street unless no other option is available. Make sure parked cars do not overhang sidewalks.

Need to add pedestrian and bicycle perspectives.

No real regulations but guidance is there to develop regs.

Look at different contexts.

Needs further discussion.

- Don't actually have one (regulation), it is hinted to in the policy, but it doesn't actually exist

Alleys

Discussion:

The City of Charlottesville Zoning Ordinance defines Alley as “a thoroughfare, whether dedicated to public use or privately owned, that provides access for person and vehicles to the rear and/or side lot lines of properties abutting public streets or private roads.” Currently there are six (6) alleys maintained by the City and several private alleys maintained by the property owner(s). Additionally, there are a multitude of platted, unaccepted right-of-ways (ROW) in various states of improvement. Maintenance and upkeep of these ROW, predominately in Belmont, is the responsibility of adjacent property owners. These ROW may be closed and deeded to the adjacent owners through the City Attorney’s office.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Comments from August 1, 2014 Staff Workday

- This discussion needs to relate to walkability and bikeability. Alleys can be a good tool to provide real access in commercial and residential areas- freeing up the streetside for trees, peds, bike. Alleys can also serve as location for utilities.
- Team reviewing disagrees with recommendation of previous group. Probably addresses new alleys but not existing.
- Challenges to implementation include taking over public alleys, alley size (one way to facilitate smaller alleys, there are some situations where smaller alleys could work).
- Additional tools needed to implement include a standard attached to the land use- maybe need multiple standards (criteria for length, access points, maintenance).
- Pitfall example: Burnet Phase 3 and Cemetery Alley- how to deal with new development on existing alley.
- What about standards for alleys with pervious pavements.
- Process with city attorney office.
- Review “green alley” standards/opportunities to have these areas perform additional function. Intent is to reduce the quantity and improve the quality of stormwater within ROW. Link to green infrastructure. See Washington, DC and Chicago for examples.
- Standards and Design Manual states that alleys are privately owned but the discussion section mentions 6 alleys that are maintained by the City? Suggest improvements to the regulations.

- Make sure the definition of alley in the SO, ZO, and SADM are the same and say they are private.
- 34-986 refers to public alley- this is confusing since alleys are private or is it just accounting for the 6 public alleys- this should be clear.
- I think we should find a way to encourage alleys in townhouse developments so they do not become unattractively designed as parking in front and is more like an inward facing apartment development.
- Currently works on a case-by-case basis
- Establish a variety of sub categories (for new alleys)
- Existing alleys (How to deal with enforcement? City vs. Residence Responsibilities)

Bicycle Facilities

Discussion:

Streets must provide an efficient and interconnected network for bicyclists. Bicycle connections should include safe, direct routes between popular destinations including schools, parks, and business districts. Accessible bicycle lanes and bicycle parking areas are needed to make bicycling an appealing transportation alternative. Bicycle lanes and crossings should be clearly marked to ensure the safety of bicyclists and secure bicycle parking areas should be located adjacent to building entrances to provide an incentive for bicyclists.

On-street bike lanes should be a minimum of 5' in width when on-street parking is present. If there is no opportunity to include dedicated bike lanes, a wide outside lane of a minimum 14' in width when on-street parking is present, can be used. Multi-use trails that allow for bicycle access should be a minimum of 12' in width.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

The policy direction is well defined, but regulations are sparse and outdated.

Recommended revisions:

City Code

Sec. 15-243. Riding on roadways generally.

- The rule that bicyclists ***shall ride as close as practicable to the right curb or edge of the roadway***, is often misinterpreted that bicyclists must hug the curb where they may not be as visible and are more likely to encounter debris etc.
- The rule is often not read all the way through and there are almost more exceptions than when the rule would actually apply.

Sec. 34-881. Bicycle storage facilities.

- Define bicycle parking vs. storage. Change some of the wording; in general, bicycle storage would appear to be in the public interest and not require approval of the director/planning commission. Revisit bicycle storage requirements and compare with vehicle parking standards, with special attention to existing parking zones. Also there should be some direction as to whether bicycle racks, count as bicycle storage facilities. See chart below.

Use Type	Required Car Parking (approx. 8'X16'=144 SF)	Required Bike Storage (approx. 2'X6'=12 SF)	Notes
Fraternities, Sororities, Dormitories	2.5 spaces/3 bedrooms	1 space/500 SF bedroom area	Bedroom vs. SF--How big is a bedroom? Are they shared? If bedrooms are single occupancy, requirements clearly incentivize driving
Multifamily Dwellings	1-2 spaces/bedroom	1 space/2 dwelling units	Bedroom vs. unit? Multifamily dwellings are less likely to have indoor storage space for bikes
Non-residential uses	Varies, but 1 space/400 SF appears mult. times	1 space/1000 SF public space	

Sec. 34-911. Alternate transportation facilities.

- Refers to City’s subdivision ordinance for requirements but the requirements are sparse

Mixed Use Corridor Districts-Sec. 34-540.

- Revise section (vi) to read “pedestrian and bicycle travel”

Sec. 28-22. Bicycle racks on sidewalks.

- 28-21 was repealed, making this section unnecessary?

Standards & Design Manual

- Add bike lane dimensions, shared lane guidance and marking material standards to Appendices
- Add bicycle parking standards to Appendices

D. Bike/Multi-Use Trails (page 36)

- “For curb and gutter streets, the bike/multi-use trail shall be a minimum of 6 feet from the back of the curb.” This probably prohibits multi-use trails in most places in Charlottesville. The City doesn’t usually have that kind of ROW, and developers probably aren’t interested in donating that much land for public use.

F. Bicycle Lanes (page 39)

- Bicycles should be considered a normal part of the traffic mix on **all** streets. “Local” is not in accordance with providing for “bicycle traffic along major corridors and between major destinations, with particular emphasis on connecting residential areas to schools, recreation areas, and commercial centers” as recommended in the Entrance Corridor Guidelines.

- Remove “Bike lanes should never be placed between the parking lane and the curb line or sidewalk.” This requirement prohibits protected bike lanes between parking and the curb, or a contraflow lane like on 6th St SE. These types of facilities are necessary to attract the “interested but concerned” riders.

Right of Way/Streetscape (page 43)

- “Development *trends* promote the use of trees, sidewalks, bicycle facilities, and shared paths adjacent to but typically *set back from* vehicle corridors.” Does not reflect the typical constraints in Charlottesville

Entrance Corridor Design Guidelines

III. Streetscapes/D. Bicycle Routes

1. Provide for bicycle traffic *along major corridors* and between major destinations, with particular emphasis on connecting residential areas to schools, recreation areas, and commercial centers. “Major corridors” is more inclusive than the “local” streets language of the SADM.

Comments from August 1, 2014 Staff Workday

Conflicts: Bike lanes: 6’ minimum, but detail with 10’ setback; Parking protected is not allowed

Challenges: Limited ROW, SADM does not allow separated on-road facilities; often there are tradeoffs to providing bike facilities – on-street parking, sidewalk widths, trees.

Surprises: We have implemented at least 2 examples of things that are technically not allowed in the Standards and Design Manual.

Add: More discussion about how public \$ and initiative plays into the process.

Will bike lockers and storage be susceptible to the same regulations as street furniture?
Will code have to be added regulating placement, color, etc (especially in ADC districts)

Need to add education of the public, especially bikers. (Wear a helmet, drive smart).

Not a lot of guidance (for size, color, etc.)

Street Connectivity

Discussion:

Well-connected areas promote pedestrian and bicycle activity by making connections between destinations accessible and convenient. An interconnected street network also provides the framework for mixed-use development with smaller block sizes and a greater diversity of building types within close proximity. Increased street connectivity also disperses traffic flows, subsequently helping to transform the street into a comfortable space for pedestrians. Interconnected transportation networks can provide advantages such as enhanced vehicular and pedestrian access, reduced traffic congestion, and enable emergency vehicles to respond in a more timely manner. Well-connected areas promote pedestrian activity and encourage walking in place of driving for local trips.

Many communities have adopted maximum block length standards or street connectivity standards to encourage a grid of vehicular connections and small blocks to be traversed by the pedestrian. The block length standards should encourage pedestrian-oriented block lengths, 200 to 600' in length. As pedestrians typically will walk only $\frac{1}{4}$ of a mile for most trips, block lengths no longer than $\frac{1}{8}$ of a mile should be encouraged.

Staff Review:

- Adequate policy direction, regulations need improvement

Recommended revisions:

There seems to be quite a bit of policy direction in regards to the concept of complete streets and connectivity issues for pedestrians and bicyclist but not very much in regards to code regulations. My recommendation would be that additional code components be added that address the issues of complete streets and connectivity and gives the user direction and parameters to follow when developing new streets, entrances, developments, neighborhoods, etc.

Consider revising block length standards to be consistent with pedestrian oriented standard (200-600' maximum), and consider expanding these standards to include provisions for midblock pedestrian crosswalks in blocks longer than 900'.

In addition, the City may consider adopting a quantitative measure of connectivity similar to VDOT's proposed method to assist in reviewing development proposals.

Comments from August 1, 2014 Staff Workday

- Research seems complete except there are no references to design guidelines
- Recommendations lack specificity
- In areas not subject to design review the regulations could include more about making pedestrian connections (the guidelines are good and fairly complete).

- An interconnected street network also means vehicles – we should use BMPs, not the opinion of one citizen to make decisions on reducing the connectivity of the grid. Keep the grid open to disperse traffic. Also do not close alleys unless there is a really good reason. They are a valuable asset.
- Challenges to implementation - perception of cut through issues with increased connectivity
- Additional tools needed to implement – better codes and guidance and different connections and possibilities (ped/bike/car/etc)
- Surprises – city code and fire code don't really talk to each other. Fire code needs to be incorporated.
- A lot of aspects need to be considered holistically with this topic.

Crosswalks and curb ramps (ADA Standards) Discussion:

Crosswalks are needed to provide higher visibility to pedestrians at logical crossing points. Basic crosswalks consist of reflective white striping, although crosswalks with higher visibility, traffic calming measures (raised crosswalks), or those that are more aesthetically pleasing (colored, brick crossings downtown) are more appropriate in commercial areas or locations with a high volume of pedestrians. Care should be used so that the surface does not impede wheelchair access or provide a hazard for the visually impaired or elderly. Crosswalk lighting should be provided at least to the level of general street illumination, although higher luminance should be used at key pedestrian crossings. Countdown pedestrian signals also facilitate pedestrian movement at intersections or signalized mid-block crossings. Curb Ramps are an integral part of any pedestrian transportation system. They provide equitable access to citizens with different abilities. Every effort should be made to develop a consistent standard design that mirrors “best practices” from the FHWA.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Overall, the policy direction is pretty clear that pedestrian connections within a site are essential. However, there are some minor changes that could be made to help clarify some of the language.

Recommended revisions:

There is a difference between the public sidewalk, pedestrian walkways internal to the site, and pedestrian access areas. The definitions within the SADM and the zoning could be revised to clarify the difference between all of these since some pedestrian walkways/access areas may not be publicly owned.

Add references to “connections to transit” within zoning Sec. 34-897.

There has been some misunderstanding about the applicability of Sec. 34-897.e5 as it crosses a public roadway. Striping is allowed when a public sidewalk crosses a roadway and this should be clarified.

Provide more guidance for ADA access as part of the pedestrian pathway internal to a site – curb ramps, level driveway entrance.

Revise Sec. 34-661 to provide appropriate code reference. Currently, the code makes reference to Sec. 34-858, which does not exist. Revise or delete reference to Sec. 34-858.

Revise SADM 206B.1 to provide appropriate reference to subdivision standards. The reference to City Code, Chapter 29 Subdivisions, Section IX does not exist. Revise or delete that reference in the SADM.

Remove city standard details for CG-12 and reference VDOT or other appropriate organization.

Amend the Standards and Design Manual to require perpendicular curb ramps in new development and in existing development when amended, when there are no physical constraints.

The City should also adopt Part 1190 - Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way and make reference to it in its Standards and Design Manual.

Comments from August 1, 2014 Staff Workday

Inherent conflicts: No, but more guidance specifically related to ADA requirements and pedestrian crossings is needed.

Challenges: Requests to install crosswalks where not warranted; physical constraints to implementing ramps (utility, drainages, trees, slopes, buildings)

Additional Tools: Consider including all considerations for achieving ADA compliance with ramp construction, need more guidance about when to upgrade the ramps.

Pitfalls: Need clearer policy for when to install crosswalks and consider other treatments that facilitate pedestrian crossing (i.e. curb radius); need to balance aesthetics, maintenance and ADA concerns for pedestrian crossings.

Delineation between changes needed for physical improvements and changes that are just clarifying existing regulations.

Many need more policy based items – recommendations here are very technical. That could mean that regulations are clear so all is well with a few changes

Curb Radius

Discussion:

Large turning radii encourage high-speed turning movements and lengthen the street crossing distance for pedestrians. Nearby land uses and types of road users should be considered when designing an intersection so that curb radii are sized appropriately. If a curb radius is made too small, large trucks or buses may ride over the curb, placing pedestrians in danger. Where there is a parking and/or bicycle lane, curb radii can be even tighter, because the vehicles will have more room to negotiate the turn.

There are numerous conditions that have an impact on the appropriate choice of curb radii at each intersection (e.g. the mix of traffic, level of pedestrian activity, differences between actual curb radius and effective curb radius, speed and volume of through traffic). A curb radius of 5'-10' is safest for pedestrians, however, the complex conditions at each intersection make it nearly impossible to provide a conclusive standard for curb radii design without first performing an analysis of the specific conditions present on-site. Turning radii larger than 25' should only be used in special conditions where significant large vehicle (truck and bus) movements are expected. Otherwise, radii as small as 5' may be sufficient in low-speed urban areas.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

As a rule, specific radii are spelled out in the differing codes. The Standards and Design Manual should reflect those requirements.

Recommended revisions:

It seems that the major concern should be the safety and welfare of person using the streets and sidewalks. The requirements of the emergency vehicles that use the streets would then seem to take precedent. The radius required for this use should be balanced with the ADA and ADC requirements that state that the smaller radius should be used. Particularly, with the proposed right of way requirements that perpendicular curb ramps be used when possible, smaller radii are preferential.

Since 30 feet appears to be the minimum curb radius specified in the Standards and Design, this should be adopted as the minimum, except in the case of larger arterials and throughways.

Comments from August 1, 2014 Staff Workday:

There is a delicate balance between the perceived desire for a smaller curb radius and amenities that may be desired in or adjacent to that radius such as curb ramps, landscaping and other pedestrian enhancements.

The dimensions listed in the discussion section (30') drastically differ from the Standards and Design manual. When considering emergency vehicles, they receive additional road space to more easily make turns during emergencies. Road types vary, and curb radii should vary by road and area type. Tighter, more pedestrian places with slower road speeds should be taken into consideration w/road dimensions. Turning vehicles can be light forms of traffic calming in neighborhoods. Large radii curbs for right turns at stop sights are counterproductive: harder to see pedestrians, encourage drivers to not slow/stop fully, stop bar is too far back so drivers encroach on crosswalks and lose visibility by looking left and increases pedestrian crossing distances.

Regulations prevent achievement of goals.

Needs to be context specific and must coordinate with other elements (such as street widths)

Safety is greatly affected by curb radius. All aspects have to work together. Give staff discretion in review (but have guidelines for all to reference).

- Curb Radius

Need to be connected somehow between guidelines and rules

Connect in with the Fire code

Sidewalk Connections to Transit

Discussion:

All transit users are pedestrians for some portion of their trip on the origin and destination end. Providing direct sidewalk connections and pedestrian crossings from transit stops to origins and destinations is vital to ensure convenience for transit users.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation
-

Recommended revisions:

N/A

Comments from August 1, 2014 Staff Workday

- Lack of regulation prevents any existing inherent conflicts.
- The challenge to implementation is that transit stops and routes change/are added. Is there a system to accommodate potential growth on new streets?
- Remove fountains from Strategies (Livability Plan) Transportation A-2 to discourage energy usage.
- Is it practical to have a platform lift in Charlottesville? (regarding R204 Pedestrian Access Routes in ADA Guidelines).
- Does this pertain to CAT only or school buses too?
- Should anything pertaining to clear paths to transit during snow events be included?
- Relates to street furniture and space for waste and recycling bins.
- For subdivision plan review, can some process to assess opportunities to add bike/ped access and connectivity to transit routes and neighborhood amenities be established.
- This should be an item considered when looking at next sidewalk priority list.
- Needs more guidelines (school busses, public buses, etc.)

Sidewalk Widths (ADA Standards)

Discussion:

Sidewalks and walkways are an important element in pedestrian-oriented design. Sidewalks should be required on both sides of all streets, with a minimum width of 5 feet. Wider sidewalks of 10 foot width or greater should be required in commercial areas to encourage pedestrian activity, provide comfortable space for high pedestrian volumes, and provide space for outdoor dining or other pedestrian-supportive uses. Specific Standards giving minimum widths should be adopted for different uses and areas, keeping in mind ADA standards and recommendations.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Overall, the policy direction is pretty clear that pedestrian connections within a site are essential. However, there are some minor changes that could be made to help clarify some of the language.

Recommended revisions:

There is a difference between the public sidewalk, pedestrian walkways internal to the site, and pedestrian access areas. The definitions within the SADM and the zoning could be revised to clarify the difference between all of these since some pedestrian walkways/access areas may not be publicly owned.

Add references to “connections to transit” within zoning Sec. 34-897.

There has been some misunderstanding about the applicability of Sec. 34-897.e5 as it crosses a public roadway. Striping is allowed when a public sidewalk crosses a roadway and this should be clarified.

Provide more guidance for ADA access as part of the pedestrian pathway internal to a site – curb ramps, level driveway entrance.

Revise Sec. 34-661 to provide appropriate code reference. Currently, the code makes reference to Sec. 34-858, which does not exist. Revise or delete reference to Sec. 34-858.

Revise SADM 206B.1 to provide appropriate reference to subdivision standards. The reference to City Code, Chapter 29 Subdivisions, Section IX does not exist. Revise or delete that reference in the SADM.

The PROWAG regulations that should be approved later this year advise 48" passing width in some instances to allow passing. This should be kept mind when minimum widths are discussed.

Comments from August 1, 2014 Staff Workday

- Code of ordinances 29-182 (j)(3) – does contribution to sidewalk fund instead of requiring the subdivider/developer to install the sidewalk promote patchy sections of sidewalk? Sidewalk construction shifts to the city, which may not have staff available to construct in a timely fashion.
- Width of sidewalks seems to be all over the place -32", 36", 4', 5', 60", 10' and measured in various standards.
- Code of ordinances 29-182 (j)(3) – This does not happen. When/Where/Who collects money from those that receive a waiver. Also, is this in line with the most current determination for the City Attorney's Office? I don't believe the "either side has an existing sidewalk" applies any longer. There are plenty of times where a sidewalk should be waived simply because it would be stupid to create an island on a street what will NEVER have a complete pedestrian route (Cambridge Circle). However, we should make use of those funds to fill "patchy" sections.
- Limited RO W is a challenge to achieving wider sidewalks – need larger planning process to identify where larger sidewalks are desired.
- Need to identify real challenges to achieving desired result – how do we decide priority? Should include the desired result as a range (minimum to maximum).
- More of a range rather than a specific minimum
- Variety of material, how they are installed, and how this differs from concrete (this needs more discussion)

Street Design

Street Widths:

Most newer streets are designed with lanes that are 12' wide with a significant buffer area between the edge of pavement and adjacent buildings, encouraging high-speed traffic and discouraging cycling and pedestrian activity. On many local streets, 10-11' lanes are adequate, narrowing the street and providing additional right-of-way for on-street parking, cycling lanes, or wider sidewalks.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

The Code and SADM should spell out and emphasize our desire to have walkable and bikable streets, which narrow vehicular lanes help to create. They should follow Complete Street guidelines. Minimum lane widths should be distinguished by number of lanes in the road (i.e. a multi-lane road could have narrower lanes than a one-way, single lane road because more space is available). The requirement to have 20 feet clear (Fire) could be managed by not having double sided parking on one-way streets (see photos below for 6th Street SE).

Shared streets and woonerfs (i.e. curbless or rolled curb designs) should be encouraged both for pedestrian space quality and experience and the increased ease through which emergency personnel can navigate the space.

Streets with new center medians should provide adequate width for a pedestrian refuge in the median space for pedestrians crossing the street. However, medians that disappear/are greatly reduced at intersections to provide for turn lanes do allow for narrower roadways overall and should be recommended where appropriate. Criteria for design points may be helpful to develop.

Cul-de-sacs should be discouraged, as they limit accessibility and a strong street network, and require a great deal of pavement. When included, efforts should be made to include pedestrian and bicycle access to nearby streets, trails, and neighborhoods. (Maybe this doesn't belong in this section?)

Comments from August 1, 2014 Staff Workday

Challenges: How to speak to the fire code and VA Code.

Tools Needed: Standard measurements (clear widths, lanes, buffers, etc.) – consider all codes

No reference to Fire Code.

More cities and such are implementing this (Streets that work)

Consider adding language regarding how to manage transitions between differing street widths on a single stretch of road.

Cul-de-sacs with unpaved centers – encourage integration of green stormwater management in the island area and establish sloping of adjacent road.

Street Furniture

Discussion:

Street furniture should be used to make spaces more pedestrian friendly as well as being used to enhance the design of buildings and the overall site. Street furniture, specifically furniture located within Historic Districts, Conservation Districts, and Entrance Corridors should be regulated in order to present a cohesive design aesthetic in the city of Charlottesville.

Staff Review:

- Excellent policy direction with supporting regulations
- **Adequate policy direction, regulations need improvement**
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended Revisions:

In reference to Transportation: Goal 2.7 Encourage businesses to provide on-site amenities such as transit shelters and bicycle storage (racks/lockers) to promote alternative transit for their workers. Depending on where the rack/locker is located it will fall under the category of furniture, and therefore would be susceptible to certain design guidelines.

There is not a reference in the code prohibiting businesses from using umbrellas with text on private property. Staff suggests that the design guidelines should be expanded restrict the use of text on umbrellas within Historic District, Conservation Districts and within Entrance Corridors.

Consider a new rule prohibiting placement of street signs, benches, and other furniture within the sidewalk unless there is no room to place them behind the sidewalk.

Comments from August 1, 2014 Staff Workday

- ADA, Fire Code, and general access issues could be a challenge to implementation.
- Particularly in areas with narrow sidewalks, consider requiring space for curbside waste and recycling bins to be provided without impeding pedestrians.
- Also, would mailboxes be considered street furniture if in the sidewalk?
- Many regulations about signs. Very little that speaks in support of what is desired (public art, many benches under shade trees, etc.)
- Consider allowing individual neighborhoods or historic districts to develop complimentary but individual/distinct design style for street furniture.
- If a property wanted to integrate bench seating into a low divider wall next to the sidewalk, any easement/permission for public use needed?
- Sandwich boards should be eliminated. They present very difficult obstacles to sight-impaired people.

- All street furniture should be placed outside of the pedestrian walkway and be designed to be detected by a cane.
- The City should investigate creating an accessible travel lane, possible with truncated domes, on the Mall.
- Generally, regulations are consistent but somewhat limit individual freedom. May be a way to allow more design options while still be cohesive.
- Allowing businesses to have some freedom through expression (but regulated and cohesive) through signage may be beneficial for maintaining individuality in the community.
- Chapter 2 Guidelines for Streetscape: Ensure that the “common palette” for street furniture of ever evolving urban design materials and technologies... Room for future innovation.
- Consider use of parklets in difficult areas of empty or underutilized streetscape.
- Consider incorporating “retail revitalization” design techniques into existing strip malls to improve the shopper experience and health with added greenery.
- Create a review process so that street furniture awnings and umbrellas can be reviewed to allow for business to distinguish itself. Similar to above recommendations. Allow for change from time to time.
- Allow neighborhoods to adopt different signs to mesh with their history and set them apart.
- What is allowed and where it is not?
- ADA, general aesthetic look (should they be put on the developer to meet these regulations?)

Street Lights

Discussion:

Street lighting is essential for safety, comfort, and quality of experience. It is particularly important for the pedestrian realm, as pedestrians do not have headlights as vehicles and bicycles do. Pedestrian-scaled lighting helps to establish the street as a pedestrian realm, adequately lights the sidewalk zone where vehicular lights may not, provides continuous lighting, and can create a sense of place through unique detailing.

Pedestrian-scale lights may need to be accompanied by traditional vehicular lighting to adequately provide lighting for all roadway users. A careful balance should be struck between providing adequate lighting and not creating a harsh environment with lighting that is too bright or directed. Spot lighting that creates areas of darkness and brightness should be strictly avoided. Lighting from adjacent uses such as building entrances, parking lots and public spaces may all affect the lighting in a street corridor. Particular emphasis should be given to ensure adequate lighting at pedestrian crossings and transit alighting areas.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation
-

Recommended revisions:

The Code and SADM focus on the luminous quality of lighting fixtures, but do not speak to placement, spacing, context-sensitive details, or the importance of pedestrian-scaling. The ADCG and ECG provide some guidance on how lighting affects the pedestrian realm, and these tenants should be incorporated for other areas of the City in some way. The Code should require all new roadways with sidewalks or other pedestrian facilities (such as multi-use trail) to include pedestrian-scale lighting in mixed use developments, commercial areas, and high-density housing areas (what's the tipping point?). Where a new development will be a significant pedestrian generator, particularly after dark, the developer should be required to enhance the lighting on his/her corner of any adjacent intersection. Where a new development is proposing a new midblock crossing, the developer should provide lighting that follows the recommendations of the FHWA Informational Report on Lighting Design for Midblock Crosswalks.

Care should be given to allow for flexibility in assembly detailing to allow communities to retain individuality, but should not supersede any requirements from ADCG or ECG. The Code should provide easy reference to the SADM for relevant sections. Lighting plans should be required for any site plan proposing new roadways mentioned above or improvements to existing public roadways determined to be important to the pedestrian network (Streets that Work? Other factors?). These plans should include fixture detailing, photometric analysis, location of fixtures, and information on any major

conflicts known (such as public facilities/parks with lighting, existing crossing lighting, etc.). Minimum footcandles should be established for these corridors, as lumens and watt requirements do not adequately address needs. Additionally, innovative fixtures should be allowed to achieve goals (such as bollard lighting at crosswalks) while minimizing light pollution to the corridor and surrounding properties. Standards for LED street lighting should be added to Code and SADM.

The SADM requires lighting to be in public ROW to follow VDOT standards, which typically focus on highway-like conditions and do provide an inviting pedestrian realm. Assemblies discussed in the 2011 VDOT manual are mainly 30 to 50 feet tall, whereas pedestrian-scale lighting assemblies are typically 10 to 15 feet tall. The types of housing in the VDOT manual are also rather utilitarian and do provide placemaking details. Architectural lighting is noted to be non-standard to VDOT (Section V-Chapter 3-3.3.3 Architectural Lighting). The VDOT manual should not be the standard for City streets. The SADM should be updated to include guidance on location within the streetscape (i.e. out of accessible paths, near to amenities such as benches), the need for spacing to provide continuous lighted path, increased light at crossings and other important pedestrian areas (such as transit stops). Care should be given to avoid creating definitive spacing and height standards, as these depend highly on the street scale, desired light levels, efficiency of fixtures, etc. Instead, minimum foot candles should be established (based on corridor type?).

Comments from August 1, 2014 Staff Workday

- Zoning 34-1003 – consider specifically including the term “dark sky compliant” since that requirement exists, but cannot be found in code with a definition
- Add LED specifics to 34-1003(b)(2) as well as allowance for solar powered technology
- SADM 104 –ensure that if someone searches for the referenced dark sky ordinance it can be found (I can’t seem to)
- Arch Guidelines (and other documents) – encourage LED’s and solar powered technology
- Challenges to implementation – neighborhoods – dark sky vs. crime concerns; ADA – lighting and obstructions; VDOT-Dominion rules

Street Trees and Landscaping

Discussion:

The design of the space between the edge of the curb and the front of a building is essential for encouraging pedestrian activity and promoting safety and security. In addition to providing a spatial buffer between vehicles and pedestrians, the streetscape should consist of trees for shade and softening the urban environment, pedestrian-scaled lighting for security and aesthetics, and benches, drinking fountains, newspaper boxes, or other pedestrian-oriented amenities. For high-pedestrian use sidewalks, six feet of sidewalk width should always be maintained as an obstacle-free throughway zone with the trees, lighting, and other amenities located either in the furnishings zone between the street and sidewalk or in the frontage zone next to the buildings.

The attached chart averages the space requirements being used by other cities and towns regarding soil volume necessary for trees to grow. In general the larger the tree's canopy-the more soil volume needed.

As you know we now have Tree commission, and many others wanting to see large canopy trees as part of our planning and development process- It sounds great- but in order to have the trees mature to reach canopy size they must have the soil volume to do so. I don't pretend to know how that gets translated to developers, but the science is pretty clear. The actual figures I have seen is that for every square foot of canopy the tree will need 2.5 to 3 cubic feet of soil.

Street Tree planting and soil area standards

Small Deciduous or Ornamental Trees (10'-30' mature height)	Medium Deciduous Trees (30'-50' mature height)	Large Deciduous Trees (over 50' mature height)
Required Planting Strip Width 4' minimum	Required Planting Strip Width 6' minimum	Required Planting Strip Width 8' Minimum
Spacing between trees 15' minimum, 20' recommended	Spacing between trees 25' minimum, 30' recommended	Spacing between trees 30' minimum, 40' recommended
Soil volume requirement 250 cubic feet per tree	Soil volume requirement 450 cubic feet per tree	Soil volume requirement 900 cubic feet per tree

Transit Stops/Amenities

Discussion:

Transit stops should be accessible to pedestrians, located near the core of compact development and, if possible, surrounded by a good mix of land uses. Transit shelters, when provided, should provide a safe environment that is integrated with the streetscape and surrounding activities. Transit stops may include at least one shelter, bench, and trash receptacle, as well as bicycle parking, lighting, and transit system information. Transit stops shall be placed so as to provide good visibility in all directions. Bus bays allow buses to safely load and unload passengers without disturbing the flow of traffic. Bus bays may be preferable in special circumstances, such as where multiple buses will transfer or where long dwell times are expected.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Requirements for developers to provide transit stop in mixed use districts. Additional guidelines are needed for new stop locations. Schedule for when a bus stop receives additional amenities (e.g., bench, trashcans, etc.).

Comments from August 1, 2014 Staff Workday

Challenge to implementation: How to make some requirements for a stop match existing or planned need.

Put provisions for bus stops in Zoning Ordinance for Rezonings and SUP.

Pedestrian amenities should be included in the zoning ordinance for development over a certain size or that takes up a city block.

Look at Town of Blacksburg – we should consider adopting their “acceptable pedestrian amenities” listed on page 4.

Entrance Corridor Guidelines: Require that pedestrian lighting at bus stops use energy efficient technology or solar-powered technology.

Is the use of recycled materials prohibited?

Allow for green stormwater infrastructure to be considered a pedestrian amenity. What is allowed and where it is not

ADA, general aesthetic look (should they be put on the developer to meet these regulations?)

Utilities

Change of Water Meter Size with Change of Occupancy

Discussion:

On occasion the occupant of a large commercial facility will change, increasing or decreasing the water demand to that facility. A good example of this would be if a grocery store moved out of a building and clothing retailer moved in. In this example, the water demand is reduced significantly – thus making the existing water meter drastically oversized for the new application. When a meter is oversized, it tends to be less accurate, as the typical large meter is not designed to register low flows. Creating a requirement for the developer or new tenant to pick up the costs of the meter change out would benefit Public Utilities as well as the customer. Consideration should be given to whether the water/sewer “facility fees” would be credited for the reduction in meter size.

Staff Review:

- No current policy

Recommended revisions:

For commercial water uses with meters of 1” or larger, if the demand of a facility changes due to a change of use, the water meter will require resizing at the expense of the water customer or property owner. A demand projection and request for a new water meter shall be submitted to the utilities engineer for review and approval.

Comments from August 1, 2014 Staff Workday

- Should be credited if downsized.
- Different terminology for “non-revenue water”
- Require developer to pick up cost of water meter size reduction and a policy for crediting them for such a reduction.
- Require some sort of data to justify the size of the meter

Construction of Buildings Near Mains

Discussion:

The current code requirements are a little vague on this separation requirement. The code should specify that the measurement is from edge to edge and include all appurtenances (manholes, valves, inlet boxes, etc.) that may be larger than the pipe.

Staff Review:

- Adequate policy direction, regulations need improvement

Recommended revisions:

Buildings shall not be constructed within ten (10) feet of any storm or sanitary sewer, water or gas main as measured from edge to edge. For purposes of this section, "main" shall include all structures that are an integral part of the utility system, such as box culverts and manholes.

Comments from August 1, 2014 Staff Workday

- Should something be included about building construction in relation to location of "purple pipes" and/or rainwater harvesting systems?
- Add references to drop inlets.
- Shouldn't the depths <10 and >10 also be applied to storm, water, and gas?

Cross-connection Control

Discussion:

It is time for all commercial buildings and businesses to have a backflow preventer assembly on their domestic water system. The Commercial Buildings and Businesses should be required to install a Reduced Pressure Zone (RPZ) backflow preventer assembly. The RPZ is designed to protect and keep our drinking waters safe from High Hazard & Toxic Fluids. The RPZ is the Ultimate Mechanical protection of potable water, against hazards of cross-connection contamination. The RPZ Assemblies may be used on all direct connections which may be subject to backpressure or back-siphonage, and where there is the possibility of contamination by the material that does constitute a potential health hazard.

Staff Review:

- Good policy, needs revision.

Recommended revisions:

Any Cross-connection or Backflow Prevention system shall be designed *to install or retrofit* a Reduced Pressure Zone (RPS) Assembly, and maintain in such a manner as to be in compliance with the Cross-Connection Control Manual, United States Environmental Protection Agency, Office of Water Programs, Water Supply Division, 1973, the plumbing sections of the Virginia Uniform Statewide Building Code, section 6.00 of the Virginia Waterworks Regulations entitled "Cross-Connection and Backflow Prevention Control in Waterworks," and the department of public works cross-connection and backflow prevention control program, copies of all of which are on file in the offices of the water division and inspections division of the public works department.

Comments from August 1, 2014 Staff Workday

May be political challenges in implementation due to cost.

Are there any prohibitive costs associated that would get push back?

Is there anything preventing us from requiring?

Any other localities in Virginia that require this already?

How many businesses are in need of this and don't have it?

Regulation for back flow, retrofit existing systems

Establishment of a Public Utility Permit

Discussion:

Currently, there is no requirement for contractors or homeowner to obtain a permit for performing work on a publicly owned utility line. Plumbing permits are currently required for work on private utilities that require the approval of building inspectors, but there is no mechanism to alert the Utilities Department of work being performed on their lines.

Staff Review:

- No current policy

Recommended revisions:

Any work performed on a public water, sewer or storm infrastructure shall require a permit from the Public Utilities Division of the Public Works Department. Work requiring a permit includes, but is not limited to, connections to, abandonment of and relocation of existing utility lines. Work performed on public utility lines shall only be completed by a licensed contractor capable of performing such work. The work shall be bonded.

Comments from August 1, 2014 Staff Workday

Bonded Perhaps allow public utilizes access to review (read only) building permits. Require contractor to contact PU when tapping mains etc.

Using “street cut” permits system, building permit system and “street closure” permit system data as collection methods to identify the type of work.

A City policy needs to be developed

Comp plan goal 5.1 “Maintain, repair, replace” does not seem to support the goal of “improving” the water system. The water distribution system is a key element used by the insurance industry to set commercial and residential fire insurance rates. (it is implied in overall Goal 5)

Permitting should be required before any work is done on public utilities.

There will need to be department coordination, fee system and an implementation plan (including contractor awareness and community education)

Sanitary Lateral Ownership

Discussion:

Previous versions of the Standards and Design Manual attempted to define ownership of sanitary lateral pipes by the property owner from the building all the way to the connection to the public main. A new policy allowed for public “take-over” of the lateral portion in the right-of-way if certain criteria were met in the replacement of the lateral. Broken or malfunctioning sanitary lateral lines allow for rain or groundwater to enter the sanitary sewer system creating an additional burden on the pipe, pumps and treatment facilities. The language has caused confusion in the past and is need of revision. Public Utilities Division is also recommending that the revised language from the standards and design manual be mirrored in City Code.

Staff Review:

- No current policy
-

Recommended revisions:

Design Requirement – Sanitary Sewer

4.01. D. Ownership of service laterals.

a. Existing service laterals not previously accepted by Public Utilities shall be the responsibility of the owner of the property served by the service lateral from the building to the connection with the public main.

b. Service laterals on private property shall be owned and maintained by the property owner.

c. All newly installed sanitary sewer laterals will be owned and maintained by the City of Charlottesville from the property line to the main, if installed in accordance with the latest version of the Standards and Design Manual and inspected and approved by Public Utilities.

d. When repairs are made to existing sewer service laterals, the City of Charlottesville will take over ownership of the portion of the lateral located in the Right-of-Way from the property line to the main provided the following criteria are met:

1) The entire service lateral is replaced from the outside wall of the structure to the main in accordance with the latest version of the Standards and Design Manual

2) A new clean out is installed at the property line in accordance with the latest version of the Standards and Design Manual

3) The portion of the new line in the Right-of-Way is inspected and approved by the Utilities Department.

This does not apply where main lines are located within sewer easements on private property.

Comments from August 1, 2014 Staff Workday

Do we need to require a signed acceptance letter?

Currently the laterals are inspected by the Building Official

Show photo examples

Owner is currently in charge of this, unless it has been inspected and meant the current design specifications of the city.

Private Well and Septic Systems

Discussion:

The City does not currently have any code requiring connection to public utilities when available. The Health Department and Department of Environmental Quality regulate the installation and require maintenance of private well and septic systems, respectively. Both agencies will defer to the locality if there is existing code that prevents a new installation. Public water and sewer are available almost everywhere in the city and are considered safer and more reliable than private wells or septic systems.

Staff Review:

- No policy

Recommended revisions:

Delete Section Sec. 29-161. Lots. Paragraph g (3)

Insert: No private sanitary sewer septic systems shall be constructed with the limits of the City of Charlottesville where a connection to the public sewer system is possible by extension of an existing sewer main. Exceptions may be granted with the written permission of the director of Public Works.

No private water well shall be constructed with the limits of the City of Charlottesville where a connection to the public water system is possible by extension of an existing public water main. Exceptions may be granted with the written permission of the director of Public Works.

Comments from August 1, 2014 Staff Workday

What considerations are made to determine that public systems are “considered safer and more reliable” than private systems? Who makes determination?

Clarification that the proposal being made is legal within state/federal law. (Trip’s verbal report on 8/1/14 confirmed that the state/federal looks to the locality for standards on these things so it appears it would acceptable.)

Provide process for how someone can gain written permission for any exceptions. Would this proposal prohibit irrigation wells?

It would be helpful to look to other urban locations for guidance on how they address if that has not been done already.

Great idea for sewer connections. May want to allow wells for irrigation and geothermal. Need to speak to situations where there is a need to extend lines.

Required Separation between Trees and Underground Utilities

Discussion:

Public Utilities has been working to develop a policy that outlines recommendations for separations between trees and underground utilities. The intent of the policy is to protect existing utilities from the detrimental effects of tree roots and to protect existing and proposed trees from impacts involving future maintenance of underground utility lines.

Staff Review:

- No current policy

Recommended revisions:

Add an item to 34-861 “to accommodate longevity and future maintenance of underground infrastructure.”

Public Utilities has developed the attached memorandum that spells out the recommended separation requirements and allows for some flexibility with designed solutions.

Comments from August 1, 2014 Staff Workday

It would be helpful/beneficial to have some clarity/revision of the planting requirements. Whole Foods, for example, has an approved plan that will likely never allow for viable trees. Utilities will continue to be underground. This is a good time to get on the same page.

Comments specific to the policy

Add “utility friendly” column in central tree list for City.

Consider making tree height its own column and putting in order to align with Table in D.1.a. <5', 5'-10', >10'

Anticipate there will be a lot of discussion with the Tree Commission and PC/Council

- Trees vs. Utilities
 - o No regulation on new trees being planted and underground utility, except within a utility easement
 - o Working with the Tree Commission (needs at 5 < tree < 10 feet, need a root barrier to protect encroachment on utilities, tree > 10 feet no measures need to be taken)
 - o Pushback issues – 2 foot separation from water and gas; 3 foot separation from sanitation and storm (this is what the tree commission wants)
 - DC proper, what are the issues they are having? Utility responsible for damage to the tree, even if the roots caused damage in the first place
 - Don't want the problems that LA is currently going through.
 - o The street trees in C'ville are required to be large trees, what about medium and small trees? The large trees don't work for a variety of reasons (larger tree = larger box)

- Look at different tree types
- You can't write this into code too much, because you want to be able to have flexibility down the line
- A healthy system has all of the layers and different types, shapes, and sizes of trees (no longer a green fence)
- Also have to look at the state and federal utility separation regulations.
- Is there anyway to use this space more efficiently? (trees, utilities, stormwater, etc.)

This is something that needs to be incorporated into the designs, it is a lot easier to build from scratch than retrofit

Storm Connections to Sanitary Lines

Discussion:

The current policy on storm drains connected to sanitary lines needs revisions. Currently, around the City, there are many roof drains, condensate drains, etc. that are connected to the sanitary sewer system. These connections add unnecessary flow to the system and need to be removed. New policy should explicitly state the property owner's requirements, timeframe and consequences of not resolving the issue.

Also, changes to the code and/or Standards and Design Manual are needed to dictate where floor drains in parking decks should connect – to sanitary or storm. Currently, there is an unwritten rule-of-thumb that any areas not covered by a roof should connect to the storm system, everything else should connect to the sanitary. This policy should include the requirement for oil separators in parking garage floor drains.

This policy should also consider how open-air pools and splash parks are connected to either the storm or sanitary sewer systems. Current code allows for pools to be connected to the storm system if they have been dechlorinated. Most are not and are connected to the sanitary sewer system. This creates a situation where rainwater is collected in our sanitary sewer system.

Staff Review:

- No current policy

Recommended revisions:

Recommendations Forthcoming

Comments from August 1, 2014 Staff Work Day:

Discussion talks about unnecessary flow to the system and need to be removed but where does it need to go and what structures are needed to take it.

Is there any research on the process of requiring residents to disconnect storm drain from sewer system?

Need education programs

Has some existing code but needs more

- Storm Connections to Sanitary
 - o Pools and Splash Parks? Don't want to have any kind of chemicals into the storm water system (chlorine)
 - o Figure out where floor drains go and make sure they are disconnected from the storm drains
 - o Do this by this date
 - Is there any place that we could get guidance for these policies and regulations?

Various Code Changes Regarding Public Utilities

Discussion:

Public Utilities Division staff has identified several recommended changes to the existing code language that to add clarity or to delete sections that do not apply to current operating procedures.

Staff Review:

- No current policy

Recommended revisions:

Public Utilities has developed the attached memorandum that spells out the recommended separation requirements and allows for some flexibility with designed solutions.

Comments from August 1, 2014 Staff Workday

- Good research/ Don't have background to agree/disagree with all
- Code changes noted need legal review if not done already.
- Sec. 31-3 – might need to clarify language based on legal review
- Sec. 31-114 – in new subdivisions only?
- Sec. 31-256 – you could change references to Director and remove superintendent

Various Code Changes Regarding Utility Billing

Discussion:

Utility Billing Department staff have identified several recommended changes to the existing code language that to add clarity or to delete sections that do not apply to current operating procedures.

Staff Review:

- No current policy

Recommended revisions:

See attached documentation for revisions (below).

Comments from August 1, 2014 Staff Workday

- Challenge to implementation could be political misunderstanding.
- This is a very specific change that appears will be helpful when addressing current concerns.
- Think about any potential for push-back (I don't see any).
- I recommend taking this forward now if possible.
- Outdated, and the language needs to be changed.
- Language Change (25 days instead of month).

Climate Factors – Heat Island/Shade/Shadow/Wind

Discussion:

The term "heat island" describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F (1–3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality.

EPA: <http://www.epa.gov/heatisland/>

Strategies and Technologies to mitigate the heat island effect include: Trees and Vegetation, Green Roofs, Cool Roofs, and Cool Pavements

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended Revisions:

Policy regarding trees/vegetation and an efficient built environment seem adequate. For regulations, in consideration of the four approaches to mitigating heat island effects:

- 1) Trees and Vegetation – seems to be sufficient support to maintaining and expanding. More consideration could be given to dispersment of trees and vegetation to shade and break up large areas of pavement such as parking lots. Integration of some green infrastructure techniques could also be appropriate.
- 2) Green Roofs – regulations overall lack mention or offer a clear pathway to implement or encourage green roofs. The ACDC guidelines indicate contrasting views of green roofs as they listed as LID techniques but would likely not be materials consistent with the existing structures in the historic districts.
- 3) Cool Roofs – regulations do not reference the solar reflectance, albedo, or thermal emittance of roofing materials. Reference to requiring this information be provided by developers and recommendations/encouragement of these types of materials would help to support the policy goals. Information from the EPA:

A high solar reflectance—or albedo—is the most important characteristic of a cool roof as it helps to reflect sunlight and heat away from a building, reducing roof temperatures. A high thermal emittance also plays a role, particularly in climates that are warm and sunny. Building owners and roofing contractors have used cool roofing products for more than 20 years on commercial, industrial, and residential buildings. They may be installed on low-slope roofs (such as the flat or

gently sloping roofs typically found on commercial, industrial, and office buildings) or the steep-sloped roofs used in many residences and retail buildings. Through the ENERGY STAR program, EPA and the Department of Energy (DOE) help consumers and other purchasers identify the most energy-efficient roofing products. Roofing materials with the ENERGY STAR label

- 4) Cool Pavements – Cool pavements can be created with existing paving technologies (such as asphalt and concrete) as well as newer approaches such as the use of coatings or grass paving. Pavement materials, coatings, and instructions for grass paving are not included in current regulations. Incentives and encouragement of these practices is also referenced in policy, but it is unclear what follow up there is on many of these. At current point in time, the only known incentive is a green roof reduced building permit fee at a reduction of 50% for the section of the roof that is green. (Note: green roof is defined to be vegetative or solar)

Comments from August 1, 2014 Staff Workday

- This research is incomplete because we need further research into how this topic related to design color palettes and materials (e.g. porous materials vs. solid).
- There are no specific, clear policies. There is a conflict between dark patio requirements and heat island mitigation strategies (cool pavement).
- Additional research is needed to identify appropriate, effective regulations.
- Potential challenges to implementation could be cost, potentially a new concept for people to understand, and conflict with design considerations.
- Incentives may be needed to implement.
- Define performance expectations; green roofs, cool roofs, cool pavement not currently mentioned. Placement of trees to provide heat island mitigation not addressed.
- Did not expect the efficient vehicle comments or discussions of how traffic contributes to heat island.
- Pitfalls include: City itself does not consistently use cool pavement (look at roads), need to establish appropriate standards to eliminate subjectivity, and involve construction community to address potential pushback.
- Opportunity to consider internal city fleet policy to address fuel efficient vehicles.
- One reviewer was not sure if some goals from Comprehensive Plan spoke to climate factors, but another reviewer noted that they relate to integrating green space, which is related to these factors.
- Should Historic Preservation and Urban Design Goal 8.5 be removed?
- No policy specifically addressing heat island, but it could be added. What about parking and lot coverage?
- Discussion: Can we explain heat island in terms of what aspects of development contribute to heat island effects? Is it all development, or only paved areas/buildings? Even without developed areas, there are heat islands (i.e. Downtown Mall is cooler than Barracks Road parking lot).

- Review overall parking requirements as they relate to heat islands. Are we creating excessive pavement- are landscaping requirements enough to mitigate heat island effects of parking lot?
- Lot coverage requirements- if we allow 80% lot coverage (I don't know what our requirements are) are there other incentives that we ask for to mitigate?
- There was mention of low emission vehicles. How about a policy to phase out large, gas guzzling vehicles currently in the City's fleet? I.e. the brand new 15 passenger shuttle bus with a V8 engine, only 12 miles per gallon at best and rarely has more than 1 passenger. (Reply comment: but no more ill-conceived electronic vehicles).
- Street trees- maintenance needs to be addressed.
- Agree with conclusions. I find recommendations 3 and 4 very interesting (cool roof/cool pavement). Agree that we need to consider and encourage alternative materials.
- Look at increasing incentives- could LEAP program help with this?
- Regulation that support management of urban heat, but no actual policy
- Lots of research needs to be done on materials, colors, standards, etc.
- Conflict between useable color (cool pavements) vs. design color
- The city needs to implement these as well
- Incentives might help
- Trees play an important role in this topic

Climate Factors – Energy and Associated Greenhouse Gas Emissions

Discussion:

Greenhouse gas (GHG) emissions are released through the process of generating and using energy to heat, cool, power, and fuel our buildings and vehicles. The amount of GHG emissions released differs by fuel source. Reducing the amount of GHG emissions associated with a community's energy use, involves energy conservation, energy efficiency, and renewable energy generation practices. Communities can make efforts towards mitigation, adaptation, and resiliency of climate change effects.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- **Adequate policy direction, regulations need improvement**
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Policy supporting the ideals of reducing greenhouse gas emissions seem to be fairly well stated. Some of the policy and guidelines for the ADCD and Entrances Corridors can appear contradictory.

In general, from an Energy Conservation perspective: the Climate Factors – Heat Island document includes most comments related to shading and heat reduction. Additionally, for transportation energy conservation efforts, these are being reviewed by other staff and include creating spaces and networks that enable and encourage people to avoid using fuel for transportation. The only additions I would add here are to consider the amount of pavement and hard surfaces that are created, and consider how and where they can be minimized to help further reduce heat island effects.

In regards to energy efficiency, very little is available in the regulations regarding the aspects that make a building energy efficient. The energy efficient tax rate is the main incentive and requires a significant amount of investment before it can be achieved. Direction and encouragement of insulation, air sealing, weather sealing, efficient equipment and HVAC systems, and efficient lighting could all be added to the regulations and/or incentivized. Additionally, district heating and cooling systems have proven effective and efficient. Our regulations offer no reference to how these could or could not be incorporated. Energy efficiency in transportation focuses on efforts relating to reduction of single-occupancy vehicle trips, grouping destinations to help support a form of 'park-once' behavior, and efficient vehicles.

Supporting fuel/energy efficient transportation can have many aspects. In regards to regulation and policy, the goals are to create an environment that encourages 'park once' activities and enables people to access necessary amenities from their residences and places of work. Many of these aspects have been evaluated by other staff during this code audit process. Without reviewing that work, I would recommend

that factors such as average trip distance, land-use considerations, walkability, and the Housing + Transportation Affordability Index be considered.

For energy generation, solar PV and solar thermal offer strong use in our area but currently would be regarded as appurtenances or non-standard mechanical equipment that would have to undergo interpretation or additional review/approval to be added to a building. Creating streamlined guidelines for administrative approval in design-sensitive areas and clear designation & encouragement in our regulation would be recommended. The same principles apply to scale-appropriate wind systems and geothermal heating/cooling.

Consideration should be given to what types of incentives and proactive guidance the City can provide to developers to support the energy-policy goals.

Other Thoughts:

Resiliency and Adaptation – little was found in regulations and policy regarding resiliency and adaptation. One example could be the consideration of land use and selection of large community-accessible locations dispersed evenly in the community or in high-risk areas for times of emergency, such as blackout during heat waves.

Water Infrastructure – “efficient system” considerations should include efficient facilities. One of the greatest uses of energy is water treatment facilities.

Tree height & placement – recommendations to place trees around buildings on the south and east sides to assist with summer shading; recommendations to identify a preferred tree species list that would favor deciduous trees and tree canopy heights and placement that would not overly shade the eastern and south facing rooftops (hence preventing or significantly lowering the solar PV potential for that building)

Outdoor lighting: energy efficient lighting and Dark Sky/Full Cutoff lighting standards should be reviewed. Newer rating systems (B-U-G) are being used in the industry and should be considered to be integrated into standards with U=0. Consider revising the 3,000 lumen threshold and requiring energy efficient LED lighting for lights that will be turned over to the City for maintenance.

Preservation Brief #03: Conserving Energy in Historic Buildings at www2.cr.nps.gov/tps/briefs/presbhom.htm could be a resource to consider

Comments from August 1, 2014 Staff Workday

If we move to regulations, more research will be needed.

There are inherent conflicts between windows and heat loss (require efficient window systems where windows are required or desired)

Challenges to implementation: Culture change, enabling legislation, potential financing barriers, potential conflict with historic stuff.

Additional tools: Form book idea, incentives/disincentives, proactive promotion of goals/standards

Let's highlight the details of differences with ADCD and EC guidelines.

Section 34-1003 does not include LED – explain this further

Want to understand more on problems between policies and ADC/EC regulations.

We will likely need to focus on incentive programs to start and see what legislation comes forward to address requirements.

Like looking at outdoor lighting requirements – in particular, lighted parking lots.

We need to push the envelope on energy efficiency and speak directly to how to make it easier for energy generation.

Would like to see an exploration of “Form book” type guidance for developers. We know people like the city to do their work for them, so if we do, let's do it to the standards we want, not minimum required by regulations.

Consider incentives or disincentives for building or retrofitting energy efficiency.

Regulation that support management of urban heat, but no actual policy

Lots of research needs to be done on materials, colors, standards, etc.

Conflict between useable color (cool pavements) vs. design color

The city needs to implement these as well

Incentives might help

Trees play an important role in this topic

Green Infrastructure – General

Discussion:

Green infrastructure involves integrating nature strategically into urban environments to enhance environmental values. By weaving natural processes into the built environment, green infrastructure provides a range of benefits including stormwater management, flood mitigation, air quality management, habitat, and improved aesthetics. Green infrastructure can be implemented at several scales (municipal, neighborhood, and site) and, specifically with respect to stormwater management, can provide source control of stormwater, limit its transport and pollutant conveyance to the collection system, restore predevelopment hydrology to the extent possible, and provide environmentally enhanced systems.

Other Items (TBD which guidance document is relevant)

Establish appropriate street widths to allow for narrower lanes for certain street types, thereby reducing overall imperviousness. Consider how stabilized turf or other strategies can accommodate the need for fire safety access.

Alternative forms and decreased dimensions of residential driveways and parking areas (reduce minimum width to 9 feet, provide design standard for two track driveways).

Establish minimum setback lines for residential and retail development to reduce impervious surfaces associated with long driveways, walkways, and parking lots.

Review parking requirements

- Set a maximum rather than a minimum to limit routinely unused impervious parking lot space
- Consider further reducing the minimum especially when in close proximity to public transportation
- Consider reducing the minimum required area per parking space (e.g., 9 x 18)

Where possible, encourage/incentivize “underground” parking.

Build and retrofit streets with pervious materials to reduce stormwater runoff. May be able to provide some maintenance with an external vendor funded by the Stormwater Utility.

Check whether curb and gutter are required or whether street-side swales are allowed to replace conventional curb/gutter.

Design standards should specify the appropriate clearance by utilities from green infrastructure practices (e.g., bioretention) or allow traversing.

Encourage/require consolidation of utilities on one side of the street to provide space for other functions (including green infrastructure). Utility vault concept is also relevant

(albeit costly) to define access for utilities and prevent intrusion from tree roots and infiltration practices.

Do green infrastructure practices count towards open space requirements?

Evaluate whether adding irrigation restrictions (such as restricting the use of potable water) would promote rainwater harvesting.

Landscaping within parking lots (check whether there are requirements for parking lots) – how can we promote the construction of landscapes to receive and manage runoff (instead of raised landscape features).

Design for cul-de-sac islands to function as bioretention areas.

Incorporate stormwater plan comments and review into the early stages of development review/site plan approval (preferably at pre-application meetings with developers). Require preliminary site plans to show more than a “placeholder” for stormwater management strategy and at a minimum show proposed grading.

With respect to offsite stormwater management facilities....Do we have anything that prevents or limits the placement of a stormwater control in the ROW? Could we develop a maintenance agreement so that the property owner is responsible even if the location is outside their property footprint?

Assess whether there is an issue with using City funds to support improvements on private property (through grants, as public private partnership, etc.). Would anything need to be addressed in Code to allow for this?

Per Code Sec 34-869, the city's tree canopy ordinance adopted June 25, 1990 sets the numbers. Consider increasing tree preservation/canopy/open space requirements for regulated (re)development projects – look at Washington DC (District Department of the Environment) for a good example of requirements for green/vegetated space (Green Area Ratio – specifies a certain % of lot must be green/vegetated)

Encourage/require developers to limit compaction of soils during construction – this is the biggest limiting factor in getting good infiltration. 9” of subsoiling/ripping/tilling is a good solution.

Encourage/require developers to apply compost/soil amendments to new lawns/turf areas to improve infiltration – 2” of compost can increase infiltration by 50%. 5-8% organic matter is a good rule of thumb for a lawn/turf area.

Comments from August 1, 2014 Staff Workday:

Challenges include cost, political realities and neighborhood concerns. Need GI plan and Water Resource Master Plan to implement.

There are maintenance implications.

Allow parking reductions for breaking up lots into multiple smaller lots.

Need to think about the cost associated with underground parking.

Need root volume requirements and minimum TPL requirements for existing trees for developers to get credit for the canopy. Otherwise trees may/will not survive.

Planting strips can hinder sight lines

- Green Infrastructure

Key words that are used that connect it to this topic, it is not necessarily come out and say green infrastructure

Pitfall - Maintenance implications

\$\$\$

Guidelines not on the list (weed ordinance, restrictions on water regulations vs. rain water harvesting, etc.) seem to be very strict... maybe rewording will help

- Turf to native species

How much authority does the city have in this area when it comes to private property?

Multi scale (property, area, city, county, country)

Need to be multifaceted...

Stormwater Management

Discussion:

The goal of stormwater management is to minimize the negative effects of rainfall runoff. Rainfall runoff is a natural consequence when the rate of rainfall exceeds the capacity of soil and human constructed structures to absorb, infiltrate, or convey the resulting volume of water that accumulates over time. Negative effects include the following:

- Water quality degradation
- Vehicular traffic safety
- Flood damage to the environment and property
- High rates of clogging of channels
- Unnecessary loss of a valuable resource

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation
-

Recommended revisions:

Adequate policy direction, regulations need improvement. The Standards and Design Manual needs to be revised. Also, expand definition of “weeds” definition exemption to include plants that are planted to improve storm water infiltration into soil.

Photos of Good/Bad Examples:

Comments from August 1, 2014 Staff Work Day:

Code section 29.110 Form and Style of preliminary and final plats- add trail/bicycle Figure out if we prefer porous pavers or landscaped biofilters. Pavers have higher maintenance.

Consider requiring completion of BMP/Storm facilities prior to issuance of CO or require a fee (penalty) for projects requesting CO with bonded systems. Timberlake for example has not completed their facility. Aside from interest on bonds etc there should be a financial deterrant for leaving incomplete.

- Stormwater Management
 - o Recent additions to Chapter 10 alleviate most of the issues, so minor changes

1st Floor Height

Discussion:

When creating a walkable City it is important to consider building scale in relation to pedestrians. Residential neighborhoods with larger setbacks do not require the same considerations as Commercial and Mixed Use Districts. The first or ground floor, ceiling heights are a critical part of what makes a retail space inviting and what makes a building feel comfortable for pedestrians on the sidewalk next to it.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation
-

Recommended revisions:

Current height regulations are clear and adequate. The allowances hint at a preference for a larger 1st or ground floor, but there is no requirement. The cleanest way would be to add to the dimensional requirements for each district.

Comments from August 1, 2014 Staff Workday

There may be some relevant goals in the Comprehensive Plan that speak to “sense of place”.

The guidelines (ADC) mention it, but code only speaks to max number of stories.

Need dimensional requirement by district.

Minimum first floor height favors retail spaces sometimes, but may not be feasible.

ADC guidelines use weak language often like “consider”, but may need more teeth.

Pitfalls: May have some unintended consequences.

Block Size

Discussion:

A (city) block is the smallest area that is surrounded by streets. Blocks are the space for buildings within the street pattern of a city, and form the basic unit of a city's urban fabric. They may be subdivided into any number of smaller lots usually in private ownership. City blocks are usually built-up to varying degrees and thus form the physical containers or 'streetwalls' of public space. Most cities are composed of a greater or lesser variety of sizes and shapes of urban block. The size of a block can influence the walkability of an area.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

The city does not create many new blocks so unsure if this needs to be a focus. It may make sense to focus on making the blocks more interesting through the façade treatments in commercial areas. - *I agree, probably just want to make sure our codes/standards don't prevent good block development by those developing large lots/multiple lots at once.*

A requirement for courtyards or plazas in full block developments where the block area is equal to or more than **1.5 acres** should be required in zones not already required to have such items in any development occupying a full block (of any size).

The 1000 foot maximum for the length of a block is too high (Code Chapter 29). It is too long a gap for pedestrian crossings, creates a non-pedestrian scale (similar to tall buildings without articulated first floors and stepbacks), fosters a sense of feeling trapped, and will encourage jaywalking or the demand for midblock crossings. In addition, a study done in San Antonio, TX found that streets exceeding 600 feet in unimpeded length typically had 85th percentile speeds over the legal limit. It is recommended that the new maximum for a residential or mixed use street become 600 feet, unless approved by staff under the following conditions: pedestrian access (with public easements) will be provided at least every 400 feet within the development. The classification of the street should not be a factor (example West Main Street).

Desirable block length shall be dependent upon area. Commercial and mixed use corridors should have a desired block length of 200 to 300 feet. Residential areas may have a block length of up to 600 feet, as appropriate by surrounding scale, but are recommended to have block lengths of less than 400 feet.

Marty noted the need for a discussion on block lengths between 200-500' (SADM Ch2 Section 204F)- *I agree, a 500 foot minimum is too big in most circumstances. Spacing should not depend on volumes, but on the context of the area.*

The maximum block perimeter standard suggested by ITE for pedestrian and emergency personnel access is 1,140 feet (ITE *Context Sensitive Solutions*, Chapter 9: Traveled Way Design Guidelines, page 4. Saved in documents folder in Code folder).
TJ

Comments from August 1, 2014 Staff Work Day:

Inherent conflicts between what should be an automobile block size and a bike/ped block size. Topography might be a challenge to implementation- also buildings. Some people don't want more roads in their neighborhoods.

Connect back parking areas.

Agree with recommendations. What add that disrupting block length with bike/ped connections can have a different feel than with vehicles. This still adds increased connectivity. Number and spacing of used entrances also affects block size and feel. Perhaps add door entrances discussion.

- Building Orientation/Location of Entrances
 - o Only found in the guidelines, no specific policies
 - Zoning needs to clarify, especially on corner lot
 - Challenges with commercial properties wanting to control entrance

Building Orientation/Location of Entrances

Discussion:

Successful site design depends on proper building orientation to create a presence that is welcoming to pedestrians. By simply reconfiguring a site, building placement can reduce walking distances for customers and make streets more useful for pedestrians, transit users, and bicyclists. Building entries should border main streets and public thoroughfares to foster a vibrant, walkable environment. The primary building entrance should be oriented toward the principal pedestrian accessway, typically the public sidewalk or an interior sidewalk where the majority of pedestrian traffic is expected to be coming from within the site. Additional entrances may be permitted that are oriented towards on-site parking.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Guidelines are good; but lack of regulation in areas not covered by design review.

I'm not sure where this fits in (or if it is included and I have not yet seen it), but we need rules about the facades of buildings regarding window and entrance minimums, differentiation of large facades to foster human scale, awnings/porches, etc.

Comments from August 1, 2014 Staff Workday

Inherent conflicts: There is no specific policy for building orientation/length of entrances except guidelines which do not apply generally; zoning needs to promote clear direction on location of building entrances, especially corner buildings

Challenges: Certain uses like drug stores want to restrict/limit entrances

Additional tools: Need identify pedestrian nodes so street types and primary entrance locations can be identified.

Surprises: Not addressed in Comprehensive Plan; Not addressed in zoning; not addressed in Fire code.

Pitfalls: Consider emergency services needs with entrances.

Building type

Discussion:

Charlottesville has a variety of architectural styles in its neighborhoods and different building types in the commercial areas. Buildings are the basis of urban form and the type, style, age, and the elements help define the special character of our neighborhoods, districts and commercial areas. While there are overall distinctive neighborhood characteristics, there is, nevertheless, a great variety of building types, styles, and scales throughout Charlottesville. Likewise, there are several types of new construction that might be constructed within the differing neighborhood and commercial areas.

Staff Review: (Select from the following options and provide any supporting comments)

- Adequate policy direction, regulations need improvement

Recommended revisions:

Our code is regulated by use, lot requirements, height and setback regulations not building type or form. Including some form based code elements in our residential districts or developing a form based code in our residential areas might be helpful.

There is only mentioned of building type in our mixed use districts or in the guidelines for the ADC Districts or EC Districts. Using the ADC and ED guidelines as a basis to create a pattern book or to promote a well-designed community with examples of a variety of building types and elements could be helpful. See Guidelines for Buildings in the EC design guidelines for good examples (excerpts above).

Adding some language to our Affordable Dwelling Unit section could be beneficial to make sure they are building types that are consistent with the pattern of development in surrounding areas. "Affordable dwelling units shall be of a building type and of an architectural style compatible with residential units permitted within the zoning district in which they are located and interspersed among market rate units in the proposed development." (Falls Church, Ordinance 1710 Section 38-43 d3).

Update PUD Sec. 34-501. Context to include consistency with existing building and a variety of building types as a PUD requirement. See 34-501 (b) Except as specifically provided within paragraph (a), above, building height, scale, [insert type?] and setbacks of buildings within a PUD shall complement existing development on adjacent property, taking into consideration: (1)The nature of existing uses, and of uses anticipated by the city's comprehensive plan, adjacent to and in the neighborhood of the PUD development site. Where a PUD is established on property that shares a block face with improved property, development within the PUD facing such existing improvements shall be harmonious as to height, mass, lot coverage, [Insert building type?] and setbacks;

Comments from August 1, 2014 Staff Workday

- An inherent conflict is that the policy is strong, but regulations outside of EC and ADC don't speak to design elements, form, etc.
- Challenges to implementation supports either pattern book or Form Based Code to address elements outside of heights, setbacks. Address form, materials etc. to ensure intended design character of policy statements.
- Additional tools needed include a form book/code or design guidelines for areas outside of special districts.
- Building form and type not mentioned outside of heights and setbacks.
- Pitfalls may include time and creation of a form based code.
- Form based elements could be very beneficial in mixed use corridors.
- Example in recommendations (Falls Church) still leaves the door open for crap housing.
- Ensure that the height of a rooftop solar system does not count as part of a building height in 34-657 and 34-353.
- Recommend that, in a design control district, a solar system is allowed by right if adequate screening is provided or exists (or allow administrative review/approval). Ensure that HOAs cannot prohibit solar technology.
- Add specific design guidelines to our City Standards and Design Manual that give developers details and constructing foundations that would support zero step entries. Can be found in Universal Design Guidelines.
- Form Base Code, Pattern

Density/Intensity

Discussion:

Density is an important consideration when planning for multimodal development, as it directly influences the number of generated person-trips and the potential for transit ridership. Non-residential or mixed-use intensity is typically expressed in terms of floor-to-area ratio (FAR) for commercial areas, which is the total building floor area divided by the total lot area, and residential density is typically expressed in terms of residential units per acre. Higher quality and higher capacity transit systems, such as light rail transit, require higher densities to generate enough ridership to help pay the higher costs. At a minimum, densities of 6-8 DU/acre within ¼ mile of a transit stop are needed to support bus transit, and densities of 16-32 DU/acre within ¼ mile of the transit stop are needed to support rail transit. In addition, increased densities in strategic locations, such as close to jobs, retail, or another complementary use, have the potential to reduce traffic congestion if constructed with a highly connected street network that also provides facilities and amenities for bicycles and pedestrians.

Staff Review:

- Excellent policy direction with supporting regulations

Much of the code revisions over the prior 15 years have focused on establishing site design guidelines for the key corridors of the City that would enable higher intensity and density, while prohibiting many of the design features that limit density (surface parking lots in front of buildings, single story buildings in high density areas, etc.) While these regulations may require occasional “fine tuning” to balance the desires of the community and the changing costs of development; the regulatory framework is in place.

Recommended revisions:

None at this time.

Comments from August 1, 2014 Staff Workday

- Research seems mostly complete – good policy/structure
- Agree with most recommendations, but could think about the following:
- Screening – consider increasing 10’ buffer/screen depth requirement. May not provide much of a visual shield.
- Parking Lot Landscaping – consider increasing widths to ensure health of vegetation. 5’ is too small for long term health.
- Water Protection Ordinance – there is mention of buffers, but no fencing required to keep livestock from degrading water quality
- Mention of living architecture design standards? Or use for other screening requirements – something to consider in the future as “living architecture” becomes integral to green infrastructure

Façade transparency/design

Discussion:

Transparent building façades featuring display windows generate interest for the pedestrian and improve security through enhanced visibility. For all buildings fronting public right-of-ways with non-residential uses on the ground floor, a high degree of transparency on the first floor allows pedestrians to see inside buildings and to be seen by tenants to enhance security. Awnings, display windows, recessed entryways, arcades, or public art can be used to create a pedestrian-friendly and interesting street wall.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

The use of Form Based Code elements in select areas of the City could address the desired effect. Areas not subject to Form Based Code should be regulated by basic requirements for first floor non-residential uses when a setback of 15-feet or less is used on primary and linking frontages. These requirements should include minimum transparency percentages for façades (and arcades) and requirements for front entrances.

Differentiation

standards (similar to those regulating townhouses) for buildings of a certain minimum size on primary and linking frontages would activate the street experience in all zones, and should be included in façade design requirements.

All parking garages should have storefronts, display windows, or other forms of visual relief on the first floors of these elevations (such as those in ADCDs) on main and linking street frontages. Care should be given to prevent simple transparency of garages to a view of cars, with requirements for plantings, interesting details, etc. to activate the garage front (see un-activated transparency in Water Street Garage photo below). However, the code should allow screening for undesirable elements (such as generators, equipment, etc.) as seen in the Water Street Garage photo below.

Comments from August 1, 2014 Staff Workday

Challenge to implementation: Related to massing and scale, Code can provide minimum but cannot guarantee good design.

Additional tools needed: What are other forms of visual relief that are working in Charlottesville? Get good examples.

Pitfalls: Form-Based Code will not replace design guidelines, but good for areas without guidelines; need to building in flexibility (ex: zoning modifications); Cannot regulate good design

Are there regulations for antenna on top of buildings visible from street level? With technology playing a greater role in daily lives, will there eventually be regulations on number of antennas allowed? What is the best way to screen there eye sores (especially in historic districts like Court Square)

Maybe revisit window signage – 50% obscured is a lot.

Housing types and affordability

Discussion:

Housing affordability is a key concern in a community that endeavors to be inclusive of all persons that contribute to the local economy and the quality of life. A vibrant economy requires a variety of employment opportunities at a variety of pay scales. If the residents of a community are unable to afford to reside in the community in which they work, it leads to increased automobile traffic as lower income residents commute to their jobs. Additionally, the lack of affordable housing can lead to difficulty in recruiting employees for lower paying jobs when the cost of commuting makes working at lower paying jobs uneconomical for workers that fit the educational profile for those positions.

One way to address housing affordability is for a community to encourage a wide variety of housing types in residential areas. This not only provides housing for persons in varied life situations, but it can aid in increasing diversity in neighborhoods – adding to the vibrancy of those areas, as well as bolstering the economic sustainability of the local housing market.

Staff Review:

- Adequate policy direction, regulations need improvement

The issue of housing affordability is a relatively recent concern in Charlottesville, having arisen in the housing boom of the early 2000's. As such, many of the zoning ordinance regulations currently in place have not been reviewed for their impact on the affordability of housing in the City.

Recommended revisions:

- Review of the residential regulations pertaining to lot size and permitted uses to determine if the current regulations in the City are in keeping with the City's goals for housing affordability.
- Review of the City zoning ordinance to determine if there are additional types of housing that are desirable but prohibited.

Comments from August 1, 2014 Staff Workday

- Research complete. Agree with recommendations, but would add language past the horizon of 30 years in affordable dwelling. People live longer now and don't want old people being turned out into street because obligation has been filled.
- There is much policy, but regulations may not achieve the desired goal of more affordable housing.
- Continue to search for ways to encourage accessible housing, particularly one family units (such as townhouses/duplexes. Investigate inclusion of specific fair housing code and policies in the City Standard and Design.
- Comprehensive Plan Value regarding Green City = our houses and buildings are sustainably designed and energy efficient. Another contributing factor to affordable housing is the cost of utilities (operating costs). Promoting/requiring energy and water efficiency should be part of the affordable housing discussion

(and not limited to new houses. Many existing homes are very expensive to heat, cool, light, etc.)

- Zoning 34-390 – Why must there be curb and gutter? Is required 24' pavement width excessive?
- Zoning 34-408 – Revise minimum street widths for two-way traffic to be 34' and 20' respectively.
- Money is needed to build units. There is a need to identify target areas for building affordable units.
- Consider how much does it actually cost to live there? (utility, transportation, location, etc)
- Look at an affordability of housing purchase/renting
- Neighborhoods not desiring townhomes/duplexes is a challenge.

Lot Size

Discussion:

The traditional neighborhood pattern of development includes a hierarchy of interconnected streets and blocks, pedestrian friendly walkable streets, **a variety of housing types and lot sizes**, mixed-use commercial neighborhood centers, and a connected passive and active open space network.

The division of lots in each neighborhood should promote a range of lot sizes. Lots and buildings of varying sizes help to promote a range of family sizes, ages and income levels in a neighborhood and also offer visual variety. Regulations pertaining to lot size help determine the pattern and density of development. Diverse and flexible lot size regulations can enhance the urban fabric and provide opportunities for infill development.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Overall, the policy direction seems to promote a variety of housing types, sizes and the city seems to want to promote infill development.

Recommended revisions:

Perhaps we should look at our infill SUP zone to make sure we are making it easier to do the type of development we say we want. The infill SUP is an arduous process for the average homeowner and has not been used. Sec. 34-165

The 50' frontage requirement may be more in line with suburban development. 29-161 (f)

Instead of having lot and frontage requirements that are generic, perhaps we could look at the neighborhood context and have lot size regulations that respond to the fabric and character. Having a form based code in some areas may speak to this a bit.

The ADC and EC guidelines are a good resource, perhaps we should have a similar guidebook or form book to promote traditional neighborhood design that responds to the conditions of our distinct neighborhoods.

Comments from August 1, 2014 Staff Workday

- There are inherent issues between density and lot size. Building size and lot size should scale together.
- A potential pitfall could be the effect on low income goals.

- With the reduction of lot size, we should address building scale. If you have a smaller box to build in you should be required to build a smaller product. Giant houses on small lots is not positive density.
- If we reduce frontage requirements, lot area minimums should also be reduced to allow for buildability. I agree these requirements should be context/neighborhood sensitive. FBC could be a way to incorporate guidance from ADC and EC into codes. Need to balance making infill easier and ensuring appropriateness to neighborhood is maintained.
- Lot size is an interesting topic, but it's also a low priority topic. My concern is any potential larger subdivision that might take advantage of smaller lot sizes without the review of the PUD or infill SUP process.
- What is allowable within the lot? Restrictions?

Massing and Scale

Discussion:

Buildings should be designed to provide visual interest to the pedestrian through massing and articulation in façade design. Massing describes the physical form of a building or group of buildings. Large buildings or adjacent buildings along a block often present a scale that is overwhelming or uninteresting to the pedestrian, limiting the desirability to walk along these blocks. Variations in height, horizontal divisions, window treatments, and facade materials help break up the mass of a building. Awnings, display windows, recessed entryways, arcades, or public art can be used to create a pedestrian-friendly and interesting street wall.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Guidelines are good; regulations need improvement. We need to review permitted building heights in mixed use corridors with 3-D models perhaps. Heights allowed on Downtown Mall and Court Square are out of sync with historic structures.

Comments from August 1, 2014 Staff Workday

Developers tend to fill the envelope, so make sure what is permitted is what you really want to see.

Disconnect between historic areas and building heights

3-D models will help guarantee expected results.

Elaborate on the buzz word definitions like human scale (psychology 1:4 ratio)

What are the consequences if contractors do not adhere to policies and regulations?

Appurtenances add additional height to façade; developers use this to get an extra floor which effects massing.

Does 34-936 limit potential SRO locations? Many homeless walk many miles daily and never ride the bus without any problems, so why limit SRO to 1/4 mile of a bus route? Especially if we want geographically spread low income housing.

Mixed Use – Diversity of Use and Arrangement of Use (vertical/horizontal)

Discussion:

Creating a walkable environment typically includes providing a careful balance of land uses, jobs, housing, restaurants and shopping within a compact area. To be successful, mixed use development must utilize both vertical (multiple floors) and horizontal (adjacent buildings) mixed use; include an interconnected street network that enhances the opportunities for pedestrians and cyclists and allows users to park once and walk between several uses in one trip; and provide a balance between activities that occur between the daytime, evening, and weekend hours, fostering a busier, safer, and more exciting environment at all times of the day. Vertical (multiple floors) or horizontal (adjacent buildings) mixed uses allow developments to internally capture trips by providing multiple opportunities for trip-making within a reasonable walking area, typically $\frac{1}{4}$ of a mile between origins and destinations. Uses that will attract pedestrians, such as retail, service, or entertainment uses, should be encouraged on the ground floor, with office and residential uses above. Concentrating land uses of appropriate intensity and density to generate transit ridership and produce a high level of pedestrian activity should also be encouraged.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

This topic focuses on creating a mixture of uses, especially uses that promote pedestrian activity, and an interconnected street network. Mixed use guidelines and regulations are good, but we may want to consolidate/eliminate uses, and instead emphasize building form and design. We do a good job encouraging ground floor uses that attract pedestrians..

The interconnected street network (grid) is an important feature that we tend to discourage when we allow one-way streets and street and alley closures.

This topic overlaps with other topics, such as building orientation and density.

Comments from August 1, 2014 Staff Workday:

Inherent conflicts between the terms block, building and district.

Market forces are the challenges to implementation

Neighbors may have differing opinions on the use.

Add a recommendation to further consider revisions in specific corridors and add other corridors.

Think about whether codes allow enough flexibility for mixed use in areas rather than in one specific building.

Market realities should be one factor to think about mixed use within a block.

Research needs to be refined beyond mere mentions of mixed use to the actual code sections that either enable or prevent it.

It may be worth putting forward a recommendation on opening the door for more horizontal mixed-use and de-incentivizing vertical mixed-use.

- Mixed Use

Maybe have Mixed-Use areas, but each of the buildings do not have to be mixed use

Introduce ground floor residential? (Mall vs. West Main)

Have a noise ordinance (like the downtown mall)

Utilities? Is there a difference between office vs. family (NO) Discrepancy exists between restaurant vs. families

From a code base, build it to the highest use

Open Space and Trails

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- **Adequate policy direction, regulations need improvement**
- No policy direction, regulations need revision
- No policy direction, no regulation
-

Recommended revisions:

Consider creating a parkland zoning category and rezoning all parkland to this new category. This category might include special protections and allowances related to public parkland.

Having underlying zoning on parkland can create incorrect analysis of how much residential/commercial land is left in the city. Example, the entire Meadow Creek valley is now parkland, and much of it is zoned commercial, but is in conservation easement and could never be built as commercial land.

Consider balance between accepting open space as parks or trails so they are fully public vs. maintenance costs and keeping open space within HOA only areas. Some open spaces do not lend to public use whereas others are very useful.

Pedestrian Walkways

Discussion:

Pedestrian walkways are needed within developments to promote pedestrian movement by connecting users from the public sidewalk network to ultimate destinations within a site and adjacent sites. They also allow citizens to park once and safely walk between buildings and uses without a car. Walkways should be built between adjacent development sites to connect all primary building entrances, surrounding streets, external sidewalks, adjacent trails, transit stops, parking areas and recreational facilities. Pathways should be at least 5 feet wide and should be clearly marked to ensure visibility between pedestrians and motorists.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Overall, the policy direction is pretty clear that pedestrian connections within a site are essential. However, there are some minor changes that could be made to help clarify some of the language.

Recommended revisions:

There is a difference between the public sidewalk, pedestrian walkways internal to the site, and pedestrian access areas. The definitions within the SADM and the zoning could be revised to clarify the difference between all of these since some pedestrian walkways/access areas may not be publicly owned.

Add references to “connections to transit” within zoning Sec. 34-897.

There has been some misunderstanding about the applicability of Sec. 34-897.e5 as it crosses a public roadway. Striping is allowed when a public sidewalk crosses a roadway and this should be clarified.

Provide more guidance for ADA access as part of the pedestrian pathway internal to a site – curb ramps, level driveway entrance.

Revise Sec. 34-661 to provide appropriate code reference. Currently, the code makes reference to Sec. 34-858, which does not exist. Revise or delete reference to Sec. 34-858.

Revise SADM 206B.1 to provide appropriate reference to subdivision standards. The reference to City Code, Chapter 29 Subdivisions, Section IX does not exist. Revise or delete that reference in the SADM.

Comments from August 1, 2014 Staff Workday

- Water Street and West Main Street South have wider setbacks intended to provide wider sidewalks. Comprehensive Plan has objective to preserve granite curbs, etc.
- I do not work directly with these code sections, but recommendations seem reasonable
- Not sure which section buy in relation to historic districts maybe provide city standard designs that are different in those areas (must truncated domes be chrome yellow; can we re-mill/re-use existing granite curbs?)
- Need to speak to minimum sidewalk widths – 5' in subdivision code was obviously intended for residential design and greater widths per context should be required.
- Larger/wider sidewalk in some commercial areas (ex: West Main Street) to accommodate increased pedestrian traffic. Not sure how wide they should be, but recommend setting an increased minimum width in areas such as this currently 10'. Is this enough?
- Surprised that buildings fronting on two major streets have to have a pedestrian walkway
- Important to clarify the difference between public sidewalk and pedestrian walkways

Private Frontage (balconies/porches/galleries)

Discussion:

Porches and other semi-public spaces are important in establishing layers or zones of intermediate spaces within the streetscape. Most of Charlottesville's older and historic houses have some type of porch. There is much variety in the size, location, and type of porches, and this variety relates to the different residential areas, strong consideration should be given to including a porch or similar form in the design of any new residence in these areas.

Staff Review: (Select from the following options and provide any supporting comments)

- No policy direction, regulations need revision

Porches are called out and encouraged in the ADC guidelines as an important architectural element to historic buildings throughout Charlottesville historic neighborhoods. This is also true of many of the older homes in Fifeville, Belmont and 10th and Page which are not in historic districts. However, there is not specific policy direction supporting porches and other private frontage spaces in our policy documents outside of ADC guidelines.

Recommended revisions:

A pattern or form book that encourages traditional architectural elements throughout city neighborhoods could be a helpful policy document to promote porches and other semi-public frontage elements in current and future development that is outside of historic districts.

If we want to encourage porches in our neighborhoods, perhaps covered porches should not count negatively and be allowed to encroach into the setback. Most of our traditional neighborhoods have houses that are closer to the street than 25' and the porches are usually 5-15' front the front property line. -- Sec. 34-1101(d)(5) c. No enclosed appurtenance, regardless of height (including but not limited to a screened-in porch) shall encroach into any required yard.

The regulations in the mixed use zones that requires plazas or courtyards are hard sometimes to interpret how large or small these should be and whether they should be accessible to the public or just accessible from the right of way. Perhaps some guidance to the size and nature of these spaces would be helpful. See: Sec. 34-622. Additional regulations. Developments that occupy an entire city block shall provide courtyards and plazas accessible from adjacent public rights-of-way. (WMS North) - Same language in Sec. 34-583 Downtown Extended and West Main South (34-642), Corner District (34-774). Also define "city block" in these regulation.

Perhaps we can provide some type of bonus in other mixed use districts for plazas, courtyards or other private frontage that enhances the public realm. I have never seen the following bonus used in the cherry avenue zone, so perhaps we need something

stronger or more incentivizing if we want to encourage these types of design features. Sec. 34-660. Bonuses, square footage (4) For every one (1) square foot of space used for a courtyard, plaza, open space or porch, an additional two (2) square feet of area shall be granted. There might also be a way to require or incentivize these elements in PUD's and SUP's-plazas, courtyards, porches and other semi-public site design elements.

Comments from August 1, 2014 Staff Workday

Research: Need more input from land use and transportation on policy references to design and walkability.

Inherent conflicts: Porches encroaching into setback? Unclear in regulations. Only referenced in EC and ADC. Lack of policy direction for areas outside of historic districts.

Need to address commercial and multi-family residential. Regulations for upper floors?

Challenges: Form based code to regulate site building form or Pattern Book

Additional tools: Form based code or pattern book, staff time.

Surprises in the research: Lack of specificity with regulations.

Pitfalls: Time, form-based code

Only mentioned in ADC districts, no guidance otherwise

Need a pattern book

Public Space good, private space not so good

Semi Private Space – Courtyards & Patios

Discussion:

A semi-private space is a space that's not fully closed by a door. Depending on the layout, the space can be very private or more open to the public. Courtyards (open spaces surrounded by walls or buildings) and patios (an outdoor space generally used for dining or recreation that adjoins a building and is typically paved) are examples. These can be great spaces to connect public areas with the private areas creating interesting streetscapes.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

Recommended revisions:

Review of mixed use districts should take place to see if additional regulations are needed.

The areas where FBC are recommended should include language which addresses the need and requirements for semi private spaces.

Comments from August 1, 2014 Staff Workday

Consider the heat island effect.

Should include MHP's in open space guidelines? Is there incentive for truly public open space?

Add specific guidelines in City Standards of design for accessibility for pedestrian facilities, particularly sidewalk widths and materials.

The Comp plan encourages "sense of place" but semi-private spaces only have regulation in EC and ADC districts and is very lacking with mentioned in mixed use districts.

Need a pattern book for commercial and residential development outside of ADC and EC. (would likely need a consultant to develop)

Potential to develop guidance on this through the use of form based code.

Setbacks – Front, Side and Corner

Discussion:

Buildings should be located directly adjacent to public sidewalks to provide direct access between the public sidewalk and buildings. Large setbacks add to the distance a pedestrian must travel to access buildings. In addition, buildings drawn to the street edge create a defined edge providing “spatial enclosure”, an important quality for a pedestrian-friendly streetscape.

Staff Review:

- Excellent policy direction with supporting regulations
- **Adequate policy direction, regulations need improvement**
- No policy direction, regulations need revision
- No policy direction, no regulation

While the required setbacks for the entirety of the City are appropriate, the Mixed Use districts could use some clean up. Almost every district is laid out differently. A matrix similar to the Commercial and Residential districts could be beneficial.

Recommended revisions:

No major changes recommended. Setbacks seem to be in line with the goals of the Comprehensive Plan. Fine tuning could provide clarity and perhaps flexibility in certain situations.

Comments from August 1, 2014 Staff Workday

Conflicts between vision/policy/regulation – Diversity and consistency

This topic requires discussion/changes.

Challenges: There will always be loopholes. The first question is what are we really trying to accomplish?

Define: Block, corner lot

Think the recommendation here need to be developed on a case-by-case basis as we look at new code for specific streets. We need to be clear about how we treat corner, especially in commercial areas. The recent examples that point out some of the real world issues: McDonald’s on Ridge/McIntire, Promise Home on 8th, and the proposed Walgreens on 250/High.

Front setback should be minimum or average.

Do setback regulations take into account desired amenities like patios or raingardens?

Spatial Enclosure

Discussion:

To achieve a comfortable pedestrian environment, buildings in commercial areas should be drawn to the street edge to create a defined edge providing “spatial enclosure,” which is an important quality for a pedestrian-friendly streetscape. The ratio which represents spatial enclosure is expressed as the ratio of building height to street width. In this instance, street width is measured by the distance from one building facade to another. For example, with a street width of 66’ and an appropriate spatial enclosure ratio of 1:2, buildings should be at least 33’ high. Ratios will vary depending on the area.

Staff Review: (Select from the following options and provide any supporting comments)

- Excellent policy direction with supporting regulations
- **Adequate policy direction, regulations need improvement**
- No policy direction, regulations need revision
- No policy direction, no regulation
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Recommended revisions:

Spatial enclosure is a very specific term that is not easily searchable. The Discussion seems to pinpoint a comfortable pedestrian environment in commercial areas. The concept seems to most readily apply to building height related to street width, which our regulations do not address. There are several guidelines that discuss a comfortable pedestrian environment, but regulations are lacking. Perhaps when massing and scale is addressed, the spatial enclosure should also be considered, depending on the street location and street width.

Comments from August 1, 2014 Staff Workday

- There is a problem with setback having a separate topic- need to be combined in some way.
- There is a conflict between theoretical and practice. Engineers want more room.
- The challenge to implementation is that this topic is related to many other topics. Difficult to implement as a separate issue.
- The tools needed to implement include drawings to explain what spatial enclosure means in commercial and residential areas.
- The term is not adequately defined so hard to research.
- Pitfalls could include coordinating with massing, scale, and setback. Another pitfall is this topic is mentioned in multiple places in the code and cannot be considered separately.
- A photo sketch will be needed to show appropriate ratios.
- Are there maintenance issues with recommending street trees in buffers for enclosure?
- Regulations will probably focus more on residential locations and low density neighborhoods. I don’t see residential setbacks mentioned.

- I agree with the recommendation to a point- the concept of spatial enclosure should inform the rules in the commercial zones, but it should also play a role in dimensional requirements in the residential areas.
- I don't think it is just about building heights- only one part.
- I would add the consideration of how residential setbacks affect the spatial enclosure of streets.
- I would add care when reducing setbacks. Need to maintain enough space for maintenance of public infrastructure (sidewalks, roads, utilities, etc.) and allow for adequate driveways if parking is allowed in front.
- I would add that whenever street trees are discussed, maintenance needs to be considered.
- I would add the concept that we have to focus priorities in tight setbacks.
- Not defined anywhere and is talked about in a lot of different areas
- Making the space pedestrian friendly (scale, mass, landscaping, set-backs, etc.)

Bicycle Parking

Discussion:

One of the most common obstacles for bicyclists is the lack of bicycle parking at their destination. At the most basic level, bicycle parking encourages people to ride, but it also has some specific benefits, even for non-cyclists. Bicycle racks provide additional parking spaces which customers can use to patronize local businesses. Designated, well designed parking promotes an orderly streetscape and preserves the pedestrian right of way. Bicycle parking is either short-term (racks) or long term (lockers) and should be considered at certain destinations, such as commercial, employment, and transit centers. Bicycle parking should be convenient to the destination (typically no more than 50' from the building entrance) and placed in a highly visible location otherwise cyclist may lock their bikes to other street furniture or signage. Provision of bicycle parking is another means to justify a reduction in vehicular parking where reasonable cycling access exists.

Staff Review:

- Excellent policy direction with supporting regulations
- Adequate policy direction, regulations need improvement
- No policy direction, regulations need revision
- No policy direction, no regulation

There are a fair number of policies that discuss bicycle parking in public areas, but regulations could be strengthened to provide more specificity in terms of the number and preferred location of bike parking spaces to guide private development and to provide a more standard approach for implementing bicycle parking by the City.

Recommended revisions:

Revise Sec. 34-881. Bicycle storage facilities to specify the number of bicycle spaces by land use; require long term parking for all workplaces, transit stations and multi-unit residential; require adequate short term parking for other land uses, provide site planning requirements and provide rack and locker design requirements.

Add definition of bicycle racks and bicycle lockers to clarify what is allowed for a parking reduction.

Comments from August 1, 2014 Staff Workday

- Provide standards for design in our city standards for all types of bicycle parking facilities
- Add details for bike parking type, size and dimensions in the ROW in the SADM. Also ensure guidance is provided on how these elements interface with surrounding features (ex: bikes overhanging a sidewalk)
- Require bike parking in all SUP where increase in density is requested or for all development over a certain density or square footage

- In Sec. 34-881, specify whether lockers or racks are classified as storage facilities. It's confusing.
- Need language to ensure bike parking is visible or clearly signed for short term/commercial/etc. parking so it gets used and not hidden away
- Bike parking standards are in their infancy so no regulations exist
- When standards are created make sure there is flexibility for innovation and design

Parking

Off Street Parking Requirements

Off-street parking located between the sidewalk and buildings creates an inconvenient and potentially unsafe barrier to pedestrian activity. Parking should be located to the rear of the building wherever possible. Any off-street parking adjacent to the public right-of-way should be screened with landscaping or fencing in such a way that does not create a barrier to adjacent sites or blocks. Long aisles of parking bays should be broken up with landscaped islands. Pedestrian access should be designed around the perimeter of on-site parking and between parking aisles.

Off-Street Parking

- In Standards and Design Manual, update curb cut specifications to match what is actually being constructed now (a more up-to-date, ADA compliant design is used than what is ever actually referenced on any site plan)
- In code section 34-972, rather than a “minimum 20’ driveway entrance”, reference a minimum 10’ driveway. The way our “driveway entrances” (ie curb cuts) are measured by current standards is a bit dubious. Also use driveway width for determining maximum width rather than driveway entrance.
- In code section 34-972 and Standards and Design Manual, provide explicit allowance and a standard for two-track driveways to reduce impermeable surface
- Establish a minimum length for residential driveways to ensure that each is long enough to fit at least one car without overhanging the sidewalk. (Code Sec34-972(7)(e) tries to get at this)
- City Code and Standards and Design Manual should require that, like public streets, drive aisles in parking lots intersect at right angles. If drive aisles must intersect at other angles, limit the number of legs such an intersection can have
- Code sections 34-975 and 34-977 (parking aisle and parking space dimensions, respectively) should be updated and made more consistent. Very specific dimensions for angle parking should be provided.
- Sec 34-983(b) concerning Off-Street loading areas should provide for a reduction in the minimum dimensions of off-street loading spaces as an intermediate step between requiring full-size spaces on-site and allowing on-street loading parking to meet this requirement
- Off-street parking requirements by use should be updated and redundancies/conflicts should be removed
- Sec 34-985(2) should clarify the rounding process for fractional required parking (should it always round up?)
- In Code Sec 34-974 (Cooperative parking arrangements) consider allowing a percentage parking reduction for sites within 300 feet of a bus stop rather than a 4 space reduction. For example, a multi-family dwelling with 120 dwelling units within 300 feet of a bus stop will probably house more than 4 full-time bus riders; on the other hand, a 4 DU apartment will probably still require at least 3 spaces.
- Place a ceiling on the number of bike lockers and high occupancy vehicle spaces for which off-street parking reductions can be claimed.
- Increase the number of total allowable off-street reductions

- Consider providing for a complete waiver of off-street parking requirements in specific areas where walking, biking, and public transportation access is great, particularly as an alternative to open-air parking lots, which have significant environmental impacts
- Parking lot buffers and screening should not be allowed to negatively impact sight distance at intersections, including the points of ingress and egress for the parking lot
- Larger parking lots should be designed with separate pedestrian pathways. Architectural Design Control Guidelines address this, but Code does not. A pedestrian path should be provided per every X feet of parking or per every Y adjacent parking spaces.

On-Street Parking

On-street parking can reduce on-site parking needs by providing parking spaces within the thoroughfare right-of-way. It provides convenient front door parking opportunities, contributes to the street environment, and creates a protective buffer between pedestrian and vehicular traffic. Spaces are distributed evenly along the street edge, helping maintain visual consistency and appeal in downtown areas. On-street parallel parking is preferred over angled parking on low speed urban streets. Parallel parking leaves more space for bike lanes and wider sidewalks.

On-Street Parking

- Remove on-street parking as a “temporary condition” when calculating sight lines at intersections.
- Require curb extensions at intersections with on-street parking and high traffic volumes.
- All references to parking meters mention coin as the denomination of preference, this needs to be updated to include credit cards and phone payments
- P. 39 of the Standards and Design manual Bike lanes should never be placed between the parking lane and the curb line or sidewalk- this is not always applicable. There are multiple places that the bike lane can be placed based on the nature of the roadway.
- P. 44 of Standards and design manual says that trees and other objects should be restricted from corners at a distance of 30 feet. City code allows vehicles to park 20 feet from intersection.

Parking Policy/Management

Parking policy and design can be a major factor in the walkability of a place. Providing an overabundance of free parking encourages driving, while on-site parking can serve as a barrier to pedestrian access of destinations. Limited or community parking provides more of an incentive to choose other transportation modes, assuming other reasonable transportation options exist. On-site parking reductions should be encouraged through reductions in parking minimums, use of parking maximums, shared-parking agreements, in-lieu agreements to shift parking to community parking facilities, or similar strategies.

Parking Policy and Management

- Recognize that demand for on-street parking is highest when parking is free
- Clarify fee structure for reserving parking (temporary sidewalk closure application).
- Increase fees for reserving parking
- Change permit parking to a twice a year process
- Add special events to Sec. 15-145 (temporary parking prohibitions)
- Add bicycles to Sec. 15-151
- Remove any language that would prohibit the City from charging for on-street parking or using smart meters in the future.

Structured Parking

Parking structures should be designed to blend into the urban environment by using a scale and façade design that complements surrounding buildings. “Wrapping” a parking structure with buildings can serve to conceal the parking and maintain a pedestrian friendly street wall. The façade can be articulated to give the appearance of multiple smaller buildings with variety in massing and architectural design. The exterior floor space on the ground floor of any parking structure should be used for commercial space with parking behind and above.

Structured Parking

- Where possible, provide encouragement and/or incentives for underground parking facilities
- Standards on the functional aspects of these facilities should be developed. For example, a plan currently under review has a three level parking garage, but it consists of two one-and-a-half level sections that are disconnected. This is not ideal.
- Guidelines for placement of accessible parking should be developed for parking structures.
- Vertical clearance standards for structured parking should be developed.
- Screening and/or wrapping requirements for structured parking should be developed, with an emphasis on encouraging underground parking facilities.
- In certain areas (ie. W Main St) incentives for providing underground facilities open to public use should be encouraged to provide parking facilities that are not visible from street level.
- Building open-area lots should be disincentivized, particularly where underground or structured parking with a smaller footprint would be feasible.

Comments from August 1, 2014 Staff Workday

Inherent conflicts: Yes, want to deemphasize cars but providing free parking and requiring parking lots to have more parking than desired.

Challenges: Challenges are that the interests of the stakeholders often conflict. Code does not and can't really address all concerns. More of a policy or vision. Safety considered when parking facilities are located behind a building.

Additional Tools: Double edged sword of mixed-use – more investigation of how other cities address issues.

Pitfalls: Political reality – interest of different groups conflict.

Free on-street parking is not free, it's tax payer supported/subsidized

Waive off-street parking – might be better to expand parking exemptions.

Are there any problems with permit parking which could be assisted? (not as relevant, but a consideration)

What about pervious surface for parking?

Minimum and maximums for parking spaces size- does it need review?

Restaurants: Count tables and chair, not square footage; do drive-thrus lower parking need?

Any discussion of on-street parking only being allowed after appropriate bike/ped allowances are made? Not every street needs sidewalk/bike, but in many cases it's on-street parking limiting space.

Can we use more curb paint and less signs?

Is 15-143 still in effect? Why?

Does 15-151 prevent children riding bicycles?

34-972(2) – what about shared driveways?

34-982 – does this prevent porous/permeable?

34-984(Table) – Outdoor rec – what is “usable area”? Should this scale by park classification?

15-176 – Does this prevent modern payment methods?

34.870 – Not all can be large, not all smaller should require director's approval – easier way to allow.

34-873(1) – Is 10 feet too much buffer?

34-874(a) – Do they have to be concrete? There are now plastic and other kinds.

SADM pg 39 – Bike lane not between parked cars and curb – this makes 6th street “Greenway” illegal.

EC C(1) says buffer strips should be 5 feet, SADM pg. 44 says buffer strips should be 6 feet.

Study switching from minimum to maximum parking counts, or adding a 150% max over the minimum required, applicable to surface lots.

Conflict with in code vs. city council vision

Mixed-Use parking in back of the building, does this create a safety problem?

Conflict of interest with different stake holders (clear direction from the very beginning, you won't be able to make everyone happy)

Precludes us from charging for parking (only excepting coins at meters, credit card machines)

A lot of unused parking (mostly free vs. paid)

Pervious parking spaced? What type of surface could this be... not only concrete

Design of the mixed use can become too homogenous, this creates an issue with façade

Number of spaces required for commercial vs. residential (is this too high) ← Jim T.

- City of California, certain standard, but can't build it on your property