

AN ANALYSIS OF AMERICAN GROWTH MANAGEMENT SYSTEMS

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摘 要

台灣行之有年之土地使用分區管制及相關之土地政策，無法有效達臻既定目標。因此，如何重新思考新的策略來管理脫序的都市發展所產生的問題，已是政府必須面對的挑戰。由經建會召開之國土綜合開發研討會，會中曾指出以成長管理之理念，採用發展許可制規範未來土地開發行為與都市發展。由於美國實施成長管理制度已有四十年的歷史，因此，本文企圖分析美國成長管理制度之優缺點，提供政府一個政策的參考基礎。本文歸納分析美國各州之相關法令、報告、及現有之文獻，探討成長管理制度形成之背景環境、理論性概念、地方政府所採用的策略方法、要求配合之措施、各級政府之角色、政府之組織架構與職能、及現況面臨之挑戰。美國成長管理制度實施以來已對地方上之都市規劃與都市發展、土地政策及各級政府間之關係產生重大影響。因此，本文期待能藉由美國經驗之分析，來提供台灣實施發展許可制與建立新方法策略之重要參考，期使未來都市走向永續發展之目標。

Abstract

While zoning controls mixed with various policy strategies in Taiwan could not effectively achieve the projected goals, it is critical for Taiwan to reconsider alternative tools to manage its outpacing development. The Seminar on "Comprehensive National Land Development," held by Council for Economic Planning and Development in 1995, suggested development permit system mixed with growth management concept to regulate land development and guide urban growth. Thus, the purpose of this paper is intended to present a reference basis for Taiwan from a view of the American growth management systems. Based on state statutes, papers, and the available literature, this paper discusses the background, theoretical concept, the conceptual approaches, operational requirements, governmental roles, and challenges that

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exist in ten current state growth management systems in the United States. These systems have a tremendous influence on planning, policy context, urban development, and intergovernmental relationships. Therefore, it is hoped that the American experiences in the management of urban growth and development can serve as a valuable source of methods and systems that, with appropriate modification, might be useful for Taiwan.

I. Introduction

The government in Taiwan recognizes the role of the private sector in promoting economic growth through land development. Over the years, therefore, the private sector has dominated the pace, location, timing, and quality of urban development. While the government have not effectively managed the private market through their management functions--such as planning, organizing, and controlling--the imbalance of public and private interests has led to negative externalities that are borne by the public. The additional costs of public facilities and services resulting from new development, for example, are shouldered by the ordinary citizens, but not by those who create the costs.

With a land use management system similar to that found in the United States, Taiwan has faced similar land-use problems, producing even worse results due to the failure to modify land-use control devices. Since zoning has traditionally not been concerned with the timing of development and has difficulty in attempting to relate development decisions to wider questions of planning, growth management has emerged as a powerful concept and has given new meaning to planning and land-use controls in the United States (Cullingworth, 1993).

Due to the current issues relevant to land use and urban development in Taiwan, the Seminar on "Comprehensive National Land Development," held by Council for Economic Planning and Development in 1995, suggested "development permit system" mixed with growth management concept and techniques, such as growth quota, concurrency requirement, and impact fee programs, to regulate land development and guide urban growth. Within this context, this paper attempts to seek better techniques for Taiwan and to provide a resource for meeting Taiwan needs. It presents the experiences of growth management in the United States. Based on state statutes, papers, and the available literature, this paper introduces the background and theoretical concept of growth management and analyzes the major components of systems. This analysis addresses the implementation of

An Analysis of American Growth Management Systems

alternative approaches, the supplementary requirements for achieving growth management goals, the roles and function of governments, and the intergovernmental structure and strategies through which to develop or implement growth management policies.

II. Historical Background

In the United States, initial state and regional efforts to influence development were primarily New Deal responses to the Great Depression of the 1930s (Porter, 1992). About the same period, zoning has become an important tool for local land use control. Up until World War II, region-based planning and strategies were recognized as solutions to environmental problems and economic development. However, the postwar economic boom not only accelerated urban growth but also undercut previous efforts.

The close connection between economic development and urbanization persists throughout the United States. Migration to the cities is primarily a function of the availability of economic opportunities in the urban environment. Rapid urban expansion and the flood of rural migrants to large cities have produced serious social, fiscal, environmental, and physical problems. Thus, during the two decades of urban development that followed World War II, rapidly growing communities experienced negative externalities such as the loss of community character and valuable open space, poorer air quality, and increasing traffic and public facility problems. Owing to the shortcomings of traditional zoning and subdivision mechanisms, a number of communities turned to other innovative tools of land use control.

Beginning in the early 1950s and continuing through the early 1970s, the first wave of growth control and management movement began at local levels as a response to rapid growth. Most local growth management programs attempted to time and phase new development according to the community's growth rate, environmental carrying capacity, and ability to finance and build new public facilities (Gale, February 1992). The town of Milford, Connecticut, for example, embarked upon a growth-phasing ordinance in the early 1950s, requiring a developer to demonstrate that the public facilities were adequate to serve the proposed development. Clarkstown, New York, adopted its ordinance in 1955 to guide its residential development around existing settlements before opening additional lands to intensive use.

During the early period, the growth control and management programs were

often imposed on the basis of purely local concerns rather than on regional or statewide considerations. Again, environmental considerations outside jurisdictional boundaries were frequently absent from development decisions by local governments. Delogu (1981) contended that local governments have had the most microscopic view of the society as a whole. It is not surprising that they have produced undesirable externalities. These negative externalities have even crossed jurisdictional boundaries into neighboring cities. Owing to rapid population growth, for example, the city of Petaluma established the "Petaluma Plan" in 1972, setting annual quota criteria to control the residential development. The Plan further directed certain development permits to planned areas, and designed a greenbelt as an urban extension line around the city. Although the Plan did slow population growth in Petaluma, critics argued that restricting the supply of new housing increased the price of present housing, making it difficult for low-income groups to remain. Moreover, the complicated and severe application requirements forced developers to shift their attention to nearby less restrictive communities. This illustrates that local growth control may produce unexpected and unwanted impacts on the surroundings. As a result, it is believed that development, along with some spillover effects outside the metropolis, should be managed under a jurisdiction that is large enough to capture most of the negative externalities.

In fact, during the first wave, several programs (such as Hawaii's state land use program in 1961, Vermont's Act 250 in 1970, and Florida's Land and Water Management Act in 1972) and regional and intrastate agencies (such as the San Francisco Bay Conservation and Development Commission in 1965, the Twin Cities [Minnesota] Metropolitan Council in 1967, and the Adirondack [New York] Park Agency in 1971) associated with regional and state efforts also involved the growth management arena. These actions indicate that local efforts produce undesirable results, and increasingly regionwide problems undermine local interests.

Beginning with Oregon's "Land Use Law," enacted in 1973, this unprecedented landmark in the United States may signal the emergence of the second wave of the growth control and management movement (Gale, Autumn 1992). In the booming growth pressures of the 1980s, a new set of state growth management systems came on line, incorporating "balanced growth" policies that integrated economic development, infrastructure, affordable housing, and "quality of life" with environmental protection (Bollens, 1993). Since the 1970s, ten state governments have adopted programs attempting to reassert state control over land development policies. They have established comprehensive planning and growth

An Analysis of American Growth Management Systems

management programs associated with various state criteria implemented in specific jurisdiction.¹ It is significant that all are located on the coast of the U.S., with the exception of Vermont. It seems likely that the citizens of coastal states have a greater awareness of the importance of protecting environmental resources.

III. The Theoretical Concept of Growth Management

Since the late 1920s, zoning and subdivision regulations have played the key role in controlling land development in the United States. Despite their widespread use, however, there have been number of studies criticizing the zoning machine and subdivision controls. Typically speaking, subdivision regulations are not concerned with the capacity of public facilities outside the development and that most of the zoning maps are too inflexible to adjust as development changes. Again, zoning is not a good machine for managing how quickly development occurs. In addition, it is ineffective for communities that want to grow outward gradually from their already built-up areas. This weakness of zoning results in leap-frog development on the urban fringe. However, the most important one which is used to describe the defect of the zoning system is that zoning is a static and timeless game being played in a dynamic urban system. It is hardly surprising that zoning system does not address the critical issues of the timing, location, and cost of growth. As a result of shortcomings of traditional zoning and subdivision regulations, cities and counties tried to seek other innovative techniques for land-use controls.

Today, the transaction in goals of land-use controls has progressed from zoning and subdivision regulations to growth management. From the system programs and approaches adopted by governments, we can infer that the theoretical concept of growth management is based on the following characteristics.

1. It recognizes that market failures and rapid urbanization produce an urgent need to manage development in the process of urban expansion by establishing appropriate legal and administrative structures and policy strategies.

¹ The ten states include Oregon (1973), Hawaii (1978), Florida (1985), New Jersey (1986), Rhode Island (1988), Vermont (1988), Maine (1988), Georgia (1989), Washington (1990), and Maryland (1992). Pennsylvania, Virginia, California, Connecticut, New York, Massachusetts, North Carolina, and Texas are in the process of initiating programs.

Within this context, planning oriented comprehensive devices are necessary to the governments in order to achieve proposed goals and maintain control in the face of potential conflicts.

2. It recognizes that urban development is a dynamic system. Under this system, land development is essentially related to spatial adjustment, physical structures, infrastructure needs, environmental conflicts, demographic projections, land tenure patterns, and the individual landowner's economic objectives. All the factors produce a practical concern for timing, location, amount, cost, and quality of land development.

3. It pursues a responsible and continuous equilibrium between development and the provision of public facilities, between the demand for public facilities and financial capacity, between development and environmental and ecological conservation, between development management and economic growth, and between the efficient use and the equitable allocation of land. That is, growth management is not anti-growth but, rather, tries to direct development to the right places at the right time so as to promote the "quality of life" accordingly.

IV. Elements of System

Growth management is a land use-centered process. It intends to influence the characteristics of development--its rate, amount, type, cost, location, and quality--in order to provide for an orderly and efficient land use and urban development. A rational process of state, regional, and local collaboration is required, combining the broad vision of state-wide and regional goals with the sensitive administration of locally responsive officials. Essential to this collaboration are innovative techniques of implementation, the approaches that translate goals into action and bring to fruition the shared values of the citizenry. Within this context, a growth management system might include three basic elements as follows.

1. A Core Planning Team

The core planning team should be led by the planners and city or county manager or might be shown as a commission. The members of planning team might include a city or county attorney, one or more representatives of prospective implementing bodies, public work engineers, a housing expert, a regional economist, a demographor, and a senior planning consultant who is

An Analysis of American Growth Management Systems

expert on development management and land-use controls. The core team might be supplemented by an advisory or steering group appointed by the local legislature to provide policy review, approvals of key projects, and advocacy during the adoption and implementation stages.

2. A Comprehensive Development Management Plan

The comprehensive plan, consisting of textual matter, actions, maps, and charts, must include, but need not be limited to:

- a. an analysis of existing and emerging development conditions
- b. a statement of objectives and goals of the city or county concerning its future development (a vision of a desirable future)
- c. a program of actions (Kaiser, Godschalk, and Chapin, 1995):
 - (1) a development code (i.e., procedures for permit review and decision-making; standards for type of development, density, allowable impacts, and performance standards; site plan, site engineering, and construction practice requirements; exactions and impact fee provisions; incentives to encourage particular development types, site designs, and construction practices; and delineation of districts where various development standards, procedures, exactions, fees, and incentives would apply)
 - (2) a program for the expansion of urban infrastructure and community facilities and their service areas (i.e., the sequence, timing, location, standards, procedures, and distribution of responsibility)
 - (3) a capital improvement program (CIP)
 - (4) an acquisition program (i.e., advance purchase of sites for community facilities and purchase of development rights to protect critical areas from development)
 - (5) other components (i.e., an affordable housing program, an urban renewal project, or an environmental conservation program)
- d. official maps
- e. an outline of relevant federal, state, regional, and neighboring local government measures

Elements of the growth management systems generally include approaches (strategies) and requirements in the categories suggested previously for the program of actions. These approaches and requirements will be discussed in section V.

3. The Organizational Structure

The approaches and strategies produced through planning are typically intended to deal with the crucial issues faced by an organization or government. How approaches can achieve their expected results depends largely on the institutional function. Owing to today's changing environment and society, an organization must be viewed as a total system with each part tightly linked to other organizational parts; no single part of an organization exists and operates in isolation from the others. This perspective identifies the importance of integration and coordination among organizational structure. Indeed, growth management systems entrust authority of planning and management to different institutional levels and agencies to work out the programs. The organizational structure and roles will be detailed in section VII.

V. Approaches

Growth management is a tool to implement planning for regulating the location, timing, or amount of urban growth associated with the concern for public facility provisions and costs. The approaches discussed in this section are designed to achieve the above objectives. Some state and local communities have adopted more than one of these approaches; indeed, the approaches themselves differ in constituent elements, philosophy, and impacts.

1. Adequate Public Facilities Requirements

This requirement mandates that new development cannot be permitted unless the levels of public services and facilities are adequate. It requires adequate infrastructure capacity to be available at the time development impacts occur. It essentially links development approval to the carrying capacity of public facilities as part of the development review process. Furthermore, communities can manage growth by refusing to provide public services to new development in areas where growth is prohibited. This is a kind of "concurrency" requirement under which developments cannot be approved unless adequate public facilities are concurrently available, or will be available, by the time demand from the new development requires that capacity (Kelly, 1993).

This approach can be found in state legislation or local acts. For example, legislation in Maryland and in Florida ties development permits and orders to the provision of adequate public facilities. Washington state requires local governments to ensure that adequate public facilities are available before

An Analysis of American Growth Management Systems

development permits are issued. A recent survey by the League of California Cities found that 30 percent of all California communities employ adequate public facilities requirements (Porter, 1990).

Although the adequate public facilities requirements are popular, Porter (1990) pointed out that two fundamental questions remain to be answered. First, who is responsible for making certain that public facilities are maintained in reasonable equilibrium with public needs? It seems that the traditional responsibility of local governments to provide public facilities has been shifted to the private sector, where local bodies are short of funding and developers are eager to get their projects done. The developers may have no choice but to pay their own way unless state law does not allow development to proceed where the developer is willing to pay infrastructure. Moreover, if communities neglect or hesitate to meet the adequate demands, developers may opt for fund infrastructure to meet the requirements. In such circumstances, local governments avoid responsibility for planning and managing infrastructure systems.

Second, what are the definitions and standards of "adequate" as related to the types and amounts of various public facilities? This requires skillful and appropriate measures of capacities and impacts on capacities of public services. Often, however, the standard of "adequate" is tied to the level of available funding. When communities lack funding, the standard becomes more difficult to reach. As a result, growth is halted unless developers pay their own way.

2. Growth Control Quotas

This aspect can be seen as a growth rate control approach. Quota allocation is designed to limit or reduce the growth rate in a specific area during a certain period. Quotas are usually placed on the number of building permits or the number of new residents. For example, the Boulder program in Colorado State allows a growth rate of 2 percent annually. The Petaluma plan placed a cap on annual development that limited the number of building permits to be issued each year. Likewise, building moratoria were imposed in a number of south Florida counties and cities in the 1970s; and voters in Boca Raton approved the nation's first population cap (Wallis, 1993). In Virginia Beach, a one-year moratorium was placed on all building on the farmland in the south half of the city. Smith (1993) contends that the original motivation for adopting growth management was to control and slow population growth that threatened to outstrip a community's financial capabilities. Thus, a quota on population or building permits becomes a more direct way to control growth. However, it is not easy to

prove the nexus between the quota of growth allowed and the carrying capacity of public services in a community during a certain period. As a result of successful legal challenges to the enactment of a specific population cap, these quotas are now rare.

3. Growth Phasing Programs

Growth phasing remains a popular type of growth management program. This program regulates the location and timing of new development, generally based on the availability of public facilities. It gives a generalized view of development and provides a well-grounded basis for scheduling public services (Coughlin et al., 1993). In this respect, its purposes are to prevent premature subdivision before needed public facilities are available and to assure efficient provision of infrastructure. In addition, the primary purpose of a growth phasing program is to protect the urban landscape and urban form by combatting urban sprawl. Thus, the program seeks to manage the location and timing of development to curb undesirable sprawling developments. Within this context, the adequate public facilities requirement can become one of the approaches to achieve the purpose of the growth phasing program by translating the availability of public facilities into a growth-timing control in any time period.

In principle such a program is thus somewhat like an adequate public facilities program. In fact, however, they are quite different. An adequate public facilities program is, in the interests of the protection of public health and public safety, concerned with limited financial sources. Rampant growth usually leaves communities unable to provide necessary urban services. For this reason alone, many communities have sought to place an adequate public facilities requirement on development to control growth pace. Such requirement can, therefore, indirectly achieve the control of location and the timing of new development. In some instances, however, adequate public facilities programs are not necessarily related to location and timing objectives. For instance, development may occur in which adequate public facilities are available but remote from city.

Among the cases in this category, the Ramapo, New York, program presents a general view for a growth phasing program. The town of Ramapo adopted a master development plan in 1966, followed by a six-year Capital Budget and a Capital Program that specified the location and sequence of further capital improvements over the twelve years following the life of the Capital Budget. The Ramapo program was based on a period of eighteen years, at the end of which the town expected to have reached its maximum development capacity, with all

An Analysis of American Growth Management Systems

needed public services having been provided.² Viewing the entire program, it controlled the location and timing of development in phase with the provision of adequate public facilities for the purpose of diminishing premature subdivision, urban sprawl, and any development without adequate facilities and services.

4. Urban Service/Growth Boundaries

Urban service/growth boundaries is a kind of growth phasing program that provides another way to channel growth into areas served or to be served by public services. Urban service boundaries establish areas within which public services will be provided (M.T. Smith, 1993). Outside the boundaries, urban development is discouraged or prohibited, with the goals of focusing development in areas most efficiently served by urban services, compact urban form, preventing urban sprawl, and preserving open space and resource lands (Porter, 1988). Within the boundaries, the urban growth/development area is shaped for containing urban growth for a specific period. In principle, concurrent circles of urban growth boundaries can be established for the purpose of a growth phasing program. Basically, there appear to be four overall goals driving the establishment of urban boundaries: (1) promoting compact urban development; (2) providing efficient and cost-effective infrastructure; (3) preserving resource lands, including farmland; and (4) protecting natural resources and environmentally sensitive lands (Easley, 1992).

A number of growth management statutes have required the urban growth area strategy to designate service areas or tiers as a means of directing growth. One, Prince George's County, Maryland, has adopted a tiered growth program that divides the county into preferred development areas, economic potential areas, limited development areas, and deferred development areas (Mandelker and Cunningham, 1990). The 1989 New Jersey State Plan also divides the state into seven tiers for purposes of deciding where to encourage growth, redevelopment, and resource preservation (Callies, 1994). Hawaii's land use commission also sets up general boundaries within the state for agricultural, rural, conservation, and urban districts.³ In Hawaii local powers are severely limited within agricultural and conservation areas and the power to change the boundaries of those areas is reserved for the state land use commission (Kelly, 1989). Under state land use goals and guidelines, local governments in Oregon may, at their discretion, use

² *Golden v. Planning Board of the Town of Ramapo*, 30 N.Y.2d 359, 366-67, 285 N.E.2d 291 (1972).

³ HAW.REV.STAT. § 205 (1985).

tax incentives and disincentives, fee and less-than-fee acquisition, zoning, and urban service programming to guide urban development within urban growth boundaries (Knaap and Nelson, 1992). Similarly, Washington mandates the establishment of urban growth areas based on urban service locations and the natural carrying capacity of the land, including cities and urbanized or urbanizing areas.

VI. Requirements

Every state planning and growth management program includes the creation of policies, goals, and implementing requirements aimed at practical concerns with timing, location, type, density, amount, cost, and quality of development. This section presents the requirements found in state growth management systems that are established to help attain the mandated state policies and goals. The requirements associated with adopted goals arise out of a variety of needs and circumstances in different states. They provide an overview of the progress and comprehensive dimensions in growth management systems.

1. Consistency

The consistency requirement tries to link various systems and institutions together, recognizing that policies or approaches cannot be worked out by local governments in isolation by mandating that plans at different levels of government be consistent with each other. More specifically, growth management programs usually adopt a comprehensive plan to contain a number of concerns that create an interrelated influence at all levels of authority. In this respect, the consistency requirement becomes a crux of administrative efficiency and effective execution. It attempts to strike a political compromise that will meet statewide goals without impairing the administrative efficiency of the system (Wickersham, 1994).

The legislatures in nine of the states have adopted this consistency requirement (Hawaii is the exception). Oregon first adopted consistency in a comprehensive fashion when it required that the state review local plans to ensure consistency with the state's nineteen adopted goals. As a top-down governmental structure in growth management, Florida and Rhode Island mandate that local plans be consistent with the state's comprehensive plan. Responsibility lies with local authorities where local plans are not consistent with the state plan of Rhode

An Analysis of American Growth Management Systems

Island. New Jersey sought to negotiate consistency between all municipal plans and the state plan through a complex "cross-acceptance" process.

Consistency is not absolutely required in Maine and Georgia. However, the incentive/disincentive system seems strong enough to push local governments to meet the requirement. In Vermont, regulation does not mandate planning at the local level. However, if local governments establish their local plans based on incentives, their plans must be in accordance with state and regional goals and policies and with each other. Washington's consistency requirement is absolute for the twenty-six counties that are required, or have chosen, to participate in the process, with strong fiscal sanctions for failure to comply (DeGrove, 1992).

Among the state systems discussed here, the consistency requirement differs in the strength of its mandate to link plans within and among the state, regional, and local levels. It is an essential requirement to provide a sufficient condition to mandate an important substantive requirement such as concurrency, economic development, environmental preservation, and affordable housing policies.

2. Concurrency

Concurrency is a land-use regulation which controls the timing of property development and population growth. This requirement asserts that the public infrastructure--such as public water and sewer, transportation, and school and other social service facilities--should be planned and built before users and residents arrive. Its purpose is to ensure that certain types of public facilities and services needed to serve new residents are constructed and made available contemporaneously with the impact of new development (Boggs, 1991). It achieves the fiscal controls of public facility provisions, but it lacks the tight locational control and effect (Einsweiler and Miness, 1992).

Florida established the strongest concurrency requirement in the nation. This "pay-as-you-grow" requirement specifies seven public facilities and services (roads, sanitary sewer, solid waste, drainage, potable water, parks and recreation, and mass transit)⁴ for which local governments must establish the level of service standards within local comprehensive plans. According to Chapter 9J-5, development orders and permits are not to be issued by local governments unless the necessary facilities and services are available concurrent with the impacts of

⁴ FLA. ADMIN. CODE R. 9J-5.003(77) & 9J-5.0055(1)(a)1-7 (June 1991). Washington state requires two facilities, transportation and open space.

development.⁵

If this concurrency requirement is taken seriously, a local government must be armed with two things: data and money. First, a concurrency policy demands a constantly updated management information system with current data showing existing infrastructure deficiencies, desired future growth, and replacement of obsolete or worn-out facilities.⁶ The system also must indicate and set levels of service for specific facilities. In fact, the updated data have been, except for rare exceptions, nonexistent in the local government planning process (DeGrove, 1992).

More important is how to make up existing infrastructure backlogs and even to satisfy desired future needs that result in remarkably heavy fiscal burdens at all levels of government. Indeed, however logical the concurrency requirement may be, the costs of catching up and keeping up are great. Yet this requirement ignores the question of who will pay for additional infrastructure and how its development will be financed. Most state laws do not provide local bodies with an adequate funding authority to reduce infrastructure backlogs and meet future needs. Thus far, no state has completely solved the funding needs to implement the system fully (Buchsbaum and Smith, 1993).

Funding remains the major roadblock in requiring concurrency. It is obvious that this requirement would force local governments to impose development moratoria soon after their plans and regulatory programs were approved by the state; indeed, that has already happened (Porter, 1992). Stuart (1994) also argues that the concurrency requirement ignores the impacts of development moratoria on community development, affordable housing, and other issues of public concern. Therefore, while concurrency appears on its face to be a reasonable and logical policy, improvements in its practical application are needed.

3. Compactness

Compact urban development tends to contain urban sprawl and to diminish service inefficiency. The strategy of compactness is simply to promote more efficient use of existing public facilities by clustering urban development in designated areas and to protect valuable rural and environmental lands outside urban growth areas by curbing sprawling development. Growth area designations, growth tiers, urban service/growth boundaries, and concurrency

⁵ Ibid., R.9J-5.003(20) (Sept. 1990).

⁶ The Florida Administrative Code requires that a local government demonstrate the ability to meet these three categories of need. FLA. ADMIN. CODE R.9J-5.016 (3)(b) 1 (Sept. 1990).

An Analysis of American Growth Management Systems

requirements fall into this category. Among these approaches, the urban service/growth boundaries technique becomes the most prevalent way to achieve compact urban development.

In Florida, local governments are establishing urban service boundaries designed to contain urban sprawl. The compact urban development policy is composed of at least three components: first, unplanned urban sprawl at the fringe of urban areas is discouraged; second, the use of existing infrastructure for redevelopment and infill is encouraged; and third, the urbanization of rural lands is discouraged by reducing the amount of land required to accommodate Florida's urban population (DeGrove and Stroud, 1989). In Oregon, an urban growth boundary is required for each city consistent with state criteria; and urban developments are allowed only within the boundaries unless an exception is granted. In Hawaii, the state plan presents the cumulative policy thrust of directing growth toward compact urban centers to protect agricultural lands, open space, and critical environmental areas (DeGrove, 1984). Maryland's Economic Growth, Resource Protection, and Planning Act of 1992 encourages concentrating development in suitable areas and directing growth to existing population centers in rural areas to protect natural resources.⁷

The Department of Community Affairs in Florida contends that urban sprawl promotes inefficient use of land resources and existing public facilities and services, and makes it difficult or impossible to provide new infrastructure and services efficiently to new development (Wallis, 1993). In this respect, compactness and concurrency are, indeed, implemented to achieve the same purpose. Maine and New Jersey are prime examples of states that have adopted policies aimed at inducing the concentration of infrastructure investment in designated urban growth areas.

4. Affordable Housing

Affordable housing was not an original element in many growth management systems. Critics assumed that growth management schemes greatly affect the supply of developable land and raise housing prices. Sometimes fundamental market contradictions exist between housing affordability and urban growth boundaries or compact urban development. As a social justice defender, the affordable housing policy has emerged as the mandated requirement that must be

⁷ 1992 Md. Laws, ch. 437.

met as development occurs.

Goal 10 of Oregon's statewide plan mandates that local governments increase residential densities and the amount of land zoned for multi-family housing to achieve such a goal. By the same token, thus far, many states have encouraged higher-density housing than is currently permitted by most municipal zoning ordinances. Washington state, for example, is following similar policies. The Hawaii Housing Authority, through subsidies with state bond issues, attempts to eliminate low-and moderate-income housing problems.⁸

The New Jersey state planning act is the legislative response to affordable housing concerns resulting from the rulings of Mt. Laurel I and II.⁹ The court, in Mt. Laurel II, determined that all communities in growth areas, as identified in the State Development Guide Plan, had a responsibility to ensure the actual provision of affordable housing. The court directed that allocations of "fair shares" must be based on the scope of growth areas and its population and employment projections (Luberoff, 1993). The new Florida law gives affordable housing substantial state funding by earmarking a 10 cent per \$100 increase in the real estate transfer tax, which by 1995 will produce funding of more than \$ 100 million annually (DeGrove, 1993b).

One of the driving forces behind the growth management legislation in Maine, Rhode Island, and Vermont was from the concern with the rising cost of housing (Sinclair, 1989). In order to promote affordable, decent housing opportunities for all citizens, Maine established a target of 10 percent of each municipality's new housing units as affordable.¹⁰ Vermont created a Housing and Conservation Trust Fund in 1987 under Act 200 to promote affordable housing and protect natural resources through loans or grant programs. Rhode Island targets levels of affordable housing for each of six market areas in the state; these targets must be addressed in local plans, or locally-developed targets must be substantiated and addressed, subject to state approval.

5. Economic Development

During the first wave of growth management, the growth management

⁸ The subsidy programs of the Hawaii Housing Authority are contained in HAWAII REV. STAT. ch.359G (Supp. 1976).

⁹ Southern Burlington County v. Township of Mount Laurel, 92 N.J. 158, 456 A.2d 90 (S. Ct. 1983). The first Mount Laurel decision came in 1975, 67 N.J. 151, 336 A.2d 713 (S. Ct. 1975).

¹⁰ Comprehensive Planning and Land Use Regulation Act, 30 MRSA § 960-C.4.C.7.

An Analysis of American Growth Management Systems

systems created were often associated with environmental concerns designed to stop growth and to prohibit development. Thus, from a local point view, growth management has been criticized as a foe of local economic development. Concerned with generating job opportunities and local tax revenues, local residents and their authorities anxiously look for new development in their communities. Politicians respond to that. To bring the economic development component into growth management systems is an immediate response to the practical political necessity of winning support for new growth management laws during the second wave of growth management (DeGrove, 1992).

The economic development component may come about to meet specific regional needs, such as the revitalization of depressed urban areas. For example, in northern Maine, outside Atlanta, Georgia, and in eastern Washington--areas suffering from economic stagnation--economic development becomes an urgent goal of the program. These three states have established implementing strategies, some with substantial funding, to support these policies. Concerned with population and economic declines in older cities such as Hoboken, Newark, Passaic, New Jersey's mandated "State Development and Redevelopment Plan" is intended to revitalize the economy of those older cities.

Economic development goals in Vermont's Act 200 include strengthening the agricultural and forestry industries and the redevelopment of areas with declining, resource-based economies. In order to provide adequate opportunities for a variety of economic activities throughout the state, Goal 9 of Oregon's statewide plan requires local governments to analyze the local economy and to prepare and plan for inventories of potential commercial and industrial areas sufficient to meet projected regional needs.

6. Resource Protection

In the 1950s and 1960s, the first wave of growth management came about to solve the threat to environmental resources resulting from population growth and rapid community development. Since then, environmental concerns have become prominent in various programs related to growth management. The use of urban service/growth boundaries to discourage urban sprawl and leapfrog development represents one approach to protect environmental resources. Communities have employed their zoning powers to limit the subdivision and platting of land which is close to urban areas, farmlands, or valuable natural resources. In addition, planned unit development and cluster zoning were the primary features of earlier growth management ordinances related to the conservation of natural resources.

More recently, land acquisition, purchase of development rights (PDR), and transfer of development rights (TDR) have been adopted to acquire and reserve natural open space, farmland, and environmentally sensitive land.¹¹

One of fundamental objectives in Oregon's planning program is to preserve natural resources with a focus on farmland. State and local governments have adopted a variety of farmland protection instruments, including property tax incentives, right-to-farm laws, and agricultural or open space zoning, among others (Knaap and Nelson, 1992). Vermont's Housing and Conservation Trust Fund also serves to preserve significant natural features and to protect agricultural and forest lands. The fund may be used for purchasing farm or forest lands in the interest of containing urban sprawl (DeGrove and Metzger, 1993). In Rhode Island, the local plan must address the protection of sensitive environmental areas, and funds have been provided for the purchase of development rights through the bond issues of the 1980s. Since 1972, Florida has succeeded in providing funds for the acquisition of environmentally sensitive lands. The 1990 legislature approved Preservation 2000 with state funding that has been used as matching grants to local governments in purchasing environmentally sensitive areas and park and recreational lands, a potentially important resource for meeting the parks and recreation concurrency requirement of the growth management act (DeGrove, 1992).

Georgia state law authorizes the State Department of Natural Resources to establish minimum standards for vital areas (wetlands, watersheds, and aquifer recharge areas), subject to legislative approval for protective purposes.¹² Washington requires that all counties and cities prepare development regulations to protect agricultural, forest, and mineral resource lands, as defined in House Bill 2929. The New Jersey legislature called for the State Development and Redevelopment Plan to represent a balance of development and conservation objectives best suited to meet the needs of the State. It requires a plan to protect the natural resources and qualities of the State, including, but not limited to, agricultural development areas, fresh and saltwater wetlands, flood plains, stream corridors, aquifer recharge areas, steep slopes, areas of unique flora and fauna,

¹¹ As of February 1, 1994, nine states have adopted the PDR programs to protect farmlands: MD (1977), MA (1977), CT (1978), NH (1979), RI (1982), NJ (1983), VT (1987), PA (1989), and ME (1990). (Source: Land in Farms: U.S. Census of Agriculture, 1987 and American Farmland Trust, Northeastern Office).

¹² Georgia Planning Act of 1989, House Bill 215, Part V, State of Georgia.

An Analysis of American Growth Management Systems

and areas with scenic, historic, cultural and recreational values.¹³

VII. Governmental Roles

A comprehensive state growth management system essentially alters relationships at all levels of government. Most of the systems discussed in this paper commonly alter the allocation of responsibilities and authorities throughout the governmental structure. This section is intended to present a general view of the vertical and horizontal relationships between and among the state, regional, and local levels of government, and the various roles and requirements assigned to all the players in the growth management process.

1. State Role

The role of the state in growth management has become increasingly more important. Recognizing that the effects of growth did not respect jurisdictional boundaries and that local governments could not cope with interjurisdictional, regionwide, and statewide concerns, the state emerged to take on more responsibility for dealing with growth management issues.

To date, a number of states have enacted state growth management programs that have built new relationships among various levels of agencies and governments. The state roles and the reciprocal relationships between and among various levels of government vary from state to state, based on the coordination models they adopt, such as bottom-up or top-down. Thus far, as Table 1 illustrates, generally states' roles in growth management provide guidelines and technical and financial assistance to local and regional bodies to support plan making and incorporate judicial and regulatory sanctions for noncompliance with program requirements. Some states also require state agencies to ensure that their programs and actions are consistent with state goals and even compatible with regional and local plans. Hawaii was the first state to adopt a land-use law involving a state in a major role. Due to its unique physical setting, Hawaii applied different approaches from those developed by the other states, focusing on directly protecting agricultural land by curbing premature subdivision development to indirectly promote the economic growth of Hawaii. Therefore, in Table 1 we omit the state of Hawaii.

¹³ New Jersey State Planning Act, 1986 (NJSA 52:18A-16 et seq.).

Reviewing all the growth management systems, it is clear that the power to determine growth-related issues in some states has shifted from (previously) local-led to (currently) state-led. All these systems place state power into the local growth control arena through either channeling regulations and policies to state proposed direction or directly mandating local entities to follow state criteria and goals. This implies that land-use controls become more centralized within the state governmental mechanism. The states are, indeed, leading a much more active, direct, coordinated effort to confront future urban growth problems. Therefore, Porter (1989) contends that we are likely to see a continued push for a state government role in managing urban growth.

Table 1. State Roles in Growth Management Systems

State	Missions & Assistance	Sanctions
FL	* Establish guidelines for local planning * Submit plans demonstrating their agencies' conformance with the state guidelines or objectives * Review and approve local plans for consistency purpose * Provide planning assistance grants for local comprehensive plans * Provide state trust fund to buy critical lands where necessary	* Withhold state funding from local and regional grants whose plans do not conform with the state and regional plans
GA	* Establish guidelines and a planning framework for local and regional planning * Review and comment on regional plans * Give certification to local governments as "qualified" * Establish and monitor the mediation process for resolving conflicts * Provide for funding and planning assistance	* Withhold state funding and loss of authority to levy impact fees if local plans are not qualified
MD	* Coordinate the plans and programs of all the units of the state government * Cooperate with and assist regional, local, and private planning agencies in the execution of their planning functions * Review and approve local plans for consistency * Resolve the interjurisdictional conflicts concerning land use development * Establish standards governing activities in sensitive areas * Provide funding and other state assistance for planning	* Withhold state funding if the local project is not consistent with the state policy

An Analysis of American Growth Management Systems

	activities and infrastructure needs	
ME	* Submit plans demonstrating their agencies conformance with the state guidelines or objectives * Review and comment on local and regional plans * Establish growth management certification program * Coordinate information for localities * Provide planning assistance grants and legal defense grants	* Withhold state funding and loss of authority to levy impact fees if local plans are not qualified
NJ	* Develop state plan and set policies * Negotiate plan cross-acceptance among local planning bodies * Prepare an infrastructure needs assessment * Provide funding for local housing, infrastructure, and economic development projects	* Withhold state funding if local comprehensive plans are not approved
OR	* Establish statewide planning guidelines * Propose and revise state goals * Ensure that state agencies follow the state's growth management goals * Review county and local comprehensive plans for compliance with goals * Coordinate and ensure consistency among plans * Oversee the planning process and enforce implementation locally * Provide planning assistance grants	* Land use decisions are struck down in state court if local governments fail to meet state goals * Withhold excise tax revenues if local government is not cooperative
RI	* Establish standards for and provide technical assistance to local governments in comprehensive planning * Review and approve local comprehensive plans * Conform to municipality's comprehensive plan where such plan has been approved * Establish a consistent and reliable statewide database to support local planning * Develop local comprehensive plan if any local government fails to submit an acceptable one * Provide planning assistance grants	* Withhold state funding if local comprehensive plans are not approved
VT	* Ensure programs and actions consistent with state goals and compatible with regional and approved municipal plans * Submit plans demonstrating their agencies' conformance with the state guidelines or objectives * Participate in the local and regional planning process * Provide technical help for municipal planning process	* Withhold state funding and loss of authority to levy impact fees if local plans are not qualified

	* Establish a consistent and reliable statewide database to support local planning * Provide part of property transfer tax for municipal and regional planning activities and needs	
WA	* Ensure consistency among local plans with regulations, capital spending, and state goals * Comply with local plans and regulations where such plans are themselves in compliance with state goals and policies * Provide for funding and technical assistance for local governments	* Withhold state funding and local aid programs to ensure local government compliance with House Bill 2929

Source: compiled by author

2. Regional Role

Like the state's intervention, regional planning agencies stand to assume the responsibility of growth management when local plans and governments are ineffective in controlling and coordinating growth-related issues that have negative impacts on regionwide and statewide interests. The new state legislation has extended beyond local jurisdictional concerns to guide future land uses and urban development and has entrusted regional agencies and regional planning with the power to play an important role in helping state governments attain their adopted goals. These state laws have assigned to regional agencies a range of responsibilities, including (1) developing regional plans and policies, (2) ensuring consistency of local plans with regional and state goals and policies, (3) providing for funding and technical assistance for local governments, and (4) providing conflict resolution for local governments to produce horizontal consistency among local plans.

In growth management programs, regions are expected to play mediator roles, bringing about consistency between and among local plans and producing cohesion and unison on regionwide issues. In Florida, Georgia, Maine, and Vermont, for example, regional planning plays a major role in their growth management programs and regional agencies are required to review local plans for consistency with state goals and policies. In these four states, regional agencies also provide technical and other assistance for local governments to prepare comprehensive plans. In Georgia and Vermont, regional agencies further help to create a statewide geographic information system to serve local governments and

An Analysis of American Growth Management Systems

state agencies.

In Florida, Georgia, and Vermont, state laws mandate that regional entities produce a comprehensive regional plan, which primarily establishes regional goals, policies, and identification of important regional resources and facilities. Generally, this plan addresses the growth-related impacts and issues with regional and statewide concerns. In all three states, regional agencies also assume the responsibility to mediate conflicts within and among local plans. However, the role of mediator has not been very active to date.

Adequate and sufficient funding would aid the execution of programs and implementation of regional roles. Florida, Georgia, Maine and Vermont provide for state funding to support regional planning and needs; but all have been short of adequate funding to work out their growth management responsibilities. DeGrove and Metzger (1993) argue that, because of political concerns, neither the state nor the local governments appear interested in granting broader authority to the regional level. Yet regional roles in growth management systems have been designed to conspicuously influence both local and state agency plans and implementing programs. To date, although New Jersey and Rhode Island have no regional structure (probably because of their small size), the significance of regional roles in the growth management programs is clear.

In fact, regional planning and agencies have emerged not only to provide a broader view of growth-related issues and to provide for technical and other assistance to local governments but also to reduce the administrative burdens of state agencies in that most states contain too many local governments for the state to effectively perform its desired functions. Therefore, without the regional link in the growth management system, the gap between state and local planning could lead to less effective, and certainly less efficient, growth management implementation.

3. Local Role

Local governments are often assigned primary responsibility for implementing growth management programs, even though, over the years, state growth management systems have greatly undermined local power in land use decisions. In Oregon, for example, land use decisions of local governments can be struck down in state courts if they fail to meet state goals and policies. In all cases, the state growth management legislation charges the local governments to (1) develop local comprehensive plans and/or capital improvement plans consistent with regional and state goals and policies and (2) execute and implement regional

and state growth management policies. In this respect, state growth management would have little meaning or effect without local roles and function. In fact, state laws in Georgia, Maine, New Jersey, Vermont, and Washington have honored the significance of local governments to citizens and state programs.¹⁴

In order to ensure adequate public facilities to meet the demands of new developments, Florida, Georgia, and Maine require local governments to prepare capital improvement plans while developing comprehensive plans. Both Maine and Rhode Island require implementation of local comprehensive plans through capital improvement plans and zoning and/or other ordinances within a specific deadline after the local plan is approved.

Local comprehensive plans have been absolutely mandated to meet state criteria and goals in Florida and Oregon. In the planning process, local governments often need technical assistance from regional agencies and financial assistance from state governments to attain program requirements. As Table 1 indicates, any local government that fails to meet the state requirements will lose eligibility for state funding or excising local powers. This incentive/disincentive approach intends to bring about consistency to local governments.

In addition, public participation is mandated or encouraged in state growth management systems. It is expected that public participation ultimately results in the development of a policy with widespread community support (Caves, 1992).

In the process of planning development, for example, Florida, Georgia, and Oregon provide for citizens to participate in public hearings before a local plan is adopted (Starnes, 1987). Basically, it is a two-way communication through which the public is informed of the context of proposed local plans and growth management programs and citizens can enter the process to express their support or objections. In this regard, local governments should produce their local plans with an eye toward local expectations in addition to regional and state requirements.

VIII. Challenges of Growth Management Systems

In the process of achieving programs goals, however, it is inevitable that they produce many issues in areas such as housing prices and private property rights and even face legal challenges. And they all confront the issues of

¹⁴ See Georgia H.B. 215, § 50-8-3; Maine Comprehensive Planning and Land Use Regulation Act, § 3-1346; New Jersey Preliminary State Development and Redevelopment Plan, vol. 1, p. 17; Vermont Act 200, § 4302; Washington H.B.2929, § 1.

An Analysis of American Growth Management Systems

administrative resources and funding sources needed to work out program goals. Therefore, future study will go further to tell us whether growth management systems can meet the following challenges.

1. Many cases show that growth management efforts themselves increase housing costs, which reduces the number of houses and apartments available to low-and-moderate-income groups.
2. Successful efforts by any individual community to limit growth within its own boundaries will merely shift all growth that would have occurred there to other parts of its metropolitan area. Such beggar-thy-neighbor policies do not resolve basic social difficulties but instead try to change who must cope with them. Thus, it is reasonable to conclude that growth management policies which reduce densities in new-growth localities spread the development of the metropolitan area over a larger territory. That is, local policies alone could not deal with the problems of metropolitan area growth.
3. In many instances, we have seen that the public facility provision relies in part on impact fee programs. Although, in some states, growth management systems involve impact fee programs, it seems that although each deals with different purposes, the latter only addresses the finance of infrastructure. Yet, existing studies have not articulated whether impact fees can manage the rate, location, or amount of development or, on the contrary, whether they speed up the rate and drive up the amount of development. That is, the impact fees fail to answer (1) questions of whether they are a tool to finance infrastructure or also a scheme to help growth management systems manage development and (2) how both growth management systems and impact fees work together to achieve their goals.
4. In many cases, broadly speaking, it is hard for individual communities or cities to decide how best to respond to rapid growth. Are the undesirable conditions really caused primarily by growth? Which policies and approaches might succeed in ameliorating them? Which might have severe side effects or make conditions worse? Is limiting local growth desirable at all for either a given locality or society as a whole? To what extent do communities need to coordinate growth management policies with other communities to achieve effective results? Can the multiplicity of governments in metropolitan areas manage growth effectively, or does that arrangement need to be modified? If so, how? To answer these questions is a great challenge for any growth management system to be adopted.

IX. Summary

The effectiveness of growth management systems essentially depends on their conceptual approaches, operational requirements, governmental roles, and intergovernmental structures. These systems vary in focus and differ in states, but they all adopt new provisions to strengthen local, regional, and state planning and plan implementation. They implement the development permit concept to direct growth in coordination with location, timing, amount, rate, cost, and quality of urban development. Some establish various performance standards to evaluate the issuance of development approval. Moreover, every state sets up various requirements tied to state policies to attain mandated state goals (see Table 2). Among these requirements, consistency provides the backbone to systems linking various sectors to implement unique policies and carry out the adopted goals. Through such a requirement, it seeks greater long-term effectiveness and political acceptability. Concurrency balances the demands of public facilities and the supply capability of fiscal budgets. The compact development pattern discourages urban sprawl to achieve service efficiency and avoid unnecessary conversion of agricultural and valuable environmental resources. From an economic perspective, the compact urban pattern also creates an environment of aggregate economies that may help advance local economic development and diminish resource waste. Once urban development becomes more manageable, environmental resources will too; and how to predict the demand and supply of housing for all people will become increasingly clearer.

Table 2. State Growth Management Systems, Requirements, and Others

State	FL	GA	HI	MD	ME	NJ	OR	RI	VT	WA
Consistency	✓	weak		✓	weak	weak	✓	✓	✓	✓
Concurrency	✓			✓	✓	✓	✓	✓	✓	✓
Compactness	✓		✓	✓	✓	✓	✓		✓	✓
Affordable Housing	✓	✓	✓		✓	✓	✓	✓	✓	✓
Economic Development	weak	✓		✓	✓	✓	✓	✓	✓	✓
Resource Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

An Analysis of American Growth Management Systems

Urban Service/Growth Boundary	✓		✓	✓	✓	✓	✓			✓
State Funding	✓	✓		✓	✓	✓	✓	✓	✓	✓
Impact Fee	✓	✓		✓	✓				✓	✓
Development Agreement	✓		✓			✓				
Land Acquisition	✓		✓	✓					✓	
Public Participation	✓	✓		✓	✓	✓	✓	✓	✓	✓

Source: compiled by author

In fact, Table 2 conveys some important messages. All ten states have adopted the resource protection requirement, demonstrating that such a requirement is the original as well as the major purpose of growth management programs; and seven states requiring urban service/ growth boundary attempt to protect environmental resources. In addition, nine states have the economic development requirement. This demonstrates that growth management systems are not a foe of local economic growth, but, rather, an alternative for pursuing the goal of economic growth. Likewise, nine states mandate affordable housing policies. They try to mitigate the possibly negative effects stemming from the implementation of such systems and also defend social justice. While the effectiveness of growth management systems rests heavily on their coordination and consistency, nine states mandate this requirement and provide state funding connected with incentive strategies in order to yield greater cooperation and effective execution. Since the comprehensive growth management systems deeply influence public interest, nine states require public participation to produce the greatest consensus on the planning and policy context. Although growth management systems continue to evolve, they have provided a clear pattern for other states to follow. It is believed that even though states with various agendas may focus on different requirements, the components discussed here will comprise the major elements for newcomers to adopt.

Growth management systems recognize the necessity of coordination and consistency to bring about administrative efficiency and effective execution. They adopt various provisions to reinforce planning functions and implementation at all levels of government. They carry incentive/disincentive strategies to push local governments to meet system requirements. They use development permission to

guide growth in connection with the timing, location, amount, pace, cost, and quality of development. They monitor the adequacy of public facilities and services to balance facility demands and the supply ability of financing sources. They present a clear policy goal to preserve and protect valuable land resources. Indeed, all above actions are what Taiwan lacks and needs most. Therefore, it is hoped that the American experiences in the management of urban growth and development can serve as a valuable source of methods and systems that, with appropriate modification, might be useful for Taiwan while implementing "development permit system" in the future.

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