

URBAN DESIGN & PRESERVATION

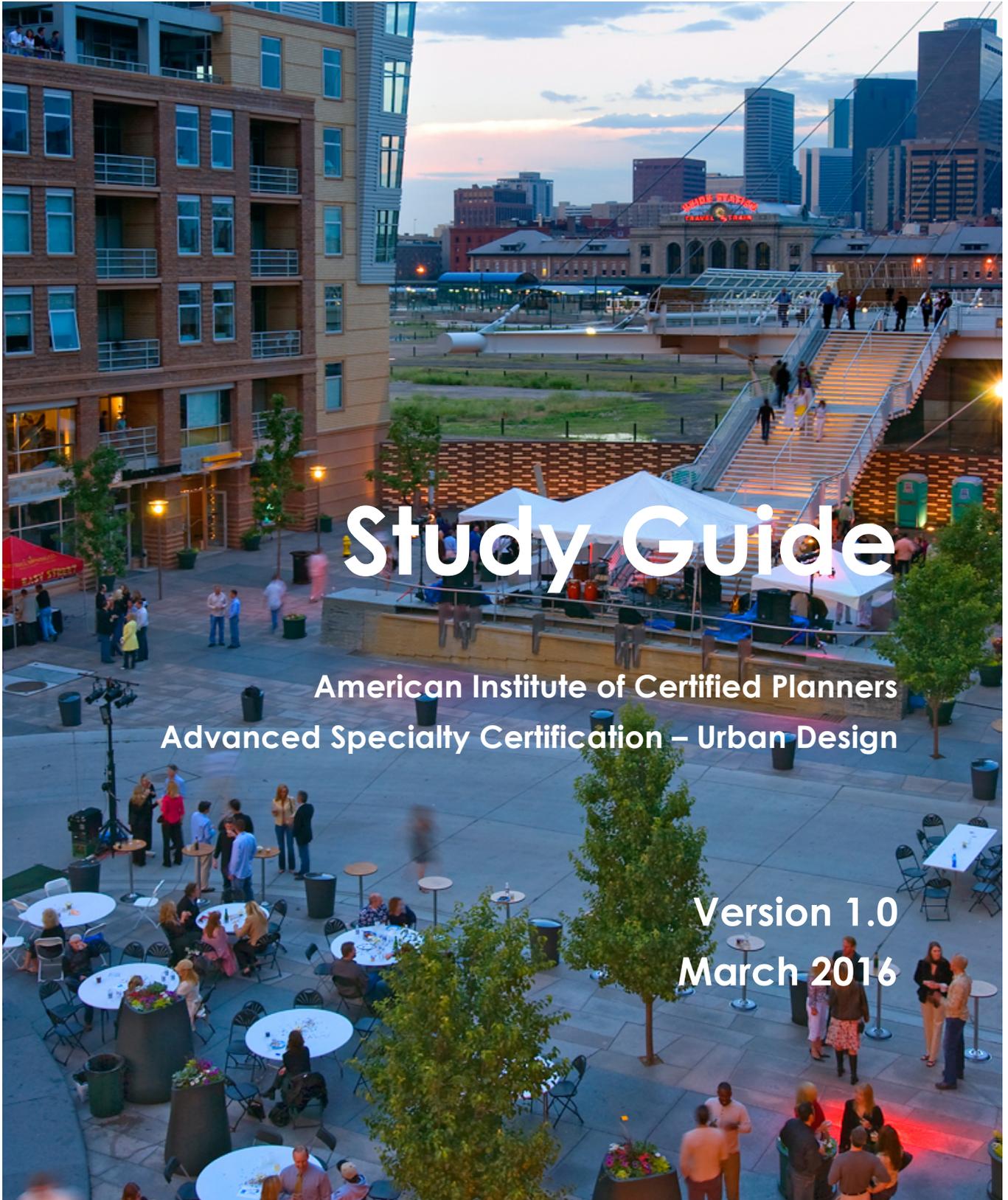


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Study Guide

American Institute of Certified Planners
Advanced Specialty Certification – Urban Design

Version 1.0
March 2016

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Study Guide

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Foreword

The American Institute of Certified Planners (AICP) Advanced Specialty Certification (ASC) examinations test the knowledge and skills of AICP credentialed planners within a specialized area of planning. The ASC examinations have been developed by committees of experts within the relevant planning specializations with the help of Prometric test specialists. Prometric is the recognized global leader in testing and assessment services, providing computer-based, Internet and paper-and-pencil testing solutions. It offers a fully integrated testing system that includes test development, test delivery and data management capabilities.

An examination task force oversees the program to ensure its continuing professional relevance. The examinations are administered in a computer-based format at over 300 Prometric test centers in the U.S. and Canada. The examinations are given once a year during a 14-day test window in May. Questions from each area of knowledge are distributed randomly throughout the examination. The ASC examinations are timed and consist of both multiple choice and scenario-based questions. Currently, AICP Certified Transportation Planner (AICP-CTP), AICP Certified Environmental Planner (AICP-CEP), AICP Certified Urban Designer (AICP-CUD) are the only three ASC examinations offered. Other planning specializations are being considered.

This study guide is prepared to address the topics covered in the AICP-CUD exam. The test deals with the in-depth knowledge areas and skills of planners who specialize in urban design. It is the intent of the Urban Design and Preservation Division to refine this document over time with comments from other urban designers and test takers.

Credits

American Planning Association

The American Planning Association (APA) brings together thousands of people—practicing planners, citizens, elected officials—dedicated to making great communities happen. APA is a nonprofit public interest and education organization committed to urban, suburban, regional and rural planning. APA's professional institute, the American Institute of Certified Planners (AICP), provides leadership in professional development, ethics, and the standards of planning practice.

Urban Design and Preservation Division

Established in 1983, the APA Urban Design and Preservation Division (UDP Division) is a Division of the APA tasked with urban design as a topic area of emphasis. The UDP Division is a nationwide community of professionals dedicated to supporting educational and networking opportunities for planners, urban designers, preservationists and allied

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professionals. UDP Division members are uniquely concerned with the built environment, particularly urban design, historic preservation, and the legacy of the planning profession. Recognizing urban design as an important emphasis area for planning professionals has led to the creation of the AICP-CUD.

Five UDP Division Chairs participated in the development, testing, and implementation stages of the AICP-CUD exam preparations: John Maximuk, AICP, Darby Watson, AICP, Jason Beske, AICP, Wendy L. Tinsley Becker, AICP and Rebecca Leonard, AICP. In addition to input from the UDP Division leadership team, 12 UDP Division volunteers helped to create this study guide by the authoring topical sections as listed below.

- 3D Design Creativity and Critical Insight – Michelle Nochta
- Sustainability – Melanie Golson, MSM, APR
- Agency – James Sasser, LEED AP-ND
- Cultural Heritage: Sensibility and Understanding – Wendy L. Tinsley Becker, RPH, AICP
- Mobility and Accessibility – Andrew Vesselinovitch, AICP
- Urban Framework – Marc Yeber, ASLA
- Implementation Tools – Patricia A. Maley, AICP
- Development – Kate Clark, AICP, LEED AP BD + C
- Development Economics – Charles Smith, AICP
- Legal – Rebecca Leonard, AICP, PLA, LEED-AP, CNU-A
- Tools of Trade – Kevin Dunphy, AICP, LEED AP BD+C

Prometrics, the test facilitator recommends that there be “firewalls” of information regarding each exam. Therefore, the study guide writers were not involved in every aspect of the exam preparations. To ensure that the “firewall” remained in place, several separate sets of urban designers and planners created the outline, the test questions and the study guides. The information contained in the study guide may be regarded as materials recommended by experts in the planning specialty of urban design. There is no guarantee that the material in this study guide will be included in the exam. Nor is there any guarantee that the material in the AICP-CUD exam is included in this study guide.

The UDP Division is the owner of this study guide and shall undertake periodic reviews of the guide contents to ensure it remains an informative and useful document for AICP-CUD test takers. To learn more about the UDP Division or to become a member visit www.planning.org/divisions/urbandesign. To leave detailed comments about the guide, please email the division at info.apaudp@gmail.com.

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I. Introduction

This study guide is intended to help potential test takers to prepare for the AICP Certified Urban Designer (AICP-CUD) Examination. Holding an Advanced Specialty Certification in Urban Design recognizes an individual's in-depth knowledge, experience, and leadership skills in urban design. The guide is organized into topical areas that correspond to the exam components and themes.

Defining Urban Design

Urban design is the process of giving form, shape, and character to groups of buildings, to whole neighborhoods and the city. It is a framework that orders the elements into a hierarchical network of streets, squares, and blocks to establish connections between people and places, and accounts for movement, form, and nature in the public realm. As an interdisciplinary specialization in the field of planning and design, urban design is practiced by planners, architects, landscape architects and engineers.

In 2013, the UDP Division established a list of characteristics that culminate in good urban design.

1. Enhancing – Enhances local economy, environment and community. Supports businesses and the local economy.
2. Connected – Connects physically and socially. Creates places that foster community livability. Develops inviting and accessible transit areas. A place that is easy to get to and move through.
3. Dense, Diverse and Mixed Use – Provides a diversity of options and experiences. Vibrant, dense with people and activity. It is a place with variety and mixed uses.
4. Equitable – Improves equity and opportunity for all. Comfortable and welcoming.
5. Retains Character – Bridges the past and the future. Creates a sense of place and history. Features works of art and craft.
6. Sustainable - Conserves and enhances the health of natural systems (including climate) and areas of environmental significance, and manage the impacts of climate change.
7. Safe – Increases safety and access for all users. Suited to the needs of everyone including disabled and elderly people.
8. Walkable – Encourages walking, biking and transit use.
9. Context – Works within the physical, and social context. Nurtures neighborhood character.
10. Engagement – Engages with stakeholders.
11. Excellence – Strives for excellence, innovation and collaboration.

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12. Custodianship – Considers custodianship, management and maintenance over time.
13. Legibility –Includes landmarks and focal points, views, clear and easily navigable routes, gateways to particular areas, lighting, and signage and wayfinding. Public and private spaces are clearly distinguished.
14. Adaptability – Change easily. Features flexible uses, possibilities for gradual change, and reuse of important historic buildings.

The above-listed traits may help the test taker understand the breadth of knowledge required to be an AICP-CUD professional.

Exam Outline and Overview

Pursuant to the AICP-CUD exam outline prepared by APA, information pertaining to the following topics and categories may be included in the exam.

1) **3D Design, Creativity and Critical Insight** | Exam Value: 15 %

- a) Imagination
 - i) Deconstruct and reconstruct (how to take apart and recreate designs or problems)
 - ii) Spatial properties and three dimensional design
 - iii) Investigation (query and probe into the unclear and unknown)
- b) Vision or Projection
 - i) Generate creative solutions (i.e., thinking in ways not yet apparent)
- c) Initiative
 - i) Using professional judgment to make decisions based on incomplete information
 - ii) Taking proactive initiative (e.g., being entrepreneurial and resourceful)
- d) Strategic Thinking
 - i) Integrating broader critical and imaginative thinking into logistical (physical) hypothesis
- e) Patience and Empathy
 - i) Understanding diverse perspectives and values
 - ii) Assimilating and translating diverse perspectives and values

2) **Sustainability** | Exam Value: 11 %

- a) Environmental
 - i) Built environment (open spaces, infrastructures)
 - ii) Natural environment (water, land form, climate)
 - iii) Historic preservation
 - iv) Adaptive reuse
 - v) Retrofitting buildings
 - vi) Energy (conservation, generation)

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- vii) Water, waste and recycling
- b) Social
 - i) Social equity
 - ii) Environmental justice
 - iii) Cultural associations (references)
 - iv) Sense of community identity
 - v) Appreciation for traditional patterns, materials and practice
- c) Economic
 - i) Job creation (creating places that attract and sustain jobs)
 - ii) Value of land
 - iii) Community competitiveness
 - iv) Access to transportation
 - v) Access to housing
 - vi) Jobs to housing balance
 - vii) Access to services

3) Agency | Exam Value: 9 %

- a) Understanding and Managing Change
 - i) Understanding how emerging trends influence design approaches
 - ii) Conserving places (irreplaceable assets)
 - iii) Responding to change in conditions by retrofitting and adapting
 - iv) Considering new influences to shape the built environment
- b) Inclusion
 - i) Tools and techniques appropriate to the audience (e.g., social media, mainstream media, public presentation, engagement and education etc.)
 - ii) Participatory processes of decision making
- c) Access
 - i) Communicating benefits of urban design
(1) 24 -
 - ii) Observing, analyzing and inspiring urban design outcomes
- d) Analysis
 - i) Deconstruction (identifying the components in order to interpret and educate)
 - ii) Engaging in diagnostic activities
 - iii) Reconstruction (putting the components back together)
 - iv) Communication of implications and consequences
- e) Leadership
 - i) Project management
 - ii) Conflict resolution
 - iii) Managing interdisciplinary teams
 - iv) Awareness of key players (ensuring key stakeholders are involved in the design process)

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- v) Recommending action
- vi) Advocacy
- vii) Ethics
- f) Facilitation
 - i) Ensuring all voices are heard and none dominate-including yours
 - ii) Communicating implication of choices
 - iii) Consensus building
 - iv) Building a sense of ownership by the stakeholders
- g) Community and Individual Quality of Life
 - i) Aesthetics (sense of beauty)
 - ii) Fiscal impact
 - iii) Quality of life (sense of place)
 - iv) Improved health, safety and wellness
 - v) Building a sense of ownership by the stakeholders
 - vi) Recognizing increase in diversity, and the need for connectivity and choices

4) **Cultural Heritage, Sensibility and Understanding** | Exam Value: 9 %

- a) Demographic Trends, Race, Class, Age and Gender
 - i) Spatial equity
 - ii) Use of a place (past, present and future)
 - iii) Competing economic interests
- b) Intangible Heritage
 - i) Memory and traditions including food, indigenous celebrations and music
 - ii) COMPETING INTERESTS AND VALUES
 - iii) Political interests
 - iv) Cultural values
 - v) Financial realities
- c) Design
 - i) Historical urban patterns
 - ii) Traditional building styles, methods and materials

5) **Mobility and Accessibility** | Exam Value: 8 %

- a) Access to Basic Human Needs
 - i) Access to food (including urban agriculture)
 - ii) Access to health care
 - iii) Access to open spaces, nature
 - iv) Access to jobs
 - v) Access to education
 - vi) Public safety
- b) Streets / Streetscapes
 - i) Appropriate hierarchy of street designs for all modes of travel

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- ii) Walkability
- iii) Safety and security
- iv) Identity
- v) Accessibility
- vi) Connectivity
 - (1) 25 -
- c) Health and Wellness
 - i) Physical access to services
 - ii) Quality of choices of mobility
 - iii) Aesthetics
 - iv) Active living designs
- d) Multimodal Access
 - i) Complete streets
 - ii) Public transit
 - iii) Balance of movement and accessibility
 - iv) Paths, trails, water taxis, bicycles, shared cars
 - v) Parking and parking management
- e) Access
 - i) Concepts of universal access
 - ii) Application of state, federal and local laws

6) **Urban Framework | Exam Value: 15 %**

- a) History and Precedents
 - i) Context
 - ii) Precedents
- b) Theory and City Forms
 - i) Settlement types and arranging forms
 - ii) Historical patterns and variations
- c) Land Use, Density and Intensity
 - i) Integration of uses and mixed uses
 - ii) Compactness, transition and economics
- d) Urban Typology
 - i) Building function and typology
 - ii) 3-dimensional form, massing, scale
 - iii) Dimensional characteristics of buildings
 - iv) Open space typology
 - v) Block typology
 - vi) Street typology
- e) Public Realm
 - i) Publicly accessible open spaces, streets and orientation
 - ii) Civic and cultural facilities

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- f) Streets / Streetscapes
 - i) Dimensions
 - ii) Organizational systems
 - iii) Performance standards
 - iv) Urban forestry
 - v) Personal safety as a consideration
 - vi) Wayfinding and commercial signage
 - vii) Active use of street and public spaces
- g) Accessibility, Visibility and Safety
 - i) Visibility and access
 - ii) Safety and maintenance
 - iii) Vending and programming
- h) Quality of Materials
 - i) Type and quality of building materials
 - ii) Streetscape materials
 - iii) Landscape materials
- i) Public art
 - i) Understanding the role of arts in community and public places
 - ii) Types of public art and interaction
- j) Public Transit
 - i) Routes, stops, stations, shelters, systems and alignments
 - ii) Way finding, legibility and accessibility
 - iii) Transit Oriented Development (TOD)
- k) Parking
 - i) Types, quantity and dimensions
 - ii) Location, operation and management
 - iii) Service access and characteristics
- l) Utilities and Infrastructure
 - i) Power, water, stormwater, communication, gas
 - ii) Integrating natural systems as infrastructure
- m) Natural Systems
 - i) Hydrology, geology and geomorphology
 - ii) Habitats and biodiversity
 - iii) Climate

7) Implementation Tools | Exam Value: 10 %

- a) Regulatory Framework
 - i) Plans
 - ii) Entitlements
 - iii) Design standards
 - iv) Types of land use and intensity of use

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- b) Design Standards and Urban Design
 - i) Building placement, massing and orientation
 - ii) Parking and service
 - iii) Dimensional parameters of streets, open spaces and buildings
 - iv) Management of visual character
 - c) Capital Improvement Programs
 - i) Structures, streets, sidewalks and infrastructure
 - ii) Public institutions, facilities and government centers
 - iii) Understanding budgets, procurement and public processes
 - iv) Parks, squares and playgrounds
 - d) Incentives: Public, Private and Institutional
 - i) Regulatory, bonus, public infrastructure
 - ii) Tax Increment Financing (TIF), Business Improvement District (BID), financial incentives
 - e) Partnerships
 - i) Public benefits, organizations, nonprofit organizations
 - ii) Strategic partnerships
 - iii) Working with community advocates
 - f) Public Financing
 - i) Bonds, levies, impact fees
 - ii) Special assessments, local improvement districts
 - g) Private Financing
 - i) Conventional financing, consortium, lending
 - ii) Return on investment, proforma, redlining
 - h) Real Estate Economics
 - i) Assessments, appraisals
 - ii) Feasibility, market demands, competitiveness, leakage
 - iii) Relationship of financing to entitlement
 - i) Health Impact Assessment
 - i) Environmental Impact Settlement (EIS), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA) (CA only), and State Environmental Policy Act (SEPA)-several states
 - j) Organizations: Community Development Corporation, Non-Governmental Organization, Business Improvement District
 - i) Identification and empowerment of stakeholders
- 8) Development | Exam Value: 8 %**
- a) Phasing
 - i) Managing political process
 - ii) Building construction including phasing considerations
 - iii) Feasibility, impact and opportunities

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- b) Standards
 - i) Regional practices and resources
 - ii) General knowledge of construction types
- c) Means and Methods
 - i) Construction impacts
- d) Cost
 - i) Capital, operating, maintenance and lifecycle cost
 - ii) Value of existing structures and infrastructure

9) **Development Economics** | Exam Value: 4 %

- a) General Real Estate Knowledge
 - i) ROI, payback periods, sources and uses, changing proformas
 - ii) Market conditions and consumer demands
 - iii) Regional trends

10) **Legal** | Exam Value: 3 %

- a) Property Rights
 - i) Ownership rights
- b) Sources of Legal Authority
 - i) Constitutions
 - ii) Legislation
 - iii) Case law
 - iv) Land, building, fire and related codes

11) **Tools of the Trade** | Exam Value: 8 %

- a) Analysis
 - i) Visual evaluation tools
 - ii) Digital tools
 - iii) Graphic presentation of quantitative information
 - iv) Info graphics
 - v) Research
 - vi) GIS
- b) Description
 - i) Language tools, narrative: writing, verbal
 - ii) Visualization tools
- c) Engagement
 - i) Workshops
 - ii) Charrettes
 - iii) Social media
 - iv) Presentations
 - v) Websites

II. Exam Components

This section provides a topical overview for each of the AICP-CUD exam components outlined in Section I. The discussion and information for each of the 11 components begins on a new page. Each component chapter is generally organized to include a topical overview, information corresponding to each component theme described in the exam outline, and a brief bibliography for further reading.

3D Design, Creativity and Critical Insight

Prepared By: Michelle Nochta

Date: March 2016

Introduction

The Urban Design process requires the mastery of a variety of different skills and a wide breadth of knowledge across disciplines. Three-dimensional imagery is one of the most expressive ways to present the layers of information necessary to interpret data and develop solutions. Digital technology can be used to produce layered and accurate plans/maps that can be used to frame problem and open dialogue with the proposed users. This portion of the AICP exam will make up 15 percent of the grade.

Topical Overview

The massive advances in technology in the past one hundred years have drastically changed the way people live in and think about. We have the ability to move people and goods with speed and precision. We can regulate indoor environments cheaply enough that people actually want to move to the desert. Fantastic medical and scientific advances have been achieved. Urban designers can create beautiful designs and transmit them electronically in a fraction of the time it took to create even 10 years ago. We have the ability now to plan for anything and everything, and a hundred different ways to do it. A creative mind can quickly become swamped in the endless possibilities. This guide is meant to provide a concise method to find the edges of a project and create

appropriate boundaries. This method is meant to be iterative and spiral as solutions are manifested graphically and tested for relevance.

When presented with a three-dimensional design problem there are two approach choices based largely on the style of the planner – the “implicit” approach or the “explicit” approach. The implicit approach is also known as the “atelier” or “black box” Method. This design process relies on the intuition and experience of the planner. The “explicit” or “inquiry” method relies on knowledge of all the underlying issues and problems before any renderings can be produced. The implicit method relies largely on the experience of the planner for success. The explicit method is more proletarian and can be successfully employed by a novice or a seasoned professional. The bulk of this writing will therefore focus on the explicit method.

Urban design borrows from the school of architectural thought when it comes to solving three dimensional design problems. Before a problem can be solved it must be defined. A proven technique for defining the boundaries of a problem is to develop the “core premise.” The premise is developed verbally before a graphic solution can be attempted.

1. Ask the following questions about every project:
 - a. What are the deliverables that the client wants from the project?
 - b. Who are your end users? Determine their values, cultures and personalities?
 - c. Where will the project be, what is the topography and climate?
 - d. Why is the project needed?
 - e. How much will be spent on the project, will it be modest or extravagant?
2. Brainstorm - get ideas for all the issues.
3. Get perspective - take a break.
4. Extract the essence - after your break, sift through and mark only the most important words.
5. Compile - these words will create your “core assumptions” short statements that are known to define the project.

How to Expand a Core Premise into a Developed Premise

1. To refine the Core Premise into a Developed Premise take each core concept and go through the five steps again. This will deepen your understanding of the project and create the foundation of your design concept.
2. Look at relationships and patterns in your emerging conclusions; are any of them starting to resemble a design concept?
3. Is your Core premise still relatable to your Developed Premise or does it need to be altered to encompass all of the Developed Premises?

Developing the Concepts: Program and Design

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The Program Concept is a result of the strength of the acquired information and the planner's individual style. The Key components are:

1. Go through the questioning of who, what, when and where again, from the perspective of the project designer.
2. The concept is your bridge between the problem and your solution.

Design Effort

Now manifest the concept into a three-dimensional design. A weak concept will fragment, while a strong concept supports good design choices.

Beginning your Design

1. Use adjacency diagrams to express your concepts graphically.
2. Use matrix analyses to exam the relationships among your concepts.
3. Do some freehand sketches to work more creatively
4. Check the implications of your three dimensional design. This is known as a massing study.
5. Refine your design. Use your guiding concepts to inspire your refinements.

Critical Thinking

Critiquing the concept to evaluate its relative strength. If the Premise is strong then the Concepts that have been graphically manifested should be verbally relatable back to the problem and read as solutions. If the designer chose weak concepts or strayed from the guiding principles the design will present weakly. This is an important test of a design concept, and the designer can loop back into the process to create new concepts or refine as needed to reinforce the overall design.

Topical Bibliography

Bardach, Eugene. A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem-Solving. Los Angeles: CQ Press, an imprint of Sage Publications, 2005

Yatt, Barry D. Critical Thinking for Architects: Developing a Project Premise and Concept. School of Architecture and Planning, The Catholic University of America, n.d.
<http://archprac.cua.edu/aprp/olce/papers/items/think.htm> Accessed February 22, 2016.

Sustainability

Prepared By: Melanie Golson, MSM, APR
Date: March 2016

Introduction

Sustainability is a strategy of planning for development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It may also be defined as the ability to continue public services and/or existing programs; to meet financial commitments both now and in the future; to maintain the stability and predictability of future tax burdens, which supports informed long-term decision making; to rely on a government's future revenue sources; and to maintain "reasonable" levels of debt.

The AICP-CUD exam further breaks this topic down into three subareas – Environmental Sustainability (4 percent), Social Sustainability (3 percent) and Economic Sustainability (4 percent) – for a total of 11 percent of the total exam. For comprehension and success on this component of the AICP CUD exam, you will need to understand the general concepts related to sustainability in urban design, and understand selected key terms presented below.

Topical Overview

Environmental

- Built environment - The built environment includes all of the physical parts of where we live and work (e.g., homes, buildings, streets, open spaces and infrastructure). The built environment influences a person's level of physical activity.

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- Natural environment - All living and non-living things that occur naturally on a particular region. A natural environment is one in which human impact is kept under a certain limited level.
- Historic Preservation - Historic preservation services embrace a range of activities that include preservation, rehabilitation, restoration and reconstruction
- Adaptive reuse - The renovation and reuse of pre-existing structures (such as warehouses) for new purposes
- Retrofitting Buildings - The process of modifying something after it has been manufactured. For buildings, this means making changes to the systems inside the building or even the structure itself at some point after its initial construction and occupation. Typically, this is done with the expectation of improving amenities for the building's occupants and/or improving the performance of the building. The development of new technologies mean that building retrofits can allow for significant reductions in energy and water usage.
- Sustainable Energy Conservation/Generation - Sustainable energy is a form of energy that meet our today's demand of energy without putting them in danger of getting expired or depleted and can be reused again. All renewable energy sources like solar, wind, geothermal, hydropower and ocean energy are sustainable as they are stable and available in plenty.

Social

- Social Equity - Social equity implies fair access to livelihood, education and resources; full participation in the political and cultural life of the community; and self-determination in meeting fundamental needs.
- Environmental Justice - Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or revenue with respect to the development, implementation and enforcement of environmental laws, regulations and policies.
- Cultural Associations - Artistic, social pursuits or events considered valuable or enlightened relating to a culture or civilization
- Sense of Community - Focuses on the experience of community rather than its structure, formation, setting or other features. "Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together. Appreciation of traditional patterns, materials and practice

Economic

- Job Creation – Creating Places that Attract and Sustain Jobs
- Value of Land - The value of a piece of property, including both the value of the land itself as well as any improvements that have been made to it.

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- Community Competitiveness - Ability of a community to offer resources and services to compete for industry, jobs and economic development opportunities.
- Access to Transportation - Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and other equal opportunity goals such as access to good schools and health care services
- Access to Housing – the economic, social and cultural right to adequate housing and shelter and the ability of the community to provide adequate housing resources.
- Jobs to Housing Balance - a balance between jobs and housing in a metropolitan region can be defined as a provision of an adequate supply of housing to house workers employed in a defined area (i.e., community or sub region). Alternatively, a jobs/housing balance can be defined as an adequate provision of employment in a defined area that generates enough local workers to fill the housing supply
- Access to Services – the ability of a community to provide adequate access to jobs, health care, education and other services essential for meeting quality of life standards

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American Planning Association. Planning and Urban Design Standards. New York: Wiley, 2006.

Talen, Emily. Urban Design Reclaimed. Chicago: APA Planners Press, 2009.

Wheeler, S. M. and T. Beatley. The Sustainable Urban Development Reader (Second Edition). New York: Routledge, 2009.

Agency

Prepared By: James Sasser, LEED AP-ND
Date: March 2016

Introduction

Agency is a broad subject matter in relation to urban design. According to *Communicating as Organizing: Empirical and Theoretical Approaches to the Dynamic of Text and Conversation* 'Agency' can be defined as "the capacity, condition, or state of acting or of exerting power." Agency is involved from start to end of the urban design process. APA has identified seven core steps in the process for comprehensiveness and success for this component of the AICP-CUD exam. The Agency component holds a 9 percent weighting on the AICP-CUD exam.

Topical Overview

Understanding and Managing Change

We are at the forefront of an urban renaissance. The sprawl-dominated lifestyle of the 1970s and 1980s is no longer sustainable or even feasible. As planners we are constantly adapting to trends, especially in terms of design. These emerging trends often driven by market forces, shape the way we as designers construct our public realm. To correctly design for an environment it is crucial to research some of today's top urban building trends:

- Resilient design in coastal cities due to climate change
- A greater presence of "human-scale" urbanism projects such as DIY and tactical urbanism ventures
- The graying of the American population and the resurgence of city population
- Small! Small! Small! – Smaller family sizes, tiny houses and popularity of bike culture

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- More low and midrise affordable housing solutions
- Planning for people, and not for cars
- Modernizing urban infrastructure- adaptive reuse, LEED certified buildings
- Transit-oriented development and the value both socially and fiscally associated with
- Rise in public-private partnerships

With rapid construction and urban regeneration it is also important, however, to conserve our historic buildings and places. These are considered to be irreplaceable assets and have been set up to be protected by: local historical review boards, state historic jurisdictions and national preservation associations. Buildings that cannot be 100 percent conserved should at least be retrofitted or adapted. Retrofitting and adaption can:

- Deliver dynamic attractive communities
- Can be a powerful tool for farmland, open space and historic preservation
- Provides economic growth potential by retrofitting existing suburban corridors with the opportunity to create more efficient development patterns

Inclusion

Community participation is ultimately one of the strongest forces in the creation and management of the built natural environment. The APA notes that the main purposes behind participation are: 1) to involve citizens in planning and design decision-making processes and, as a result, make it more likely they will work within established systems when seeking solutions to problems, 2) to provide citizens with a voice in planning and decision making in order to improve plans, decisions, service delivery, and overall quality of the environment and, 3) to promote a sense of community by bringing together people who share common goals.

Numerous tools and techniques can be geared toward a specific audience to achieve a difficult decision. These tools and techniques should be participatory in nature and result in community consensus especially in terms of design.

- Surveys (questionnaires and interviews)
- Community visioning
- Charrettes (workshops)
- Public meetings (informational, advisory, open house)
- Social media and mainstream media
- Educational forums
- Bilingual flyers
- Providing child care
- Unconventional meeting times
- Computer Based Public Participation (Mapping issues, anonymous digital surveys, electronic sketch boards)
- GIS mapping and imaging software

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Access

There is an increasing demand for a voice in the design and planning of communities. This involves communicating the many benefits of urban design to the public. Community cooperation and involvement through participation in meetings, charrettes etc. is the most common way to communicate these benefits. Publicity is a large part of the communication process. According to Simon Eisner in *Urban Pattern* “a small blurb in the legal section of your local paper will not attract a large following. Contacting local groups, schools, agencies and encouraging media publicity will encourage participation in the urban design process and reduce the number of “NIMBY” at the development stage. As citizens learn about what is possible, their expectations will encourage all players such as developers and government to provide high-quality urban environments. Knowledge of urban design leads to an increased sense of ownership of place resulting in positive built environments. Tools for communicating urban design benefits include:

- Design centers
- Public displays including physical models, flagship projects, street booths and school resource kits
- Interpretive trails such as heritage routes and walking tours
- Media techniques including local social media initiatives, websites, newsletters and press releases
- Urban design awards such as The Mayors Institute on City Design
- Urban design events including exhibitions, public lectures and open houses

Analysis

- Deconstruction (identifying components in order to interpret and educate)
- Engaging in diagnostic activities
- Reconstruction (putting the components back together)
- Communication of implications and consequences

Leadership

Leaders from both the community and government are needed for the success of plans and designs. The project management team will often consist of a government official, consultant (if private project) and key community members to oversee the development of the plan or design. These parties are generally called stakeholders and can be divided into four categories: sectors of society such as residents and landowners, interest groups such as ethnic or religious groups, agencies such as school districts or local government, and elected officials such as city council and the mayor. According to the APA “a stakeholder process offers an informal and flexible forum for bringing participants together to try to resolve their differences.” If the agglomeration of various stakeholders does not successfully address these differences than conflict resolution may be in order.

Conflict resolution or consensus building seeks to bring all relevant stakeholders together, on a face-to-face basis, assisted by professional facilitators and mediators. Although a perfect outcome is not always achieved, consensus building aims to enhance the fairness, efficiency, stability and wisdom of agreements. Consensus building involves five pivotal steps:

- Assessment: allows parties to identify concerns, interests and opportunities for agreement
- Convening: bringing the right parties to the table and creating a process to increase likelihood of problem-solving
- Deliberating: creating understanding, relationships, uncovering interests and seeking credible information
- Deciding: the effort to reach agreement
- Implementing Agreements: seeking gratification by constituencies and provide for monitoring

Facilitation

It is crucial that the urban designer understands the importance of consensus through processes that include “meaningful involvement of all parties, mutual respect for differing opinions, and exploration of commonly held core values and openness to as-yet unidentified solution sets” (APA, 2006). The American Planning Association has stated that facilitation can be a powerful tool for resolving conflict, reaching community consensus, and building a broad base of support for change.

When to facilitate:

- There is a political commitment to a group-determined outcome or recommendation
- There are more than two dominant perspectives or solution sets
- The problem is complex and the value continuum is broad
- There is a broad-based desire to seek resolution to the perceived problem

Common Strategies for Facilitators:

- Listen well and actively
- Project trust and genuine interest in differing perspectives
- Believe in values as much as facts as a dominant motivator for change
- Always be neutral to the outcome
- Maintain loyalty to the group, not the entity that retained them
- Be trained and skilled in group-process techniques
- Stay neutral and leave personal opinions at home
- Remember the victory belongs to the group, not the facilitator

Community and Individual Quality of Life

It has been well documented that urban design affects the quality of life in both the community and the individual. Urban design affects quality of life aesthetically, fiscally and physically. From the earliest years of the profession, planning has had specific interests in the aesthetics of the environment. A number of theoretical approaches to urban aesthetics have formed, all of which contain flaws. It is vital to comprehend these different approaches and based on each project, Basch writes "must be recognized as such and clarified, amended or when necessary, rejected" (Basch, 1972)

- The survey approach to aesthetics- researchers are sent to a selected site to catalogue features that contribute to its aesthetic characteristics. This includes: verbal descriptions, sketches and photographs. The information is then given to design decision-makers for evaluation.
- The market approach to aesthetics- the aesthetic problems in the community are evaluated by the citizen. Based on the citizen response, the planner creates design solutions to be integrated into the planning process.
- The perception approach to aesthetics- this approach implies that "an individual's reaction to physical phenomena is based on cognitive processes, that is, the psychological and physiological factors that filter our experiences." The approach is centered on the idea that studying these mechanisms will ultimately lead to a "science of aesthetics."
- The analytic approach to aesthetics- outlines setting a boundary to the subject matter so that the aesthetic can be separated by the non-aesthetic, categorize these aesthetics, provide criteria for evaluating, and relate all aesthetics to other forms of aesthetics not seen in planning and urban design directly. This ultimately results in a completely analytic system.

Urban design and land patterns in general can influence the fiscal situation for a town or community. Often the project team or municipality will conduct a fiscal impact analysis where local government costs are compared to local government revenues associated with land-use policies and specific development projects. According to APA this process projects cash flow to the public sector resulting from development and large-scale urban design projects. This ultimately results in a government's decision to engage in certain development and design projects. The planner should understand and be able to evaluate the three different types of fiscal impact analysis processes: land-use analysis, project analysis and area wide analysis.

If the numbers add up and the project is determined to be feasible than the development process will begin. Urban design projects ultimately increase the sense of place of a neighborhood or area. Things such as well-designed streetscapes and public plazas can increase a sense of community and ultimately lead to a higher quality of life. It is important

for a community to have an identity. The following urban design features can possible increase sense of place in a town or neighborhood.

- Gateway monuments
- Strategically placed signage
- City branding in public spaces and facilities
- Streetlights
- Landscaping
- Street furniture
- Hardscaping
- Streetscapes
- Multimodal transit lanes
- "Third places"
- Clear edges and boundaries
- Centralized meeting areas

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Cultural Heritage, Sensibility and Understanding

Prepared By: Wendy L. Tinsley Becker, RPH, AICP

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Introduction

Cultural Heritage is defined as the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations (Source: UNESCO). Historic preservation, preservation planning, and cultural resources management are within the umbrella definition of Cultural Heritage. APA and the UDP Division recommends urban design projects incorporate and demonstrate a strong sensibility and understanding of a community's cultural heritage to foster places, people, and properties as part of larger, comprehensive placemaking strategies.

This topic represents approximately nine percent of the AICP-CUD exam. The following pages include key principles and standards set forth by the National Park Service and the United States Interior Department, and an overview of preservation activities and ultimate treatment approaches that guide the interpretation and continued use of historic places in the built environment. Corresponding to the exam topic outline, this section also include discussion of demographic trends, the concept of intangible heritage, competing interests and values, and design patterns to aid in successful completion of the subject portion of the AICP-CUD exam.

Topical Overview

The methodological framework for preservation planning is managed by the United States Interior Department via a series of principles and standards that provide guidance for

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decision-making, management, and utilization of historic properties. These principles and standards are provided below and are a tacit part of the exam component themes discussed in this section: Demographic Trends, Intangible Heritage, Competing Interests and Values, and Design.

Secretary of the Interior's Principles for Preservation Planning

- Important historic properties cannot be replaced if they are destroyed. Preservation planning provides for conservative use of these properties, preserving them in place and avoiding harm when possible and altering or destroying properties only when necessary;
- If planning for the preservation of historic properties is to have positive effects, it must begin before the identification of all significant properties has been completed. To make responsible decisions about historic properties, existing information must be used to the maximum extent and new information must be acquired as needed; and
- Preservation planning includes public participation. The planning process should provide a forum for open discussion of preservation issues. Public involvement is most meaningful when it is used to assist in defining values of properties and preservation planning issues, rather than when it is limited to review of decisions already made. Early and continuing public participation is essential to the broad acceptance of preservation planning decisions.

Secretary of the Interior's Standards for Preservation Planning

- Standard I. Preservation Planning Establishes Historic Contexts. Decisions about the identification, evaluation, registration and treatment of historic properties are most reliably made when the relationship of individual properties to other similar properties is understood. Information about historic properties representing aspects of history, architecture, archeology, engineering and culture must be collected and organized to define these relationships. This organizational framework is called a "historic context." The historic context organizes information based on a cultural theme and its geographical and chronological limits. Contexts describe the significant broad patterns of development in an area that may be represented by historic properties. The development of historic contexts is the foundation for decisions about identification, evaluation, registration and treatment of historic properties.
- Standard II. Preservation Planning Uses Historic Contexts To Develop Goals and Priorities for the Identification, Evaluation, Registration and Treatment of Historic Properties. A series of preservation goals is systematically developed for each historic context to ensure that the range of properties representing the important aspects of each historic context is identified, evaluated and treated. Then priorities are set for all goals identified for each historic context. The goals with assigned priorities

established for each historic context are integrated to produce a comprehensive and consistent set of goals and priorities for all historic contexts in the geographical area of a planning effort. The goals for each historic context may change as new information becomes available. The overall set of goals and priorities are then altered in response to the changes in the goals and priorities for the individual historic contexts. Activities undertaken to meet the goals must be designed to deliver a usable product within a reasonable period of time. The scope of the activity must be defined so the work can be completed with available budgeted program resources.

- Standard III. The Results of Preservation Planning Are Made Available for Integration Into Broader Planning Processes. Preservation of historic properties is one element of larger planning processes. Planning results, including goals and priorities, information about historic properties, and any planning documents, must be transmitted in a usable form to those responsible for other planning activities. Federally mandated historic preservation planning is most successfully integrated into project management planning at an early stage. Elsewhere, this integration is achieved by making the results of preservation planning available to other governmental planning bodies and to private interests whose activities affect historic properties.

Preservation Planning Activities

- Identification – conduct surveys of historic-era properties (buildings, structures, sites, landscapes and objects, etc.) accompanied by archival research to identify properties that may require special consideration in a planning or development process.
- Evaluation – assess the property for eligibility under the National Register of Historic Places, and state and local historic site registers as applicable.
- Registration – formally list the eligible property to the National Register of Historic Places, and state and local historic site registers to ensure permanent recognition and consideration of the property in planning and design processes.
- Treatment – determine the appropriate method of treating the historic property pursuant to [The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings.](#)
 - Rehabilitation
 - Restoration
 - Reconstruction
 - Preservation

Demographic Trends

- **Spatial Equity** – Equitable development of land uses, spatially targeting historic-era neighborhoods for preservation planning activities in an authentic, inclusive and participatory manner.
- **Use of a Place** – Understanding and acknowledging historic-era land uses, development patterns, architectural styles, building methods, and the resultant occupancy and perception of a place through time.
- **Competing Economic Interests** – Economic development considerations, elastic definition of blight and associated redevelopment processes, and identifying whether an existing historic-era building, structure, or site brings more value relative to community culture and history than a newly constructed property.

Intangible Heritage

- **Memory and Traditions** – Cultural heritage does not end at monuments and collections of objects. It also includes traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts. While fragile, intangible cultural heritage is an important factor in maintaining cultural diversity in the face of growing globalization. An understanding of the intangible cultural heritage of different communities helps with intercultural dialogue, and encourages mutual respect for other ways of life.

Competing Interests and Values

- **Political Interests** – Over the last 150 years American historic preservation has responded to the particular American political and economic context relating to land use and development decisions, concern for private property rights, and the federal framework for decision-making.
- **Cultural Values** – As set forth in the National Historic Preservation Act of 1966 “the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people.”
- **Financial Realities** – “Various aspects of historic preservation have substantial economic benefits as well as economic costs. While many may argue that the benefits to society, both financial and otherwise, outweigh the costs, the relationship between preservation and the economy as well as overall societal benefit remains imperfectly understood and only partially documented.” (Rypkema and Cheong: 2) Incentives and benefits are available at the national, state, and local levels to support the preservation, rehabilitation and adaptive reuse of historically and architecturally significant properties as well as properties that are historic-era but not

technically eligible for inclusion on the national register, state register or a local register.

- See Donovan Rypkema and Caroline Cheong [Measuring Economic Impacts of Historic Preservation](#) (2011).
- See Harry K. Schwartz and National Trust for Historic Preservation policy report *State Tax Credits for Historic Preservation* (2014).

Design

- Historical Urban Patterns – Based on population settlements and densities, evolving transportation technologies and land uses.
 - 1800s-1900s: Grid-iron pattern to maximize commercial land uses, walkable, pre-automobile era.
 - 1910s-1930s: Rectilinear blocks corresponding to streetcar and trolley lines, walkable, pre-and-post automobile era.
 - Single-family and multiple-family dwellings arranged within walking distance to transit.
 - One-and-Two part Commercial Block buildings offering some mixed-use opportunities (at upper floors), vertical block buildings, etc.
 - Destinations at the end of the lines serve as an incentive to ride the trolley / streetcar and observe lots for sale along the way (streetcar suburbs).
 - 1920s-1940s: Curvilinear street patterns in exclusive use residential districts some designed on the garden city model and after the Neighborhood Unit Theory.
 - 1930s: Greenbelt Towns serve as the Federal Model for American suburbanization.
 - 1940s: Federal housing projects for WWII-era communities further reinforce development patterns and set the precedent for private development in the 1950s and beyond.
 - 1950s forward: Private development of suburban communities and solidification of Community Builders - offering comprehensively constructed communities that account for zoning and include housing, commercial opportunities, schools, etc.
 - Based on the Urban Land Institute's *Community Builders Handbook* series produced at the time.
- Traditional Building Styles, Methods and Materials
 - Property Types
 - Domestic - Detached Dwellings, Tenement Houses, Apartment Blocks, Cottage Courts
 - Commercial - One Part Blocks, Vertical Blocks, Financial
 - Utilitarian / Industrial - Warehouses, Factories, Railroad Properties, Water Towers

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- Civic / Community - Government Offices, Meeting Lodges
- Landscape - Sculptural Landscape Elements, Memorials, Walls, Fountains, Signage
- 1700s-1800s: Folk / Colonial - Colonial intervention by Europeans throughout areas of present-day U.S. Primarily Domestic forms. Stylistic detailing and planned construction based on European precedent.
 - East: Wood Frame Construction; One-or-Two Story; Linear and Massed Plans; Side-or-Front Gabled Roofs w/Shake Shingles.
 - South: Wood Frame Construction; One-or-Two Story; Linear, L and T Plans; Side Gables Shake Roofs w/Shed Roof Extensions
 - Midwest plains: Earthen materials; Timber, Fieldstone, Sod; Gable, Hipped, Shed Roofs; Integrated into natural landscape (dugout)
 - Southwest: Pueblo; Earthen Adobe; Flat Roof; Massed Plan.
- 1800s: Romantic Revival: Based on Thomas Jefferson's Early Classical precedent of Democratic ideals; Greek Revival (influenced by Early Classical Revival); Heavily influenced by Andrew Jackson Downing's *Cottage Residences* house pattern book (1842) that promoted styles alternative to Greek Revival - Gothic Revival and Italianate – and exotic sub-types: Moorish, Japanesque, Swiss Chalet, Egyptian Revival and Octagonal. Late 1800s early skyscrapers are introduced in major cities.
- 1880s-1940s: Eclectic (Not Pure Historicist): Colonial Revival, Neoclassical / Beaux Arts, Tudor Revival, French, Italian Renaissance Revival, Mission Revival, Spanish Revival, Monterey, Pueblo Revival, Prairie and Craftsman.
- 1920s-1970s: Modernistic - Art Moderne / Streamline, Art Deco, Egyptian Revival, International, Brutalism, Ranch, Contemporary.
- 1970s-1980s: Post-Modern – Revisiting historicist influences and symbolism with diverse aesthetics.
- 1990s Forward – Limited neo-revival styles at New Urbanist communities.

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Mobility and Accessibility

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Introduction

Mobility is simply defined as the movement of goods and people, and Accessibility may be defined as the openness or availability of a person, place, object or resource. Mobility and Accessibility both refer to a variety of subjects, each of which is tied to many others in urban design. While this trait is not unique to Mobility and Accessibility, it is important to keep the overlaps and connections in mind given that they can sometimes be thought of as concerns beyond the focus of the problem at hand. Early holistic thinking in any project can guarantee that these topics are addressed adequately. Mobility and Accessibility are discussed separately (even though, of course, they are closely related).

Questions about mobility constitute 8 percent of all exam questions.

Topical Overview

Mobility

- Definition: Mobility refers to the movement of goods and, more importantly, people. How far and how do people need to travel to accomplish the daily, weekly, and occasional tasks and joys of life are the fundamental questions related to mobility. The answers have far-reaching consequences for public health and economic, social and political participation.
- History: Until the nineteenth century and, for some locales, well into the twentieth, walking was the primary mode of transportation. The effect on urban form naturally flowed from this: close proximity of various uses and people of different means. With the advent of various motorized modes of transportation, culminating with the

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- invention and mass production and distribution of private cars, land use could be divorced from the human capacity to move. Large swaths of America developed in this time period have experimented with extreme segregation of land use and reduction in density.
- **Modes:** Modes, the methods, of intra-city transportation include walking, bicycling, public transportation (such as by bus, train or ferry), and private motor vehicles. Occupying a kind of hybrid role between private motor vehicles and public transit are taxis and, more recently, ride-sharing services. Apart from the walking that is incidental to almost all transportation, the mode that is most frequently used is the private motor vehicle. Often this mode is, overtly or through assumption, treated as the most desirable form of transportation. More rarely, modes are treated as equivalent, with calls for “balance” in investment or the treatment of public rights-of-way. An example of this is the development of “complete streets”, in which there is to be comfortable, if not exclusive, space for walking, bicycling, transit and driving. Even more rarely, policies encourage the use the lowest energy using and cost modes.
 - **Land Use:** As mentioned above, the development and widespread adoption of motorized transportation has allowed for land uses that are segregated and at low-densities. The availability of the personal car coincided with, and allowed, the rise of zoning (see “Village of Euclid v. Ambler Realty Co.” (1926)). Premised on the belief that some land uses should not be in proximity to others, driving allowed the separation to be taken to extremes. The places that housed the activities of life – home, work, shopping, worship, entertainment, for example – could now be scattered across the landscape. Intentional and unintentional consequences of encouraging driving were even greater physical distances between ethnic and economic groups and the conversion of agricultural and wild lands to human-dominated uses.
 - **Public Health:** In recent decades, there have been increasing realization and study of the relationship between mobility and human health. There has been a large increase in the percentage of the American population that is obese or overweight, resulting in a rise in serious conditions such as diabetes. While there are many factors leading to this increase, parts of it are the degree to which driving is the only mobility choice in a community and the degree to which daily activities are beyond an easy walking distance. Where walking or bicycling as an incidental part of urban life are not possible or uncomfortable, populations without the time, income or inclination for “recreational” exercise can find themselves at greater risk of poor health.
 - **Social Participation:** Related to public health, social participation includes the ease with which one can fully participate in the economic, political, and social benefits of urban life. Phrases such as “jobs-housing imbalance” and “food desert” reflect the scarcity of work and grocery stores, respectively, in certain communities. While many factors are involved in producing such scarcity, two factors are the

predominance of the car as the dominant mode of transportation and segregated land uses. Problems that are not as frequently identified that are tied to mobility are those that stem from the dearth of public spaces open to all. A reliance on cars and the shaping of streets primarily for driving leaves little room for the casual mingling of a wide range of citizens. These active, pedestrian-friendly and open-to-all streets, parks, and plazas are essential for the difficult-to-quantify sense that people belong to one community.

- **Natural and Human Environment:** The type of mobility in a city can have a great effect on both the natural and human environment. As mentioned above, the decision to build at lower densities that often accompanies the reliance on driving all but requires the conversion of wildlife habitat and agricultural lands to human-related uses. The spaces created and separation of uses also makes it unpleasant and impractical to use public rights-of-way for anything but driving.

Accessibility

- **Definition:** Accessibility has a double meaning, one more specific and defined, and the other, more general. The more common definition of “accessible” is the openness of spaces and buildings to people with various physical disabilities. Common phrases related to this definition are “accessible design” and “universal design.” The second definition of accessible is the degree to which a full range of people from varying social backgrounds (economic, ethnic, national origin, etc.) can take advantage of a city’s public, cultural and economic life. This definition is related to the social participation aspect of mobility, discussed above. The phrase “environmental justice” is related to this definition of accessible, as are the previously mentioned “jobs-housing imbalance” and “food desert.” Given this overlap between accessibility and mobility, the following text will refer only to the first, disability-embracing, definition.
- **History:** The Americans with Disabilities Act (ADA) is US federal legislation that was passed in 1990. It is a civil rights act, but significantly different from prior law, such as the Civil Rights Act of 1964. While the latter law prohibited different treatment of people based on such characteristics as race or gender, the ADA requires affirmative action to include people with disabilities in new (and rehabilitated facilities). What the law would actually require has been continuously revised since its passage in the form of federal guidelines. States and municipalities have been more or less aggressive in how the guidelines are followed. This has been, to a degree, dependent upon the age and nature of the existing building stock on the commitment of local governments to the spirit of the law.
- **What is a Disability?** “Disability means ... a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such an impairment; or being regarded as having such an impairment” (ADA Title III Regulations, Subpart A, Section 36.104, Definitions). While the ADA defines

- disability broadly, the greatest effect on the built environment has been on the inclusion of designs that accommodate people with mobility and, to a lesser extent, vision and hearing limitations.
- When is Accommodation Required? When a building is open to the public and is newly built, the law clearly applies. However, even in this case, questions arise: must every space in the new building be accessible? When the subject is the reuse of existing buildings or the provision of facilities outdoors, what is actually built often depends upon the locality. "Any alteration to a place of public accommodation or a commercial facility ... shall be made so as to ensure that, to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities" (emphasis added; ADA Title III Regulations, Subpart D, Section 36.402, Alterations). At what point is accommodation triggered? What happens when "maximum extent feasible" is in conflict with other community goals, such as historic preservation or wildlife habitat maintenance?
 - Parity of Experience: An underlying goal of the ADA, beyond accommodation, is the provision of a parity of experience for both the able-bodied and the disabled. Echoing the discussion around racial discrimination that began with *Plessy v. Ferguson* (1896) and ending with *Brown v. Board of Education* (1954), the ADA and its interpretation rejects the notion of "separate but equal" facilities that was the norm in that era. It embraces the spirit of *Brown v. Board of Education* that separate is inherently unequal. A physical manifestation of this is the provision of ramps integrated into stairs or the elimination of grade changes altogether.
 - Effect on the Urban Environment: The effects of the ADA on the urban environment are small, but systematic and incremental. These can be seen everywhere. Some examples include the construction of curb cuts at sidewalks, the introduction of kneeling buses and same-level boarding for bus-rapid transit, and audible and visible informational and emergency systems for the visually and hearing-impaired, respectively. At least some units of new multifamily housing must be accessible for people with mobility difficulties.

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Urban Framework

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Introduction

This section covers the physical foundation or urban framework for the practice of urban design. It represents the confluence of three components, *places, people and systems*, all of which shape the form and influence the activity of any urban framework. As such, the following information is organized by these urban factors to help you better understand how this planning and design activity is viewed, analyzed and applied. Each of these areas consist of both inter-and intra-relations that makes this process challenging, yet highly rewarding when engaged successfully. An urban design framework focuses on four key components: patterns and centers, rhythms and rituals, paths and linkages, and natural features. The Urban Framework Section accounts for 15 percent of the AICP-CUD exam.

Topical Overview

History and Precedents

Most urban design related activities occur within a pre-existing urban (or community) fabric or the current arrangement of settlements. Understanding the existing land-forms, uses and patterns as well as history, demographics and rhythms are key to the further shaping and enhancement of the urban framework. These factors can be framed into two categories: context and precedents.

- Context is about the relationship of past events to existing physical form to each other and their inherent meaning to community members. These help define place and distinguish it from other places thereby leading to legibility. This is important since every community has its own unique DNA or set of characteristics that define

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"place" for the members who live, work and play within a particular area. Whether a city, town or village in an urban, suburban or rural setting, every community's context offers an identity that is specific to that place. The key is to recognize those particular factors and seek opportunities to highlight and enhance them to further frame one's perspective and feeling about a place.

- Precedents are used as a signpost or indication to an earlier event or action, which is considered as a precursor or guide when contemplating subsequent similar circumstances. A precedent can help inform the development of new urban design efforts by way of offering insight not only to already tested strategies, but also a community's past settlement and previous development efforts. For example when analyzing the context of a particular community block, understanding what came before can guide the process of what is to follow. This helps to frame and anchor proposed activities in shaping the public realm.

Theory and City Form

Even though the formalization of urban design is generally a 20th Century concept, the practice can be traced to the earliest settlements of civilization. Some development happened in a quasi-organic manner while others occurred in a distinctively deliberate fashion to achieve either a socio-economic, religious, military or political means of combination thereof. The Agora in Athens, the Renovatio Urbis in Rome, or Haussmann's Plan for Paris, all point to a conscious effort to manipulate public space and inject a specific narrative or meaning. Theory provides a window into such history that resulted in the physical form and urban process of a particular community while city form helps to identify settlement patterns and variations.

- Theory of urban form focuses on the rationale behind a community's current spatial relationships and growth patterns. While it may seem inconsequential in the day-to-day activities of today's urban designer, the meaning derived from such intentions will help shape the community in the future. Though it is common for the built environment to suggest the framework for a community's history, it is the analysis and evaluation that actually helps us understand how a city or town came into being. The history of culture, human interaction and societal structure sheds light on the forces at play in determining a particular pattern. Theory of urban form will help to address the questions associated with the development of a particular form or pattern. Consider the following:
 - Dominant institutions that were at play, whether cultural, economic, religious or political
 - Role of the natural environment in dictating the arrangement of buildings, orientation and paths
 - Key figures, laws and other legal instruments that empowered building practices
 - Procedures and processes which influenced the form and spatial relationships

- Building materials, methods and technology that shaped the qualities
- City Form refers to the organization or configuration of the physical form for a particular community. It is derived from multiple layers laid down over decades or even centuries. Whether a realignment of paths, raising the built grade or fortifying access points, cities, towns and villages all indicate a degree of transformation or urban morphology. Understanding this context offers a perspective on how cities and towns evolve. Elements such as hubs and nodes, corridors and connections, and geomorphology and topography, define a settlement's pattern, movement and edges. However, city form is never static and is in constant flux as human behavior evolves.
 - focal points: centers, hubs, nodes, landmarks or any other space where people gather and interact
 - connections: pathways and linkages that allow for movement between focal points
 - natural features: the geographical constraints and opportunities that influence boundaries, edges and even orientation
 - Composition: the pattern that results in the organization of the three above and defines a place.
 - Each of these configurations has significant social and operational implications with the way a community functions and frames its identity. Human behavior and local culture translates to plays a significant role. This is the reason why there is an emphasis on understanding the individual constituent parts in analyzing a complex system.
 - Settlement types or organized human habitation include arrangements in a compact (also nucleated), linear or dispersed (also isolated) manner.
 - Arrangements transition from natural to urban. More common known classifications according to density include metropolis, city, town, hamlet and village.
 - Early external city patterns are classified as concentric, sector and multiple-nuclei; more recent patterns are recognized as dispersed, edge and peripheral models.
 - Historical patterns include the centralized, gridded, organic web, radial, linear, clustered.
 - Variations on established patterns include the fused or modified grid, degenerated grid, disconnected curvilinear.
 - Building forms are arranged and oriented to harness natural ventilation, utilize solar exposure and shade opportunities, or frame a view.

Land Use, Density and Intensity

The spatial form of any community occurs within an existing land use policy framework. Much of the planning efforts in the United States through the 20th Century were based on a

Euclidian zoning that separated uses. Typically industrial were placed in special districts while commercial was located along main transit corridors largely separated from residential. As a result, urban design efforts were often hampered since separation of uses discouraged a density of population and intensity of multiple uses clustered together. The more recent Form-based code and associated hybrids allows for a more predictable built outcome by using physical parameters as an organizing principle. From an urban design perspective, this approach to land use regulation helps to provide a discernible physical framework with which one can further develop an urban design strategy. It should be noted that not every community is able to apply form based code in a comprehensive manner. Consider the following methods and factors.

- Spatial Transect models density from a natural zone to an urban core.
- It defines spatial relationships in various zones; natural, rural, suburban, general urban, urban center, urban core and special district.
- The Transect modeling is the basis for the spatial form principles of form-based code.
- Form based code and urban design principles are largely complimentary since both are focused on spatial relationships and human connection with the community.
- Hybrids which are typically a mixture of conventional land use policy with some element of form-based code are also a regulatory framework utilized in various cities and towns.

Urban Typology

Neighborhood character is derived not from individual buildings, but their mix, variation and arrangements. This results in distinctive neighborhoods and districts. Urban composition is the result of the utilization of multiple typologies from city blocks and buildings to open space and streets. They consist of classifications for a variety of elements in an infinite number of combinations to define, activate and offer meaning to particular urban framework. Some of the characteristics of commonly found urban elements are as follows.

- Building typologies include: detached houses, townhomes, apartments, hotels, stores, office towers, manufacturing plants, museums, libraries, stadia.
- Collectively they create an urban quality that is framed at a scale and should respond to the pedestrian, a massing which anchors, an articulation that animates, and a materiality that delights.
- Eave lines, fenestration, doorways, porches and other building details all contribute to the "place" narrative.
- Equally important is the space between buildings. Whether public or private space, this is where the public occupies. Plazas, squares, courtyards, paseos, mews, parks and the like, all frame public life.
- City blocks can be an infinite number of configurations depending on the level of density. More common are the perimeter (with courtyard), linear, U-shaped, T-shaped, L-shaped, parallel and grouped.

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- City blocks help define the urban experience which ultimately leads to a meaning and identity.
- Streets make up a significant part of the urban framework mix. They have distinct mobility functions and therefore have different classifications. Highways, boulevards, avenues, streets, and access roads each have a specific relationship to the immediate surrounding land-use.

Public Realm

If the edifice frames urban design efforts, the space between or public realm, anchors it. Where buildings represent the physical form, people embody the energy or life of a community. Squares and plazas, boulevards and avenues, as well as parks and fields are some of the more common public spaces that offer interaction to encourage community activation. These open spaces should be designed to recognize and acknowledge multiple constituencies and varying scales. Regardless of type or programming they need to be equitable and accessible to all. As such, these spaces become the only part of the urban framework where all people have the opportunity to occupy and participate equally. Consider the following:

- Viable and active public spaces create value, perception and ultimately identity, and have the potential modify value of surrounding area.
- Public space can be a transformative urban or community feature and include such notable spaces as the Olympic Sculpture Park, Grand Park, Bryant Park and the Highline.
- Cultural and civic facilities: these take form as town squares, city plazas, colonnades, parks and event spaces to name a few.
- Figure ground, city block, and Nollli maps are some of the methods to help demonstrate the relationship of public space with other systems.
- Programming, including reoccurring or occasional events as well as vending, is essential activity that needs to be considered.

Streets / Streetscapes

A community's network of streets and other pathways account for 25-30% of overall land-use. This offers an opportunity to develop urban design strategies that place as much emphasis on publically owned space as the efforts that go into designing a building. In essence, streetscapes are the compositions that link private with public, internal with external and stasis with movement. At its basic level, it consists of a street, side walk and building facade. However, factor in bike paths, parkways and medians, as well as building setbacks, whereby integrated system is achieved and shapes the pedestrian experience.

- Overall dimensions can be any number of combinations depending on current regulatory framework and existing physical conditions. Standards for different strategies can be found in numerous guides and specifications.

- Another way to think of street dimensions is in terms of street to building ratio. Though many sources refer to a 1:1 ratio, such approach is ultimately contingent on the existing framework and conditions.
- Street trees and planters provide shade opportunity and sometimes soften or accent the adjacent architectural forms.
- Lighting helps activate spaces at night and addresses different programmatic needs. Consider the differences such as vehicular vs. pedestrian lighting or ambient vs. direct lighting.
- Another important consideration is how the mass and height of adjacent buildings are organized and differentiated to frame not only the street, but the public space in general. Typically employing a strategy where the ground floor is taller than subsequent floors for example is just one method of responding to the public realm.
- Public amenities such as benches, bike racks, and bollards as well as their location should be considered as these provide opportunities not only to welcome participants, but also invite them to stay.
- Other considerations may include on and off-site signage (aka store signs and billboards), pedestrian crossing design, public toilets, etc.

Accessibility, Visibility and Safety

For all the efforts that go into designing a public space, whether a boulevard or a park, it cannot be successful without considerations that account for accessibility, visibility and safety. Each of these influences a participant's behavior and attitude toward a space, which results in a perception of a place. If one cannot locate or access, easily see into and out of, or feel safe, then the issue of personal comfort or perceived discomfort will dictate the space's use. Consider how certain devices can frame a space's design as either inclusive or defensive.

- Markers and way-finding systems help direct and orient the participant.
- Fencing, hedges and other edge defining devices can be barriers to visibility both from inside and outside. A good rule of thumb is to condition such devices to not exceed 36"-42" in height.
- Space entrances should be clearly defined and fully accessible.
- Regular maintenance will also contribute to a perception of "eyes on the space."

Quality of Materials

The materiality of a space cannot be over emphasized when considering the details of a public space. It is the artistic expression that can draw attention, imitate movement and capture imagination. From pattern on the ground to the datum on building facades, these offer opportunities to engage and delight the pedestrian.

- Issues such as opacity and transparency, rhythm and direction, and color and focal points all contribute to a sense of place.

- Special consideration should be given to proportion, type and character of materials to insure a composition that is well integrated and reinforces a neighborhood identity.
- Details such as street and sidewalk paving should consider incorporating patterns and color as a way to demark, direct and further define different modes of movement.
- metal planter grates and pavers are an effective device to break down large surfaces to a smaller scale
- Landscape materials, from shrubs and grasses to flowers and succulents help to accent, punctuate and offer interaction with the natural

Public Art

Public art provides opportunities for the public to engage and interact in a non-commoditized manner. It represents the culture of the community and enhances local identity. Whether a fixed monument to represent a historical point or an interactive sculpture that responds to nature, public art becomes not only a focal point, but adds narrative and meaning to public spaces.

- Understanding the role of public art in public spaces helps to determine other programmatic needs and measures and influences other design decisions
- determining placement, orientation and permanence will help establishing other criteria for the public space
- informational kiosks and displays help provide a narrative and set guidelines for public interaction
- Other considerations include temporary vs. permanent, private vs. public, incorporated into a building or as a stand-alone piece, etc.

Public Transit

The role of urban design is to make public transit not just a viable system within the urban framework, but an effective implementation tool to promote a concentrated activity. Accessibility, density and walkability are key factors when considering urban design strategies associated with public transit. Design strategies can support public transport systems while activating public spaces with a captive audience.

- Types of public transit consist of (underground) subway, light rail, cable car, as well as rapid buses and dedicated tramway to name a few. Each system has a different infrastructure, which need to be taken into consideration.
- Consider that transit may have multiple alignments as well as other modal strategies that connect via hubs or nodes of increased density.
- Stations, shelters and stops present an opportunity to think beyond the transit stop. These have the potential for establishing not only community interaction, but a place that fosters a diversity of activities. Such circumstances are able to utilize a

built-in-intensity to encourage increased pedestrian activity of other uses within the transit stop.

- Transit Oriented Development (or TOD) generally include a transit stop within a one-quarter to one-half mile radius and is considered to be an appropriate in terms of walkability.

Parking

Providing parking is an inevitable challenge especially in areas of intensity. Whether street parking or on-site parking, garages or parking lots, parking plays a necessary role in the urban framework. As such, these facilities and associated structures present both challenges and opportunities to utilizing and activating public space. In some instances these are perceived as "dead zones" or create significant *sheet flow* during a rain event if left to basic engineering solutions. However, in other circumstances, these facilities can have multiple uses such as ground floor commercial or roof top public space, and offer opportunities to incorporate public art.

- Types of parking facilities include park once schemes, parking management apps, robotic-garages, multiuse garages.
- Though there are an infinite number of configurations and a variation in parking standards, a good rule of thumb to follow is that the standard vehicle requires an average length of 40'-44' to park perpendicular to the aisle and for backing-up.
- Location (or siting) and quantity should be determined by a community's governing documents and general standards for walkability.
- Operation (flex-use) and management of parking facilities have impacts on the physical plan for these facilities.
- Services and access will also impact the physical plan of the parking facilities and ultimately the urban design of the area.
- Consider parking facilities and storage to accommodate new and future systems such bike-share, zip cars and driverless vehicles.

Utilities and Infrastructure

In every urban design scheme, consideration needs to be given to the engineering and systems that hang overhead and/ or buried below the surface. These systems can be impediments to during an urban design strategy implementation effort. For example, most utilities and storm drains run under roadways. Deciding to include landscaping to a street plan (for example, adding trees on top or near storm drains), presents potential conflicts. Understanding the limitations that such systems pose allows for a more informed decisions during the design process.

- Systems may include electric, gas, stormwater and communication lines, all of which require standards for clearances and other impact mitigation measures.
- More visible infrastructural elements include utility boxes, fire hydrants, electric vaults, manhole covers. These can be obstacles to the movement of people and visibility or

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access points. However, they can also be viewed as opportunities for public art and contributing to the overall aesthetic of the space.

- Consider Low Impact Development (or LID) Standards which require integrating natural systems as part of an infrastructure plan. Strategies such as stormwater capture and retention, for example, can be accomplished by utilizing bio swales retention basins, and rain barrels.
- Other considerations could include energy-neutral strategies such solar and wind capture devices.

Natural Systems

No community was built in a vacuum and therefore all are influenced by and subject to the forces and benefits of natural systems. From using rivers and canals to move goods to orienting a community to harness the sun and wind, these systems have shaped and continue influence how we work, live and play. Therefore understanding how the urban framework fits into the larger natural context can aid in certain design determinations. The objective of any urban design efforts is not only to avoid impacts, but to seek out opportunities to connect built systems to the natural ones.

- By identifying the local hydrology, geology, geomorphology, potential impacts to certain natural features can be better understood and mitigated. Aquifers, drainage flows and other water features to fault lines, folds and other soil are some of the conditions that will shape the urban framework.
- Today's urban framework along with new technology offers opportunities to expand habitats and increase biodiversity in urban areas. Green roofs and vegetated walls as well as bird and bat boxes all offer strategies to encourage more of nature within the confines of the built environment.
- Climate and weather related events also factor in when considering when designing for weather. Shade from sun, protection from rain or even understanding flood constraints need addressing in urban design plans.

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Implementation Tools

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Introduction

Implementation is the process of executing a decision, plan or program. This topic constitutes 10 percent of the AICP-CUD exam. To excel in this section, one needs a combination of common sense, mathematical and financial wherewithal, and grasp of well-known methodologies, along with the willingness and ability to think outside the box and embrace newer techniques that evolve as technology and creativity advance.

Topical Overview

Implementation tools fall generally into two major categories, regulations and incentives (think the stick and the carrot as a memory key). Both categories have multiple tools that can be mixed and used by a municipality / larger governmental unit/ other development entity in order to achieve visions and goals which have been identified as a result of creative interaction between professional planners and citizens generally culminating in the creation of a Comprehensive or Master Plan.

Regulations do not have to be draconian, and, in fact, should not be if they are to withstand the test of time. Incentives can include a variety of methods; as long as they lead to the same proverbial end game of "Show me the Green." As the City of Portland's Central City Design Guidelines state in their Key Finding section, there is no "one size fits all" when it comes to a successful composite of techniques, but there are opportunities for intervention and invention, and current urban design implementation tools are overdue to be redrafted to make them applicable to 21st century situations.

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Indeed, the selection, mixture and application of implementation tools are only limited by the degree of willingness of the governmental leadership of a jurisdiction to stretch its comfort level to provide for the good of its constituents.

Regulatory Framework

- Master Plans/Comprehensive Plans – the legal *raison d'être* for other codified mechanisms
- Zoning Codes - delineate types of land use, intensity of land use, dimensional parameters of streets, parking lots, open spaces and buildings. Zoning describes the control by authority of the use of land, and of the buildings thereon. Areas of land are divided by jurisdictional authorities into zones within which various uses are permitted. Zoning is a tool of urban planning used by local governments in most developed countries.
- Form Based Codes (FBC) – a newer tool, dealing with building placement, massing, scale, orientation. (FBC) is a means of regulating land development to achieve a specific urban form. Form-Based Codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle, with a lesser focus on land use, through municipal regulations. FBCs usually are graphically illustrated, rather than having the multiple matrixes of a regular zoning code. A FBC is a regulation, not a mere guideline, adopted into city, town, or county law and offers a powerful alternative to conventional zoning regulation.
- **Design Codes and Standards** (Design Review, Special Commercial and Historic Districts) - written to produce specific management of visual character, regulating based on special sets of considerations, such as types of architecture, age/style/history of the architecture or area.
- Accessibility Action Plans – developed to ascertain compliance with local and Federal codes regarding areas of handicapped /mobility challenged individuals, particularly in public buildings.
- Conservation Plans/Leadership in Environmental and Energy Design (LEED) codes.
- Life Safety Codes / National Fire Protection Association (NFPA). These codes impact design with their requirements for travel distances in buildings with sprinklers, width of doors, windows, material choices, etc. Provisions of these codes generally legally trump mere design codes.
- Eminent Domain (varies by state based on case law) Federal, State and Local governments have the power through condemnation to take private property for public use by a state, municipality, or private person or corporation authorized to exercise functions of public character, following the payment of just compensation to the owner of that property. (They also may regulate it by exercising their Police Power.) The Fifth Amendment to the U.S. Constitution requires the government to provide just compensation to the owner of the private property to be taken. A

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variety of property rights are subject to eminent domain, such as air, water and land rights. Throughout these proceedings, the property owner has the right of due process.

- Entitlements - government programs guaranteeing access to some benefit by members of a specific group and based on established rights or by legislation.
- Deed restrictions – regulations imposed on the property by the owner or seller on use continuing after the sale of the property – frequently used on gifts of land for parks.
- **Capital Improvement Programs** – budgeting mechanism which allots funding for work on structures, streets, sidewalks, parks squares and playgrounds, infrastructure, public institutions, facilities and government centers and requires understanding budgets, procurement and public processes.

Incentives: Public, Private and Institutional

- Tax Credits – are an incentive granted to a property owner that allows that person or entity to subtract the amount of the credit from the total tax they owe the government. A credit directly reduces tax bills, unlike tax deductions and tax exemptions, which indirectly reduce tax bills by reducing the size of the base (for example, a taxpayer's income or property value) from which the tax bill is calculated. For planning purposes, one major example of tax credits granted to a property owner by a tax collecting government entity (local, state or Federal) occurs when work is done on a property based on a set of standards, specifically the Federal Historic Preservation Investment Tax Credit (HPITC) granted for work done according to the Federal Secretary of the Interior's Standards (for rehabilitation on historic buildings listed on the National Register of Historic Places and used for income producing purposes.)
- Tax Abatements – a moratorium for a defined amount of time on any increase in property taxes on a building that would result from a reassessment after improvements made following specific standards (e.g. the Secretary of the interior's Standards).
- In some states, such as Delaware, tax credits and tax abatements can be combined so a single rehabilitation of a building following the Secretary of the Interior's Standards becomes eligible for the Federal HPITC, the Delaware State version of that program, and a local municipality's (Wilmington) tax abatement. The combination makes a powerful incentive for a developer to do the right thing.
- Tax Increment Financing (TIF) – tool that allows municipalities to promote economic development by earmarking property tax revenue from increases in assessed values within a designated TIF district. While this varies from state to state, it usually requires a finding that an area is "blighted" or "underdeveloped" and that the development would not take place "but for" the public expenditure or subsidy. (Lincoln Institute of Land Policy definition)

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- Business Improvement Districts (BID) –a defined area in which improvements and/or redevelopment is organized. Grant funds acquired by the City for special programs and /or incentives such as tax abatements are made available to assist businesses or to recruit new business. Also businesses may pay an additional tax or fee in order to fund services or improvements within the district boundaries. Such improvements might include pedestrian and streetscape enhancements, capital improvements or targeted marketing for the area. (Southeast Tennessee Development District, Chattanooga, TN. "Green Infrastructure Handbook." January 2011.)
- Incentive Zoning - a broad regulatory framework for encouraging and stimulating development that provides a desired public benefit as established in adopted planning goals.
- Transfer of Development Rights (TDR) - a voluntary, incentive- based program that allows landowners to sell development rights from their land to a developer or other interested party who then can use these rights to increase the density of development at another designated location.
- Seed Funding - a very early investment, meant to support a business venture until it can generate cash of its own (cash flow), or until it is ready for further investments. Seed money options include friends and family funding, angel funding and crowd funding.
- Federal Grants
- Loans or Grants from other public or public/private money sources, such as CDCs (Community Development Corporations), UDAG (Urban Development Action Grants, an older source, but some municipalities still have corporations relending of original federally granted money), LISC (Local Initiatives Support Corporation), etc.
- Main Street Program – with its Four Point Approach® has been the foundation for local initiatives to revitalize districts by leveraging local assets to build a sustainable and complete community revitalization effort through education, training, case-studies and peer-to-peer learning. This program is a subsidiary of the National Trust for Historic Preservation.
- **Public-Private Partnerships / Strategic Partnerships** (identification and empowerment of stakeholders). These partnerships use innovation and imagination to create amalgams of programs to assist a targeted area.
- **Public Financing** - bonds, levies, impact fees, special assessments, local improvement districts.
- **Private Financing** - conventional, consortium, lending, return on investment (ROI)
- Community Reinvestment Act of 1977 (CRA) - provides a framework for financial institutions, state and local governments, and community organizations to jointly promote banking services to all members of a community. In a nutshell, the CRA prohibits redlining and encourages efforts to meet the credit needs of all community members, including residents of low and moderate-income neighborhoods. (CRA website).

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Other General Considerations in creating applicant/ case specific tools

- Working with community advocates and organizations, non-profit organizations.
- **Real Estate Economics** - assessments, appraisals, feasibility, market demands, competitiveness, leakage – all which fluctuate periodically and affect the variables in the equation.
- Relationship of financing to entitlements.
- Assessments (mandatory to most development situations)
 - **Health Impact Assessment**
 - Environmental Impact Settlement (EIS)
 - National Environmental Policy Act (NEPA)
 - California Environmental Quality Act (CEQA) (CA only)
 - State Environmental Policy Act (SEPA)-several states

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Development

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Introduction

Real estate development can be defined as “the continual reconfiguration of the built environment to meet society’s needs” (Miles, Netherton, and Schmitz, 2015). While real estate development has a fairly simple definition, its process over time has become very complex. A development project often involves both public and private sectors during its lifetime and it is important for both parties to understand how their objectives are intermingled and how to communicate in order to achieve the best outcome. This summary will provide a brief overview of the development process and some of the key elements that are associated with it.

Topical Overview

Phasing

- The development process is not linear in nature or straightforward, but an iterative progression that has to be constantly reevaluated and looked at in its entirety. Similar to the design process, it is the creativity and drive of the development team that determines the success of a project. While the individual phases or steps of specific developments may differ, all developments (new or redeveloped) have the same overall process. They start with an idea that is scrutinized through various rounds of review from internal teams and the public realm. Then it is tested for financial, legal or physical feasibility. If agreed upon by the team to continue, capital is raised and construction is started. If a project is especially large or complex, individual components may be simultaneously working at different stages

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at the same time. S. B. Friedman and Company offers the following steps to summarize the development process:

1. Obtain site control (acquisition, contracts, options, public/private partnerships)
 2. Assemble a complete development team
 3. Direct the preparation of the development plan (market potential, site capacity, economic feasibility, current zoning/entitlements, concept plan/site master plan)
 4. Establish a viable business arrangement with the locality and obtain entitlements
 5. Supervise detailed design
 6. Finance the project
 7. Oversee construction
 8. Market the project
 9. Manage the project
- Private/Public Coordination - Whether a project is considered to be a private or a public development, the public sector needs always to be involved and should not be discounted or ignored. There is typically a portion of the project that will require some approval from the jurisdictions it is affecting. In other cases the public's opinion towards a project can accelerate or halt the process of the development. It is the responsibility of the developer to reach out to stakeholders and work with local governments to ensure that all players have an understanding of what the project is and how it will affect the community.
 - Feasibility - One of the first steps of development should be determining the feasibility of the project. This is a tool that considers past, current and future conditions and can be an extensive and costly undertaking. The feasibility study aids in determining whether to continue with the project, can be used to encourage additional stakeholders to join the team and serves as an organizational tool with which to consistently track a project through its lifetime. As critical as it is to conduct a feasibility study, it is important to remember that it is only one tool and does not guarantee the success of a project. Components of a feasibility study typically include:
 1. Maps/Photos of the existing site
 2. Renderings of the proposed project
 3. Market study analysis
 4. Revenue and operating cost projections
 5. Documented cost projections
 6. Development schedule
 7. Background on key players

Standards

- Regional Practices and Resources - Real estate development typically involves three major players: private enterprise, public interest and property rights. In order to assist in the development process and provide a framework for these parties to work together in developing the land standards have been established by local, state and federal agencies. While these regulations establish general restraints on the use of any site, the impact of these regulations must be analyzed and addressed specifically for each site (Miles, Netherton, and Schmitz, 2015). Following are regulations frequently involved in the real estate development process at the federal, state, regional, and local levels.
 - Clean Air Act (CAA) - Environmental Protection Agency: Key elements of the CAA include: National Ambient Air Quality Standards, state implementation plans, permits and market approaches.
 - Clean Water Act (CWA) - U.S. Army Corps of Engineers: The CWA applies only to “water of the U.S.” which can generally be described as: all interstate waters, interstate waters and their tributaries used in interstate or foreign commerce, territorial seas at the cyclical high tide and wetlands adjacent to all of these.
 - National Environmental Policy Act (NEPA): NEPA has four many purposes: to establish a national environmental policy, promote efforts to minimize harm to, and encourage protection of the environment, improve understanding of important environmental resources, and create the Council on Environmental Quality (CEQ) to assist the Executive Branch in promoting environmental quality.
 - Endangered Species Act (ESA) - Department of the Interior's Fish and Wildlife Service/Department of Commerce's National Marine Fisheries Service: This law is the cornerstone federal legislation for protecting natural habitats to support and conserve engaged and threatened species.
 - Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to released or threatened releases of hazardous substances that may endanger public health or the environment.
 - American with Disabilities Act (ADA): The ADA's objective is to provide people with disabilities access equal to or similar to that available to the general public.
 - General (Comprehensive) Plans: This is a statement of goals and policies for an entity for a specified, extended period of time. It sets the framework for all other local and use regulations.
 - Zoning Regulation: A zoning ordinance is a local law that addresses specific conditions (types of land uses allowed, densities of development,

- height/bulk/placement of structures, parking, etc.) under which land may be developed.
- Subdivision Regulations: Subdivision regulations vary from state to state and city to city, but they generally contain: general provisions, review procedures, performance guarantees, vested right provisions and development standards.
- Planned Unit Developments (PUD): A PUD typically merges zoning and subdivision controls to allow for more flexibility in developing the land. If approved, it supersedes other local regulations for that specific site.
- Knowledge of Construction Types - Types of real estate developments are typically categorized by property type and/or its specific use. Following are common types of development.
 - Residential: these projects are either categorized as single family or multifamily developments. They include a mixture of housing types such as detached homes, townhomes, apartments, condominiums, etc.
 - Commercial/retail: These developments generally imply shopping centers and are further categorized (convenience, neighborhood/community, regional and super regional) based on their size and location.
 - Office: these developments can include multi-story or single-story buildings that offer a wide range of uses and specialties. They are typically classified in terms of quality: Class A (desirable location/newer in construction), Class B (older buildings, less well located) and Class C (potential candidates for demolition, rehabilitation or conversion).
 - Industrial: this type of development typically includes: manufacturing, warehousing and flex space.
 - Hotel and Resort: these developments target two primary travel markets (business and pleasure) and encompass an extensive number of products: luxury hotels, budget facilities, extended stay all-inclusive resorts, etc.
 - Mixed use: this is a newer term and it is typically a mixture of three or more significant revenue-producing uses (i.e. retail/entertainment, office, residential, hotel and civic/cultural/recreational). They can either be housed within a single building or within multiple buildings over a specified area.

Means and Methods

- Construction Impacts - Time management is one of the most crucial elements during construction. At this point a developer is fully committed to the project through invested capital, guarantees and human resources. They are exposed to many uncertainties that can affect the outcome and success of the development. Impacts that could negatively affect a project, if improperly accounted for, can include the weather (affecting construction timelines), the market (cost of materials,

profit margin on product), and miscommunication between team members (design to construction translation). In order to relieve some of the pressure of unforeseen problems, certain techniques can be employed to help keep the project within its budget and on schedule. These include: liability insurance (fire and extended coverage), using third party software to communicate critical events and timeline to all team members, good internal controls (accounting), continual on-site supervision of construction, retaining some capital until completion, performance bonds and maintaining good union relationships.

Cost

In order to have a successful project, a developer must be cognizant of how much and where the capital for design and construction is coming from, the operating cost after completion and the overall maintenance and life cycle of the project.

- Capital is defined as the money or property invested in an asset for the creation of wealth. The largest sources of capital for development are banks, government agencies and commercial mortgage-backed securities (CMBS). There are four main types of capital markets: private debt, public debt, private equity and public equity (Miles, Netherton, and Schmitz, 2015).
- Operating expenses are directly related to the operation and maintenance of a property (real estate tax, maintenance and repair, insurance, payroll and management fees, supplies and utilities). Typically the debt service and mortgages for a property are not included (Miles, Netherton, and Schmitz, 2015).
- The life cycle of a project is circular. It begins with an idea that is executed, has a period of usefulness which is followed by a natural decline and is then reshaped into a revitalized version of its original self or changed into something completely different. Richard B. Andrews developed a life cycle model for land use that can provide a conceptual framework for understanding how a project begins and ends. The steps in his model include: growth, maturity, decline, uncertainty, late decline and new growth.

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Development Economics

Prepared By: Charles Smith, AICP
Date: March 2016

Introduction

For the purposes of the AICP-CUD exam Development Economics may be defined as the financial aspects of the real estate development process. This topic accounts for four percent of the exam. APA has identified the following subject as salient for this component of the exam.

- Return on Investment (ROI), payback periods, sources and uses, changing proformas;
- Market conditions and consumer demands; and
- Regional trends.

For comprehension and success on this component of the AICP-CUD exam, you will need to understand the general financial elements of the real estate development process, and to memorize selected key terms as presented below.

Topical Overview

The real estate market is principally driven by users (those who need building space) and providers (those who finance and develop space). The availability and cost of capital determine how demand is met. In general, if the expected financial return from investing in real estate is higher than from investing in other assets such as stocks and bonds, then investors will acquire more real estate and bid up property prices. If the expected return from investing in real estate is comparatively lower, then capital will flow to other asset types and property values will be driven downward. Expectations regarding real estate returns are highly dependent upon trends in local markets, and are influenced by space

demand, competing properties, and locational factors such as the availability of labor, utilities, transportation and other amenities.

Property Valuation

The valuation of a given real estate investment typically considers the rate of return over an expected holding period. The more inflation (or reduction in purchasing power over time) that investors expect, the higher the income stream from a property is needed to reduce the risk of investment. The difference between any particular investment and a security considered risk-free (such as U.S. Treasury Bonds) is known as the "risk premium."

Sources of Capital

The relative popularity of various debt and equity sources varies over time, and continues to evolve based upon economic cycles, lending challenges, and governmental legislation such as the Dodd-Frank Act. Established sources of capital for real estate investment comprise lenders (those who issue loans or debt) and investors (those who provide equity or funding), and generally fall into the following four categories:

- Private Debt: Construction financing and long-term financing, typically obtained from commercial banks and insurance companies.
- Public Debt: Loans secured through quasi-government entities Fannie Mae and Freddie Mac, and commercial mortgage-backed securities (CMBSs; pools of commercial mortgages rated and sold in fixed-income markets).
- Private Equity: Privately-held sources of funding, such as investment funds set up for wealthy individuals, foundations, endowments and pension funds, both domestic and foreign (including sovereign wealth funds).
- Public Equity: Capital that flows principally from master limited partnerships, C corporations, and Real Estate Investment Trusts (REITs).

Real Estate Finance Process

Real estate development generally involves financing the following series of events:

- Predevelopment: Obtaining entitlements, completing conceptual designs, conducting technical studies and possibly securing tenant commitments;
- Land Acquisition: Due diligence site review, price negotiation and purchase;
- Short-term construction: Project construction activities;
- Interim: Temporary or "mezzanine" loans to bridge the gap between construction loans, permanent loans and equity;
- Permanent: Long-term loans based on the continuing income stream of the property.

The investment returns required for both debt and equity will vary as a project progresses through each event. Considerations for debt lenders include nonpayment of principal and interest, and loss of principal. Considerations for equity providers include cash flows, property value appreciation and tax benefits.

Terminology and Tools

Lenders and investors have different objectives in the overall real estate development process. A lender's objective is to avoid losing money by ensuring that the collateral value of the property remains intact and that the income stream from the property is sufficient to cover payments on the loans. An investor's objective, on the other hand, is to maximize the value of the investment. For both participants, value is largely calculated by estimating cash flows from rents, and from the eventual sale of the property. Key financial terms used in the development process include:

- **Capitalization Rate (Cap Rate):** The rate, expressed as a percentage, at which a future flow of income is converted into a present value figure.
- **Debt Service Coverage Ratio (DSCR):** The ratio of the annual net operating income of a property to the annual debt service of the mortgage of the property.
- **Discounted Cash Flow (DCF):** The present value of monies to be received in the future; determined by multiplying projected cash flows by the discount factor.
- **Internal Rate of Return (IRR):** The discount rate at which an investment has zero net present value (i.e., yield to the investor).
- **Loan to Value (LTV) Ratio:** The relationship between the amount of a mortgage loan and the value of the real estate securing it; the loan amount divided by the market value.
- **Net Operating Income (NOI):** Cash flow from rental income on a property after operating expenses are deducted from gross income.
- **Net Present Value (NPV):** The difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of a projected investment or project.
- **Operating Expenses:** Expenses directly related to the operation and maintenance of a property including real estate taxes, maintenance and repair, insurance, payroll and management fees, supplies and utilities. Debt service on mortgages or depreciation is not included.
- **Payback Period:** The length of time required to recover the cost of an investment.
- **Pro Forma:** A financial statement that projects gross income, operating expenses, and net operating income for a future period based on a set of specific assumptions.
- **Return on Investment:** A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments.

Market Conditions

The ultimate success or failure of any real estate development endeavor is influenced by the economic and market conditions in place over the life of the project. Developers attempt to understand and anticipate such conditions through market research and assessments, often in the form of a property development feasibility study. Essential components of a feasibility study include:

- Maps and photographs of the site;
- Renderings of the proposed development;
- Market study analyzing economic conditions, supply and demand;
- Cost projections;
- Development schedule; and
- Team members, consultants and other key players.

Regional Trends

The real estate development market mirrors economic activity through sources (both foreign and domestic) of equity and debt capital, strategies, pricing, timing, expectations and risk. Over the past five years, declining interest rates and other trends have been favorable for U.S. real estate, although recovery has been uneven across the country. The degree and pace of interest rate increases will be important to monitor. The industry expects further room on the current upcycle, while acknowledging we may be in the "7th inning." Trends anticipated for 2016 include:

- **Downtown Development:** Continued downtown growth in major metropolitan areas, including residential, mixed-use development, and adaptive reuse of older buildings for new infill development.
- **Continued rise of the "18-hour City":** These are secondary markets that have many of the amenities of a larger urban area at a comparatively lower cost. Examples include Austin, Charlotte, Denver and San Antonio.
- **Infrastructure investment:** The 2013 American Society of Civil Engineers (ASCE) Infrastructure Report Card gave the U.S. a grade of D+. Public agencies have been focused on urgent needs, rather than important future needs. With local and state bond issues becoming an increasingly tough sell, the market is turning to public/private partnerships (P3) and infrastructure REITs.
- **Climate change / Resiliency planning / Sustainability:** Local government implementation of related programs is a promising area of growth and investment.

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URBAN DESIGN & PRESERVATION



American Planning Association
Urban Design and
Preservation Division

Making Great Communities Happen

A Publication of the Urban Design and Preservation Division
of the American Planning Association

Legal

Prepared By: Rebecca Leonard, AICP, PLA, LEED-AP, CNU-A
Date: March 2016

Introduction

Legal concepts relating to urban design account for approximately three percent of the AICP-CUD exam questions. These questions could cover much of the same materials covered in the AICP Comprehensive Planning Examination such as property rights and sources of legal authority. A particular focus of the AICP-CUD exam is site design level legal issues such as accessibility, fire and building codes.

Topical Overview

There are several key legal concepts that urban designers should become familiar with. A good resource for these is *Land Use and the Constitution: Principles for Planning Practice*, edited by Brian W. Blaesser and Alan C. Weinstein. A brief summary of these principles are listed below.

- Delegation of Power: Power to zone and impose other land use controls must be delegated to local governments from the state. ["Dillon's Rule"]. Furthermore, local governments cannot delegate legislative or policy making power to administrative agencies such as design review boards without accompanying this power with clear-cut policy guidelines and limitations. When practicing urban design, it is important to ask questions that will determine issues related to delegation of power such as "Is there clear legislative authority for the standards and the body tasked with providing the discretionary approvals?", "Is there a clear grant of power from the state to the municipality authorizing it to regulate aesthetics and form?", and

“Do the standards indicate the weight to be given to each of the criteria in making a design review decision?”

- **Due Process:** Procedural and substantive due process relate to the Fourteenth Amendment to the Constitution – prohibiting denial to “any person of . . . liberty or property, without due process of law.” Procedural due process essentially reinforces that governments cannot conduct actions which are deemed a takings. Substantive due process reinforces that a land use regulation must advance a legitimate governmental purpose. When practicing urban design, it is important to ask questions that will determine issues related to due process such as “Does the design review ordinance serve a valid public purpose such as the health, safety and welfare of the public?” or “Are there established procedures for consideration of an application?”
- **Equal Protection:** The Fourteenth Amendment to the Constitution also provides that no state (or local government) “shall deny to any person within its jurisdiction the equal protection of the laws.” Procedures must be fair and equitably applied and enforced. When practicing urban design, it is important to ask questions that will determine issues related to equal protection such as “Do the standards ensure that similarly situated persons will receive comparable treatment?”
- **Just Compensation:** The Fifth Amendment to the Constitution states, “Nor shall private property be taken for public use, without just compensation.” When practicing urban design, it is important to ask questions that will determine issues related to just compensation such as “Do the standards allow property owners to retain a reasonable use of their property?”
- **Freedom of Expression:** Applicants may claim that a particular approvals process conflicts with freedom of expression as described in the First Amendment to the Constitution. When practicing urban design, it is important to ask questions that will determine issues related to freedom of expression such as “Has anyone’s right to free speech been impacted?”

In addition to above-listed overarching planning legal concepts, there are some specific legal authorities states have delegated to municipalities that may impact urban designers in the project design and execution phases. These relate to the health, safety and welfare of the public as well as the equitable access of space by all people.

- International Building Code
- Americans With Disabilities Act
- State and Local Building Codes
- Historic Building Codes
- Fire Codes
- Mechanical Codes
- Plumbing Codes
- Fuel/Gas Codes

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- Electrical Codes
- Energy Efficiency Codes and Standards

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Tools of the Trade

Prepared By: Kevin Dunphy, AICP, LEED AP BD+C

Date: March 2016

Introduction

Tools of the Trade accounts for eight percent of the AICP-CUD Exam. The breadth of activities that play into urban design requires familiarity with a likewise broad range of tools. These tools below do not represent an exhaustive list, but they capture the fundamental purpose of their use and application: to collect and analyze information and then translate that information into solutions. These solutions range from simple projects of short duration to longer projects requiring deep public engagement and dialog related to analysis, building consensus and creating visions that generate buy-in, which is necessary to achieve implementation.

Topical Overview

The following key principles work together as part of the urban designer's toolbox. It is necessary to separate terms for the purpose of definition, but there is some overlap among concepts in practice. For example, graphic representation of quantitative information could be one and the same as an info graphic in practice, depending on the quality of both the data and the graphic representation. Following is an attempt to distill each concept or principle to its more basic distinguishing features.

Analysis

- Visual Evaluation Tools - Observation and documentation of the existing physical context and conditions, i.e., the urban design area, is an initial step in any plan.

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- Photography and video can be used to capture the quality of space and experience.
 - Figure-ground mapping describes the density / porosity of the urban fabric.
 - Identification of gateways, nodes, paths, edges, public space indicates design opportunities, strengths and weaknesses of the area, and potential usage patterns.
 - Image preference surveys help to understand stakeholder preferences.
- Digital Tools - Digital tools for analysis may vary depending on the scale and nature of the urban design project. There are digital tools available for information collection and processing, as well as tools for presenting analyses. The following tools are useful for understanding the urban context at various scales.
 - The U.S. Census Bureau hosts data sets and online mapping tools.
 - Custom GIS facilitates mapping and analysis of spatial data.
 - Online GIS provides information hosted by government entities.
 - Online zoning codes and parcel data may be hosted by cities.
 - Current and past planning documents related to the project area may be hosted online.
 - Spreadsheets and data bases for tabular data sorting, analysis and generation of charts and graphs.
 - Graphics software to generate visualizations for image preference surveys.
 - Digital modeling of existing physical context
 - Online survey tools are available to gather opinions.
- Graphic Presentation of Quantitative Information - “[S]tatistical graphics are instruments to help people reason about quantitative information...Above all else show the data.” (Tufte, 91) Tufte’s principles of data-ink ratios and eliminating “chart junk” point to the essential purpose of presenting quantitative data clearly, efficiently, while avoiding distraction. For example, adding a third dimension to a bar chart adds a new piece of visual information but it neither adds nor better describes the data it represents. Therefore it is unnecessary. Transparency and simplicity make data accessible for others to reason through it themselves.
- Info Graphics – An info graphic is a visual image used to represent information or data. It is different from more traditional means of displaying data such as bar charts in that they are graphically rich and may include elements of narrative and multiple data sources. They are in part based on the notions that complex topics can be summarized and more quickly and easily grasped by viewers than heavy text, are more likely to be read, and that people tend to process most information visually.
- Geographic Information Systems (GIS) – GIS is a technological tool that connects databases to maps by combining a range of spatially referenced data and analytic tools. A review of GIS data and the resultant maps produced can help to inform project or programmatic decisions. All levels of government utilize GIS to maintain

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and publish jurisdictional information. For example, a city might publish zoning, street and parcel data on their GIS website among many other data layers. A public utility might use a GIS to monitor and maintain the health of their infrastructure. Urban designers may use GIS to map base data as described above, community assets, travel distances, safe bike routes and much more. The possibilities are numerous, but the unifying factor is the ability to create maps and graphics that represent spatial information and analysis.

Description

- Language Tools, narrative: writing, verbal - Every community and planning effort has a story. Workshops and charrettes may be employed to develop a vision, but a coherent narrative is required to codify and transmit that vision. The ability to listen and communicate effectively is necessary for public meetings, presentations, workshops and consensus building. Language choice is important when surveying communities as well, so that the language avoids influencing responses.
- Visualization Tools - Visualization helps to illustrate abstract concepts through diagramming all the way to realistic renderings of design solutions. These visualizations help to translate the stakeholder vision into what will become the design solution. They can be both process-oriented and representative of a final design. Some of the tools include:
 - Physical modeling of design iterations
 - Digital modeling of design iterations
 - Rendering software that adds lighting, materialsetc.tc to digital models
 - Graphics software for animations and videos
 - Graphics software suites for maps, diagrams, charts and graphs, image editing and formatting content into documents
 - Digital presentation / slideshow software

Engagement

- Workshops - Workshops come in many forms. Often times they are for the purpose of establishing a vision for the affected stakeholders. The National Charrette Institute makes the distinction between charrettes and workshops, stating that visioning workshops “establish a description of a future state based on shared community values that acts as a guide for the project decision-making process.” Given that not all workshops are visioning workshops, per se, the distinction that charrettes are design-oriented and workshops are more likely to inform, educate or reveal stakeholder values is an important distinction.
- Charrettes - Charrettes are traditionally defined (by Miriam Webster) as “the intense final effort made by architectural students to complete their solutions to a given architectural problem in an allotted time or the period in which such an effort is made.” Generally in an urban design scenario, charrettes are intense design or

study periods where multiple stakeholders are able to come together and work through ideas as part of a collaborative process. It is beneficial to have conducted visioning workshops before charrettes.

- Social Media - Social media can be a useful tool for engagement from creating groups for information exchange, alerts, and discussion on social network sites, to “live” online conversations about planning and design topics.
- Presentations - Presentations often occur during workshops, charrettes and public meetings. Whether the purpose of the presentation is to inform, generate dialog or present a final design, it is important to know your audience and tailor the content and message to the goal and the context. *Planning and Urban Design Standards* suggests asking “What [does your audience] need to know in order to be conversant with the subject and provide useful feedback?” (Sendich, 61)
- Websites - Websites are constantly evolving in this arena, and serve different purposes. Proprietary websites offer survey tools, public engagement forums and mapping software. The strength of many websites is increased ability to reach wider audiences for engagement, and to make data collection and analysis more accessible and easy to use. Additionally, websites are often where documentation of the planning and engagement process is disseminated, as well as the final plan.

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