

Geog 461 Learning Objective Outline

LOO 03 Conventional and Integrative Decision Approaches

03.1 How have local governments regulated growth through conventional approaches?

[Nyerges and Jankowski GISDS Chapter 1](#) 1.2.3 Conventional Approaches to Decision Support Situations

Public sector is the regulator of community activity – standard approaches

- Why regulate? reduce external affects of people's actions on other people, i.e. reduce resulting effect
- Many of 19,000 municipalities are too small and 3,100 counties in U.S. not growing rapidly for "specific growth regulations", but land use law has been in place for a while

Common techniques for conventional regulatory approaches that jurisdictions use across decision situations.

- Planning decision situations

1) comprehensive plans : 10 to 20 year horizon, multiple scales and foci

2) subdivision regulations and plans: developer plans required when land subdivided

- Improvement programming decision situations

3) capital improvement programs: infrastructures to serve the public e.g., streets, parks, waterways, etc.

- Project implementation decision situations

4) zoning ordinances: most common of regulatory instruments

- concerns them all

5) Public participation is a growing challenge for governments

A major problem involves a disconnect between/among those decision situations due to complexity.

03.2 What are growth management approaches; and what is the difference between a top-down and bottom-up approach to growth management? [Nyerges and Jankowski GISDS Chapter 1](#) Section 1.2.4 Integrative Approaches

What's different in Growth Mgt than under conventional regulatory approach?

- More recently communities identify "what seems to be a growth problem as a specific category".
- A way of organizing community efforts to anticipate future development and problems that might occur.

Approaches/Techniques for growth management stem from **community concerns**:

- As concern: managing the location and character of community expansion,
As technique: e.g. urban growth boundary, development policy area, infill-redevelopment, and others
- preserving natural resources and environmental qualities and features
e.g. land acquisition, conservation zoning, water quality/erosion control regulations, delineating critical areas, and others
- ensuring efficient provision of community infrastructure
e.g. functional infrastructure plans, facility exaction, impact fees, transportation demand mgt. and others
- maintaining or creating desirable quality of community life
e.g., design reviews, incentive and performance zoning (bonuses for mixed use and density), historic preservation and others
- improving economic opportunities and social equity
e.g., economic development incentives, affordable housing programs and others
- regional and state guidance of community development
e.g., coordination of local planning, development review having regional impact and others

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Each of those problems involve a type of “change in a community”. Thus, a geographic information system database as an *inventory of phenomena* across space and time is one way of representing a basic understanding of that change. For example, change in land use activity as in housing and commercial development; change in transportation activity as in the mobility freight and people; and Change in water resource activity as in the degradation of waterways. These are sample of the growth management concerns that can be addressed by a set of maps for various time periods.

In Washington State, "[c]urrently, 29 counties and 218 cities (representing 95 percent of the State's population) are fully planning under the [Growth Management Act or] GMA. Ten counties and their cities are planning for resource lands and critical areas only." (Washington State 2006, p. 1) To implement a comprehensive plan and organize access to information about growth management, the Washington State Growth Management Act (GMA 1991), specifies that a comprehensive plan can be a set of maps and/or a geographic information system.

The goals for such plans (hence the maps that are expressions of those plans) are the following.

Summary of Washington State Growth Management Act Goals

cited from the Puget Sound Regional Council's Vision 2020 Plan

- Encourage development in urban areas where public facilities and services exist or can be efficiently provided.
- Reduce urban sprawl.
- Encourage efficient, multimodal transportation systems.
- Provide affordable housing for citizens of all income levels, promote a variety of housing densities and types, and preserve the existing housing stock.
- Promote economic opportunity consistent with the capacities of the state's natural resources and public services and facilities.
- Respect private property rights.
- Provide timely, fair and predictable permit review processes.
- Conserve and enhance natural resources.
- Retain open space, conserve fish and wildlife habitat, increase access to natural resource lands and water, and provide recreational opportunities.
- Protect the environment and enhance the state's high quality of life.
- Encourage citizen participation in the planning process and ensure coordination among jurisdictions.
- Ensure that public facilities and services are adequate.
- Preserve historic and archaeological resources.

Table 1.5 GIS Growth Management Web GIS Services Accessible to Public
(Alchua County 2006b)

Interactive GIS Applications

Our GeoGM Mapper allows for creation of custom maps offering access to 50+ GIS layers. GeoGM Searches can be performed based on Address, Tax Parcel number, Tax Parcel owner's name, and Section Township Range (STR).

Our Map Atlas searchable by Section-Township-Range (STR) offers ready made pdf Maps for the one-mile area defined by Section-Township-Range (STR) or land grant. For each Section-Township-Range (STR) one can view and download ready made standardized maps of up to date Parcels overlaid with Zoning, Future Land Use, Wetlands/Floodplains, Strategic Ecosystems, 2 ft Topographic Contours, or Aerial Photographs.

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Our Multimedia & GIS for Historic Structures in Alachua County integrates in an interactive GIS application, 960+ Florida site files, photographs, video clips with a voice narrative, detailed descriptive information, GIS layers, and much more. Searches can be done from the map or from the database.

Our Ecosystems Interactive Mapper allows one to view and explore the results of the LEMAC model, Alachua County's Decision Support System for landscape evaluation and characterization. A parcel search and other conservation geospatial layers are included. This Mapper is part of a specialized web site we have developed on ecosystems studies.

An Interactive Map of the world, part of the GISCorps' web site we have developed, shows locations of GISCorps volunteers and missions. The Mapper looks live into the main GISCorps' database and it updates as new volunteers sign on.

Our Interactive Map of Florida Counties helps you find web addresses for Florida counties and county seats. It takes a bit to load though.

03.3 How can we compare and contrast growth management and sustainability management in terms of competing objectives and generational equity?

Drawing growth management and sustainability management views into focus, we suggest a perspective about "community and regional sustainability", that makes use of Farrell and Hart's (1998) description about competing social, economic, and environmental objectives for communities that may or may not be considered together with carrying capacities, and Rees' (1998) description about the importance of generational equity in sustainable community development

See Figure 1.6 A framework for characterizing community and regional sustainability in terms of three levels - weak, semi-strong, and strong. Weak and semi-strong sustainability can be considered growth management in some circumstances.

03.4 Which of the five dimensions for decision situations provides the most leverage for integrating situations?

Table 1.6 Dimensions for Integrating Planning, Programming, and Implementation

- (1) functional activities - land use, transportation, and water resources
- (2) community conditions - social, economic, and environmental
- (3) decision process scales - planning, programming, and implementation
- (4) geographic scale - regional, county, city-wide, small area
- (5) temporal scale - strategic, tactical management, operational

The best dimension to use depends on the decision situation at hand, but functional activities and decision process scales are by far the most common basis for linking situations broadly speaking. Community conditions, geographic scale and temporal scale are used for addressing detailed linkages in data. We will consider a number of these dimensions throughout the course.

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03.5 How does participation enter into the decision processes?

[Nyerges and Jankowski GISDS Chapter 1](#) Section 1.3 Participation in Decision Processes

Decision making groups are the foundation for societal change (Poole, Seibold, and McPhee 1985). Small group and large group decision making has become more visible over the past two decades, as decision transparency, particularly in public settings, is right next to decision accountability as one of the primary concerns of the general public as well as special interest groups for wanting to know how public money is being spent. GIS maps can help decisions become more visible; remembering back to our moniker *we map what we value and we value what we map*.

Part of the awareness about the inadequacy of the conventional approaches to decision making about land use change, followed by transportation and water resources, has come from *public participation*. Public participation provides a mechanism for agencies to gain feedback from people about the institutional processes underway.

Hopkins (2001) suggests five benefits of participation, as follows.

- participation of more persons and more diverse persons increases group capabilities to make plans
- participation of decision makers increases the likelihood they will use the plan
- participation of all constituencies avoids later resistance to chosen actions
- participation outside of formal democratic processes complements these processes by giving different people access and thus representation
- the experience of participating helps to foster the kinds of individuals necessary to operate a democracy

Participation spectrum outlined by the International Association of Public Participation (2005) as presented in Table 1.7. Reading information from a web site is a “weak” sense of democracy. When public is empowered to take part in the decision process, then we can say we have achieved a “strong democracy.”

Table 1.7 Participation Spectrum, Activities, and Impacts

Participation Level	Participation Activities	Public Impact on Overall Process
Inform	Listen	Public is informed
Consult	Listen, respond	Public is informed and provides feedback
Involve	Listen, respond, negotiate, recommend	Public concerns are incorporated
Collaborate	Listen, respond, negotiate, recommend, analyze	Public helps form concerns and solutions
Empower	Listen, respond, negotiate, recommend, analyze, decide	Public helps decide concerns and solutions

A significant amount of participation underpins the success of growth management processes, and is one of the cornerstones of sustainability management.